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WISCONSIN HORTICULTURE

Vol. XVII Madison, Wisconsin, September, 1926 No. 1

ANNUAL CONVENTION

Green Bay, November 10, 11, 12

Twenty-Five Speakers on

Three Day Program

Big Exhibits Assured

All at Hotel Northland

(See page 16)

TREES—PART ONE

On the day following Paul Revere's ride, "Through every Middlesex village and farm" a little group of farmer boys stood on the village green of Lexington awaiting the Red Coats. Every school boy knows the story; how, after the first volley from British guns these untrained farmer soldiers retreated through *the grove* back of Lexington common to Culp's Hill, across the road.

One hundred and thirty years later I stood on Lexington common, looked in vain for the grove but found only *five* trees, none of them sound.

Just recently I received a post card from a friend who is traveling through the eastern states, a picture post card of the Battle-Field of Lexington, including the five trees and *two are dead* and a third dying.

The people of Boston have spent hundreds of thousands of dollars and frantic efforts to save their street trees, now that it is too late. The same is true of other eastern cities. The people of these cities gave no particular heed to the trees, the majestic arching elms had always been there, doubtless always would be there, why worry.

But as civilization progressed, as the cities grew, paved streets became a necessity, the trees deprived of their feeding grounds slowly starved and weakened, then came their enemies, caterpillar, scale and moth, like the jackals attacking the wounded lion,—and the trees slowly succumbed. Then, when almost too late, the people woke up. Boston is fighting to save two hundred year old elms and losing the fight. It is always so. We accept our blessings, we take for granted all that God and nature has provided for us without any feeling of responsibility until these blessings are taken from us. We accept the living tree and give it no thought until it begins to die. What is true of Boston is true of hundreds of other cities. Chicago has no street trees of value except on the boulevards. In Wisconsin the situation, with one exception, is no better. In Madison, La Crosse, Oshkosh, Racine, Green Bay, Wausau and a dozen other places trees were planted half a century or more ago and forgotten. In the early life of these trees earth roads, well enriched and moisture laden, furnished rich feeding grounds. Now paved streets, building lots thrust forward almost if not quite to the sidewalk line and crowding, due to too close planting, combine to starve the trees. Soon the cities of Wisconsin, with one exception, will be bewailing the loss of their finest trees. The exception is the city of Milwaukee. In Milwaukee the street trees are under the supervision of a City Forester who employs trained men to spray, prune, remove and to plant street trees. The actual cost is charged to the property owner and entered on the tax roll as are other special taxes. Due to Mr. O. W. Spidel's supervision Milwaukee is noted for its beautiful trees, "The City of Trees."

This has not all happened in a day but as the result of years of patient effort in persuading the City Council to enact an ordinance placing the care of all trees growing between "lot line and lot line" in the hands of the Park Board. The lot owner still has the privilege of paying for the care of the trees and that is all. At first glance this may seem like an invasion of individual rights but as administered in Milwaukee the Tree Ordinance has given complete satisfaction. The "tree trimmers" are now welcomed wherever they work and property owners no longer complain of their presence but complain if their trees do not receive attention.

What has been done in Milwaukee can be done in other Wisconsin cities. And it is high time it be done.

This is a matter in which all sentimental considerations may be laid aside, may well be ignored in order to accomplish the real purpose intended. Well kept street trees add to the value of property, are a civic asset. Talk to a city council about the beauty and majesty of a tree, recite Joyce Kilmer's poem and you waste your time; talk about the value of trees in dollars and cents and you will win. This has recently been demonstrated in Madison. After a delay of a year the city council has passed an ordinance that will not only safeguard the street trees but regulates future planting.

What Madison has done other cities can do. Is it worth while? That is one question. Have you a pride in your home city? If not you do not belong there, you are not a good citizen. Have you really seen the trees of your city at close range? Do you know your own trees? Probably not unless they are diseased. Well, go out and take a look at them, closely. Look carefully at all of the trees in your block and when you have returned from your little excursion sit down and think it over, whether or not you are willing to lend your aid in preserving the beauty, the wealth, of your city. The Madison ordinance, with only minor changes needed to fit local requirements appears in this number. In the next issue something will be said about roadside, rural, planting.

F. C.

AN ORDINANCE

An Ordinance to Repeal Sections 59, 60 and 61 of Chapter 15 and Section 4 of Chapter 20 of the General Ordinances of the City of Madison and to create Section 20 to 32 inclusive of Chapter 20 of the General Ordinances of the City of Madison, relating to planting, trimming, production, regulation and control of trees and planting of obnoxious barberry shrubs.

The Mayor and Common Council of the City of Madison do Ordain as follows:

Section 1. Sections 59, 60 and 61 of Chapter 15, Section 4 of Chapter 20 of the General Ordinances of the City of Madison are hereby repealed:

Section 2. There are added to chapter 20 of the General Ordinances of the City of Madison, thirteen new sections to read:

Section 20. No person shall fasten any horse or any animal to any ornamental or shade tree, in any street, or other public place within the limits of said city, nor to any box or case around such tree, nor shall he cause or permit a horse or other

animal to stand so that said horse or other animal can injure a tree in any such street or other public place, under a penalty of not less than five dollars nor exceeding twenty dollars for each and every offense.

Section 21. No person, corporation, or association shall plant, cut, prune or remove any living tree over three inches in diameter at a point three feet above the ground in a public highway in the City of Madison, or cut disturb or interfere in any way with the roots of any such tree, to the extent of causing serious injury to such tree, in such public highway, or spray any such trees with any chemicals or insecticides without written permit of the Madison Park & Pleasure Drive Association.

(Note: The Madison Park and Pleasure Drive Association functions at a Park Board.)

Nothing herein shall be construed as preventing the City Engineer or Street Superintendent from trimming trees so as to prevent interference with street illumination, provided, however, that before trimming the trees said City Engineer or Street Superintendent shall obtain the suggestion of the Park & Pleasure Drive Association, and if the trimming suggested by them shall be sufficient to accomplish the purpose they shall be trimmed accordingly.

Section 22. No shade or ornamental tree shall be planted in any of the public highways of the City of Madison until such tree and the place where it is to be planted shall have first been approved by the Madison Park & Pleasure Drive Association, and a permit granted by said Association therefor.

Section 23. No person shall place or maintain upon the ground, in a public highway of the City of Madison, stone, cement, lumber, or other substance or material which shall impede the free passage of water and air to any tree in such highway without leaving an open space of ground outside the trunk of said tree of an area of not less than sixteen square feet. Before depositing any material in any highway of the City near the trees therein, the person so depositing said materials shall place such guards around the trees as shall affectually prevent injury to them.

Section 24. No person shall break or injure any tree planted in any highway in the City of Madison nor shall he pour salt water on any such public highway in such places as to injure any tree planted or growing therein.

Section 25. No person, corporation, or association shall attach any electric insulator or any device, for holding of electric wire, to any tree growing or planted upon any public highway of the City of Madison. Every person, corporation or association having any wire or wires charged with electricity running through a public highway shall securely fasten such wire or wires to a post or other structure so that they shall not come in contact with any tree therein and every such person, corporation or association shall, when and if the Park & Pleasure Drive Association determine to be necessary in order to prune or cut down any trees growing on a public highway in the City of Madison, temporarily remove any such wires or cut off the electricity within twenty-four hours after service upon the owner of said wire or wires or his or its agents, of a written notice signed by two officers of the Madison Park & Pleasure Drive Association to remove said wire or wires or cut off said electricity.

Section 26. No person, corporation or association shall prevent, delay or interfere with the Madison Park & Pleasure Drive Association or its employees in the planting, pruning, spraying, or removing of a tree or trees living or dead, in that part of any street lying between the lot line and the curb or in the center or side plots of boulevards on the city, or from removing stone, cement, lumber or other substances placed about a tree in a highway in said City contrary to the provisions of section 21 to Section 30, of chapter 20 of the general code of the City of Madison.

Section 27. No person shall hereafter sell or plant, within the City of Madison, the "Berberis vulgaris" commonly known as the tall barberry or the Berberis purpurea, commonly known as the purple barberry.

Section 28. Any person violating any of the provisions of section 21 to 27 inclusive shall, upon conviction, pay a penalty to the City of Madison of not less than ten dollars nor more than twenty-five dollars for each and every offense. Each day in which the ordinance is violated shall constitute a separate offense.

Section 29. Full power and authority over the trees planted or to be planted in that part of each and every street, the grade of which has been established, lying between the lot line and the curb and in the center of side plots in all boulevards in said City is hereby delegated to the Madison Park & Pleasure Drive Association and such Association shall have the right and power to establish rules and regulations relating to the planting, maintenance, protection, and care of such trees, and it shall be the duty of said Association to recommend to the Common Council of the City of Madison the enactment of such ordinances as it may deem necessary to protect said trees.

Section 30. The Madison Park & Pleasure Drive Association in order to carry out the purpose of this act shall have authority to appoint from its employees such person or persons as it may deem necessary to take charge of and direct, subject to the supervision and control of the said Madison Park & Pleasure Drive Association all of the work authorized to be done by said Madison Park & Pleasure Drive Association under this act, said Madison Park & Pleasure Drive Association shall have sole power and authority to fix the work of said employees, and to remove at pleasure persons appointed for such work. They shall also have power and authority to purchase all machinery, tools, and implements and incur such other expenses as they may deem it necessary for the conduct of the work.

Section 31. The Common Council shall include in its annual budget such sum as it may deem necessary, if any, to meet all expenses of doing said work during the following fiscal year, excepting so much of the expense of doing said work as is assessable to abutting property, and the taxes levied for such purpose shall be in addition to all other taxes for park and boulevard purposes.

The Madison Park & Pleasure Drive Association shall have power to plant and transplant trees and remove trees, living or dead, spray and otherwise care for and protect all trees on or in that part of the streets, avenues and boulevards, over which the Madison Park & Pleasure Drive Association is given control under section 29 hereof.

When the Madison Park & Pleasure Drive Association shall propose the planting or removing of any living shade tree in a section of any street, avenue or boulevard, it shall give two weeks written notice by mail, or otherwise, to the owner or his agent, if known, if any property abutting on that section of said street, avenue or boulevard or if said owner or his agent are unknown and there be a tenant occupying said property, then, to the tenant thereof, of a time at which said contemplated work is to be considered by them, specifying in detail the street, avenue or boulevard, and portion thereof, upon which trees are proposed to be planted or removed and the general nature and character of the changes and improvements contemplated. After any hearing had upon such notice, the Madison Park & Pleasure Drive may abandon said work or may proceed with it according to what they deem to be to the best interests of the public.

Section 32. The entire cost of protecting, trimming, spraying, planting, renewing and removal of trees between the lot lines and the curb in front of any lot or parcel of land abutting on a street, avenue or boulevard shall be chargeable to and assessed upon such lot or parcel of land.

Section 33. The Madison Park & Pleasure Drive Association shall keep a strict account of the cost of protecting, planting, renewing, removing,

(Concluded on page 12)

STATE FAIR PREMIUMS

A man from New York State drifted in to the Horticultural Building as he was wandering around and said that the Amateur Flower Show was the most complete and the best set up of anything he had ever seen in his wanderings of fifty thousand miles by auto. Conversation developed that he knew his stuff, too. As James Livingstone put it.: "Put on all the dog you can, and you won't do it justice". It was the best amateur show the writer has ever seen, and he has seen a few in this country and across the pond.

In the huge horticultural hall flowers have pushed the vegetables out of doors, and only a few racks of apples on the west wall held the fort for horticulture. The hall is about 70 by 150 feet, and the entire east wall is taken by the huge display of the amateurs. At that, premiums amounting to only $441.50 were offered, as against $1,559.25 for the professional growers. It made a riot of color indeed, for an amateur show differs from a professional one, in that the amateur grows what ever he likes with no regard for the money return, and he is apt to grow many things that a professional florist could not afford to have around the place.

Gladiolus predominated and were put up in every manner immaginable. Some of the baskets shown were most artistic, and when it came to the table decorations, it was discovered that the amateurs could give the professionals pointers in flower harmony. There were 12 table decorations most of them with candles and all of them practical, that is, small enough for actual use.

Although there was a goodly display of the everlastings, the usual display of J. H. Hauser, of Bayeld, Wis., was sadly missed in this department. There were really wonderful displays of the cockscomb, however. The amateurs in this section are beginning to show some skill as plant breeders, and there were several seedlings of promise that were exhibited to capture the special prizes offered by seedsmen and others. It was a wonderful show and deserves more space but the winners require so much space that we will have to let the show pass with this brief account.

H. H. S.

Plants and cut flowers for amateurs premium list offered 142 premiums aggregating $441.50 in prizes. Lot numbers and prize winners follow.

46. Best and most artistically arranged basket of flowers for the table.
    1. Mrs. W. Delaport.
    2. Mrs. C. E. Harrington.
    3. Mrs. Harry Berger.
47. Best and most artistically arranged vase of flowers for table.
    1. Mrs. Marie Weck.
    2. Mrs. W. Delaport.
    3. Mrs. C. E. Harrington.
48. Best and most artistically arranged bouquet of wild flowers.
    1. Mrs. W. Delaport.
    2. Mrs. J. W. Overholt.
    3. Mrs. C. E. Harrington.
49. Best display of cut flowers, 12 kinds.
    Mrs. E. M. Goelzer.
    2. Mrs. J. Kurz.
    3. Mrs. J. W. Overholt.
50. Herbaceous perennials, 10 kinds.
    1. Mrs. S. W. Poppe.
    2. Mrs. E. M. Goelzer.
    3. Miss Martha Krienitz.
51. Best display of pansies.
    1. Mrs. E. M. Goelzer.
    2. Mrs. C. Harmueller.
52. Best Display of Hardy Phlox.
    1. Miss Martha Krienitz.
    2. Mrs. E. M. Goelzer.
    3. Mrs. S. W. Poppe.
53. Best gladiolus, 6 vases, 6 varieties, 3 spikes in each vase.
    1. Dawson Bros.
    2. Miss E. M. Goelzer.
    3. L. A. Burmeister, Jr.
54. Best 25 spikes gladiolus.
    1. Dawson Bros.
    2. Mrs. E. C. Haasch.
    3. Mrs. W. Delaporte.
55. Best display of gladiolus, not less than 100 spikes.
    1. Dawson Bros.
    2. Miss E. M. Goelzer.
    3. Theo. J. Kurtz.
56. Best 30 blooms, dahlias in variety.
    1. Mrs. Harry Berger.
    2. Theo. J. Kurtz.
57. Best display of Celosia in variety.
    Miss E. M. Goelzer.
    2. Theo. J. Kurtz.
    3. Miss Marie Weck.
58. Best 10 vases of Asters. 10 blooms in a vase.
    1. Mrs. C. E. Schultz.
    2. G. E. Tehan.
59. Best Vase of Asters, any color.
    1. Miss E. M. Goelzer.
    2. Theo. J. Kurtz.
    3. Mrs. Harry Berger.
60. Best basket of everlastings, both flowers and grasses, artistic arrangement.
    1. Mrs. Harry Berger.
    2. Arno Meyer.
    3. Miss E. M. Goelzer.
61. Best display of Everlastings in variety.
    1. Arno Meyer.
    2. Mrs. Harry Berger.
    3. A. C. Hauser.
62. Best 10 spikes perennial delphinium.
    1. Mrs. S. W. Poppe.
    2. Miss Martha Krienitz.
    3. Dawson Bros.
63. Best five vases snapdragon, 1 color in a vase.
    1. Miss E. M. Goelzer.
    2. Mrs. Harry Berger.
    3. Mrs. J. W. Overholt.
64. Best 5 vases calendula.
    1. Miss E. M. Goelzer.
    2. Mrs. Marie Weck.
    3. Mrs. Harry Berger.
65. Best 5 vases of French Marigolds, 10 blooms in vase.
    1. Mrs. C. E. Harrington.
    2. Miss E. M. Goelzer.
66. Best 5 vases African Marigolds, 10 blooms in vase.
    1. Miss E. M. Goelzer.
    2. Mrs. Harry Berger.
    3. G. M. Tehan.
67. Best 4 vases petunias, one color in vase.
    1. Miss E. M. Goelzer.
    2. Mrs. Harry Berger.
    3. Mrs. C. Harmueller.
68. Best 5 vases of Zinnias, 10 blooms, one color in vase.
    1. G. M. Tehan.
    2. Mrs. Harry Berger.
    3. Miss. E. M. Goelzer.
69. Best vase of roses.
    1. Mrs. Harry Berger.
    2. Miss E. M. Goelzer
70. Best vase of Salpiglossis.
    1. Mrs. Clara E. Harrington.
    2. A. C. Hauser.
    3. Mrs. C. H. Harmueller
71. Best vase of cosmos.
    1. Theo. J. Kurtz.
    2. Mrs. C. E. Harrington.
    3. Mrs. Harry Berger.
72. Best vase annual larkspur.
    1. Mrs. C. E. Harrington.
    2. Mrs. Harry Berger.
    3. Miss. E. M. Goelzer.
73. Best 5 vases of Dianthus.
    1. Mrs. Marie Weck.
    2. Mrs. Alma Reul.
    3. Miss. E. M. Goelzer.

74. Best vases of Centauria, Corn flowers.
    1. Theo. J. Kurtz.
    2. Miss E. M. Goelzer.
    3. Mrs. C. E. Harrington.
75. Best 5 vases Phlox drummondi, one color in vase.
    1. Mrs. C. E. Harrington.
    2. Miss. E. M. Goelzer.
    3. A. C. Hauser.
76. Best vase of Scabiosa.
    1. Mrs. Alma Reul.
    2. Miss. E. M. Goelzer.
    3. Mrs. Harry Berger.
77. Best vase perennial Gaillardia, 10 blooms.
    1. Dawson Bros.
    2. Miss. E. M. Goelzer.
    3. Mrs. J. A. Adams.
78. Best vase of sweet peas.
    1. Miss E. M. Goelzer.
79. Best vase of double sunflowers.
    None shown.
80. Best table decorations for amateurs only, to be changed once, four covers, without china or silver. Six tables and first six entries only.
    1. Mrs. C. Harmueller.
    2. Mrs. W. Delporte.
    3. Mrs. C. E. Harrington.
    4. Miss Martha Krientz.
    5. Mrs. S. W. Poppe.
    6. Mrs. J. W. Overholt.

Plant premium awards were given to the few entrants as follows:

38. Specimen palm.
    1. Miss Martha Krienitz.
    3. Mrs. S. W. Poppe.
39. Specimen fern.
    2. Mrs. S. W. Poppe.
40. Specimen Rubber plant.
    2. Mrs. S. W. Poppe.
    3. Mrs. C. E. Harrington.
41. Specimen Begonia.
    1. Mrs. Marie Weck.
    2. Mrs. C. Harmueller.
    3. Mrs. C. E. Harrington.
42. Specimen Fuchsia.
    2. Mrs. S. W. Poppe.
43. Specimen Aspidistra.
    1. Mrs. C. Harmueller.
    2. Miss Martha Krienitz.
    3. Mrs. S. W. Poppe.
44. Specimen Sansevieria.
    1. Mrs. E. C. Haasch.
    2. M. Krienitz.
    3. Mrs. S. W. Poppe.
45. Specimen any other plant.
    1. Mrs. C. E. Harrington.
    3. Mrs. S. W. Poppe.

End Amateur premium list.

SPECIAL PREMIUMS FOR AMATEURS

81. Best display dahlia blooms, dahlia roots to value of $10 given by J. T. Fitchett, Janesville, Wis.
    1. Mrs. W. Delaporte.
    2. Mrs. Harry Berger.
    3. Miss. E. M. Goelzer.
82. Best 6 vases cut flowers, $10 cash by James Livingstone, Milwaukee.
    1. Miss E. M. Goelzer.
    2. Theo. J. Kurtz.
    3. Mrs. C. E. Harrington.
83. Most artistically arranged basket garden flowers, $5 cash given by Mrs. William Kroening, Milwaukee.
    1. Mrs. W. Delaporte.
    2. Miss. E. M. Goelzer.
84. Best vase salpiglossis, $2.50 cash given by Mrs. Wm. Kroening, Milwaukee.
    1. Mrs. C. E. Harrington.
    2. Mrs. Marie Weck.
85. Best potted perennial plants, $4.50 cash given by Mrs. Wm. Kroening and H. C. Christensen, Oshkosh.
    1. Mrs. Harry Berger.
    2. Mrs. S. W. Poppe.
86. Best display pansies. Perennials to $5, choice of anything in catalog of W. A. Toole, Baraboo, Wis.
    1. Miss E. M. Goelzer.
87. Best display of perennials. Perennials to $10, choice of catalog by W. A. Toole, Baraboo, Wis.
    1. Martha Krienitz.
    2. Miss. E. M. Goelzer.
    3. Mrs. Marie Weck.
88. Best exhibit Dahlias in variety. Dahlia roots value $6, winners choice, given by Eberhardts Sons, Cedarburg, Wis.
    1. Mrs. Harry Berger.
    2. Miss E. M. Goelzer.
89. Best Gladiolus in variety.
    1. Dawson Bros.
    2. Miss E. M. Goelzer.
    3. Mrs. Harry Berger.
90. Best display seedling gladiolus. Glad bulbs value $3. By F. M. Palmiter & Son, Janesville, Wis.
    1. Miss E. M. Goelzer.
91. Best single spike seedling gladiolus bulb, never previously shown, by F. M. Palmiter & Son, Janesville. Glad bulbs value $2.
    1. Miss E. M. Goelzer.
92. Best three spikes. Mrs. H. E. Bothin. Glad bulbs value $2, by F. M. Palmiter & Son, Janesville. Wis.
    None shown.
93. Best spike Byron L. Smith. Glad bulbs value $1.00.
    1. Mrs. Marie Weck.
94. Best spike of Louise and 95. Best of Mrs. Wm. Kent. Palmiter.
    None shown.
96. Best display blooms & berries from shrubs, Nursery stock value $10 by N. A. Rasmussen, Oshkosh.
    1. Miss E. M. Goelzer.
    2. Mrs. W. Delaporte.

Professional florists premium list covered 160 premiums with a total prize list amounting to $1559.25. Prize winners in each class:

1. Greenhouse plants not less than 25 varieties 50 sq. ft.
    1. Aug. F. Kellner Co.
    2. H. Locker & Sons.
    3. Holton & Hunkel.
    4. Chas. Menger.
2. Display of palms to cover 50 feet.
    1. Chas. Menger.
    2. Holton & Hunkel.
    3. Aug. G. Kellner Co.
3. Display plants in variety, for effect to cover 50 feet.
    1. Aug. F. Kellner Co.
    2. Holton & Hunkel.
    3. C. C. Pollworth Co.
    4. Chas. Menger.
4. Display of ferns in variety, for effect to cover 50 sq. feet.
    1. Aug. F. Kellner Co.
    2. Holton & Hunkel.
5. Display of Nephrolepsis to cover 50 sq. ft.
    1. C. C. Pollworth Co.
    2. Holton & Hunkel.
    3. Aug. F. Kellner Co.
6. Display of Begonias in bloom to cover 50 sq. ft.
    1. Chas. Menger.
    2. H. Locker & Sons.
7. Display other plants in bloom to cover 25 sq. ft.
    1. Holton & Hunkel.
    2. C. C. Pollworth Co.
    3. Chas. Menger.
8. Best 12 cyclamen in bloom.
    1. Holton & Hunkel.
    2. C. C. Pollworth Co.
9. Specimen Cibotium.
    1. Holton & Hunkel.
    2. Aug. F. Kellnor Co.
10. Specimen Hephrolepsis.
    1. Holton & Hunkel.
    2. C. C. Pollworth Co.
    3. West Allis Floral Co.
    4. Aug. F. Kellner Co.
11. Specimen any other fern.
    1. Holton & Hunkel.
    2. H. Locker & Sons.
    3. Kellner Co.
12. Specimen Palm.
    1. Aug. F. Kellner Co.
    2. Chas. Menger.
    3. Holton & Hunkel.
13. Basket of plants arranged for effect.
    1. E. Welke Co.
    2. H. Locker & Sons.
    3. Aug. F. Kellner Co.
    4. Chas. Menger.
14. Best display carnations not less than 50 blooms.
    1. C. C. Pollworth Co.
15. Best 25 Butterfly roses.
    1. Holton & Hunkel.
    2. C. C. Pollworth Co.
16. Best 25 Columbia roses.
    1. C. C. Pollworth Co.
    2. Holton & Hunkel.

(Concluded on page 12)

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

THE SUMMER MEETING

MRS. C. E. STRONG

"Did you get anything out of the Summer Meeting? I answered this question the other day and wish to answer it briefly on this page. I *always* get something out of the meetings. I go there with that expectation. The meeting is usually a part of my vacation and I enjoyed it as such. I enjoy meeting the many friends in the State Society who gather together. I enjoy meeting new people, there are always some at every meeting and their experiences are new and many times very interesting and helpful. I particularly enjoy visiting gardens and my only regret was that rain prevented me from seeing more of the gardens at Oshkosh. The Roe and Christenson gardens were particularly lovely—they needed days instead of an hour or so for real inspection. Even at that I came away with many new ideas of what can be done with our native shrubs and wild flowers. Perhaps there will be a way found after all of preserving the wild flowers of Wisconsin from the hands of the ruthless gatherer. When we gathered in the evening at the Nelson home for our corn and wiener roast I think the spirits of the red men who once made that place their home hovered closely around us and they surely must have felt we were kin as we feasted on the first of the roasting ears in the flickering lights of the bonfires.

If we haven't learned something about the troubles of the raspberry it isn't the fault of Dr. Fracker and Prof. Vaughn for they explained—and their explanations should be helpful. There are also things to be learned that are not on the program; for instance on Wednesday while we were having dinner at the Athearn hotel, one lady remarked that her husband had found relief from the irritation and scrotching caused by eating such acid fruits as tomatoes, etc., by using a little lime water daily. There was great interest registered by Mrs. Gates Secretary of the Oshkosh Society, also by Prof. Vaughn of Madison. "Now why wouldn't it be feasible to give lime water to chickens and keep them from scratching" asked Mrs. Gates. "That's a great idea" answered the Professor—"We will have our experiment station start work on this immediately. Think of what it would mean if we could guarantee to the gardeners that such a simple remedy would enable them to keep their neighbors' chickens from scratching in their gardens. *Think* of the saving in vocabulary in the energy usually expended in throwing brooms, stones, etc. If it works Oshkosh will be forever famous By Gosh."

The trip up the river on the lovely little lake was very enjoyable—so was the chicken dinner. I am sure we could all have said—"When we come to the end of a perfect day"—What more could we ask from a summer meeting? What more could be given? Already we are looking forward to the one to be held next year—somewhere else.

THE AMERICAN ROSE ANNUAL FOR 1926

The Editor tells me I may review this book, for the publishing of which as Editor I am responsible. To comment on the work would show that my modesty was a minus quantity if it was not a fact that this "Rose Annual" is merely of my assembling, and not of my writing.

More than two hundred Rose lovers among the nearly five thousand members of the American Rose Society all over the world have joined in making this "Annual," which is their expression of the status of Rose-growing in the United States at this time. It is therefore an original volume, and completely down to date.

No greater mistake could be made than to presume that the American Rose Society was made up only of Rose experts. It does have in it some Rose experts, but most of its members are Rose experimenters, Rose adventurers, who are trying all the time new ways and better ways to succeed with their favorite flower.

Now in the volume in question, selected out of the vast mass of material which an enormous correspondence brings to the Editor's desk, the whole range of Rose-handling is covered. At the outset even the beginner is cared for, because on page 192, "The Beginner's Rose Inquiries," in three pages of questions and answers, tell the facts independently of catalogue implications.

There is the usual survey of the world's new Roses, of which 105 are originally reported upon, generally from data obtained direct from the originators wherever they may be, whether in Australia, or in California, in England or anywhere in America.

There are several major items in the book. One, "The Rose Catalogue Question," gives comments of members in respect to the kind of descriptions believed to be adapted to truth-telling about Roses in catalogues. The able article following goes further in this direction. Then "The Proof of the Pudding" gives the answers the members have sent in about the new Roses. Take, for example, the Rose *Angele Pernet*: it is reported upon from Beverly Hills, Oakland, and San Francisco, California; from Caldwell, Idaho; from South Bend, Indiana, and from Harrisburg, Pennsylvania. This department is likely to be a money-saver.

Another notable article is "From the Nursery to the Garden," in which an attempt

has been made to follow the Rose plants from the time they are dug in the nursery to when they are shipped to the customer, and to discover why they do not always do well. Already this article has had an immense influence on the nurserymen and Rose merchants.

There is discussion as to the prevention of mildew by soil treatment; as to deep planting, with good reasons why it should not be done; as to the effect of chemical substances intended to prevent disease. Florida has been a hard place to have Roses in, but the symposium on Rose-growing in Florida will make it easy. One of the most delightful articles is "What a Dozen Rose Plants Did," and incidentally that dozen Rose plants handled by a woman in a little backyard gave her in one season 552 flowers.

The book is, as usual, beautifully illustrated, and has more pages than any previous issue, being likewise in a new and more attractive permanent cover. It is supplied only to members of the American Rose Society, and thus may be had by sending $3 to that organization at West Grove, Pennsylvania.

J. HORACE MCFARLAND,
In The Flower Grower.

A RED-LEAVED BARBERRY

The new red-leaved Japanese Barberry (Berberis Thunbergii atropurpurea about which various articles have been written in recent months, is now to be put on the market. The dissemination of this novelty, which is being introduced by Henry A. Dreer, of Philadelphia, has been held up until the United States government could determine whether or not it is rust resisting. The fear was entertained that if it contained blood of the common Barberry it might prove a host plant to wheat and other grain rusts.

Now, however, the new Barberry has been pronounced a true sport or mutation of the Japanese Barberry, and therefore immune to rust. Its habit of growth, like its fruit, is identical with that of the common Japanese Barberry, but when the foliage develops in early spring it takes on a rich bronze red color, slightly deeper than that of the red Japanese Maple. This coloring is retained until fall, and indeed becomes more intense during the summer months, instead of disappearing as is the case with most red-leaved plants.—HORTICULTURE.

NATIONAL SOCIETIES

National Peony Society—W. F. Christman, Minneapolis, Minn.

National Iris Association—R. S. Sturtevant, Wellesly Farms, Mass.

National Dahlia Association—Wm. J. Rathgebor, 198 Norton St., New Haven, Conn.

American Association of Nurserymen—Chas. Sizemore, Louisiana, Mo.

American Gladiolus Society—John C. Davis, 77 South Ave., Rochester, N. Y.

American Rose Society—Robert Pyle, West Grove, Pa.

American Sweet Pea Society—W. G. Taylor, 15 Congdon Ave., Newport, R. I.

American Tree Association—Chas. Lathrop Pack, Washington, D. C.

Garden Club of America—Mrs. Harold Irving Pratt, 598 Madison Ave., New York.

Wild Flower Preservation Society of America—Mrs. Elizabeth G. Britton, Botanical Garden, The Bronx, New York, N. Y.

GARDEN FAIRIES

By Carrie E. Strong

There are Fairies in my Garden,
They play there as they will.
Have you ne'er seen the little folk
When all the world was still?
Flitting down the pathways,
A dancing on the grass,
Or bowing low before their Queen
As she goes floating past.

2.

They pull the petals from the roses,
Tweak the Pansies pretty noses,
Set the Blue bells chimes aringing.
From the Larkspur spires go swinging,
Sip the honey from the flowers,
Saying "this by right is ours.
For we bought it from our friends the Bumble bees."

3.

Then sometimes I hear a racket,
One wee Fairie gets a packet
Of the pollen from the Tiger lily tall.
Then she streaks up tiny faces
Spots up all their dainty laces—
'Till you'd never know those fairy folk at all.
Now please don't say you doubt me—
For it is really true.
I've seen them in my Garden
The moon was shining too,

4.

They form in lines upon the grass
And dance a minuet,
They are so very happy
All else I do forget,
They've gone—I greet the coming day,
And hear the south wind softly say,
The years will bring you happy hours. For fairies dance among your Flowers.

CARRIE E. STRONG.

FRUIT GROWERS

Make Your Selections now For Competition at the Green Bay Convention.

Premium List is Given on Page 15 of this Issue.

The Competition Will Be Heavy This year so Choose Carefully.

Wisconsin Horticulture

Published Monthly by the

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Official Organ of the Society

FREDERIC CRANEFIELD, Editor
JAMES S. POTTER, Assistant Editor

Contributing Editors — Mrs. C E. Strong, E. L. Chambers, Huron H. Smith, Eugenia C. Gillette.

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THE STATE FAIR

In spite of cool wet weather the State Fair was all that a State Fair should be. It showed what was going on in Wisconsin industry and agriculture and homes.

We were of course most interested in the horticultural exhibits. The much-too-small Horticultural building was filled and overflowing with fruits and flowers and vegetables which represented the best grown in Wisconsin. There were eighty-two exhibitors.

The apple display was excellent considering the backward season. Row after row, and tier upon tier of various varieties made a remarkable display on the west side of the building. Prof. J. G. Moore of Madison judged the apples, pears, and crabs, and we have never seen a more thorough and competent judge in any competitive exhibit.

The Commercial florists used the center of the building and made a beautiful display of their wares. The premium winners are listed on the Florists Page of this issue.

On the east side of the building the amateur flower growers showed what may be done in home Gardens. This display was the really remarkable part of the show for those who have varied horticultural interests. It is impossible to describe the panorama of color produced by the banks of exhibits from gardens planted by people who grow flowers for the love of them rather than for the monetary gain.

We were also interested to find out that people ask questions when they have the opportunity. The educational value of a state fair is the greatest reason for having a fair, and the visitors made use of that opportunity this year.

It is too bad that we are not able to have a much larger building for our exhibits. And it is too bad that we can not induce more growers of horticultural products to bring samples of their wares to our state fairs. It may not be so that everyone may win a prize large enough to pay for the time and trouble of sending in exhibits, but the comparative quality should be enough to make it interesting.

The next step for us is to try to give the buying public just as near the quality of goods as were shown as samples of Wisconsin possibilities. And it can be done. In the apple exhibits there were very few samples which could not have been picked from an honest number one pack. The apple season is about here, so let's see if our sales may not be increased through quality packs.

WISCONSIN STATE FAIR 1926

Exhibitor's Horticultural Department

Adams, Mrs. J. A., 1605 23rd St., Milwaukee.
Badger Dahlia Farm, Hartford, Wis.
Basse, Wm. H., R. 3, Sta. D, Box 138, Milwaukee.
Berger, Mrs. Harry, Hales Corners, Wis.
Brueckner, Leo., Jefferson, Wis.
Burmeister, L. A. Jr., 1151-18th St., Milwaukee.
Cooper Bros., per Milton Cooper, R. R. 4, West Allis, Wis.
Dawson Bros., Franksville, Wis.
Delaporte, Mrs. W., 728 National Ave., Milwaukee.
Deask, Brother Francis, Capuchin Monastary, Fond du Lac, Wis., Mount Calvary P. O.
Donels Flower Gardens, Waukesha, Wis.
Eberhardt Sons, Cedarsburg, Wis.
Edlefsen Floral Co., 278 Third St., Milwaukee.
Fink, Edgar, So. Milwaukee.
Fitchett Dahlia Gardens, Janesville, Wis.
Gilster, Wm., R. 3, La Crosse, Wis.
Gimbel Bros., Milwaukee.
Goelzer, Miss E. M.,Oakwood P. O., Milwaukee.
Grover, Arthur, Galesville, Wis.
Grover, Harry, Galesville, Wis.
Haagen, Paul, R. 5, Box 73, No. Mil.
Haasch, Mrs. E. C., Wauwatosa, Wis.
Harmueller, Mrs. C., 939-75th Ave., West Allis.
Hartmann, Louis Wm., Box 357, West Allis.
Harrington, Miss Clara E., R. 5, Box 193, West Allis.
Hauser, A. C., R. 3, La Crosse, Wis.
Hauser, J. E., R. 3, La Crosse, Wis.
Hawkins, R. C.
Hawks Nursery Co., Wauwatosa, Wis.
Hearding, J. H., Delafield Wis.
Holton & Hunkel Co., 471 Milwaukee St., Milwaukee.
Honadel Bros., R. 1, Oakwood, Milwaukee.
Johannes, Herbert, 1261 Hopkins St., Milwaukee.
Jones, Pluny W., 603 Harrison St., Black River Falls.
Kaufman, Sigmund, R. 2, Sta. D., Milwaukee.
Kellner Aug. Co., 1384 Humboldt Ave., Milwaukee.
Kelly, A. N., Mineral Point, Wis.
Koch, Hugo, Hales Corners, Wis.
Krienitz, Miss Martha, 7418 National Ave., West Allis.
Kroseberg, Florist, 183-11th St., Milwaukee.
Kueneth, Geo. J., R. 25, Box 125.
Kurtz, Theo. J., R. 2, Cedarburg, Wis.
Liebenthal, E. J., R. 5, Box 670, West Allis.
Lindley, Frank J., R. 1, Fox Lake, Wis.
Locker, H. & Sons, Wauwatosa, Wis.
Louis, A., Richland, Wis.
Menger, Chas., 536-27th St., Milwaukee
Meyer, Arno, Waldo, Wis.
Meyer, Wm. & Son, R. 3, Box 108, Waukesha.
Moyle, John, Union Grove, Wis.
Overholt, Mrs. J. W., 785 65th Ave., West Allis.
Palmiter, F. M. & Son, 1502 Highland Ave., Janesville, Wis.
Patterson, Lester, Franksville, Wis.
Phillips, H. H., R. 4, Box 40, Waukesha, Wis.
Pollworth, C. C. Co., 474 Market St., Milwaukee.
Poppe, Mrs. S. W., 2802 McKinley Blvd., Milwaukee.
Preuss, Rud. & Sons Co., 2602 Libson Ave., Milwaukee.
Rasmussen, H. J., R. 5, Oshkosh, Wis.
Reis, John, Richland, Wis. (Twin Bluffs P. O.)
Reul, Mrs. Alma, 7418, National Ave., West Allis.
Roloff, E. L., Gen. Del., Madison, Wis.
Rugowski, J. K. Seed Co., 922 So. 10th St, Manitowoc, Wis.

Schroeder, John, La Crosse, Wis.
Schultz. Mrs. C. E., R. 5, Box 565, West Allis.
Stoeber, E. H., R. 1, Middleton, Wis.
Swartz Bros., Waukesha, Wis.
Tehan, G. M., R. 2, Box 191, No. Milwaukee.
Thiermann, Elmer, R. 1 Box 109, No. Milwaukee.
Tindall, F. B., Waterford, Wis.
Schroeder, Fred, R. 3, La Crosse, Wis.
Toole, W. A., Baraboo, Wis.
Weck, Mrs. Marie, 8005 National Ave., West Allis.
Welke, E. Co., 757 Third St., Milwaukee.
West Allis Floral Co., 380 67th Ave., West Allis.
Wolf, Homer, R. 2, La Crosse, Wis.
Wolf, Otto, R. 2, La Crosse, Wis.
Cook, L. G., R. 5, Oshkosh.
Herr, Ella, 762-66th Ave., West Allis.
Sheppard, Harry, Cudahy, Wis.
Sherman, F. B., Edgerton.
Stephenson, R. R., Box 185 Middleton, Wis.
Swartz, Glenn, Kenosha, Wis.

OSHKOSH HORTICULTURE AND HOSPITALITY

This is directed toward our members who were unable to make the trip to Oshkosh for the Annual Summer meeting. We want them to know what they missed.

On the first morning, Wednesday, August 11, the meeting was held on the premises of N. A. Rasmussen's farm. Although the sky delivered a steady drizzle nearly all morning long the attending members saw horticulture with the aid of the Rasmussen truck fleet. During this tour Dr. Fracker and Prof. Vaughn answered questions concerning the pathological and entomological aspect of the crops seen, and various spontaneous lectures by various members added greatly to the interesting trip. When the rain finally became persistent to the point of drenching the meeting was taken indoors, the bunching room of the Rasmussen establishment being used as a convention hall. There, with the aid of fresh specimens as examples Prof. Vaughn told of the extent of raspberry anthracnose, a controllable disease of raspberries.

Anthracnose occurs as small cankers on the cane of the raspberry, appearing at first on the young cane as a bluish discoloration and finally developing into a large canker. Very often this disease spreads until the whole cane is a mass canker, and in bad infections the disease spreads to the leaves and fruit. The disease spreads from the cankers on the old canes by means of the spore bodies to the young shoots in the Spring. Rain or heavy dews carry the spores from the old cankers down to the new shoots, as far as is known. Remedy. Dormant strength (1-10) Lime-sulfur applied just as the leaf buds start to burst in the Spring followed by a summer strength (1-40) application just about blooming time. Efficient spraying will show good results.

At the conclusion of Prof. Vaughn's talk Dr. Fracker gave the history of Raspberry Mosaic, describing it as the resulting infection from a non-filterable virus, and showed the nature of the damage resulting by the use of freshly obtained specimens. A chart was shown giving the number of apparently mosaic free plants available in Winnebago and Outagamie Counties. Dr. Fracker stated that great care should be taken in starting new plantations with as clean plants as it is possible to obtain—but that it is useless to dig out an infected planting as long as it is producing salable berries in economic amounts and as long as plants are not sold from the planting. Six or seven years was advocated as the length of time a plantation be allowed to stand.

Lunch was served in the French Room of the Athearn Hotel.

The afternoon session was held in the beautiful gardens on the James Roe estate. Mr. Roe and his son Mr. John Roe have developed a garden, using native plants, and horticultural varieties, which commanded the praise of every horticulturist present. It will pay anyone who visits Oshkosh to include a trip to the Roe place in his visit. Chairs were placed in the open lawn in the middle of the garden, and in this fitting surrounding the session was resumed. Mr. Cranefield talked on the treatment and maltreatment of city and rural trees, and opened a discussion which lasted until rain forced the meeting into the packing shed. The remaining minutes were used in the discussion of fruit varieties, raspberry mosaic and other subjects of interest to those present.

By the time the party reached the Will Nelson place out West of Oshkosh, where the corn roast and evening session was held the attendance had jumped from about seventy-five to a hundred and twenty-five. The added fifty had probably had the experience of Mr. and Mrs. Nelson's hospitality before, because they certainly made a success of feeding and entertaining their guests. After everyone had gorged themselves with Nelson brand roasted corn, wieners, buns, cakes, and coffee, and had sought the comfort of chairs, Mr. Louis Potter of Milwaukee told of his experiences in rose growing and praised certain varieties quite highly. His experiences in winter care proved amusing and interesting and no doubt Wisconsin Nurseries will benefit by Mr. Potter's statement that any sort of a rose may be grown in Wisconsin.

After the talk on roses Mr. Nelson produced some very talented entertainers who amused the gathering until it was time to disperse.

Thursday was a much better day as far as the weather was concerned. When the party arrived at the dock where the Mayflower was tied. (The Mayflower is not the presidential yacht, we learned) the sun decided that he had been gone long enough and came out with all his power. Result—a wonderful boat trip with congenial companions up through Lakes Butte des Morte and Winneconne and the Wolf River and back to Winneconne where a chicken dinner was waiting. The return trip cinched the fact that the Oshkosh Horticultural Society certainly knows how to entertain guests.

Not only ask for but also demand good apples. Try to get Wisconsin grown fruit. Help chase the poor fruit out of the market place.

THE FLORIST'S PAGE

Edited by Huron H. Smith, Curator of Botany Public Museum, Milwaukee, Wis.

FOURTH INTERNATIONAL BOTANICAL CONGRESS

The couriers of the florists are the pure scientific men, the botanists, who are ever interested in things that don't pay, and are ever discovering facts that real florists apply and become wealthy. An international botanical congress is only held in twenty years. Cornell University, our alma mater, at Ithaca, N. Y., is the host and August 16–23, the dates. The guests are botanists from the well-known world, over a thousand of them.

The writer and his assistant, Albert M. Fuller, left Milwaukee Tuesday evening, Aug. 10th, driving with plenty of luggage and came by easy stages through Indiana, Ohio, Wheeling, W. Va., Pittsburg, Pa., Erie, Pa., by Chautauqua Lake, N. Y., via Hornell and Watkins Glens to Ithaca, arriving on the first or registration day. Our first visit back to the campus in 21 years found many improvements, but still a familiar stamping ground.

The meeting is almost bewildering in its many ramifications. There are fourteen sections and each section having a complete program every day. The contacts with fellow workers is worth more than the excellent programs. Just to give our readers a slight idea of the many phases of botany, we will list briefly the divisions of the congress.

The first division is agronomy under the chairman C. A. Zavitz, Guelph, Canada Agricultural Experiment Station, and they are presenting papers upon dry farming materials, soil and acids, root growth, seed and plant introduction, water and plants, resistant strains, and botanical types of cultivated crops. Such men are on the program, as N. M. Tulaikoy, of Saratov, Russia, Allesandro Marcello, Venezia, Italy; D. N. Prianishnikov, Moscow, Russia; O. Arrhenius, Stockholm, Sweden; J. Stoklasa, Prague, Czechoslovakia; T. A. Kiesselbach, Lincoln, Nebr.; W. H. Christia, Hamar, Norway; A. T. Kirsanoff, Leningrad, Russia; and many noted U. S. botanists.

Section B. is the bacteriologists headed by S. Winogradsky, of the Pasteur Institute, Paris. Many people have the idea that bacteria are a microscopic kind of bug, and have not thought of them as plants. The many plant diseases render them important to every grower of plants. Such men as Hilding Bergstrand, Stockholm; Felix Lohnis, Leipzig, Germany; B. Issatchenko, of Leningrad, Russia, Erwin F. Smith, for fifty years the U. S. Department of Agriculture bacteriologist and other noted American workers are on the program.

Section C. is the cytologists headed by Georg Tischler, of Kiel, Germany and the branch of botany in which the University of Wisconsin excels. This is the study of the cell and the related life facts to be discovered through such study. Their program is especially strong with such speakers as B. Nemec, Prague, Czechoslovakia, Alexandre Guilliermond, Paris; Kathleen B. Blackburn, Newcastle-upon-Tyne, England; Otto Heilborn, Stockholm, Nils Svedelius, Upsale, Sweden; M. Ishikawa, Japan; M. Nawaschin, Moscow, Tetsu Sakamura, Japan; our own C. E. Allen, University of Wis., and many noted Americans.

Section D. is morphology, histology and palesbotany headed by Robert Chodat, Geneva, Switzerland, and has to do with plant forms, their evolutionary status and ancient history in fossil remains. Such authorities make their program as S. Nawaschin, Moscow; F. A. F. C. Went, Utrecht, Holland; Otto Porsch, Vienna; Rudolf Florin, Stockholm; A. W. Hill, Kew, London; Carl Mez, Konigsberg, Germany; Nils Svedelius, Upsala, Sweden; and a host of noted American botanists.

Section E. is ecology headed by Edward Rubel, Zurich, Switzerland. They are concerned with the natural associations of plants and the influence of environmental factors. Program men such as W. Szafer, Krakau, Poland; Karel Domin, Prague; C. Conzatti, Oaxaca, Mexico; Emilio del Villar, Madrid, Spain; J. F. Skottsberg, Goteberg, Sweden; Alvar Palmgren, Helsinki, Suomi; P. Szymkiewicz, Lwow, Poland; A. Borza, Cluj, Roumania; Wm. H. Brown, Manilla, A. E. du Rietz, Upsala, Sweden; A. G. Tansley, Cambridge, England, and several noted Americans are the preticipants.

Section F. is forestry with Tor Jonson, of Stockholm as chairman. They were discussing the scientific foundation of forestry as exemplified by forest experiment station work. Besides Tor Jonson, the program included Orrigo Serpiere e Aldo Pavara, of Firenze, Italy; A. K. Cajander, of Helsingfors, Finland; Max Endres of Munich, Germany; Arthur F. Fischer of Manila; M. E. Tkatchenko, of Leningrad, Russia; Sven Petrini, of Stockholm; A. Rodger of Dehra Dun, India and the leading forestry professors of America.

Section G. is the plant breeders or genetic section, presided over by Ernst Lehmann of Tubringen, Germany and whose secretary is our Dr. C. E. Allen, of the Univ. of Wisconsin. Papers were given by Albert Ernst, Zurich, Switzerland; Erich von Tschermak, Vienna; M. J. Sirks, Wageningen, Holland; N. P. Krenke, Moscow; Jiulio Savastano, Aeireale, Italy; Georg Tischler, Kel, Germany; E. Malinowski, Skierniewice, Poland; and a large number of American workers in special institutions such as Carnegie, Bussey and various universities.

The largest stated program for the congress was section H,—

Horticulture, Fred J. Chittenden, of the Royal Horticultural Society, London, presiding. Our old friend in Wisconsin, Prof. N. E. Hansen, of South Dakota was on the program, as was W. T. Macoun, of Ottawa, Canada; U. P. Hedrick, Geneva, N. Y.; Feliks Kotowski, of Skierniewice, Poland; Th. Remy, of Bonn, Germany; Frank Waugh of Amherst, Mass.; Phillips & Potter, of Durham, N. H.; E. L. Overholser of Berkley, Cal.; Lucian Daniel, of Rennes, Frances; H. H. Jones, of U. of Cal.; W. H. Garner of the U. S. Department of Agriculture; E. C. Auchter, College Park, Md.; H. C. Thompson, of Cornell, Univ., H. D. Hooker, Columbia Univ. and other Americans.

Section I. is physiology, W. W. Lepeschin, of Prague, Czechoslavakia presiding. These are the workers who make the apparatus to determine the life processes of plants. Their program included such notables as A. Ursprung, Fribourg, Switzerland; V. Lubimenko, Leningrad, Russia; S. Kostytschew of Leningrad; L. Michaelis of Berhu; J. Stoklasa, Prague; N. A. Maximow of Leningrad; T. V. Vouk, Zagreb, Jugo-Slavia; M. Pipoff, Sophia, Bulgaria, and Lewis Knudson, Cornell with other American workers.

Section J is Pathology of plants, H. M. Quanjer, Wageningen, Holland, chairman. Plant diseases was their field, and they considered proposals to unify the naming of plant diseases; to form an international league for the development of immaturity in plants, and to co-ordinate research on the irrus diseases of the potato. H. Morstatt of Berlin-Dahlem; Ade Jaczewski, of Leningrad; H. Kelbahn, of Hamburg, Ernst Kuster of Giessen, Germany; D. Atanasoff, of Sophia, Bulgaria, Marie P. Lohnis of Scheveningen, Holland; F. Beauvene, Lyon, France; Z. Zweigbaumowna, of Skiernievice, Poland; H. T. Gussow, of Ottawa, Canada; E. Van Slogteren, Lisse Holland; Otto Appel, Berlin-Dahlem; E. J. Butler, Kew, London; Et. Toex, Paris, France, and our own L. R. Jones of the University of Wis., were speakers.

Section K. was the pharmacognosy and pharmaceutical botany section, guided by Henry H. Rusby of Columbia Univ., that indefatigable discoverer of new kinds of economic plants. Plants of medicinal value were their consideration. Heinrich Zourig, Basel, Switzerland; W. Brandt, Frankfort A. M. Germany; R. Wasicky, Vienna; Alexanda Tschirch, Berne Switzerland; Carl Mez, Komigsberg, Germany; Fabrizio Cortes, of Rome; and workers from the large dwelling houses in America were contributors to their programs.

The taxonomists under section L. interpreted the present practice of systematic botany and nomenclature. C. H. Ostenfeld of Copenhagen, Denmark was the chairman. The writer attended most of their sessions. Contributors to the program were E. de Wildeman, Brussells, Belgium; T. A. Sprague, Kew, England; L. H. Baily, Ithaca, N. Y., A. S. Hitchcock, Washington, D. C., John Briquelt, Geneva, Switzerland, H. M. Hall, Berkeley, Cal., S. Illichevsky, Poltava, Russia; A. W. Hill, Kew, England; M. L. Fernald, Harvard; Le Roy Abrams, Stanford, A. B. Rendle, London; Aven Nelson, Wyoming; P. A. Rydberg, New York; Carl Skottsberg, Sweden; Otto Heilborn, Stockholm, G. H. Shull, Princeton, R. A. Harper, New York City and N. I. Varilov, Leningrad, Russia.

Section M., mycology, was the field of all sorts of cryptogamic fungi, headed by E. J. Butler, Kew, England, noted American mycologists such as E. A. Burt, St. Louis; C. H. Kauffman, Ann Arbor, Mich., C. L. Shear, of Washington, D. C., A. H. R. Buller, of Winnipeg, Canada, J. C.

Arthare of Purdue University, J. H., Faull, of Toronto, Can., H. S. Jackson, of Purdue University; B. O. Dodge of Washington, D. C., E. C. Staleman, of Univ. of Minn., and foreign experts from France, Germany, England, Poland, Russia and Czecho-Slovakia, made up the program.

The association of official seed analysts of North America met also with W. H. Wright, of Toronto, Canada, as president, and A. L. Stone of the Univ. of Wis., as secretary–Treasurer. Their subjects had to do with legislation of seed control, international seed testing, germination, methods, and hereditary values in seeds.

It is only possible in this magazine to outline the scope of the congress and some of its attendants as in the foregoing. While it may seem that many foreigners have been named, it is true that the many phases of botany are better covered today in the United States by workers than those abroad. There are more workers here than all Europe combined, and botany is most important in the United States.

Ithaca is the most scenic country in the U. S. for botanists and many excursions were listed for the vicinity as well as further trips for foreign visitors. In the neighborhood, Enfield Glen, Watkins Glens, Niagara Falls, and the Fruit Belt of Western New York were visited. A western trip after the congress was arranged to Yellowstone Park; a trip to eastern Canada, and a trip to the Geneva Agricultural Experiment Station. A largely attended trip was to the Junius, N. Y. bog and Marsh. Short trips to experimental gardens on the university grounds, orchards, vegetable gardens and floriculture plots were taken. The Foresters visited several projects including a special auto tour through the Adirondacks. Special exhibits of all kinds were arranged at university buildings. Visiting women had a complete schedule of entertainment from Aug. 15 to Aug. 23.

One of the interesting exhibits was that of Lewis Kundson, of Cornell, on orchid seed germination. Prof. Kundson was born and raised in Milwaukee, a student at the University of Wis., and now the author upon orchid germination. He has grown orchids to maturity from seed and has disproved the theory of the necessarily symbiotic relation of mycorrhiza or orchid fungus to seed germination. His conclusions and methods have been of utmost interest to commercial growers, as they save expensive tropical collecting trips. He has also succeeded in growing some 14 native orchids from seed.

This congress has been the treat of a lifetime, and its proceedings will cover volumes, when issued, but it is the hope of the writer to convey some slight conception of its importance to science to our readers.

HURON H. SMITH.

STATE FAIR PREMIUMS

(Continued from page 5)

17. Best 25 red roses.
    1. C. C. Pollworth Co.
    2. Holton & Hunkel.
18. Best 25 Premiers.
    1. C. C. Pollworth Co.
    2. Holton & Hunkel.
19. Best 25 any other variety roses.
    1. C. C. Pollworth Co.
    2. Holton & Hunkel.
20. Best 25 Easter Lilies.
    1. C. C. Pollworth Co.
    2. Holton & Hunkel.
21. Best 25 other lilies.
    1. Holton & Hunkel.
    2. C. C. Pollworth Co.
    3. H. Locker & Son.
22. Best 12 chrysanthemums.
    1. C. C. Pollworth Co.
23. Best display Asters, not less than 100 blooms in variety.
    1. J. K. Rugowski Seed Co., Manitowoc, Wis.
24. Best vase of Asters, 12 any one color.
    1. J. K. Hugowaski Seed Co. Manitowoc, Wis.
25. Best herbaceous perennials, not less than 10 varieties.
    1. Eberhardt Sons.
    2. Donels Flower Gardens.
    3. W. A. Toole.
26. Best display of not less than 100 gladiolus blooms in variety.
    1. J. K. Rugowski Seed Co.
    2. Badger Dahlia Farm.
    3. F. M. Palmiter & Sons.
27. Best 6 vases gladiolus, 6 varieties, 12 of each.
    1. Elmer Thiermann.
    2. Badger Dahlia farms.
    3. J. K. Rugowski Seed Co.
28. Best display not less than 100 Dahlia blooms in variety.
    1. Fitchett Dahlia gardens.
    2. Eberhardt Sons.
    3. Badger Dahlia farms.
29. Best display not less than 50 Dahlia blooms in variety.
    1. Fitchett Dahlia gardens.
    2. Eberhardt Sons.
    3. Badger Dahlia Farm.
30. Best display 12 Dahlias in one variety.
    1. Badger Dahlia Farms.
    2. Eberhardt Sons.
    3. J. K. Rugowski Seed Co.
31. Best floral wreath on easel, no lettering, frame not over 30 inches.
    1. Chas. Menger.
    2. Gimbel Bros.
    3. Edlefsen Floral Co.
    4. Kroseberg.
32. Most artistically arranged basket of cut flowers shown Wed. A. M.
    1. Rud. Preuss & Sons Co.
    2. Gimbel Bros.
    3. Edlefsen Floral Co.
    4. E. Welke Co.
33. Best Bridal Shower Bouquet.
    1. Gimbel Bros.
    2. H. Locker & Sons.
    3. Chas. Menger.
    4. Rud. Preuss & Sons Co.
34. Most artistic Tumbler Basket.
    1. Edlefsen.
    2. Gimbels.
    3. Lockers.
35. Three Corsage Bouquets in variety Thursday morning.
    1. Rud. Preuss & Son.
    2. H. Locker & Sons.
    3. Edlefsen Floral Co.
    4. Gimbel Bros.
36. Three Colonials, large, medium and small, Wednesday.
    1. Gimbel Bros.
    2. Rud. Preuss & Sons.
    3. H. Locker & Sons.
    4. Edlefsen Floral Co.
37. Dining room table decoration for 4 days 4 covers, change once.
    1. Gimbel Bros.
    2. Chas. Menger.
    3. Rud. Preuss & Sons Co.
    4. E. Welke.
    5. Edlefsen Co.

TREES

(Continued from page 3)

trimming, spraying and caring for trees in front of each lot or parcel of land abutting on any street, avenue or boulevard and it shall be the duty of said Association prior to the tenth day of November in each year to make a report to the City Auditor

of all work done for which assessments shall have been made as hereinbefore has been provided, stating and certifying the description of lands, lots, parts of lots and parcels of land abutting on a street, avenue, or boulevard in which any such work shall have been done and the amount chargeable to each such piece of property and the said City Auditor shall, at the time of making his annual report to the Common Council of the lands or parcels of and subject to special assessment, include therein the lots or parcels of land so reported to him by the Madison Park & Pleasure Drive Association that the amount chargeable thereto for work done during the preceding year and such amount shall be levied on said lots or parcels of land, respectively, to which they are chargeable and shall constitute a lien thereon and shall be collected in like manner as other special taxes are levied and collected in said City.

The Madison Park & Pleasure Driving Association shall advance out of the funds set aside for them in the budget sufficient money for doing said work and the special assessments shall be credited to the Madison Park & Pleasure Drive Association fund of said City and shall not be diverted or used for any other purpose.

Nothing herein contained shall be construed as changing or interfering in any way with the provisions of the ordinances of the City of Madison, delegating certain authority over the Parks and Public Drives in the City of Madison to the Madison Park & Pleasure Drive Association."

Section 30. The provisions of this ordinance shall take effect from and after the passage and publication of this ordinance.

Too bad there is no market for quack grass.

Why isn't your neighbor a member of the State Horticultural Society?

WHEN SHOULD AN APPLE BE PICKED?

The answer is, when it will sell for the most, when its flavor is most perfectly developed, or when it will keep the longest. These are the governing factors.

Sometimes an early apple, possibly three quarters mature, will sell for more than it will when mature but in selling green apples at a high price, their undersize needs to be considered.

It is not so easy to determine when an apple has reached its highest quality, or its keeping qualities at their best.

Some growers seem to think that an apple is mature when the seeds are black; but as the seeds are sometimes black long before the apple is full grown the color of the seeds is not a reliable guide.

Size is not a guide because the number of apples on the tree, available nitrates, heat, and moisture largely determine the size.

Color is not a satisfactory guide because apples will often color when the nitrate supply is reduced by insufficient moisture, and refuse to color when the nitrate supply is large and the weather cloudy. A Wealthy picked when quite green and kept at a proper temperature until mellow will be very juicy and fine grained, and poor flavor but the juiciness and fine texture will suit some people.

Apples well matured on the tree will generally rot before they wilt. Excessive moisture late in the season is often a factor on causing apples to wilt so that a tendency to wilt quickly, is not a conclusive sign of immaturity when picked.

Extensive tests have been made in Oregon to determine at what stage of maturity pears would "stand up" best for distant markets.

So far as the writer knows, nothing has been done in this way for apples.

The exigencies of picking and packing will always be a factor in immature or over-mature apples.

We have eaten Delicious when they belied their name and *delinquent* would have been more descriptive.

To the ancient Israelites, no doubt, it was very appealing to speak of the "gold paved streets of the new Jerusalem", but for the real Horticulturists, Heaven should have a rose garden and a Snow Apple orchard.

I am writing this because I am "Mad"—"mad" at apple growers who spoil their wonderful snow apples by picking them two or three weeks too soon.

When an apple is poor because the tree was starved for want of food and water, we can only sigh; but when it is spoiled because of being picked before mature one thinks of Gatun—the *greatest dam* in the world.

The exact state of maturity for long keeping of any variety will depend largely on temperatures. If an apple is kept out of the sun after it is picked and put in cold storage the same day it will keep best if fully matured.

The real guide of maturity is

shown when an occasional sound apple drops, and it should be kept in mind that many varieties should be picked three times. If apples sell for a worth while price, the increase in quantity as well as quality should more than pay the cost of several pickings.

It is short-sighted in the grower not to to consider both the dealer and the consumer. If you, *Mr. Grower*, are considering your *pocket-book* this year and next year too, *don't* pick your apples until they are *mature* and then *handle* and care for them so that those who buy them *today* will want some more the day after tomorrow.

T.

Eau Claire is still growing. So is its Garden Club. They are doing things up there to further horticulture. Are you?

Just two things wrong with our system of marketing fruit here in Wisconsin. The growers don't put the fruit where Wisconsin people can get it, and the Wisconsin people don't ask for it. All of which is quite nice for the shippers in other states. Ask for Good Apples Wisconsin Grown.

THIS I SAW

Gravenstein box apples from Yakima, Washington, selling in the City of Sturgeon Bay at 10c each, Sunday, September 19th.

THE ASTILBES

Astilbes are often confused with Spiraeas, which they greatly resemble, having deeply cut foliage and feathery panicles at the top of long stems. They have become well known to the public in recent years as forcing plants, being grown in great numbers for the Easter trade. Some of the newer hybrids with delicate pink shades are unusually attractive. The same plants look well in the garden, and are readily grown in any soil, although they are more at home in a somewhat moist location. The foliage is too coarse, perhaps for the front of a border or for an intimate garden, but in the background or in partially shaded spots, and particularly on the banks of a stream, these plants are charming, but they always look best when massed.

The Astilbes grow two or three feet high, and are readily propagated by division. It is not easy to raise them from seeds unless a greenhouse is available. The flowers of all varieties are produced in June and July. They run through various shades from white to pale pink, old rose and salmon pink.—HORTICULTURE.

The tourist crop was pretty good this year. A tour of the stamping grounds of that crop would show the effect on our wild plant life. We understand, though, that they are reading the signs put up by the State Entomologist's office and the Conservation Commission.

Premiums Offered by The State Horticultural Society for Exhibits at the Annual Convention, Fruit, Flower, and Vegetable Show to be Held in Green Bay, November 10, 11, 12, 1926

TROPHIES

1. Best ten bushels McIntosh, The Green Bay Trophy, Silver Cup.
2. Best exhibit apples, one tray each, not less than 6 nor more than 12 varieties: Silver Cup.
3. Best tray Wealthy: Silver Cup.
4. Best 25 trays, Big Five, Five each; Wealthy, Fameuse, McIntosh, Northwestern and Wolf River: The President's Cup.

4a. Best tray McIntosh, Silver Trophy.

CASH PREMIUMS

		1st	2nd	3rd
5.	Best Bushel Delicious	$5.00	$3.00	$2.00
6.	" " McIntosh	5.00	3.00	2.00
7.	" " Northwestern	5.00	3.00	2.00
8.	" " Fameuse (Snow)	5.00	3.00	2.00
9.	" " Wealthy	5.00	3.00	2.00
10.	" " Windsor	5.00	3.00	2.00
11.	" " Wolf River	5.00	3.00	2.00
12-18.	Best tray any above varieties	2.50	2.00	1.00
19.	" " Dudley	2.50	2.00	1.00
20.	" " Golden Russett	2.50	2.00	1.00
20.	" " Tolman	2.50	2.00	1.00

(A) The Score Card method will be used in judging

(B) Trophies will be awarded only on **high grade** exhibits; the judge may, at his option withhold award of any trophy on this account.

FLOWERS

Exhibits must be ready for the judges by 2:00 P. M., November 10, 1926.

CHRYSANTHEMUMS

(1)	Best dozen yellow "Mums"	$6.00	$4.00	
(2)	" " white "	6.00	4.00	
(3)	" " pink "	6.00	4.00	
(4)	Best double bunch Single Pompoms	3.00	2.00	$1.00
(5)	" " " Double "	3.00	2.00	1.00

(6) For the best exhibit of "Mums", a Silver Cup engraved with winner's name, etc.

The exhibits entered in (1) to (5) inclusive may be entered in (6) also and may include as many other colors, varieties, etc., as the exhibitor desires. This cup will be awarded only for a **high class exhibit** and if it is the opinion of the judges that no worthy exhibit is made, no award will be made.

CARNATIONS

		1st	2nd
(7)	Best fifty carnations, any color	$6.00	$4.00

ROSES

		1st	2nd	3rd
(8)	Best twenty-five Columbia	$5.00	$3.00	
(9)	" " " Premier	5.00	3.00	
(10)	" " " Butterfly	5.00	3.00	
(11)	Best three Cyclamen Plants	4.00	3.00	
(12)	Best specimen Boston Fern	3.00	2.00	
(13)	Best display Greenhouse Plants	8.00	6.00	$4.00
(14)	Best display Everlasting (straw flowers)	5.00	3.00	
(15)	Best Corsage Bouquet	4.00	3.00	
(16)	Best arranged basket cut flowers—W. S. H. S. Silver Trophy			

VEGETABLES

(1) Best collection, not less than ten entries—W. S. H. S. Silver Cup

		1st	2nd	3rd
(2)	6 Blood Turnip Beets	$1.00	$0.75	$0.50
(3)	3 Rutabagas	1.00	.75	.50
(4)	6 Chantenay Carrots	1.00	.75	.50
(5)	3 Winter Cabbages	1.00	.75	.50
(6)	3 Red Cabbages	1.00	.75	.50
(7)	6 Red Onions	1.00	.75	.50
(8)	6 Yellow Danvers Onions	1.00	.75	.50
(9)	6 White Onions	1.00	.75	.50
(10)	Largest Onion	1.00	.75	.50
(11)	6 Parsnips	1.00	.75	.50
(12)	1 Hubbard Squash	1.00	.75	.50
(13)	3 Table Queen Squash	1.00	.75	.50
(14)	3 Heads Celery	1.00	.75	.50
(15)	3 Chinese Cabbage	1.00	.75	.50
(16)	6 Salsify	1.00	.75	.50
	Greenhouse Grown			
(17)	3 Bunches Radishes	1.00	.75	.50
(18)	5 Tomatoes	1.00	.75	.50
(19)	3 Cucumbers	1.00	.75	.50
(20)	3 Lettuce	1.00	.75	.50

ANNUAL CONVENTION

The Sixty-second Annual Convention

of the

STATE HORTICULTURAL SOCIETY

Will Be Held In

GREEN BAY

November 10th, 11th and 12th

Extensive exhibits of fruit, flowers and vegetables are assured. Sturgeon Bay fruit growers ought to fill one hall. Florists from Milwaukee and other cities will compete with Green Bay flower growers.

Several valuable trophies are offered for exhibits as well as substantial cash premiums. President W. A. Toole offers for the first time the "President's Cup" to be awarded this year to the best exhibit of The Big Five apples, Five trays each of Snow, Wealthy, McIntosh, North-Western and Wolf River.

Twenty-five speakers of prominence in the horticultural world will be on the program during the seven sessions.

The cooking demonstration so pupular last year will be repeated; also daily demonstrations in arranging flowers, hybridizing or "crossing" plants, grafting and budding and in packing fruit.

The entire convention, program, exhibits, demonstrations and trade exhibits will be all under one roof and on one floor of the Hotel Northland.

Both amateur and professional growers may profit by attending the Convention.

Members need no invitation but should advise everyone that all meetings are open to the public.

DEMOCRAT PRINTING COMPANY
MADISON, WISCONSIN

WISCONSIN HORTICULTURE

Vol. XVII Madison, Wisconsin, October, 1926 No. 2

DO NOT MISS IT!

ANNUAL CONVENTION

Green Bay, November 10, 11, 12

Twenty-Five Speakers on

Three Day Program

Big Exhibits Assured

All at Hotel Northland

PROGRAM

Annual Convention State Horticultural Society, to be Held at Green Bay Wednesday, Thursday and Friday, November 10th, 11th and 12th, 1926. Hotel Northland

Program subject to revision.

WEDNESDAY FORENOON
10:30 o'clock

(1) Greetings by Mayor.
(2) Introduction of delegates from Minnesota and Illinois Societies.
(3) President's Address.
(4) Report of Secretary.
(5) How to Know your Trees—R. H. Roberts.

WEDNESDAY AFTERNOON
2:00 o'clock

(1) Demonstration: Arranging Flowers, one-half hour.
(2) Fruit in the Home—Mrs. Hayward.
(3) Varieties of Apples for Wisconsin—H. W. Ullsperger.
(4) Among Wisconsin Orchards—C. L. Kuehner.
(5) A Successful Apple Cave Storage—Fred Randau, Iowa.

WEDNESDAY EVENING

Flowers for Market—Illustrated Lecture by Huron H. Smith, Curator of Botany, Public Museum, using 100 natural color photography slides. The "Thousand Dollar Lecture."

THURSDAY FORENOON

(1) The Grand Prize, J. G. Moore.
(2) The Corn Borer—S. B. Fracker, State Entomologist.
(3) Crown Gall of the Apple Tree—G. W. Kiett.
(4) Discussion. Shall We Plant Wealthy?

THURSDAY AFTERNOON

Demonstration, Hybridizing Plants, one-half hour.

(1) Peonies—A. M. Brand, Minnesota.
(2) An Amateur's Experience with the Gladiolus—S. M. Thomas.
(3) Cabbage and Other Things—E. V. Ryall.
(4) Discussion. Shall We Plant Delicious?

THURSDAY EVENING

Annual Dinner, followed by illustrated lecture by Huron H. Smith, "The Field of Botany."

FRIDAY FORENOON

(1) Horticulture—J. S. Potter.
(2) Sweet Clover in The Orchard—D. E. Bingham.
(3) How Much Does a Strawberry Cost?—J. E. Leverich.
(4) The Beaver Strawberry—W. H. Hanchett.

FRIDAY AFTERNOON

Demonstration—Packing Apples, one-half hour.

(1) The Farmer and The Apple Tree in Rock Co.—R. T. Glassco.
(2) Culls—J. M. Coyner.
(3) Fruit Growing by Farmers—R. E. Smith.
(4) Up North—V. S. Brubaker.
(5) What's The Big Idea?—G. A. Sell.

The farm orchard problem or rather dumping on the market of fruit not fit for hog feed has not yet been solved, but the county agent is the man who is doing most toward the solution.

We will have an even half dozen county agents, Coyner, Brubaker, Smith, Glassco, Sell and Spreiter, who will give us their experience and one more, for good measure, Mr. E. V. Ryall of Kenosha county who will talk about market gardening.

The European corn borer is moving steadily westward. Good bye roasting ears and many other edibles if the beast gets into Wisconsin. Dr. S. B. Fracker is on guard and will tell us what is happening.

Mr. D. E. Bingham, J. E. Leverich and H. W. Ullsperger, will talk commercial fruit growing and marketing but amateurs, who sometimes complain about the preponderance of fruit growing topics, please bear in mind that it is the men who make fruit growing their sole business who are the ones best fitted to tell us amateurs what to do.

And there are others.

There will be two round-table discussions, one "Should we advise planting Wealthy?" and "Is the Delicious a desirable commercial apple for Wisconsin growers?"

And if there is anything you don't see, ask for it. The Question Box will always be open.

The Convention Program, so far as it can be arranged, is printed elsewhere in this number. Not all the speakers listed may appear, but to offset that, arrangements are in the making for at least three men well known in the horticultural field and it is a good guess that at least two of them will be present. We cannot very well put them down until their acceptances have been received. We will go so far as to say that one is Dr. C. A. Bingham of Cleveland, Ohio, who has a bearing orchard of twelve hundred acres and has had some remarkable experiences in ringing trees.

Just when each speaker will appear on the program is of less im-

portance than to know what subjects will be discussed. We expect twenty-seven speakers inclusive of delegates from Illinois, Iowa and Minnesota.

Amateurs will have an opportunity of hearing Mr. A. M. Brand, the peony specialist of Faribault, Minn., also Mr. S. M. Thomas of Madison and Lodi, a skilled amateur breeder of gladiolus with 2,000 seedlings coming on.

Mrs. Agnes Carroll Hayward of Chicago will talk about fruit in the household. Mrs. Hayward has a message that our fruit growers must hear—and heed.

In addition, Huron Smith, everybody knows him, will give us free of charge a thousand dollar lecture. The real price is $1,150.-00. Mr. Smith will use one hundred lantern slides, color photography, not painted, which cost the Milwaukee Public Museum ten dollars apiece. One hundred and fifty dollars would be a small price for the lecture and that is free also. His subject is "Growing Flowers for Market". Mr. Smith will give another illustrated talk Thursday evening, "The Field of Botany".

The Department of Horticulture sends Prof. J. G. Moore whose topic is "The Grand Prize". Guess what it is about; Dr. G. W. Kiett, who has just completed a study of the crown gall on apple; Dr. R. H. Roberts, who always has something new and Prof. C. L. Kuehner who travels all over the state and observes all things horticultural.

AND IN ADDITION

Someone skilled in the arrangement of flowers will demonstrate bouquet making, the arrangement of flowers in vases and home decoration.

The cooking demonstration so successful in former years will be repeated this year.

Hybridizing or "crossing" is a deep mystery to many people although it is really simple. It will be illustrated by means of charts and real flowers.

Packing apples in bushel baskets.

Grafting and budding.

Enough for anybody.

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(18)	5 Tomatoes	1.00	.75	.50
(19)	3 Cucumbers	1.00	.75	.50
(20)	3 Lettuce	1.00	.75	.50

Best Apple Pie—W. S. H. S. Silver Cup.

TREES—PART TWO

ROADSIDE TREES

The very first thing the early settlers in Southern Wisconsin did was to cut down as many trees as their time and strength permitted.

What a beautiful country this must have been: Immense groves of burr oak, white oak, black and red oak and maple, interspersed with openings where fires swept each summer destroying the seedling trees. "Prairie openings" these were called, afterward named for the earliest settlers, "Stoner's" prairie; "Williams" or "Ames'" prairie. There was but little underbrush, most often leaves and twigs that crackled as you walked or sometimes grass; the home of quail, grouse, woodcock, and in the openings deer grazed unafraid.

Clear water brooks lined with elm and willow harbored, in their nooks and curves, wild fowl. If perchance a bit of marsh fell to the settlers lot, on summer evenings mink and muskrat gamboled over the haycocks he had laboriously built, while otter fished nearby.

Roads came later, laid out usually without any regard for section lines, but followed rather the line of least resistance. Again the settlers, farmers by now, cut down all the trees. Occasionally, a noble white oak was saved, but less on account of its beauty than for its possibilities as bridge timber.

These things happened in the "40's" and "50's". About 1880 came the Patrons of Husbandry, known as the Grange, urging the planting of roadside trees, just a general plan to plant trees regardless of species to be planted, contour, or, least of all, any consideration of landscape beauty, but just an urge to *plant trees.*

There were no roads but dirt roads in those days and for a generation or more most of these roadside trees proved a nuisance in keeping side roads muddy late in the spring and for days after summer rains. In wooded areas not so much planting as cutting was done so that only hazel brush and wild raspberries remained.

So much for the past, the present and future only really interest us. We have with us in Southern Wisconsin, at least, hundreds of miles of roadways densely tree planted, thousands of miles of improved highways and millions of automobiles traveling on them.

It was jolly enough in the olden days to jog along in a buggy for miles along shaded roads, but now the shade is not important, we ride so fast we are not conscious of either sunshine or shade. Usually we find it necessary to cross a ditch before we can rest in the shade of the roadside trees.

So far no argument has been offered for or against roadside planting or any suggestions offered, therefore, that my readers be not discouraged (or disappointed), I suggest that no further encouragement be given to indiscriminate planting of roadside trees. There is no good reason for doing so. Uniform planting on roadsides intensifies the deadly monotony of concrete roads. Aside from that it introduces formality where informality is needed. City streets, not country roads, call for preciseness and uniformity in tree planting.

Roadside trees, low branching and unpruned, shut out landscape views thereby depriving the traveling public of one of its greatest delights. How often have you turned into a highway with broad fields on either side and back, far back, a lovely hillside. You caught just one glimpse of this hillside, for just a moment you saw it and no longer, for huge soft maples or elms shut out your view until again you topped the first hill beyond.

How much better if ninety per cent of these trees were removed and converted into firewood. How much better if these trees had been planted in groups of three to a dozen in the beginning with formal rows at intervals; how much more the landscape would approach in beauty that of the pioneer days.

All this, of course, is largely from the standpoint of those who travel the highways for pleasure. The farmer must also be considered. If the protection afforded to crops by a row of trees more than offsets the damage caused by invading roots; if this is true then he is the first to be considered. Anyway the whole subject is worthy of consideration.

In Part Three the care of roadside trees and protection from public service corporations will be considered.

F. C.

PLUMS NOT ALWAYS PLUMS

Eugenia C. Gillette

"Everybody, from the time I began to contemplate building on this spot, has said, 'Of course you'll grub out that plum brush!' —and of course I'd do nothing of the kind!"

"And such a special joy they have been this season, from the time they displayed their bit of Spring's bridal-veil and filled the earth with their unearthly fragrance, until their branches lay along the ground, so overfreighted were they with their burden of deep red fruit, and again filled the world with as delightful but very different perfume.

And at twilight, against the dusky rose of the fading sunset, they were haunted by myriads of shadowy brownish gray moths, about half an inch of bigness,—thousands of them, it seemed, dancing in the soft sunset air about them. "Grub out"—nothing!!

I harvested a half dozen very good pears from one of my dwarf trees,—and four excellent Wealthy apples from another young dwarf.

The quince that was one globular bouquet of lovely pink bloom and set half a dozen promising fruits, blighted throughout, and gave up the struggle.

Our "Dove Chariot" (Monkshood) showed no "little green doves with green traces tying them to the chariot", as Amy Lowells did. Both doves and traces were this purple-blue of the blossoms, the traces a trifle lighter shade along a portion of their length."

HOLLAND BULBS

The United States in general and Madison in particular was honored by the presence of Dr. E. Van Slogteren of Holland, who had been attending the Division of Pathology at the Congress of Botanists at Cornell. Dr. Van Slogteren gave an informal talk to a gathering of interested people in the Horticultural Building at the University of Wisconsin on October first. His subject was the treatment of diseases of bulb stock. Dr. Van Slogteren is in charge of the work in Holland and is an international authority.

Dr. Van Slogteren's laboratory is in the midst of the bulb fields in Holland and he has the fullest cooperation from the growers; he calls them his "critics". He advocates fuller cooperation in the control of diseases rather than extended and complicated quarantines. The subject of nematode infection of narcissus bulbs which is of such great importance to American bulb growers as well as Hollanders, formed a large part of his subject.

Nematodes are, of course, microscopic. The infection causes a disintegration of parts of the bulb, light spots on the leaves, and a subsequent curving of the leaves. The nematode is not new; indications are that it has been present at least two hundred years.

In Holland the bulb fields are very carefully inspected for infections. One man walks through the field shading the plants with an umbrella so that there will be a neutral light and marks the plants which show even the least traces of infection. A second man removes the bulbs and the soil immediately surrounding the bulb. A group of men follow who remove the soil surrounding the point of infection. The nematode is always near the top of the soil, and experiments in depth planting are being carried on which show that it may be possible to plant under the layer of soil infection.

The Holland station under the direction of Dr. Van Slogteren has carried on extensive experiments in the treatment for nematode infection by the hot water method. About three or four weeks after lifting, according to the storage treatment, the bulbs are subjected to treatment by hot water, 110–111 degrees F., from 3½ to 4 hours. It has been proved that this treatment not only controls the nematode but also stimulates the growth of the bulb.

The species, *Tylenchus dipsaci*, (root-rot nematode or eel-worm) is new believed to include several biological forms, the food plant being the basis for division, and it is thought that the biological forms will not interchange to any great extent except through a mutation. Experiments on narcissus and hyacinth were described to show the basis for this thought.

Dr. Van Slogteren expressed the opinion that the control methods used in Holland were much more efficient than those used by the United States department in bulb treatment on this side. The United States officials do not allow the shippers to treat the bulbs at point of shipment, at which time they are in the best condition for treatment, and the treatment in the United States is from one-half hour to one hour too short.

Dr. Van Slogteren was greatly appreciated and the care with which he has been making his experiments was manifested by his talk and the accompanying slides and charts.

J. S. P.

HOW RARE IS COMMON SENSE!

Two paragraphs in Mr. Potter's report of Doctor Van Slogteren's discussion of the bulb situation in Holland which appears in this issue afford food for thought not only for those who enjoy growing bulbs in the home, but also for the Federal Horticultural Board at Washington "drest in a little brief authority."

"The species is now believed to include several forms, the food plant being the basis for division. and it is thought that the biological forms will not interchange to any extent except thru a mutation. Experiments on Narcissus and Hyacinth were described to show the basis for this thought."

The reason advanced by the F. H. B. for the exclusion of Holland grown Narcissus bulbs was the danger to the onion and alfalfa crops of the Pacific coast from attacks by the Narcissus nematode. Dr. Van Slogteren is an eminent plant pathologist and we are inclined to believe him when he says that the Narcissus nematode is not the same form that attacks alfalfa.

Further; Dr. Van Slogteren expressed the opinion that the control methods used in Holland were much more efficient than those used by the Federal Horticultural Board in Washington, that the F. H. B. officials do not allow the shippers to treat the bulbs at point of shipment, at which time they are in the best condition for treatment, and the treatment given by the F. H. B. is from one-half to one hour too short. Again we say, how rare is common sense, even rarer than a day in June. There is no proof that the narcissus nematode attacks onion or other plants but in spite of this narcissus bulbs are excluded. The F. H. B. does not permit treatment where and when treatment would be effective but sets up its own superior (?) knowledge as against that of men like Dr. Van Slogteren who are devoting their entire time to the study of this problem.

Holland's exports of bulbs are forty per cent to America and sixty per cent to European countries. European countries do not consider it necessary to set up embargoes or quarantines but accept the bulbs without question. If the F. H. B. should wake up some morning and find that American grown narcissus bulbs are as badly infected as Holland bulbs or worse what will their answer be? We wait expectantly. Some other form of tariff would then need be devised.

THE FLORIST'S PAGE

Edited by Huron H. Smith, Curator of Botany Public Museum, Milwaukee, Wis.

MILWAUKEE'S GROWERS

Flower growing for profit has reached a high state of development around Milwaukee, and the fifty-six growers for this market have never been properly introduced to the rest of the Horticultural Society. We will do it now. Milwaukee is a wonderful place for flower growers, and if you would find the best growers in the world, look along this particular degree and minute of latitude, and you will find the most successful ones. North of here it becomes too cold and there is not enough sunshine. It takes too much coal to heat the greenhouses to make it quite profitable. South of here, the weather is too changeable. When it settles down to be cold, the greenhouse man wants it to stay cold. If it gets warm one day and cold the next, it weakens the plant to be blown hot one moment and cold the next. So Milwaukee might be aptly called the "Flower City". Most of the flowers grown here are shipped to other cities, as far west as Seattle, as far south as New Orleans and as far east as New York City. And the quality of our cut flowers is such that it commands a premium in most of these markets. Milwaukee roses look better after they have been kept three or four days than others do when they are fresh. Milwaukee carnations are good enough to take the sweepstakes prizes in the American Carnation Society annual show, and they too, ship well. There are 150 retail flower stores in Milwaukee, which is more in proportion to the population than Chicago or New York has, so Milwaukeeans must like flowers.

Now to introduce first, the growers for Milwaukee. Possibly next time, we will introduce the retailers. The growers will be found in the fringes of the city, except in a few cases where the city has surrounded them and swallowed them whole. Usually the real estate in the city proper becomes too valuable to hold for greenhouse purposes and they are pushed out to less valuable land. Let us first name the few who are retailers but still grow a few in the city, thus acting partly as their own growers. These are such as Chas. Menger & Son, at 536 27th St.; A. M. Dettmann & Son, 1317 Green Bay Ave.; John M. Dunlop, 691 Wauwatosa Ave.; Frank Eberfeld & Sons, 714 Center St.; Edlefsen Floral Co., W. 19th and Atkinson; Fred Gutermuth, 4917 Bluemound Road; E. Haasch, 1256 Hopkins; Hermening, 417 Auer Ave.; Hillmans, 967 Muskego Ave.; August F. Kellner, 1384 Humboldt Ave.; Richard Lietz, 1433 Fond du Lac Ave.; Ernest Praefke, 140 Concordia Ave.; Rudolph Preuss & Sons, with greenhouses at 2433 Vine and in North Milwaukee; William A. Schmitz, 700 31st Ave.; and the Wm. R. Schroeder Floral Co., 2401 Pease St.

There are a number of really out of town growers that make Milwaukee their market for their flowers. These are A. Nissen, Oconomowoc, Wis.; Chris Oelenschlager, Oconomowoc; Herman Staeps, Elm Grove; the Burlington Floral Co., of Burlington, Wis.; Albert Loeffler, of Watertown, Wis.; Loeffler and Benke, of Watertown, Wis.; Wm. Rayner & Son, Oconomowoc; Otto Sylvester, Oconomowoc; Waukesha Floral Co., Fred Blies, Waukesha, Wis.; and Henry Scheblak, Watertown, Wis.

For the most part, however, the growers cling to the hoop-skirts of Milwaukee, and are found in the following locations. As we start north along the lake front we will find Gustav A. Pohl, at 1405 Bolton St. still in the city limits. Gust. has found a few good money-makers and sticks to them. He is the only one growing several chrysanthemums on a stem. Next on the corner of Folsom and Humboldt Ave., we see the plant department of Holton & Hunkel, a large range of glass that used to belong to C. B. Whitnall, the originator of the F. T. D. A little further along Humboldt Ave., we find Ben Gregory, at 1339 Humboldt, a good natured Scotchman, who specializes in potted plants. Just across the road at 1384 Humboldt, we find the rambling establishment of Aug. F. Kellner, who grows a little of everything to help out in his business of interior decorating, and even a couple of city lots of perennials.

Away out on the north side on the River road we find Norman A. Schmidt, whom all recognizes as a quality grower. At Fox Point, we find the Fox Point Floral Company noted for the quantities of seasonable stock they grow. The farthest away is the huge plant of the Holton & Hunkel Co. at Brown Deer, with several hundred thousand feet of glass, and specializing on roses. Just half a mile west of Kellner we find Ernest Praefke, at 140 Concordia, known for his primroses and other potted plants. North of him we find two plants close together, in the section known as Sunny Point. They are: the Robert E. Eschrich Nursery Co. and the Sunny Point Floral Co. They have a fine bit of river bottom soil, and in the spring they are often in the bottom of the river, too. A mile west of Praefke is Herman Pagenkopf, 1486 17th St., noted for his bulb stock; while northeast of him a mile is John Rosso, on the Green Bay road, noted all over the country for his fine long stemmed violets. Still further north on the Port Washington Road is Charley Kitzerow, with his range of houses. Further along the Green Bay Road is Frank Heyden. Where the Green Bay Road intersects the Hampden Road, you will find Alfred C. Spinti, who is always experimenting with something new, and often hitting the nail on the head. On the Cedarburg Road is a whole nest of greenhouse establishments. Here we find Albin Reinhardt.

who grows stuff in a wholesale fashion; Fred Manke with his range and his brother-in-law, Fred Faess, the newest grower in that section; Riebs Bros., who made such a success of sweet peas and snapdragons; Wm. C. Manke & Co., large growers in several lines; and two specialists in carnations, the Greenwood Carnation Co., and Grunwaldt Brothers. Away south of them in the city limits is Wm. R. Schroeder, at 2401 Pease St., while west a couple of miles we find, O. Eggebrecht & Sons, at 1476 39th St. and near them at 39th and Keefe Ave., Thos. Griebler and Sons. Away north of these two we find first A. Brueggemann, on the Hopkins Road and further out, Frank Zacharias, on the Brown Deer Road in North Milwaukee. In the neighborhood of the city limits on Lisbon Road we find E. F. Stabelfeldt; on the Burleigh Road, Gus F. Baermann & Sons on Burleigh and Spring Ave.; Fred Schwebke, at the end of Lisbon Road, and Joeseph Aumueller, out on the new Fond du Lac Ave.

Now we come to the west side, and out on North Ave., near the county loop, we find Hugo Locker & Sons, with their new conservatory greenhouse and Roscoe Godfrey, with his recently enlarged range. Coming farther south we find Jacob Koch with his Wauwatosa Floral Co., in that town, and John Dunlop, another Scotchman further towards Milwaukee. Arthur Arndt, is another Wauwatosa greenhouse man, at 494 Ludington Ave. Near him at 77th and Bluemound Road is the Ludington Farm, of flower growers. Steve Varga on the Bluemound Road and Barnekow Ave., is also a neighbor of theirs. Farther south and east is the huge range of the C. C. Pollworth Co. Away south at the south city limits, Oklahoma Ave., and Hawley Road is the range of the Kochanski Bros.

The true South-siders are few. At 1677 8th Ave., is the range of Thomas Plocieniczak. At 418 Pryor Ave., which is in Bay View, we find that great bulb grower, Joseph Kowalski. Cudahy is the address of several growers. The Cudahy Floral Co. and the Scott Rose Gardens both cohorts of the Gust. Rusch Co. are devoted strictly to roses. Another new firm is that of Hochmeister Bros. who claim South Milwaukee as their address. They grow roses exclusively and for the C. C. Pollworth Co. C. E. Fowle is in the Cudahy neighborhood on the Old Chicago Road, while Herman E. G. Schwann is to be found in this neighborhood on the Thompson Road. And mind you this is only our growers. They are like a happy family, and when Mr. Chambers came over to visit them from the State Entomologists office he at once noticed how different they were from the eastern growers. They had no secrets about pest extermination and if one found a good way to get rid of them, he told all his neighbors. That's the kind of a gang we have.

H. H. S.

MEDAL FOR A NEW ROSE

A Canadian outdoor Rose has just won the American Rose Society's gold medal. This Rose, which is known by the name of "Agnes," was originated at the Canadian Government Experimental Farm, Ottawa, by Dr. William Saunders, father of Dr. Charles Saunders, discoverer of Marquis wheat, which has won the world's wheat prize since the international wheat competition started 15 years ago. The "Agnes" Rose is a beautiful pale yellow flower with outer petals of a delicate creamy salmon hue. The flowers are borne singly and in great profusion. They are fragrant and bloom early but only once in the season. Because of its extreme earliness, great hardiness, and unique and attractive colour this Rose is expected to be very popular in Canada and the United States.

The cross which produced the "Agnes" Rose was made in 1900 and has been under test at Ottawa ever since, during all of which time it has never been noticeably injured by winter.—*Horticulture.*

COUNTY AGENT IDEAS

"Some problems that confront us here are as follows:

1. Proper winter storage for the small grower.
2. The problem of educating the grower to put up a more dependable grade.
3. The growing truck competition, which delivers western and tropical fruit to the small town merchants and even peddles from house to house. I really believe that the solution of all of these problems lies in better cultural methods.

The few growers here who took care of their Wealthies, are putting up much superior packs than ever before. They are having no trouble to sell them. They are getting $2.00 a bushel for them to private customers. The furnace heated houses have created a storage problem. For example, in my own case, I would like to buy my winter supply of apples, and have them delivered to me, as I want them. I think this problem can be solved through better storage on farm and a more businesslike system of selling.

Very frankly, I believe the solution of this problem is not to grow the culls, and I may add, I believe the time has arrived when a distinction must be made between the real apple grower who handles the fruit in a businesslike way, and the fellow who cripples the industry by dumping his inferior fruit on the market, for what he can get out of it.

I think that the careful producers would do well to put another board on the quality fence, and keep out more of the unbusinesslike competition. Am sorry that the state has adopted the United States Standard Grades, for I always thought that even the Wisconsin grades were too low. There is nothing to be gained about talking through our hats about quality. Let's go after it.

Yours truly,

J. M. Coyner,
Jefferson Co. Agric. Agent.

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APPLE PARINGS

Curiosity concerning the truth of rumors that it is hard to get Wisconsin apples in most parts of Wisconsin led us to investigate. And so we started out with several pounds of poster material and a note book on a tour of the grocery stores of the eastern and central parts of Wisconsin.

Out of the first sixty-five stores we visited only twelve had Wisconsin apples, but all of them had apples. The competition came from the North-west, Michigan, and Illinois. As we went on the ratio decreased and we found more Wisconsin apples, but usually of inferior grade and pack and always in competition with Western apples or Jonathans from Michigan.

We also found that in nearly every town of any size there is at least one, and some times more, fruit stores devoted to Western or Southern fruit. "California Fruit Store", "Florida Market", "Growers Market", and similar names seem to attract trade from the number of times proprietors use the names for their stores. It was quite a shock to see that one had been opened in Sturgeon Bay, but the same impulse leads people to buy Paris and London styles rather than use the perfectly good layouts of American firms.

Oshkosh, at the time that we were making the investigation, was the only city in which we were able to find any quantity of good Wisconsin fruit or very much enthusiasm from the groceries about handling it. Jefferson County, largely through the work of Mr. Coyner, County Agricultural Agent, is beginning to have a supply of well graded and packed local apple supply. In several places the grocerymen were too disgusted with local fruit to even talk about it without loosing large words not meant for publication.

In one of the smaller towns in Central Wisconsin one of the leading grocerymen had a beautiful display of Western box fruit in his window, and was perfectly willing to talk. He said that he had been in the grocery business for thirty years and that he used to handle at least four cars of Wisconsin fruit each year. But lately he had been stung so often that he wouldn't buy another car for any money. This offered the same opening that had occurred before so we listed the growers in the state from whom we knew he could obtain reliable packs of Wisconsin varieties. We are going back there to see if he has obtained any.

In most of our metropolitan communities we found that most of the wholesalers had been sold on the proposition that Michigan apples were good for the citizens and had in turn sold the idea to the retailers.

We discovered that the Snow and the Wolf River are the two best known varieties; that there is a demand for good Wealthies where they are known; that Northwestern Greenings are good apples; and that McIntosh apples would sell if they weren't too badly bruised when they arrived. That accounts for the BIG FIVE.

We classify the results of our investigations in just a few sentences. The groceryman has no faith in the packs in most localities. The groceryman can not afford to buy inferior fruit. Some retailers take local apples simply because that is a good way to collect a bill. Grocerymen think well of our varieties when they know where they can get packs from which they will not lose because of secondary rots, bruises, etc. GOOD Wisconsin apples are highly prized. Retailers have a very hazy idea that somewhere in Wisconsin good apples are grown (We helped to clear away the haze). Seeing the average pack of local fruit alongside shipped in fruit caused the same sensation that comes to us when we see our favorite nephew come in to meet the new neighbors after he has torn off two-thirds of his clothes and had a mud bath in the nearest swamp. Its a hard job to keep a boy's clothes clean and whole and his face washed, and its a hard job to keep the output of an orchard clean and well packed, but it's possible to do both.

The people we called on during this trip seemed to take great delight in jumping on someone because of the fruit situation. Any way most of them were able to talk-and cuss-at length. Before the end of the trip we began to feel like we had been going to see the same play twenty or thirty times a day for a week.

We feel that the success of the fruit industry depends upon the degree of care given to growing methods and care in grading and packing. We know that a great many retailers have lost faith in our pack, very probably due to the fact that year after year they are

burdened with apples from poorly cared for local small orchards which produce fruit which should never get farther from the tree than the nearest hog pen. If you can answer the question as to why they continue to do it you might challenge the Sphinx to a duel.

Let's show people. Let's pack a better pack, get on good terms with local buyers, specialize our varieties, and chase out as many of our invading competitors as possible. J. S. P.

BITS OF NEWS

Madison markets are blossoming forth with a large quantity of Idaho apples packed in bushel baskets. A very good pack and they seem to be selling better because of the inferiority of most of the local fruit offered for sale. They are grabbing some of your legitimate markets, you growers. What are you going to do about it?

A Sunday morning visit to some of the orchards around Sturgeon Bay showed us that Door County has some extra fine apples this year.

Mr. Jones, of the Department of Markets, says that the Trempealeau County crop is good and is moving to good advantage.

Ralph Irwin, Lancaster, who usually has a fine crop of Northwestern Greening, had his orchard badly damaged by hail earlier in the season.

Two small window displays in Madison of Wisconsin apple varieties caused quite a bit of comment. Signs in the windows indicated the name of the varieties and another large sign showed the leading apple sections of Wisconsin. The displays were made by this society through cooperation of two of the Madison banks.

Apples for Health, Inc., is a new organization for the purpose of selling apples and promoting their use. A detailed story may be found in another part of this issue.

A FRIENDLY GREETING

Dear Mr. Cranefield:

An extra copy each of June and July Wisconsin Horticulture were rec'd by me. I have given them to my neighbor who has such success with roses. The copies have been very much enjoyed, not only by the rosarian and his family but by company.

I have been very busy all summer and in spite of lots of hard work, the weeds have gotten ahead of me in many a place. But I have had lovely flowers.

I suppose you know the wild dicentra "Dutchman's Breeches." I have a lovely little bed of it. Then I have a large bed of wild violets. And my clumps of wild asters and gold rod will soon be wonderful. And this year in my border has appeared a lovely thing —a swamp milk weed. There is no swamp near and I am at a loss to know where the beautiful thing came from, but it has been very lovely for some six weeks or more.

My perennial phloxes are beautiful now. Some pure white, one large white with a faint tracing of pink on the edge of each petal, two very bright red ones, quite different in shade of red. I have been well paid for planting seed.

I was much interested in the letter of E. M. Dahlberg of Ladysmith on trees. I think Wisconsin has not yet learned the value of trees, or she would not permit so much destruction. When the electricity was put in about here trees were terribly mutilated to allow passage of wires through them. My brother was here from Massachusetts and he said that wires must be insulated in Mass. to pass thru trees. Why can't they be here? I am often reminded of a story I heard once of a man who had beautiful trees and took great care of them. One day someone came along and fastened a horse or horses to one of the fine trees and the tree was badly gnawed and bark injured. The owner was furious and the offender finally said he would pay for the damage and the owner said "Pay for it! God Almighty couldn't make it right." I must say I sympathize very heartily with that tree owner, as I do with Mr. Dahlberg.

P. S. Have had best results with seed of perennial phlox by planting the seed in the fall. The seeds are slow to germinate but it seemed as if nearly every seed must have sprouted and the colors are fine and blossoms very large.

MRS. A. C. HOLLISTER.

THE GALIUMS

There is much confusion between the Galiums and the Gypsophilas as they grow in the garden. The differences are distinct enough when they are pointed out, but most amateurs mistake Galiums for Gypsophilas when they first see them.

Gypsophila is the botanical name for Baby's Breath, while the Galium has the common name of Bedstraw. It is true that the great hedge Bedstraw (G. mollugo) is sometimes called Baby's Breath, but the name belongs more properly to Gypsophila.

G. verum is the Yellow Bedstraw and G. boreale the Northern Bedstraw. They grow from one to three feet tall, and produce a profusion of tiny white or yellow clustered flowers. It is said that G. verum was often used in former days for adding fragrance to bedding. The plants are well adapted for use in rockeries, but are more commonly used to provide flowers for mixing with bouquets of bolder blooms. They produce a soft creamy effect, very much like that of Baby's Breath.—*Horticulture.*

In October for many, many years we have published notes about bulb growing, especially forcing bulbs. This year we let someone else tell it. "Foreing Bulbs Indoors" from a bulletin issued by the Brooklyn Botanical Garden covers the ground completely. Bulbs for indoors may be planted as late as December first. In fact the later planted bulbs often overtake the ones planted in October.

APPLES FOR HEALTH, INC.

A National Association Formed to Increase Apple Consumption

Headquarters—10 South LaSalle St., Chicago, Ill.

EMERGENCY BULLETIN

Prompt Action Necessary to Sell This Year's Apple Crop!

The size and fine quality of this year s crop in all apple growing sections of the United States emphasize the need for speedy and concerted action of all interests in our great industry.

This Plan Will Bring You Better Prices

At a National Apple Conference held in Chicago, Sept. 9 and 10, this Association — "Apples For Health, Inc.," was organized and incorporated under the laws of Illinois as a non-profit organization to stimulate the demand for apples by a nation-wide advertising and publicity campaign, to maintain the Apple as the King of American Fruits. Men of known business ability and influence were elected to Executive Offices and Board of Governors. Such a campaign will convert your surplus apple crop into profits.

Plan Receives Unanimous and Enthusiastic Support

The work of the organization is already under way, for the crop has been moving to market for two months and no time is to be lost. The conference was marked by a striking spirit of harmony and cooperation, and all branches of the industry, representing all sections of the United States, pledged their unanimous and enthusiastic support to the plan of campaign reported by the Ways and Means Committee and adopted by the conference.

It was the first time in the history of the industry that all branches were represented at a single conference and demonstrated such an eager desire to make the project a success.

It is now important that all the individual members of the organizations affected and all the apple growers and shippers of the United States *take an immediate and personal interest in the success of this campaign.* Concerted and concentrated *action at once* is imperative.

How You Can Help—Act Now!

The funds needed for the preliminary work, including the establishment of the business office of the Association, are being raised by voluntary contributions from the larger growers and shippers and from the allied industries. Every industry that sells supplies, etc., to the growers is directly interested in the prosperity of the fruit grower. Many of these industries have voluntarily contributed generous amounts to this apple publicity campaign. However, much additional funds are necessary to be raised quickly in order to show decided benefits in better prices this year. Any money advanced to this fund now by the growers or others will be deducted from their quota later. Your advance of these funds will help toward the quick success of the plan. All contributions to this fund should be sent *at once* to Mr. Lawrence H. Whiting, President of the Boulevard Bridge Bank, 400 North Michigan Avenue, Chicago, who is the treasurer of "Apples for Health, Inc.", or to Mr. Robert W. Dunn, 10 South LaSalle Street, Chicago, our Secretary.

How the Publicity Fund Is To Be Raised

The funds for the publicity campaign—which is to advertise apples to the nation—is to be raised from the apples themselves. All apple growers are asked to authorize their apple dealers or cold storage men through whom they market their fruit to deduct ½ cent per bushel from the proceeds of their apples, and to remit that amount to the Treasurer of "Apples For Health, Inc." (Where the grower sells direct to consumer, local market, etc., he is to remit direct to the Treasurer.) It is important that the need for this advertising fund be fully explained, not only at meetings but by personal calls. The growers merely authorize their dealers to deduct the amount when the fruit is sold. One half cent a bushel is so small a fraction of the amount which this campaign will add to the selling price per bushel of apples that the growers will not feel the slight investment and there should be no difficulty in demonstrating to them the splendid and certain returns.

Apple dealers have already indicated their desire to add to this sum a contribution of 50 cents a car as an evidence of their own interest in the success of this campaign, for whatever increases the demand for apples is of direct benefit to them. Here again, the contribution of 50 cents per car is a small investment for big returns.

The Allied Industries, who sell supplies to the growers, have, in most part, already pledged themselves to contribute their proportionate part toward the campaign. Talk to your dealers, cold storage men, and all others interested and ask them to cooperate personally and financially in this campaign.

Membership For All—Your Cooperation Needed At Once!

All persons who are either directly or indirectly interested in the growing, marketing, distribution or sale of apple products *are to be enrolled as members of "Apples For Health, Inc." at a nominal membership fee of $2.00 per year.* This does not take the place of other contributions. The $2.00 membership is merely to make all of them individual participants in the work of the organization.

We urge upon you strongly to en-

(Cut off Here and Mail)

MEMBERSHIP COUPON

Lawrence Whiting, Treasurer,
Apples For Health, Inc., Boulevard Bridge Bank, Chicago, Ill.

I enclose $2.00 (money order or check) for One Years Membership in Apples For Health, Inc., the association formed to promote greater apple consumption through publicity and advertising.

My Name _____

My Address _____

Apple Advertising Campaign Coupon

Lawrence Whiting, Treasurer,
Apples For Health, Inc., Boulevard Bridge Bank, Chicago, Ill.

I hereby authorize my commission dealer (or dealers), namely:—

_____

(Write on dotted line names of dealers, commission men or others to whom you usually sell your apples.)

_____

_____

to deduct one-half cent per bushel of money received by me for all apples sold for me by dealer during Season 1926–1927. Dealers will send this money direct to Lawrence Whiting, Treasurer, Apples For Health, Inc., Boulevard Bridge Bank, Chicago, Ill. This money to be used in the Advertising and Publicity Campaign to be conducted by Apples For Health, Inc., to promote greater apple consumption and thus aid the apple industry to increase sales.

My Name is _____

My Address is _____

roll as many as possible of your neighbors—including your mercantile and banking friends who are, of course, interested in Apple Prosperity—so as to make our organization truly a broad and national one.

It cannot be repeated too often that this is an *emergency* in the apple business and demands *emergency attention*. Please urge the importance of immediate action upon all members and neighbors and see that no one is overlooked in the campaign to obtain a comprehensive and complete participation of the entire apple industry in your territory. Please send us names of all whom you believe will be interested.

Don't wait—Send $2.00 for each person to be enrolled as a member! Make checks payable to "Apples For Health, Inc.," and mail to Lawrence Whiting, Treas., Apples For Health, Inc., Boulevard Bridge Bank, Chicago.

For 20 years the entire apple industry has been urging the necessity for such a campaign. This is the first time all have pulled together. The emergency has resulted in concerted action. We are depending on your whole-hearted support to put this over in a big way.

Sincerely,
APPLES FOR HEALTH, INC.,
By Paul C. Stark, Pres.

We heartily endorse the purpose for which this organization is formed and urge that every grower, whether a car lot shipper or not, become identified as a member of this organization. A membership coupon is attached to this article and may be sent directly to the treasurer of the organization.

We shall be glad to furnish you further information from this office at any time.

DOOR COUNTY CHERRIES PASS THE MILLION MARK

Sturgeon Bay—The total value of Door county's cherry crop this year reaches $1,750,000, according to figures just compiled by the Door County Fruit Growers' union and the Reynolds Preserving Company. The mark is a new record in the history of the fruit industry on the peninsula, the previous mark being only $1,149,000 established in 1924, although the crop this year was not quite as large as 1924, it can well be called a bumper crop from the standpoint of income to the growers.

FOUR BRIEF WORDS

"Say it with flowers!" "The man who hit upon this happy phrase is J. S. O'Keefe, a Boston florist. The Society of American Florists, having decided that the honor of creating this phrase belongs to Mr. O'Keefe, has voted to present him with a gold medal incrusted with a floral design in precious stones.

Mr. O'Keefe's four words are one of the best slogans ever devised. They compress a meaning in the briefest form possible within the English language; they express that meaning in a manner most persuasive.

There are slogans and slogans; and many a one that hits the ear does not hit the pocketbook. A slogan that gets popular notice is often merely bizarre; it performs the first task of any advertisement—to attract attention—but it does not go on from there to convince and persuade. Mr. O'Keefe's slogan is attention-arresting, colloquial, persuasive. You are besought to say "it" with flowers—and the "it" may mean almost any possible emotion. The slogan is at once genial and fentle. No wonder it caught the public eye and vastly increased the sale of flowers in the United States.

By four brief words a Boston florist has put money into the cash register of every florist in the country. There are many men far better known in business who can point to no achievement so important as the four words written by Mr. O'Keefe of Boston."

And Wisconsin's State Horticultural is not so far behind with its "Big Five". We may not make it a national slogan, but Wisconsin people are already taking it up.

Illinois and Indiana spent their two day Summer meetings by having an auto tour of orchards. Orchard problems were discussed by members of the college faculties and prominent growers. The Illinois tour was confined to one of the two thousand acre orchards in Pike county.

NOW LOOK!

In this morning's mail the following unsolicited letter was the only thing worth mentioning, but it made up for a lot of lack of quality in the rest of the mail. Read it and see what Mr. Schmidt says from the buyer and shipper standpoint.

Farmers Sales Bureau

The Organized Farmers
Sales Agency
347-349 Broadway

Milwaukee, Wis.,
October 12, 1926.

Wisconsin Horticulturist
Madison, Wisconsin

Attention Mr. Frederick Cranefield.
Gentlemen:

I noticed your editorial in the August issue regarding apples and can add to this the following interesting facts.

Namely, that we are buying the Wisconsin Apples and shipping them to North Dakota and in turn are buying the Washington apples to ship to Wisconsin. It seems that our people are just like the cows of old, that always found the grass greener on the other side of the fence and so evidently the apples must come from a distance in order to be good.

Sometime in the distant future, you may be able to overcome this, but not while local farmers peddle and bring poor stock that they had in this territory, on to the market at exorbitant prices.

On Saturday last the farmers on the green markets were asking 20 cents for four pounds of the poorest looking Wealthies that you ever laid your eyes on, while at the same time the chain stores were selling the most beautiful Jonathans at four pounds for 25 cents. You know the eye has a great deal to do with the sale of the apples and while propaganda will eventually get the Wisconsin housewife to use Wisconsin apples, this will, however, not be until such time as propaganda amongst the Wisconsin growers has caused them to see the necessity of bringing nice fruit on the market.

With best regards, I remain,

Sincerely,
A. C. SCHMIDT.

ACS;EF

If a grower wants to make a good reputation with the consumer he does not try to force the sale of poor fruit.

GLADIOLUS DISEASES

(F. L. Drayton, Plant Pathologist, Central Experimental Farm, Ottawa)

Abstracted from Bulletin 3 of the Canadian Gladiolus Society

When specialists undertake the commercial culture of one plant, usually on limited areas of land, which do not permit of long rotations with other crops, certain diseases gradually become established, with the consequent losses. The gladiolus is no exception to this rule. The small and usually scattered plantings of the amateur flower grower have not usually suffered much loss from disease, but in the commercial culture a few diseases have become of considerable importance.

The symptoms of five diseases are herewith described briefly, and at the end, general recommendations are made which are applicable to the control of any or all of these diseases. In drafting these recommendations, care has been taken to introduce as little new work as possible into the general cultural practices, which are already overloaded with much tedious and expensive hand labor.

No spotting is found on the leaves of diseased plants. Plants which ultimately become diseased grow quite normally for six to eight weeks, then the leaves of plants in groups in rows turn yellow and later become brown and dry. At this stage the stem bends, decays at the surface of the soil, and numerous minute black dots (sclerotia) are found on the leaf sheaths at and below the ground level. In plants which become diseased late in the season these symptoms do not progress beyond the yellowing of the leaves. On removal of a diseased plant from the soil, it is at once seen that the old corm is almost completely decayed; the new corm is small, its covering scales are dark in color or spotted, the roots are poorly developed and more or less decayed; cormel development is poor or absent, and the large fleshy roots which normally develop at the base of the new corm in healthy plants are either poorly developed or absent.

On removing the scales from diseased corms, the surface is seen to have more or less numerous spots or lesions. These areas are sunken, reddish brown to black, dry and punky, more or less circular with definite and slightly elevated margin, and varying in size from a pin point to half an inch in diameter. In mild infections, these lesions usually occur in the lower half of the corm.

In storage the disease is progressive, and a large proportion of the diseased corms become mummied by spring, especially if the temperature is not kept down to forty to forty-five degrees Fahrenheit, which temperature gives the best results for the storage of corms.

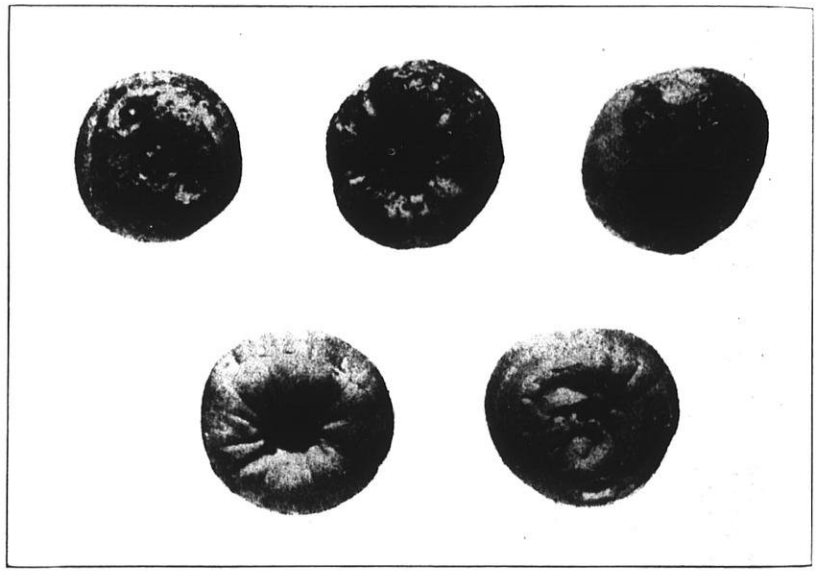
The fungus causing this disease lives over for a number of years in the soil in which diseased plants have grown, and also in the diseased corms and cormels in storage. These when planted become a source of infection of the soil and surrounding plants.

Hard Rot

This disease also is caused by a fungus, which has been named Septoria Gladioli Pass. It has been found in Ontario, and in New York State is reported to be the cause of the large proportion of the loss from the decay of corms and the premature death of plants.

On the leaves in July and August the disease appears first as minute brown or purplish brown discolored areas more or less circular in outline; later the color of these spots deepens to a reddish brown or black. In the older spots a well differentiated centre, light grey in color with numerous minute black bodies, becomes evident. The spots are visible on both sides of the leaves.

In the fall spots appear on the corms, which are at first water soaked and of a reddish brown to brownish black color, usually on the sides and lower half of the corms, but not infrequently on the upper half as well. To see these the corm scales usually have to be removed, but frequently spots on the scales are indicative of the presence of a lesion on the corm below. Later in the season the spots increase in size, the centre becomes sunken, the color deepens to a distinct black, and the margin becomes more definite. The tissue becomes hard, in some cases extremely so, making it difficult to cut it with a sharp knife. Frequently the disease advances so far that the corm is reduced to a hard,



Two healthy corms, and three affected with dry rot, coverings removed.

shrivelled and wrinkled mummy. The lesion does not extend far into the corm, and is cut off from the healthy tissue below by a layer of cork cells, so that the lesion can be chipped out with the finger nail.

The plants in the field are more or less dwarfed, often fail to produce bloom, and die prematurely.

The fungus, as in the case of dry rot, lives over in the soil and in diseased corms.

Neck Rot or Scab

This disease is caused by the bacterial organism Bacterium marginatum L. McC.

It probably occurs to some extent wherever gladiolus are grown; and while in certain localities it is of little importance, losses have been considerable where conditions are more favorable for the parasite.

The first visible signs of the disease are tiny specks of bright reddish brown color, slightly elevated and usually in considerable numbers on the leaves, more especially on the basal portion of the leaf sheaths. The spots enlarge, becoming definite lesions with the center sunken, dark brown or black, and the margin slightly elevated. The veins of the leaf sheaths are not attacked and stand out prominently in the sunken areas. The spots look like burned places, the margins resembling charcoal. In moist weather a general decay of the leaf sheaths takes place, and the individual spots cannot be seen.

Infection is most general from the ground level to six or eight inches above. Under certain conditions the outer leaves show little signs of rot, but on pulling the leaves apart considerable soft rotting may be found beneath. The upper portion of the leaves ultimately becomes brown and dry and in the case of severe infection the whole plant falls over. These symptoms are more pronounced on old plants than on young ones.

The corms from affected plants are not always diseased, but often show definite lesions on the corm and corm scales. The infection may be so slight as to escape notice, or so severe as to destroy the scales, and the corm covered with sunken spots.

On the corm scales the disease is evident by brown patches or streaks, later the color becomes black, the scale splits and rots at the point of attachment to the corm, leaving a ragged margin of the texture and color of burned issue. In most cases these spots on the scales are accompanied by a lesion on the corm below the spot. The corm lesion is a shallow depression surrounded by a definite and somewhat elevated margin. The lesions may occur singly or may run together, forming irregular sunken areas. These lesions do not extend deeply into the flesh of the corms, and are easily removed, leaving a clean, saucer shaped cavity lined by healthy cells. The corm lesions have a copious gummy exudate, which when dry is brittle and shiny like varnish. This substance often glues the scales together and to the corm, and also a mass of soil is often found glued to the corm by this material.

The disease has been observed on practically all the varieties commonly grown by florists. The organisms causing this disease live over from one season to another on diseased corms and in soil in which diseased plants have grown.

Bacterial Blight

This disease is caused by the bacterial organism, Bacterium gummisudans McC. It is of limited occurrence and is not as serious as the scab.

Young stock is more susceptible than old. The injury is confined to the leaves.

It has not yet been reported in Canada, but has been found in the middlewestern United States.

Microscopic examination of the discolored areas of the leaves shows quantities of bacteria in the tissues.

The spots on the leaves are at first narrow, horizontal and water soaked. Later progress is mostly in a longitudinal direction, so that the spots become more or less regularly formed squares or rectangles. Adjoining spots often unite, so that the entire leaf is involved. The water soaked, translucent areas later become dry and turn brown. The bacteria produce an exudate, which forms a viscid film over the surface of the leaf or in the form of small droplets, which when dry become brittle. Wind blown soil and tiny insects often become embedded in this exudate, so as to sometimes cover the leaf surface. This exudate is composed of bacteria.

Fusarium Rot

Massey describes this in a paper read at Toronto in 1921 as one of the three gladiolus diseases most commonly met with. The corms become infected in the field, and the rot advances in storage. The lesions on the corms are slightly sunken, more or less circular in outline, have definite margins, and frequently have definite and conspicuous concentric markings or zones. The color of the lesions varies with that of the corms, being usually brown or dark red. The sausal fungus is one closely allied to Fusarium oxysporrum Schl., the cause of dry rot of potatoes.

Recommendations for the Control of Gladiolus Diseases

1. Most of the organisms causing gladiolus diseases not only live over in the soil which has borne a diseased crop, but will continue to live there for a number of years, even if gladiolus are not replanted in the intervening years. It is obvious then that these areas must not only be avoided for the future planting of gladiolus for at least five years, but every precaution must be taken to prevent the transference of this soil to clean areas, either by cultivating tools, plowing machinery, by the feet of men or animals, or by wind, in the case of a soil that is liable to drift.

2. Corms having lesions should under no circumstances be planted, because this constitutes the most prominent means of introducing the causal organisms into a soil which may be free from them. In order to make sure that the corms are free from lesions, it is neces-

sary to remove the corm scales completely. This should be done just before planting, for when done sooner the corms become dry and sometimes valueless.

This recommendation is open to criticism. It would entail a great deal of work in the case of a large grower, but I most strongly recommend this tedious procedure, especially in the case of newly purchased or valuable varieties. Where gladiolus culture is carried on extensively, the work of peeling all corms would render it almost prohibitive. Field experience, however, enables me to make further suggestions that might assist where scaling is not practicable.

3. During the growing season, when cultivation or flower cutting is being done, a sharp lookout should be kept for all plants showing the first symptoms of disease, i. e., a leaf yellowing or spotting. When such a plant or groups of plants is found, they and the surrounding soil should be immediately removed with a spade, placed in a box or wheelbarrow, kept at the end of the rows, and disposed of in such a way as to preclude all possibility of contaminating clean soil. With the exception of an occasional drying of the leaf tips in hot weather, similar to that of Ottawa, at any rate, should be regarded as an indication of the presence of disease, and dealt with accordingly. Even the first two or three frosts in the fall have no appreciable effect on the leaves.

4. At digging time a further opportunity is offered to get rid of diseased plants and their cormels. Any plants which on being dug, show any signs of decay on the stems or discoloration of the corm scales, should be placed in a separate container and suitably disposed of. While diseased corms may be later distinguished, it is impossible, as I have indicated previously, to separate the respective cormels of healthy and diseased plants, although the latter are capable of carrying the fungus and infecting soil when planted. The two recommendations last given offer an easy way of avoiding this source of contamination, which is one of great importance, and one which if overlooked will result in a spread of the disease, however careful the inspection of corms and quarantine of diseased soil may be.

5. When cleaning the corms in the winter another opportunity is afforded to eliminate diseased specimens. The lesions are usually seen in the lower half of the corm, and if not, discolorations of the corm scales with corresponding lesions below will be seen. The corm so affected should be discarded.

6. The use of various disinfectants for treating diseased corms has been tried without success. I would, however, recommend the use of a five per cent, solution of formalin (1 pint to 9½ quarts water), for 30 minutes in the two following cases:

(a) For soaking healthy corms selected from a mixture of healthy and diseased ones.

(b) For soaking corms of expensive varieties after the lesions have been cut out with a knife.

ROSE SATISFACTION FOR PEOPLE IN NORTHERN STATES

An eastern rose grower sends the following which we neither endorse or reject.

"Contrary to the general opinion of those who really *do not* know, Roses of practically every kind, including the free blooming Hybrid Teas (with their great range of form and colors), can be successfully grown and easily wintered as far north as Minnesota and Wisconsin. The few facts below and the certain knowledge that they *are* being grown successfully in these north lands should give confidence to anyone who really wants Roses and wants kinds that will bloom all summer and until hard frost comes.

It is not winter cold that kills Roses, it is the exposure to the winds and sunshine, especially in the late winter or early spring, that does the mischief. Plants must be kept dormant and not be allowed to start growing, or even to become "excited" until beyond the danger line of more freezing weather.

We say it is "easy" to winter Roses and what garden work is much easier than hilling soil around the stems of the plants to a height of 8 or 10 inches, to keep the wind and sun from them *until* well into the Spring when it is safe to allow them to start growing.

Don't get impatient and uncover too early. If you do, all your work will amount to nothing. Much "winter-killing" is due to hasty removal of cover.

Climbing Roses can be protected by taking them down from their supports, laying them on the ground and covering them with soil to a depth of 6 inches or more. When danger of hard frost is past, tie your climbers up again on their supports and they will bloom beautifully at their natural blooming time. Always uncover protected Roses on a cloudy day, to avoid sun scorch which is another cause of much "winter-killing".

If you can get your order in early enough, plant in the Fall and hill earth around the stems of the plants immediately after planting.

If, for any reason, you cannot PLANT your Roses in the fall, *get them delivered* and bury them until Spring. Figure on laying them *flat* and *side* by *side*. While waiting for delivery, spade a piece of ground about 18 inches deep where the plants are to be buried, then cover it with boards, straw or anything to prevent freezing until your Roses are delivered. A hole 3 feet long, 18 inches wide and 10 inches deep will be large enough to bury a dozen field-grown, dormant, Hybrid Tea Roses.

When the plants arrive, dig a hole (where the ground was spaded) 10 inches deep. Lay your plants down flat and see that the loose earth is well worked between the roots and packed down. When the roots are well covered, water copiously to exclude all air pockets, then after the water has drained away, fill in and leave a *slight* mound on top to shed water, until such a time as the Roses are

taken up to be planted on a *cloudy* day in the early Spring. This mound will indicate where the Roses are. When through burying the plants, they should be about 6 to 8 inches below the level of the soil. Do not get them too deep.

The plants will come out in the Spring as fresh and vigorous as the day they were buried.

When you plant in the Spring *be sure* to hill earth around the stems or tie paper around them to keep off wind and sun until the roots get established and working."

NO

A Bayfield County member asks a number of questions:

1. Is there any fire blight proof variety? No.
2. Would it do any good to poultice a cankered limb or trunk now and expect it to revive next spring? No.
3. If I dig up blighted trees would setting in same holes endanger new trees? No.
4. Would it do any good to dig holes now expecting freezing and thawing to kill blight germs in soil? No.
5. Have you ever tried the Haralson apple? No.
6. Would it pay to haul black dirt half a mile to put in hole for setting a young tree? No.
7. How about limestone in a hole for a cherry tree? No.

WHY! OH WHY?

President Toole decided that it was worth using a few bushels of apples to find out something about the way things worked in his local market, and so we went up to Baraboo and helped grade and rough face a part of a load of baskets. We had good Wealthy, Snow, and Wolf River packs, in fact much better than the average on most of the markets here in Madison. Then we began a tour of the stores.

The first store into which we went had four bushels of mongrel apples, four baskets filled with rot and worm holes so that it was difficult to see the apples. It looked as though it would be easy to sell apples of good quality and pack, in new clean baskets, to this man at only twenty-five cents more a bushel than he had paid for the junk he had on hand. And then we found out that although the groceryman thought very highly of our apples he couldn't bring himself to buy apples until he had rid himself of the junk he had. We doubt if he ever buys any apples.

Some of the other stores already had a supply of good apples from reliable growers near Baraboo, but several had the same sort of stock that our first prospective customer had.

Therefore we feel that the grocerymen should wake up to the fact that people will buy *good* local apples at a better price than they will pay for junk. We feel that the groceryman should dump the junk, or better, not buy it, and keep his supply free from spoiled fruit while he is displaying it for sale in his store.

DEMOCRAT PRINTING COMPANY MADISON, WISCONSIN

WISCONSIN HORTICULTURE

Vol. XVII Madison, Wisconsin, November, 1926 No. 3

TO MY READERS

One day in July, 1910, I sat in my office pondering various problems and among them how to reach the members, how to send to each and every one of them a message from time to time. Bulletins had been published at irregular intervals, but these were not satisfactory; just bulletins, information and nothing more.

So I pondered until the idea of WISCONSIN HORTICULTURE was born. At the Summer meeting at Bayfield the following August a "dummy" was presented to the executive committee, heartily approved by them and the date of first issue set for the following month. From then until today, 195 issues of WISCONSIN HORTICULTURE have appeared, twelve a year, at regular intervals.

Intended as a mere "house-organ", a common meeting place for people having common interests, as well as the official organ of the Society, it slowly changed policy and make up until it found for itself a place in horticultural journalism and for years a unique place. There is now only one other like it; HORTICULTURE—an old established journal, which was taken over by the horticultural societies of Massachusetts, New York and Pennsylvania.

The change in the character of our paper was brought about by the members themselves. Much was asked and little given in return. Questions came pouring in which, of course made good copy, but none, or few offered anything from their own experience. After a year or two of begging, I saw plainly the thing to do, put it on a level with other horticultural papers, for the members evidently expected to receive rather than to give. So the paper was edited as an incidental part of my duties, departments were established: The Florists' page; The Women's Auxiliary page, etc.

Of those who served in the beginning as officers and committee members, the ones who sat in judgment on the paper, many have passed away: Toole, Reigle, L. H. Palmer, Frank Harland, Melcher, Dr. Loope, Coe, Greaves and many, many others. Of those who read the first number, hundreds may read this, for while our membership list changes every day, it is a striking fact that there are several hundred now on the list who were members when I first took up my duties as secretary twenty-two years ago. Today we part; you, kind readers, each to go your way, I to go mine. No longer will we meet each month to glance thru WISCONSIN HORTICULTURE and, perchance, settle down to read something by "F. C." or one better informed.

I shall miss you. So many of you whose names and handwriting are familiar but whose faces I have not seen are as close to me as I write today as others whose faces are familiar. It's no child's play to edit a paper, but I want you to know that the doing of it all these years has been one of my chiefest sources of pleasure and not a burden. I felt that I was talking to you and altho but few answered, when a little word or two of appreciation came winging in, my heart was glad. Do you remember the days when I chased rabbits? Nearly every month I got myself in a rage about rabbits chewing apple trees and you helped me to protect our trees. Do you remember what a deuce of a time we had in chasing bum nurserymen from the state and how fraudulent contracts were printed in the paper and a big nursery in Ohio threatened to sue us? And the land sharks in Northern Wisconsin, who wanted to use the Society to sell jack pine land at $150.00 an acre, as fruit land?

And you remember how in 1917 and 1918 we fought the Hun with hoe and spade? And, "now it can be told," how my life was threatened more than once by German sympathizers, as if my life mattered! Perhaps you remember how once in 1918, I selfishly used the editorial page to tell you how a Boy, who was very dear to me, died:

> "He, of whom bereft,
> I suffer vacant days".

Not begging sympathy, for you recall I told you that: "His blood cries not for vengeance but for Justice" and, "in the name of all who have sacrificed Sons, I ask that you do not falter in your determination, but, rather summon greater courage to 'carry on'."

Those were dark days but we *did* carry on and won and you helped. But the clouds passed away, the Sun shone again, the roses bloomed and the bugs throve and mildew was rampant. You asked me what to do about these things and I told you. These last years have been pleasant ones, for, since the war, I could sense a longing for something better than money making; your souls were hungry. But the time has come to say farewell. If you have had one small measure of the pleasure in reading the paper, that I have had in editing it, then I am content.

FREDERIC CRANEFIELD.

Due to the fact that the express shipment which included the premium book was slow in arriving from Green Bay, the list of the premium winners at the annual convention will not appear until the December issue, which will follow closely on the heels of this number.

Address mail intended for: Frederic Cranefield, to 1934 Monroe St., Madison, Wis. All other letters concerning Society, to: State Horticultural Society, 119 E. Washington Ave., Madison, Wis.

ANNUAL REPORT

FREDERIC CRANEFIELD, Secretary

(Read at Annual Convention, Green Bay, Nov. 10, 1926)

Mr. President and Fellow Members: I take pleasure in presenting to you my 22nd and last Annual Report. This is public announcement of an agreement entered into with the executive committee nearly two years ago, Jan. 1925. It was a part of this agreement that I should be permitted to choose my successor and I am deeply gratified to find that my judgment, as exercised in my choice of Mr. J. S. Potter, has been accepted as good. Nothing in my career as secretary has given me greater satisfaction.

Even did time permit I have no desire at this time, or later, to enter the field of reminiscence, of sentiment, or of rhetoric. I do not like "swan songs"; the song of the dove of peace seems more appropriate to this occasion and more soothing to my soul.

It is however your due as it is my duty and pleasure to say that it is with mixed emotions that I view this change. I am glad that in my declining years I am soon to be freed of the responsibilities (not the work) of this office. The other outlook is not so pleasant to face, parting in an official way, with all of you who have earnestly and willingly helped me bear these responsibilities.

Another departure in presenting my report has been to assign one part of it to Mr. Potter who will give you a review of the work done during the past year and his ideas of the work that may best be done during the coming year, all for your consideration. I shall attempt a review of the work of The State Horticultural Society and its predecessor, The Wisconsin Fruit Growers Association, which covers the period 1853 to 1926. If in this I task your patience I want you to believe that it has a direct relation to what I shall say later, a view of the future of the society.

The history and consequent activities of horticultural work in Wisconsin falls readily into three periods or epochs. First, the period from 1853 to 1865, which measures the life of the Wisconsin Fruit Growers Association. This was purely an amateur period and the W. F. G. A., an amateur's organization, devoted only to fruit.

The men who met in Whitewater (no mention is made of women) in 1853 were men who had hewn farms out of the forests and who found little time to comtemplate beauty. It was as if they said, "we have corn and wheat and potatoes and the flesh of swine and cattle." "Our cellars are stocked with these foods but there is lacking the aroma of the apple bins of our father's homes." "The fruit of this land is sour and acrid, let us seek more palatable fruit."

In 1865 The State Horticultural Society was organized and from then to 1900 it was almost wholly an amateur society with an ever increasing commercial trend, for nurserymen were abroad in the land. Aesthetic horticulture found a place largely thru the quiet but steady and persistent efforts of William Toole. The only means of communication with the outside world was thru two conventions yearly and the annual report. During the latter part of this period the society fell rapidly into decay. A little group met semi-annually. The appropriation from the state was dissipated without any benefits accruing to the people at large. About the year 1900 a change took place due to the efforts of two men, Prof. E. S. Goff and Samuel H. Marshall working separately, but to one end.

I need not here speak of the work of Prof. Goff; it is of record in every volume of our proceedings; his outstanding work being the establishment of the trial orchards, which led to the greatest single work which stands to the credit of the society. While Goff's work deserves great credit, his modest and retiring disposition would not permit him to assume the aggressive attitude necessary to put new life into the organization. That task was reserved for another who was not afraid to speak. If, which is highly improbable, memorials should ever be erected to the guiding spirits of horticulture in Wisconsin not the least of these should be one to Samuel H. Marshall.

He was a Madison banker who loved the out doors and having learned that there was a state horticultural society became a member. After learning the true situation he began to apply business methods to its reorganization. It is doubtful if there are half a dozen people here today who knew him, but those few will distinctly recall that he began telling the world in general and the officers of the society in particular that, as at that time constituted, it was no more than a self-admiration group; that it had no definite lines of work laid down, that, in fact, as conducted the society was neither morally or legally entitled to public aid. His suggestions were: (1) Expand the trial orchard work to cover the state; map the fruit regions of the state to learn where fruit could best be grown, whether commercially or for home; give greater encouragement to ornamental horticulture; adopt these projects or others but have a definite policy, educational in every particular. In order to carry out these policies Marshall urged that a central office be established with a full time secretary upon whom would be placed the responsibility of executing the policies laid down by the society thru its executive committee, who should, thru the newspapers and society publications, supply horticultural information to all the people of the state rather than to a few; whose business it would be to advertise the work of the soci-

ety and increase its membership. He said, "If we can show that something has been done the state will increase our appropriation."

Mr. Marshall left Wisconsin nearly twenty years ago, but on the few occasions since when I have met him it has been my great pleasure to tell him about the work that was being done and to point out to him that this splendid development of the society in the intervening years was due in a great measure to his foresight (vision), and constructive suggestions. Who shall say that he was not a prophet as well as a builder?

I have dwelt on this at length to show that the year 1904, the date when Marshall's policies went into effect, marked a turning point in the history of the society, transforming it from a moribund organization to one ranking second to none of its kind in the United States; for the statement that I have made many times stands today uncontradicted and incapable of refutation, that in the character, quantity and quality of work done *for ALL of the people of the state* no other state horticultural society compares with it. This has been accomplished thru having a definite policy, the execution of such policy imposed on a paid representative, giving his entire time to the work and most essential of all the united support of the members as represented by the officers and executive committee. As Marshall pointed out "no organization can accomplish anything by such methods as we are now pursuing." "The shareholders of a bank elects a board of directors, in whom they place confidence, to conduct their business and they in turn, because they cannot give all their time to the work, appoint an officer to execute their wishes." Needless to say the hearty co-operation of all these are essential to a successful conduct of a business. This was the biggest step forward the society has ever taken.

Our society has been fortunate in one other respect. The bickerings and animosities which marked the old era wholly disappeared and for twenty years no word of discord appeared and all worked toward a common end.

The membership during this period increased from 111 to a high point of 2,500 in 1916. The attendance at conventions increased in like proportion. Men and women attended the conventions because they were sure of meeting there others engaged in similar work. In particular were young men attracted in numbers, many of whom have come into leadership in society affairs.

It may be remarked in passing that our society has been fortunate in its freedom from any political taint. The State Horticultural Society has not, within the past twenty-two years, at least, been associated in even a remote manner with any political party, group or faction. I have served as your secretary during the administration of five governors and ten sessions of the legislature and from these men I have, as representative of this society, had nothing but unfailing courtesy and none but has appreciated fully the value of the work we are doing. Our appropriation during that time has been increased from $4,400.00 to $9,000.00 annually.

About 1920 we entered the third and present era. During the preceding era the policy of the society attempted to give equal encouragement to amateur and commercial interests alike. A vigorous campaign was carried on for the development of commercial orchards and largely thru our efforts thousands of acres of orchards have been planted.

In 1900 a 40 acre apple orchard was the largest in the state, while now an orchard of this size is considered small. The fruit industry has grown on a safe, sound and sane basis. It has suffered no period of inflation and has known no period of depression. Now while ornamental horticulture and the amateur horticulturist received consideration and their interests were served it cannot be denied that year by year the society is becoming more and more a commercialized body and its policies shaped by the commercial interests. Year by year the commercial fruit men are demanding that more and more of our funds be spent to advance their interests. This is not being done with plain intent to deprive the amateur of his rights, but unconsciously as it were. The orchards planted 20 and 15 and 10 years ago on advice of this society are now in full bearing, a real industry has been established, one new to our state, and the growers have been reaching out for help to dispose of their crops.

It is, however, quite in line with the spirit of the day, for never in the history of mankind has industry, business, money making, so dominated the world. If you doubt it look around you. It is true not only in the United States but in every country in the world. It has long controlled government, is slowly gaining control over education and even religion is not exempt. We fruit growers are therefore in step with the rest of the world.

Upon the solution of this problem rests the fate of the society. In 1920 and for the three years following I was optimistic. I used every effort thru convention programs and publications to serve both interests and for a time it seemed we might succeed, but with each passing year I have become less confident. I do not say that we cannot keep on under present conditions, but I have grave doubts about it. Nor can I find fault with this situation. I myself like the game, advertising Wisconsin apples, cherries and strawberries and creating an appetite for the luscious McIn

tosh is to me fascinating work. This is all the more remarkable because years ago it was my greatest desire to live only among flowers.

Let us face the situation squarely: We now have a membership of a trifle over eighteen hundred. The falling off from our high mark of twenty-five hundred in 1916 has occurred during the past five years altho there has been no slacking up of efforts to retain old or secure new members. I do not say that all of this defection is due to an increasing activity in the affairs of the society by commercial fruit growers, but after the most serious thought I am convinced that it is the principal factor. It has been the result of psychological reactions on the part of amateurs rather than actualities. This is shown plainly by the letters that come to my desk. The fear is expressed that the amateur is to be swallowed whole. (On the other hand one fruit grower who renewed his membership after a lapse of two years said he hoped that from now on he would find something in the paper besides dahlias and dahlias and dahlias. He was of course speaking figuratively.)

Of the eighteen hundred members at least sixteen hundred have no commercial interests. If all of these fall off how long will the state see fit to appropriate $9,000.00 yearly for interests represented by one hundred or two hundred men? Please keep in mind, fellow-members, that our society has gained its prestige and retained or obtained its appropriations on the plea that it was an educational institution, and among all the quasi-public organizations in the state it is the only one enjoying that distinction. Will the state, I repeat, be content to appropriate money to promote the interests of one hundred or two hundred men? It would violate no precedent nor do violence to its regular practice if it did so for we need only to point to the Experiment Association, Live Stock Breeders and others. But the interests represented by these societies have numbers back of them. How many dairymen in Wisconsin? How many fruit growers?

If the horticultural society is to continue to maintain the high standard it has attained; if it is to be recognized in the future, as in the past twenty-five years, as an educational body devoted in its principles to the dissemination of information that will make this world a better place in which to live; if its policy in the present and the future is to be "more light", more health and more happiness for all of us, which I have always conceived and still conceive to be its function, then we must aim to check in the society this rising tide of commercialism.

The American Pomological Society is an excellent example of the commercial influence. For over seventy-five years the A. P. S. held a high place in the affections of fruit growers both amateur and professional. In the description and naming of new varieties of fruits, in fostering the love of fruits as well as their usefulness this old but not decadent society became known as the Supreme Court of Horticulture. Now nurserymen and fruit dealers have taken it over for their own use, commercialized it to the last degree and it has lost its former prestige and with it all of its prime usefulness.

In addition to promoting garden clubs, a line of work now well under way, there should be a closer affiliation with such organizations as The Friends of Our Native Landscape, the Izack Walton League, Forestry organizations and particularly with national societies such as the National Rose Society, The Peony, Gladiolus, Dahlia and others national in scope.

An alternative is the organization of a fruit growers society, separate and distinct from the State Horticultural Society. This would give the growers a free hand unhampered by any restrictions imposed by state control. The semi-commercial fruit interests, farmers and gardeners who grow for local markets, a steadily growing class, could well join with the larger growers in an enterprise of this kind.

I want to assure you that these conclusions have been formulated only after the most careful thought and are presented to you without prejudice. If upon the ears of some of you these words fall harshly I beg of you to keep in mind that they are my parting words to you and to believe, if you will, that the future of the society means as much to me as it can possibly mean to you, for to you it has been only an incident, to me for the past twenty-two years it has filled my life, and so far as capacity for work the *best* years of my life. Lay against me, if you will, error in judgment, but not a lack of sincerity. If you have interpreted any of my words as being pessimistic I ask you rather to consider them as concern for the future. Remember that "all of this I saw and part of it I was."

A county agent in Washington state reports that one of his people got 72 lbs. of potatoes from one hill from one seed piece. Some Crop! or else ? ? ? Well, you say it.

Cabbage will keep best if kept at about the freezing point. A dry place somewhat colder than that required for potatoes is what they want.

Rhubarb is being re-made by our plant breeders. New varieties are being introduced by Penn State College and several from Canada. High color, low acidity and productiveness are the features stressed.

THE FLORIST'S PAGE

Edited by Huron H. Smith, Curator of Botany
Public Museum, Milwaukee, Wis.

MILWAUKEE'S FALL FLOWER SHOW

Back in the fall of 1921, the Milwaukee Florists Club, held their last flower show for their members only. They were persuaded by the Department of Botany of the Milwaukee Public Museum to let the public see their show, twice a year, spring and fall, so they did, starting out March 15th to 18th, 1922, with 20 exhibitors and visitors to the number of 20,000. These shows gathered impetus until the climax was reached in the spring show of this year of 70 exhibitors and 105,225 visitors. The actual expense figure about 438 visitors for every dollar expended. The tenth show has just gone into history with the finish of this fall show, Nov. 4th to 7th. It has proved to be Milwaukee's most popular exhibition of any kind, no other business nor show drawing as many visitors in a week as the flower show draws in 3 or 4 days time. Each succeeding show gets a little bit better and continually caters to a higher class of patrons. Admission is free and the burden of the show rests lightly on every grower, wholesaler and retailer in this district, for each but brings his bit, but the aggregate is impressive.

Since the show is sponsored by the Public Museum, it becomes a city activity, and has become a sort of institution. Everyone is invited to exhibit, and many wealthy private growers contribute, as well as the trade generally. No advertisements are shown of any kind in the show, but everything is numbered, and all accessories are returned after the show. A separate room is set aside each time for advance showing of new stock to the trade, and here signs are permitted along with prices of rooted cutting or any other stock. This thus becomes a Wisconsin clearing house for stock where valuable space is to be had free. After the first two days, labels are removed and the stock is mingled with the other exhibits. Since all of the Wisconsin growers and retailers are present at the fall show, it is a unique opportunity. The general expense of the show comes from the Milwaukee Florists Publicity Association to which everyone contributes, and the returns in publicity are general and not specific. At every fall show, the market is headed towards a glut, but this has always been averted by the show visitors, who want to possess, and create an abnormal market. Publicity is easily obtained in the daily papers, since it is a city activity, and the press always carries many spreads of pictures and news items. Oftentimes the space alone freely received amounts to as much as ten times the money directly expended for staging the show.

Further interest is engendered at each show by conducting an essay contest among the 5th, 6th, 7th, and 8th grade pupils of every one of the 2,100 grades in the city, public, private and parochial. Their teachers urge and even bring their pupils to compete. Essays upon "What I liked best at the Flower Show" have already brought in a foot high stack of manuscripts this year. The prizes this fall are 12 fine potted Boston ferns, and are apportioned three to each grade. The newspapers give additional publicity to this contest. Milwaukee children through the years to come will be an educated flower-buying public.

Two other industries help the florists with their accessories for the show. These are the furniture people, through C. Niss & Sons, who loan the finest period furniture, and the jewelers, through Bunde & Upmeyer Co., who loan their table service and fine silverware. The silverware alone this year exhibited was valued at $8,000. In all cases the accessories are kept secondary in attraction to the floral appointments on the tables. Three types of furniture and silverware were shown this fall, Spanish, Italian, and early American. The early American was especially noteworthy and the tumblers used at the banquet table were replicas of the early American glass, when America did not know how to blow glass without bubbles. The bubbles and decorations of early times were faithfully reproduced.

As one entered the beautiful rotunda of the Museum-Library building, which is conceded to be the finest bit of architecture in the city, a foretaste of the show was seen, in the tall centerpiece with a huge basket of mums. Trellis with southern smilax, decorated the marble pillars, between whose spaces tables carried baskets and vases of large mums and pompoms. A latticed Moorish window between the main entrance doors, carried a rainbow of colors in pompons. Abundant signs led one to the main show in the Museum Annex. Here one found four rooms filled with flowers. The entry room was of carnations and pompons. The second room contained large mums and pompon plants with hundreds of blooms. A huge Boston fern eight feet in any direction was a main attraction there.

The great hall was the chief point of interest. A stage at one end portrayed a fall woodland scene with full sized trees of red oak, white pine, white and black spruce, balsam, white cedar, and white birch used. All about through the scene were the leafless branches of the

northern holly or winterberry, covered with its bright red fruit. The opposite end of the hall staged a fine banquet table and furniture of the Spanish type, showing the choicest centerpieces of flowers in the costliest silver bowls. The entire center of the hall contained a huge group of house plants, such as crotons, pandanus, Kentia palms, polypodiums, sansevioias, Cleveland cherries, begonias, oranges, blooming mum plants, pompons, Easter lilies, and cyclamens. It was the contribution of the Holton & Hunkel Co. A similar group near the table end was contributed by the C. C. Pollworth Co. All about the room were tables of cut flowers, the finest roses, large mums, pompons, callas, etc. Cypripedium insigne was represented with plants containing between 30 and 40 blooms apiece. Other orchids were found in the groups. Some fine pots of maiden hair ferns were exhibited.

One of the marked features of the show was the exhibition of more retailer material than ever before, and it was noted that visitors seemed to appreciate this feature more than any other. Corsages in profusion, for the shoulder and wrist, ankle and knee, bridesmaid's bouquets, bridal showers, colonials for a mother with a new baby, not forgetting the tiny bouquet for the baby, evoked many admiring comments. One layout for a new baby had two bootees filled with tiny bouquets, and four essentials laid at cardinal points about the bootees, such as comb, brush, powder puff, and mirror, all decorated. The table decorations all showed that retailers have made progress since previous shows, and the public was quick to notice it. A fine basket of zinnias, came in for comment, because the season was so long passed.

COLOR IN THE GARDEN

One sees a great deal written in the garden magazines about color arrangements and color harmony in the garden. This is sometimes rather confusing to a new hand at gardening who wants to do everything just right and has but a hazy idea of what all the talk is about.

If one is possessed with a very fine sense of color values and has a good working knowledge of the time of flowering of all the different kinds of plants and their colors, some very fine color harmonies may be arranged. Generally speaking, most of us are not so sensitive to color arrangements and we will be much better satisfied to plant our gardens without worrying very much about color arrangement. In fact, there is a fascination to most people in a garden with a great array of colors.

Most flowers have several color tones or shades in the one flower and a mixture of many kinds of plants together produces a very harmonious arrangement. Sometimes very brilliant reds and some shades of pink do not work well together. Otherwise it is really difficult to get a clashing of colors in the flower garden. It is always well to remember that strong contrasts of color do not necessarily mean lack of harmony.

To put the whole thing in plain English, plant your garden any way you please so far as color arrangement is concerned and the chances are that your most fussy color enthusiasts will be pleased with the result.

Iris varieties of American origin which have stood the test of time in Europe, according to "Wool Gatherer," are Avalon, Dream Seminole, Quaker Lady and Lent A. Williamson.

—N. Dakota Hort. Bulletin

BUY APPLES IN QUANTITY

Many housewives are tempted to buy apples by the bushel when they see tempting wagonloads of them. Fear that they cannot keep them is the main deterrent in accumulating a sufficient supply to keep the whole family munching their apple a day.

The apple is the most accommodating fruit for home storage there is. It can be kept longer with less trouble than any other. Wrapping apples is a big advantage. Even if the material used is only newspaper it will be of assistance. Tissue paper and oiled paper or waxed paper are better still.

Wrapping the apple prevents the spread of rot in the container. The infection is confined to the individual apple. This is the chief enemy of home storage. The old-fashioned barrel in the cellar had to be sorted every so often to pick out the rotten ones. Wrapping keeps down this trouble. In addition to preventing the spread of rot it protects against changes in temperature and retards wilting and shriveling due to the evaporation of moisture.

A closed package or box will retard wilting and shriveling. Very tight packing is not advisable as bruises are the surest means of starting rot in an apple.

Apples should be stored in a cool place, the coolest available in the house. In apartment houses the store-room in the basement offers the best place. In the house, the cellar is the ideal spot, in a dark corner most distant from the furnace. In buying apples for home storage it is not advisable to select the ripest stock. It is better that the apple should be firm and perhaps a little hard when put away for future use. It will soften to prime condition by the time it is ready for use. Overripe apples are poor keepers.

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ANOTHER CHAPTER

At the Green Bay Convention the secretary's portfolio passed from the hands of Frederic Cranefield, and we are sure that the majority of the members will feel a deep regret that such action was taken. We feel that the Horticultural Society has lost a great mind and an active worker.

During the fourteen months which we have been associated with Frederic Cranefield we have come to realize that he is a genius who could have gone much farther in journalistic fields than he has as a public servant to the well known fickle public. There is no doubt but what his efforts in furthering general horticulture in the State of Wisconsin and outside of this state have been worthy and successful.

One of the well known national personages in horticulture has said "Mr. Cranefield is one of the most unique figures in national horticulture today. Learn to know him; not misunderstand him." We have. And although we have not agreed many times, we feel no call to denounce, either publicly or privately, the man—rather we admire a man who will stand alone if necessary because of his personal beliefs.

J. S. P.

THE GREEN BAY CONVENTION

It was unfortunate that more of our membership could not be present at the Annual Convention this year. Besides the numerous entries in the fruit, flower and vegetable display we had the unusual facilities of a large, modern and hospitable hotel in which to hold our meetings and have our shows. The program was very interesting judging from the comments of several of the members who were present.

The cooking demonstration, the feature which was inaugurated last year and continued this year, was again very successful. Mrs. Delaney of the Wisconsin Public Service Company of Green Bay was in charge and made a very interesting demonstration of what may be done with fruit in the kitchen.

The floral display this year was unusually good. The local florists, Carl Meier and De Clerc's Flower Shop made some very attractive non-competitive exhibits. Holton and Hunkel, wholesale florists of Milwaukee, were present with exhibits as was the Manitowoc Floral Company of Manitowoc, Wis. The De Clerc Flower Shop very thoughtfully presented a very attractive basket of flowers to the convention at the opening session. This was just one of the exhibitions of good feeling held toward the convention by Green Bay.

We are very indebted to Mr. Fitzgerald, Manager of the Hotel Northland, and his aides, and to Mr. Malia, the Secretary of the Association of Commerce at Green Bay.

It seems that the policy of holding the meeting away from Madison is very successful. Next year we will go to a larger city, Milwaukee, and even now we have the assurance that the civic bodies and the Milwaukee horticulturists will be behind us in helping make a success of the 1927 convention.

MID-WEST HORTICULTURAL EXPOSITION AND IOWA STATE HORTICULTURAL CONVENTION

The Mid-West Horticultural Exposition and Iowa State Horticultural Exposition was held at Des Moines, Iowa, on November 16th to 20th. We were astounded at the response which Iowa has obtained with their Mid-West horticultural show. This is put on under the auspices of the Iowa State Horticultural Society and allied organizations every other year.

This year was the most successful exposition that has been held so far both as to exhibits and attendance by the public. There were ten states represented by exhibits: Iowa, Wisconsin, Missouri, Kansas, Illinois, Colorado, Minnesota, Michigan, Indiana and Nebraska. Iowa and Nebraska were the only two states to make a separate state exhibit. The other states were represented by individual growers of fruits, flowers and vegetables. It was possible to see the exhibit

of a Denver florist and an Indiana grower side by side. In the immense hall of the Coliseum the displays were very attractively arranged and in the booth around the side of the main auditorium were educational and commercial exhibits. Four thousand entries were made by two hundred and seventy-five exhibitors.

The premium list included every sort of horticultural product and there was at least one entry made in each class. Wisconsin was represented in the apple division by A. K. Bassett of Baraboo, who placed well up in the winners in nearly every class in which he entered.

One of the features of this large show was its educational value. Each morning during the duration of this exposition school children were admitted free and under the leadership of one of the officials of the show were taken on a tour of the exhibits. During this tour they were told everything of interest about the various products shown. In many of the commercial exhibits the children were shown charts telling how to spray and the mechanics of spraying.

In the bee-keepers booth a daily demonstration of the use of honey and its by-products was given.

The meetings of the Horticultural Society were held in the Savery Hotel, each unit having its own separate room. The State Horticultural Society works with and for the Iowa Bee Keepers Association, the Iowa Fruit Growers Association, the Iowa Vegetable Growers Association, the Iowa Florists Association, the Iowa Nurserymen's Association and the Mid-West Peony and Iris Association. The energetic Mr. R. H. Herrick seems to be secretary and motive force for all of these societies. The plan of having separate organizations for the people with varied interests and having it all amalgamated into one horticultural society seems to be working very well in the State of Iowa. There was unbounded energy displayed in the putting on of this great exposition and meeting. It may be well designated as the Horticultural classic of the Middle-West.

MATURE APPLES BEST KEEPERS IN COMMON OR COLD STORAGE

From the results of numerous investigations it seems fairly certain that a great many apples grown in the eastern section of the United States are picked too early to obtain best results in either common or cold storage, says the United States Department of Agriculture. In general, apples for cold storage should not be picked before they show a decided yellow cast in the ground color or until they are beginning to loosen on the tree. An equally firm fruit of better color and flavor and with less tendency to scald will be obtained from later picking than from that now generally practiced. In common storage late picking will give not only better-flavored fruit but also fruit in a firmer condition throughout the storage period.

Apples soften much faster in common storage or if packed and held in the orchard than while remaining on the trees. For best results in common storage, therefore, the picking of most varieties should be delayed as long as the fruit is holding on the tree fairly well or until there is danger of freezing. Exceptions should be made of the Jonathan when grown under long-growing season conditions. Late picking of good common storage varieties results in a firmer and higher quality of fruit in storage.

Apples for cold storage also should be fairly well matured when they are picked, both to obtain highest quality and appearance and to reduce the occurrence of storage scald. The development of scald can be greatly reduced by the use of oiled paper, but the control will be more effective, particularly in barreled apples, if the fruit is well matured when picked.

EVEN IN LATE NOVEMBER

I spent Thanksgiving day at our summer home. I wanted to see the last of my garden getting tucked up for winter.

The big wooly Mullen leaves looked still as undiscouraged as in midsummer, though all else visible was pretty limp and chilly looking, with the exception of one brave little Texas violet in my wildflower garden, that had hatched out a blossom in its deep nest of dry leaves.

I found the trees and grape vines well mulched with straw,—as well as the tulip and double white Narcissus beds — and some of the shrubs and ornamental vines—but "Spring Garden Street" hadn't a wisp to its back, to keep off the icy winds.

I had done that with my own hands last year, so it wasn't thought of this fall, until I came out to "take inventory". I was glad I got out!

I was a little afraid the garden would seem desolate in its winter aspect, but it was perfectly lovely! This morning I found my cold brown garden all pranked out with the liveliest flock of crushed raspberry colored vocal blossoms one could wish to see. The little bare trees all rosy and singing, and the big saucers on the sunflower stalks left standing had each a Purple Finch or two,—craning and reaching over the spiked edges to feast on the seeds that were still holding to the discs. That was a sight we wouldn't see in summer!

There were golden Finches too in their sober winter clo'es,—and antic chickadees,—a saucy blue jay, —"in them baseball clo'es of his," —waking the echoes,—and there were woodpeckers, — both downy and hairy, making the bark fly from the oak posts, set for supports for a vine screen.

And there were Juncoes flitting about with their white "sash ribbons" flashing jauntily—and over the fence, in my neighbor's field, a covey of Hungarian partridges and Pheasants clacking and gleaming happy and busy. The garden "was a lonesome spot" even in late November. EUGENIA C. GILLETTE.

TREES—PART III

How to Protect Them

After we have planted our trees either in city or country we must give them gentle care. We must supply moisture in abundance, prune and protect from insects and disease, from the elm scale, tussock motl, cottony maple scale, san jose scale, and blights of various kinds lying in wait to attack. We must be ready for them. There is always a remedy but this is not the time or place to discuss in detail the enemies of trees. Numerous excellent papers on this subject have been published in Wisconsin Horticulture and our annual reports, and others will appear from time to time. The only point we wish to make here is that trees require attention and help like any other growing thing. Don't forget your tree immediately after you plant it but visit it from time to time to see if it needs your help. The tree will repay you in time with grateful shade and shelter.

There is an enemy of your tree more dangerous than all other pests combined, the agents of public service corporations. They are always abroad in the land seeking to devour what ever lies in their path, cocksure and utterly indifferent to the rights of individuals. Street trees and roadside trees are cut down by them or recklessly mutilated. And we stand idly by, at least we did in the past because we assumed, some of us, that it was beyond our power to prevent this destruction. We are learning slowly and not all of us now stand by as idly as we did.

If any one doubts that these things have been done let him look about his own community.

Not only one tree but often a whole row of trees have been cut down to make way for telephone, telegraph or power lines. Roadside and city trees have been sheared off destroying their beauty and endangering their existence. The latest instance that has come to my attention is in Janesville although the work was done several years ago. A company has sheared off one half of the branches of several fine maples leaving stubs four to six feet long. And the people of Janesville stood idly by.

In the little village of Cascade the agents of a power company were about to cut down two twenty-five year old shade trees standing in front of the residence of an old couple and threatened to refuse them current if they were interfered with in any way. In this case there was one man, Arno Meyer, who did not stand idly by because the trees were his father's trees. He put on his fighting clothes, seized his battle axe and waded in.

A few years ago, possibly at the present time power companies sent out smooth talkers who for a consideration of one dollar secured from farmers a contract, running forever, to cut, slash, or remove as they pleased any and all trees along the wayside. If they failed to get a contract they crossed the road where the going was easier.

There are two ways in which these corporations may be compelled to respect the rights of individuals,—the law and Public Opinion. The law is a weak instrument at its best but in this case seems to be explicit.

In another place in this issue may be found opinions by the attorney general of the state, letters, etc. These are all worth reading if you are interested in trees.

More powerful than law or tradition is public opinion, nothing can withstand it. Not only may an individual be raised to a position of influence and power by public opinion, but conversely may be ostracised and outlawed; not alone individuals, but states and nations no matter how powerful they may be are brought down, their faces in the dust when they dare to ignore public opinion.

So it is in this matter, no less important than the fate of nations, for upon the welfare and the happiness of the individual depends the fate of a nation, will an aroused public opinion compel corporations to respect our rights to the enjoyment of our trees. Whenever a public utility company enters your neighborhood, watch its agents and refuse to sign contracts or give permission to cut trees that you care for. While it is true that we must have light and power, it is also true that high power wires may be strung *through* trees without mutilating them and safely by proper insulation. Keep in mind that neither wires nor the electricity that is conveyed by them ever killed trees; the trees kill the wires. That's the reason the companies want to cut down the trees, to save repair bills. So, I beg of you, do not stand idly by and allow power and telephone companies to slaughter your trees, whether you live in village, city or country. Combine with your neighbors, call a meeting and request the attendance of representatives of the offending company. You are not enemies of the company and they should not be yours. Do not compromise, but stand for your rights. Tell them that your good will is worth more to them than a few dollars extra expense in conducting wires away from trees. If that does not suffice, write or wire us and we will invoke the strong arm of the Law.

F. C.

The Protection of Trees

APPENDIX

The following letter from the chief engineer of the Wisconsin Highway Commission to the Secretary of this society sets forth the attitude of the Commission in regard to shade trees. The writer has always found the Commission fair and not only is not disregardful of the rights of the public but on the contrary instructs its agents and employes to carefully preserve roadside trees when possible to do so without interfering with the safety of the public. The attention

of our readers is directed in particular to the concluding sentence of Mr. Torkelson's letter.

January 8, 1926.

Mr. Frederic Cranefield, Secy.,
Wisconsin State Horticultural Society,
Madison, Wisconsin.

Dear Sir:

You ask for a brief statement of the policy of this Commission in respect to the preservation of trees on highways.

The Commission considers that the statue, by authorizing the local boards to grant permits for the use of the public highways by public utilities, contemplates that the highways shall be used for this purpose, subject, however, to such limitations as will insure the preservation of the original purpose of the highways, which is the use of them by public travel, and the preservation of such natural objects along the road as will serve either to make the road more useful or more beautiful.

The statue provides that no tree shall be cut without the consent of the owner, etc., and you are familiar with the opinion of the Attorney General on the subject of the cutting of trees.

It has seemed to us that as a practical proposition it is impossible to construct a power transmission line or a telephone line without some trimming of trees. Theoretically it can be done, but practically the expense would in many cases be unreasonable because it must be recognized that trees can be trimmed to a certain extent without seriously impairing their usefulness or beauty, but *the Commission is strongly opposed to any ruthless cutting and slashing as so many public utilities have indulged in.* Our idea has been to proceed on the theory of live and let live, that it would be possible for public utilities to construct their lines in such a manner as to avoid any serious interference with trees, and that thereby the best relations with the public will be preserved and the interests of all concerned be advanced to the utmost extent. *We have repeatedly called their attention to the fact that if they continue this policy of ruthless destruction, it may be that public opinion will force hardships upon them.* Very truly yours,

WISCONSIN HIGHWAY COMMISSION,
By M. W. Torkelson,
Copy Engineer-Secretary.

OPINIONS OF THE ATTORNEY GENERAL'S OFFICE, SUBMITTED TO THE HIGHWAY COMMISSION ON REQUEST

August 4, 1925.

Wisconsin Highway Commission
State Capitol Annex
Madison, Wisconsin
Gentlemen:

I quote your request as follows:

"Last year in constructing a Federal Aid Project on State Trunk Highway No. 14, in Rusk County, the Commission took special pains to save as many shade trees as possible along the road. During last winter, or after the grading operations were stopped, a public utility, constructing a transmission line along this road, finding a number of shade trees in the way, without consulting any one as nearly as can be found out, have cut down all of the shade trees that the Commission had been at such pains to save. This is not an isolated instance. There are numerous cases where public utilities constructing transmission lines, telephone lines, etc., along the public highways, proceed to cut and slash. In some cases they have the permission of the abutting land owner; in others, they do not.

The Commission is, of course, interested from the public standpoint and desires to preserve the shade trees as much as possible.

We desire your advice with reference to the remedies that we may have in such a case, and with reference to the proper procedure to bring about a restoration of the damage to such an extent as may be possible, and to impose such penalties as may be lawful in cases where it is impossible to restore the damage.

If you can give us any advice in the matter outside of the direct lines of our inquiry, we will appreciate it very much."

Sec. 180.22 authorizes corporations formed under ch. 180 to build and operate electrical wire lines along public highways, but provides (subsec. 6): "Nothing contained in this section shall authorize or empower such telegraph, telephone, electric light, heat or power transmission company or corporation, to in any manner destroy, trim or otherwise injure any shade or ornamental trees along any such lines or systems * * * except by the consent of the owner, and any person, or corporation violating any of the provisions of this section shall be liable to the person aggrieved in three times the actual damage sustained besides costs."

Sec. 86.07, Stats., provides:

"All trees standing or lying on any land over which any highway shall be laid out shall be for the proper use of the owner of such land or person otherwise entitled thereto, except such of them as may be requisite to make or repair the highways or bridges on the same land or within one mile of the same; but no trees reserved for shade or ornament shall be used for such purpose."

Sec. 86.08, Stats., provides:

"Any person owning or occupying land adjoining any highway may plant or set out trees on each side of said highway contiguous to his land, which trees shall not be set in the highway more than ten feet from the margin thereof, and if any person shall cut down, injure or destroy any tree that may have been or shall be so planted or set out or which shall have been left on the side of such highway for shade he shall be liable to treble damages to the owner or occupant of such adjoining lands."

Sec. 86.11, Stats., provides:

"Every officer having any charge of a highway who shall cut down, destroy or damage any such shade tree shall forfeit twenty-five dollars, one-half to the use of the person prosecuting therefor, unless his act be done for the improvement of the highway and may be said to conduce thereto."

Sec. 86.16, Stats., authorizes any person, firm or corporation, with the written consent of the town board *and the approval of the state highway commission*, to construct electrical lines within the limits of any highway, but subsecs. (3) and (4) of said section provide:

"(3) No tree shall be cut, trimmed or the branches thereof cut or broken in the construction or maintenance of any such line without the consent of the owner of the tree."

"(4) Any person erecting any telephone, telegraph, electric light or other pole or stringing any telephone, telegraph, electric light or other wire in violation of the provisions of this section shall forfeit a sum not less than ten nor more than fifty dollars."

In Vol. IX O. A. G. page 311, it was said that the law gives to the state highway commission the function of protecting the trees along the public highways, and that the legislature intended by the acts then in force (and which are still in effect, with perhaps added sanction) that the commission should preserve such trees for the public and should prevent their destruction or injury by those seeking to use the highways for purposes other than those incident to travel.

I have quoted some of the provisions of the law applicable to the situation you outline, and am of the opinion that the company guilty of having caused the destruction of or injury to any shade tree within the highway, as well as every person directly committing, or assisting in the committing of the act which caused the injury, without the permission of the owner of the abutting land *and* the state highway commission, is liable to a forfeiture of ten to fifty dollars for each such act under sec. 86.16, which may be sued for and recovered on conviction in an action brought by the district attorney of the proper county; and that such company and such persons are also liable under sec. 86.11 for each such act in the sum of five dollars to be paid into the highway fund, and are further liable to the owner of the land abutting on the highway in treble damages for each such act, under the provisions of secs. 86.08 and 86.11.

I doubt that the highway commission has any power to permit the injury to or destruction of shade trees in the public highway; rather, it is charged with the duty of *protecting* them. Certain it is, I think, that since no permission was obtained from the state highway commission by the utility company to in any way molest the shade trees, the acts referred to by you were wholly unlawful, and the penalties may be enforced as indicated, even though permission had been obtained from the owner of the adjoining land.

I may add that the company and persons concerned in the acts to which you refer, if certain facts exist which do not appear in your statement, be prosecuted for the commission of a misdemeanor under the provisions of sec. 4441, Stats.

Very truly yours,
FRANKLIN E. BUMP,
Assistant Attorney General.

FEB:MH

Approved:
HERMAN L. EKERN,
Attorney General.

CAPTION: It is unlawful for a utility company in the construction of a transmission line along a public highway, to cause shade trees in the highway to be injured or destroyed, or to in any way molest such trees, even with the consent of the owner of the adjoining land, without permission of the state highway commission; and the company and all persons concerned in such acts are liable to the penalties provided by law for each act of injury to such trees.

When you buy apples this fall ask for Good Apples Wisconsin Grown, and buy them by the bushel. If you have children apples are an extremely essential part of the household equipment. If you don't have children don't do without apples.

CONTRIBUTORS WANTED

This is your magazine. If you have anything that you feel other people should know about horticulture, send it in marked "For Publication."

THE EDITORS.

OUR NATIVE CLIMBING VINES

William Toole in "Native Plants of Wisconsin." Published in 1922

Pretty and graceful are the flowers, leaves and vines of the Mountain Fringe, *Adlumia fringosa*. This species has such an established place in the trade list and is so rarely found wild probably few persons realize that it is a native. I have only found it wild among the ferns, hemlocks and rocks at the Upper Narrows of the Baraboo River. The pinkish-white flowers in drooping panicles show in form the relationship to Bleeding Heart and Dutchman's Breeches. The finely divided leaves have an odd way of grasping whatever they can attach themselves to in climbing among shrubbery or to suitable trellises when cultivated. They are biennial and easily grown. They have a tendency to self sown or volunteer plants, but it is well to sow seeds each year to make sure of a succession.

The Wild Bean or Ground Nut is a twining climber with slender leaves which are very bean-like in appearance. The brownish purple flowers are in small, compact clusters and very pleasantly fragrant—violet scented. The underground root stems produce numerous enlargements which are edible and give one of the common names to the plant. They are found wild in deep, rich soil near watercourses. They may be increased either from seeds or the underground tubers. They are frequently cultivated and some people try to imagine there is a resemblance to wistaria.

The Wild Yam, *Dioscorea villosa*, has slender twining stems and matted thickened rootstalks. The leaves are plentiful and heart-shaped, with ribbed veins. The flowers on both the staminate and the fruiting plants are greenish yellow and not at all showy. Their special attraction next to the leaves is the drooping racemes of three-edged capsules of seed vessels which attract attention before and after they have ripened. With me the plants have not thrived in cultivation. They live, but do not flourish.

The wild Balsam Apple, *Echinocystis lobata*, is attractive in the wild where seen covering shrubbery with dense masses of foliage and topped in season with a billowy cloud of white flowers which are followed by green, fleshy, bladdery fruits. They are often cultivated, but do not seem to fit into such environment. They show best in the wild.

The Wild Morning Glory, *Convolvulus sepium*, is showy enough to be worthy of cultivation where it is not already too plentiful. The white or pink flowers are attractive and leaves make a good showing, but the underground creeping root stems keep one busy to hold them within bounds.

The Clematis or Virgin's Bower we have in two species native to Wisconsin. In using the botanical as a common name many people wrongly give the accent on the second instead of the first syllable. Our *Clematis virginiana* is much after the style of the European species so long called Virgin's Bower. One species is very worthy of cultivation for the masses of white flowers given in July and August and also because of the feathery masses of seeds on the fruiting vines. This species is dioecious, having staminate and fruiting flowers on separate plants. The stems are hardy and live for several years, yet in appearance they seem more herbaceous than woody. If for any reason it is necessary to cut away the vines they are quickly renewed with a new growth from the roots.

Our earliest flowering Clematis is C. *verticillaris*. The flowers are reddish purple in color, two to three inches across, and appear early in the spring. The flowers are not so numerous as with other species. The seeds have feathery tails, but are not so showy as with the other species. This Clematis is found in rich soil in rocky places and is quite rare in Sauk county.

The Cat Briar, *Smilax hispida*, seems out of place unless in com-

pany with other wild stuff. The bright green leaves, green stems and abundant black berries always attract attention. The prickly stems are not for bare hands. It is desirable in collections. The flowers are greenish white and not showy.

The Carrion Flower, *Smilax herbacea,* always attracts attention with its shrubby appearing, erect, herbaceous stems and twisting tendrils which do not seem necessary for the support of the plant. It is mostly found in neglected fence rows or among open shrubs. The unpleasantly scented flowers look like balls of greenish white and are succeeded by blue berries which are often taken home for their ornamental appearance. Not specially desirable for cultivation.

The Virginia Creeper or Wild Ivy, sometimes called woodbine, has long received the botanical name of *Ampelopsis quinquefolia,* and that name will hold in common use for a long time. We are told that we now should write it *Psedera quinquefolia.* Probably no one of our native vines is more freely planted than this is. For a porch or arbor screen it is unexcelled. In the trade it is offered the variety *A. Engelmanni,* which clings to bricks and stone as readily as to wood. I have found wild vines near Devil's Lake clinging to the vertical face of quartzite rocks. The rich autumn coloring of the leaves is a special attraction.

The Poison Ivy or Poison Oak, *Rhus toxicodendron,* is variable in form with us. Usually it is found as a low shrub in dense patches, but occasionally we have the climbing form ascending the trunks of tall trees. Our only reason for making its acquaintance is that we may avoid it, because it has a poisonous effect on the skin of many persons, causing very painful eruptions and blisters. Some people confuse this with the Virginia Creeper, which is as harmless as the grape. It is only necessary to remember that the leaves of the Poison Ivy are *three* parted, while those of the Virginia Creeper are *five* parted.

The true Bitter Sweet, *Solanum dulcamara,* is an introduction from Europe and not a native, although often found growing wild. It belongs to the same family as the potato and tomato and the form of the showy blue purple flowers shows the botanical relationship. The pulpy red berries are showy, but not lasting.

Our Clumbing Bittersweet or Staff Tree, *Celastrus scandens,* is a strong, woody, twining climber easily grown and persistent in holding its place when once established. When grown in good soil the abundant dark green foliage is refreshing in appearance, but it is so persistent in reaching above and beyond one's desires that it hardly seems suitable for porch decoration. It is better suited for arbor shading. Its principal attraction is its orange colored seed vessels which on opening disclose the scarlet pulp covering of the seeds. When dried the clusters of seeds hold their attractive appearance for a long time and they are much sought after in the wild for home decoration. The vines fruit most freely when growing in neglected fence rows or over stone piles. Collectors should handle the growth more carefully for the sake of future supplies.

Moonseed, *Menispermum canadense,* receives its common name because of the crescent shaped markings on the sides of the seeds. The shining dark green leaves have angular edges giving them much the form of the leaves of the true ivy. The twining stems are woody, slender and readily ascend wires, water pipes or porch posts. The old stems die out sometimes and often the best effect may be had in cultivation by cutting the vines away in early spring, thus encouraging a luxuriant growth through the summer. The blue purple fruit is quite showy in the fall, appearing like clusters of frost grapes. In cultivation it is inclined to appropriate too much ground space if not checked.

Honeysuckle and Woodbine are two common names which the *Loniceras* are entitled to hold because of oldtime custom.

Of the twining *Loniceras* we have two species which are native. *L. Sullivanti* is the stronger growing of the two. Sometimes the twining, woody vines ascend high among trees, but ordinarily spread around among shrubs. The pale yellow flowers are fairly attractive and the cluster of pulpy red fruits more so. The foliage is pleasant to view except when the leaves are sometimes infested with mildew which could be subdued by spraying. It is fairly acceptable as a porch climber and simple stalks can be trained to a stake and the branches pruned to a symmetrical head. *Lonicera dioica* is usually found in rocky situations and is earlier blooming with more moderate growth than the preceding. The flowers are greenish yellow, but occasionally we find a variety with red purple flowers almost crimson. In an old edition of Gray's Manual this variety is given as *L. parviflora* variety *Douglassi.*

Largest and most spreading of our native vines is the river or frost grape, *Vitis vulpina.* Its choice of location is not by any means confined to river banks or near water-courses. It frequently reaches the tops of tall trees spreading over the branches. The fruit is much sought after for jelly, jam and wine making. There is occasionally distinct variation in the fruit, encouraging planting for domestic use.

As an arbor covering this grape vine is very desirable, especially those having sterile, fragrant blossoms. The fragrance is often very distinct and much enjoyed by many. It would be worth while to increase desirable varieties from cuttings to use for arbor or porch covering.

The Climbing or Prairie Rose, *Rosa setigera,* is mentioned in Gray's Manual of Botany as being native to Wisconsin. Because of its hardiness, beautiful flowers so freely borne, followed by the bright red berries, it is very worthy of cultivation. Of course, there are double forms of climbing roses in cultivation which are more showy, yet our native climbing rose deserves a place in any moderate collection.

FORCING BULBS INDOORS

From a Bulletin of The Brooklyn Botanical Garden

Such Narcissi as the Paper Whites, Poeticus, Von Sion and the Jonquils are the easiest bulbs to force. What the results from the use of American grown bulbs will be remains to be seen, but they are worth experimenting with, at least. Hyacinths come next in choice. The Romans bloom earlier than the Dutch. If planted early in October they will be ready by Christmas.

If Tulips are chosen, order the early blooming varieties, for plant lice often develop on the slower growing kinds. The catalogues usually list varieties of Tulips which force well. No other kinds should be planted indoors. Crocuses do well in the house, especially when planted in groups.

The soil for bulb planting should not be too heavy. Heavy soil clings firmly together when moistened, due to clay in it. Light soil falls apart. If the soil seems to be a heavy one, lighten it with sand, adding about one-third sand to the amount required. Sand not only lightens soil, but it helps by carrying surplus water off. Free the potting soil from lumps and stones; if necessary, sift it.

Bulbs may be planted in pots, pans or flats. Pans are low crocks. Flats are low boxes of about four inches in height. The bottom of a flat ought to have holes in it or spaces for drainage. Many bulbs can be planted in a single flat, just as closely together as possible. When the bulbs are almost ready to bloom they may be transplanted into separate pots. Bulbs need just enough space to grow in, without touching neighboring bulbs. Suppose the pot to be a five-inch one: allow two Dutch Hyacinths to such a pot; three Roman ones; two Von Sion Daffodils; two Paper White Narcissi; three Poeticus; four Jonquils; five Tulips—or four if they be large ones; six to eight Crocuses; and eight to ten Freesias.

After all the materials are gathered together, proceed with the potting after this fashion. Place a curved bit of broken crock over the hole, with the concave surface down. This prevents the soil from trickling through, but lets air in. Put an inch of drainage material in the pot, but less in pans and flats. Broken crocks, turf or sod, charcoal or even stone may be used for drainage. The soil goes next.

Hyacinths should be potted so that their noses are one-half inch below the surface of the soil; Tulips, one-quarter inch below the surface; and the Narcissus group above the soil. The upper surface of soil in a pot should be one inch below the edge of the pot. This space is allowed for watering, so that soil will not flood over the edge of the pot when water is put on. After this, put a little sand over the soil, a layer not more than an eighth of an inch thick. This sand bed acts as a drainage area, allowing water to trickle down and away from the bulb. Now place the bulbs in their sand beds. Leave just space enough between the bulbs so that no two touch. Neither should they touch the sides of the pot. Cover with soil, pressing it down firmly about the bulbs. Now they are ready for the season of rest.

All potted bulbs except Freesias and Oxalis should be placed in a dark, cold place for four to ten weeks. Roman Hyacinths may be brought in after a month's rest. Paper Whites require even less time. The object of this resting period is to give time for the roots to develop slowly and surely before the plants are brought into the light. The pots may be stored for this resting period either indoors or outdoors. If they are to go indoors, select a cold, dark place, such as a cool cellar or basement. The bulbs must be watered once or twice a week.

If a trench outside is dug, it must be at least eighteen inches deep, and wide enough to take in the widest receptacles. Place two inches of coal ashes on the bottom of the trench. This layer assists drainage and offers an obstacle in the path of ascending worms. Now the pots of bulbs are placed on the ashes and soil put all about and above them. Fill in the rest of the trench with soil or coal ashes. Coal ashes form a losser layer than that made by soil and so is easier to shovel away in cold weather. Never use wood ashes, because of the lye in them. Leave the bulbs until you wish to take them into the house to flower. Allow six weeks for the development of most kinds, but less for Paper Whites and Roman Hyacinths.

When the pots come out of the darkness, do not immediately bring them into direct sunshine. Let this be gradual, first leaving them in a darkened part of a room, and finally when the buds begin to open, see that they receive the direct sunlight. Water freely, for it helps the blossom to unfold. Never let a pot stand where a draft strikes the plant, or the blossoms will blast before unfolding.

Hyacinths are often forced in special glasses. Paper White Narcissi are grown readily in pebbles and water. The pebbles are placed in the bottom of the glass or earthen dish. Upon this layer place the bulbs and surround them with pebbles for the purpose of steadying them. Water should be poured in so that it covers the base of each bulb. These dishes of bulbs ought to go into a dark closet until good root growth has developed. Paper White Narcissi, Von Sions and the Poeticus may be buried in fibre or sand, but leaving the noses of the bulbs sticking out. Treat these as you would those planted in pebbles and water, except that the entire mass must be always saturated with water. The Duc von Thol tulips, which are dwarf, may be forced in pebbles and water and will bloom earlier than any other kinds. Keep them cool and dark until roots are formed.

Good Fruit Sells.

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IN THIS ISSUE

ENCOURAGING AND DISCOURAGING FEATURES OF THE EUROPEAN CORN BORER

(Read at Green Bay Convention)

By S. B. FRACKER

We are hearing so much of the European corn borer these days in newspaper reports, agricultural articles and journals and discussions at organization meetings that it is hard for anyone not in direct touch with the situation to get his bearings on the subject.

The corn belt farmers and leaders in agriculture are greatly alarmed about the things the corn borer is doing to the corn fields of southern Ontario and which it seems to be starting to do in Ohio and Michigan. Until two years ago one could only guess at the eventual effect on the corn crop in the United States and could only judge as to the effects the insect would have on vegetable and flower growing from the conditions around Boston about 1920.

The European corn borer has now been in the United States and Canada for about ten years and it is now possible to look the situation in the face and weigh some of the more encouraging and also the discouraging features of what is going on.

You will remember that the European corn borer is a worm which bores in the stalks of corn and various other thick stemmed weeds, flowers and vegetables; that it spends the winter protected in such stalks, goes through a pupal or resting stage in May and emerges as a moth in June. These moths each lay hundreds of eggs during the latter part of June and most of July and the new generation of borers hatches from these moths in mid-summer and lives through the fall and winter.

All the scouting to determine where the moths occur is, therefore, done during the latter part of the summer, after the egg-laying has been completed. There are only two chances for the insect to spread to new localities; first, the moths flying or being carried by the wind and by moving vehicles and, second, the transportation of corn stalks and other plant material containing the living larvae or worms.

The present distribution of the insect covers nearly all that part of Canada east of Lake Huron in which corn is grown and also, now covers, in general, all the northeast part of the United States east of Kalamazoo, Michigan, and north of central Ohio and northeastern Pennsylvania. All the worms infesting corn over this enormous area are direct descendants from the few imported into three locations: Boston, Mass., Schenectady, New York, and St. Thomas, Ontario, about 1915.

The first discouraging feature about the situation then is the tremendous power of reproduction and the extensive spread. The flight of the moths this past summer, that is during July, 1926, carried the insect farther west than have any previous flights. Instead of coming a distance of ten or fifteen miles, the usual amount, a series of warm nights and winds from the east for a ten-day period carried the moths about fifty miles west in Michigan and well into northeastern Indiana where they had not been known before. The spread southeast into Pennsylvania, where the insect occurs now south of Pittsburg and east almost to Scranton, and in New York, where it is found down the St. Lawrence River almost east as far as the Adirondack Mountains, was similar in extent. This spread was, as already stated, much greater than has ever occurred before and, in all probability, greater than will occur again in the immediate future.

The second discouraging feature is the continuation of heavy damage in Ontario, just east of Detroit, Michigan. In driving from the Detroit River east into Ontario, the most noticeable feature of the farms is the fact that there is much less corn in 1926 than there was in 1925. The mayor of Chatham, Ontario, addressing a conference on this subject in September, stated that within the trade district of Chatham, extending for a radius of about twenty miles in every direction, there is only about 1/10 as much corn grown as there was four years ago. Doubtless, some of this reduction has been due to poor corn prices but the corn borer infestation in this district is so heavy that most of it is due to the fact that the early planted corn fields are destroyed to a large extent before it is possible to harvest them.

This is a district in which the corn stalks have always been left standing during the winter, giving the borers an excellent opportunity to live through and develop in large numbers the following year. Instead of modifying their farm practice and destroying the corn stalks, the farmers are tending to go into other crops, of which the most important so far are tobacco, tomatoes and alfalfa.

Before 1926 there has never been enough damage in Ohio to have any effect on the total crop production of the state and that is true, in general, at the present time. A few fields near Toledo now, however, are showing a similar condition to those in southern Ontario and several have gone down completely with a borer population of twenty to thirty worms to the corn stalk. In general, however, one could drive through northern Ohio all day without realizing that the corn was infested, particularly as the few heavily infested fields happen to be on back roads. In Ohio a large proportion of the corn stalks are now being destroyed during the fall and winter, with the result that even though the spread is extensive, the total damage is slight and the number of borers in individual fields is not great enough to be conspicuous.

In Pennsylvania the state invested in an expensive burning machine of the flame-thrower type and destroyed all the corn stalks and thick stemmed weeds with considerable thoroughness over two counties. As conditions this past season were so favorable to the borer, the percent of infestation in these two counties was somewhat greater this past year than it had been in 1925, in spite of the strenuous clean-up work, but this seems to be due to the fact that the two counties do not form a large enough clean-up area with general infestations in the surrounding districts. The moths were probably carried in from both New York and Ohio into this district and, possibly, also across Lake Erie from Ontario.

In the meantime, the farmers in the old home of the European corn borer in Hungary and neighboring countries have taken advantage of the investigational work in the United States and are renewing their attempts to reduce losses from the insect by destroying corn stalks during the winter. A decree, which was issued along this line in 1917 but which was not enforced for several years after the close of the war, owing to disorganized political conditions, has been re-enacted, and Hungary is trying to protect herself from further losses such as have occurred in the past.

It is of interest to note at this point that the European corn borer is, apparently, a native of central and eastern Europe and has, probably, developed on the native plants of that region over a period of thousands of years. Corn, however, is a native of America and has not been planted in Europe until within the last few generations. The European corn borer seems to have found the Indian corn of America particularly to its liking, and its enormous fecundity, which may have been necessary to protect it from extinction in the old days, has enabled it to become such an injurious pest now that it has reached the regions where Indian corn is grown in quantity.

In spite of the present conditions which have many discouraging features there are, nevertheless, developments which cannot help but prove encouraging, particularly to the members of the Wisconsin State Horticultural Society. The first of these is the fact that the corn borer is not proving as serious a pest on thick stemmed flowers and tomatoes as was true at the time of its first introduction into Massachusetts. In 1918, 1919 and 1920 it was causing so much trouble on tomatoes, celery and in flower gardens that the planters began to reduce the size of their tomato fields and some of them even stated they were considering going out of the production of these vegetables.

This condition, I understand, has greatly improved since and it seems that vegetable growing is now going ahead without a great deal of trouble from this source. It is also noted that the heaviest infestation in southwestern Ontario is occurring in a tomato canning region where large tomato crops are grown and where, in the fall, one passes truck after truck loaded with tomatoes being hauled to canneries. In spite of this not a single borer has yet been found in a tomato plant in Ontario. This may be due partly to the fact that different strains of the borer coming from different European localities were introduced in the Boston and Ontario areas, but even the form in the neighborhood of Boston is not proving as injurious on vegetables and flowers as seemed to be feared at first.

The second encouraging feature is the fact that in spite of the heavy losses in southwestern Ontario, these losses have not occurred where the insect was first introduced and has been present for the longest period but where the corn stalks remain in the fields over winter. Since the corn borer was first found at St. Thomas, Ontario, there has been a continuous spread in all directions but the damage at St. Thomas has never been as striking and severe as it is in Essex and Kent Counties. This indicated that any region in which the corn stalks are destroyed, either by feeding to cattle, a thorough plowing under or burning, while it may find the European corn borer troublesome and expensive, will not find it disastrous.

A recent development which promises to bring excellent results is the interest of the farm machinery manufacturers. It is possible for the worms to live through the winter not only in the stalks but in the stubble. If the corn is cut late in the fall, a particularly high percentage will be found in the stubble, usually just above the level of the ground. It, therefore, becomes desirable to cut the corn as close to the ground as possible, leaving the stubble very short.

All three of the leading companies manufacturing corn harvesting machines: The John Deere Plow Company, The International Harvester Company and The Massey–Harris Company, are now manufacturing their corn binders in such a way that the corn can be cut at or even below the surface of the ground and are supplying this new form to all their dealers in the infested area. In addition to that, each of them has a relatively inexpensive attachment or modification for the binders that are already in the field, which the farmers who now own corn binders, can secure for twelve or fifteen dollars a piece. Where low cutting is impractical, as in rough and rocky fields, a special machine for destroying the stubble has been devised by the International Harvester Company which can be pulled and operated by a tractor. It, literally, beats the stubble into fine shreds.

Our brief investigations on the danger of the immediate introduction of the European corn

borer into Wisconsin are, also, somewhat encouraging. For several weeks during the height of the tourist season we assigned one of the nursery inspectors to Milwaukee and asked him to visit all the incoming boats on which tourists from Michigan were bringing their cars into the state. These cars were rapidly gone over to see whether any corn stalks or ears were being brought in either from the uninfested parts of Michigan or from the infested counties. No roasting ears or other parts of the corn plant were discovered, however, and the employees of the companies stated that so far as they recalled, material of this kind was only very rarely carried by tourists across the lake. This seems surprising, in view of the hundreds of thousands of ears of corn intercepted on quarantine lines by the federal officers in Michigan and Ohio and it is planned to continue this protective service next season.

Iowa, Illinois and Indiana are so stirred by the situation that any control measure which offers the least hope of being protective will receive their support. The feeling in Iowa may be illustrated by the fact that in one locality in the central part of the state it became noised about among the neighbors that a certain farmer had received some seed corn from the infested area. This seed corn complied with the federal quarantine in having been shelled and cleaned but the farmers were so greatly alarmed about the situation that they came near taking matters into their own hands and destroying the seed corn, which indicated how strong the feeling was. The matter finally resulted in their inducing the owner to have a special representative come from Ames to go over the corn thoroughly and hold it on hand for a germination test until it was ascertained, positively, that no corn borers were present.

One project which is being considered, but may not be adopted on account of its enormous cost and the difficulty of enforcement, is that of establishing what might be called a barrier zone along the west and south sides of the infested area. Under this plan a zone about fifty miles wide would be mapped out and practically all the funds which could be secured from the federal, state, county and town governments for this purpose would be directed towards seeing that every corn stalk and, so far as possible, every thick stemmed weed in the entire zone would be destroyed during the winter each year. This appears perfectly feasible but would be difficult to finance if all the expense was borne by various governments, while if left to the individual farmers would be neglected by a great many, unless punitive measures were used. It might add to the farmer's cost of growing corn in the barrier zone to an extent that would probably make the corn crop unprofitable in the years of low prices and big production elsewhere.

Eventually, the parasites will become established in this region and will, doubtless, hold down the numbers of the borers to a great extent. There is a tendency to place too much confidence in this type of control measure for no matter how many parasites there are or how thoroughly they become established, outbreaks of the corn borer can be anticipated from time to time in which they will out-number and "get away from" the insects attacking them.

As a result of this general survey of the situation at the present time, I feel that the fruit, flower and vegetable growers of Wisconsin need now feel less concern about the danger to their own lines of work. We are, of course, all interested in the prosperity of the state as a whole and from that standpoint all of us have a great deal at stake. The dairy industry, which is the basis of all of Wisconsin's agricultural and commercial prosperity is bound up very closely with the success of the corn crop and the income of those interested in horticulture depends on the prosperity of the state as a whole. Danger of severe attacks by the European corn borer on horticultural products, however, appears to be less than was expected when the corn borers first became numerous around Boston.

It appears that retarding the spread of the corn borer and keeping it out of Wisconsin for as many years as possible is worth any reasonable cost but that Wisconsin's corn management methods in the direction of putting the corn stalks in silos or, feeding them during the winter, will help us to weather the storm in much better shape than the states to the immediate south of us.

HELP!

Every few months the editors have implored the readers to send some of their horticultural experiences to this office so that they might be published. Several did send in material, as a matter of fact, but not enough. There are a great many people at a loss what to do when a certain problem arises and very probably you have the answer tucked away in your mind some place. It would be very easy to sit down with pencil and some paper and put down that little labor saving idea or plant saving idea, or what have you? Remember this is your paper.

Do not neglect the pruning of your trees. If you do not know how to do it, get in touch with your county agent. It is impossible to learn how to prune from reading books. Only the elements may be learned in that way. And since each variety and tree presents a different problem, learn to know your trees.

Don't forget to renew your membership and subscription.

AMONG WISCONSIN ORCHARDS

(Read at Green Bay Convention)

CONRAD L. KUEHNER

The title of my talk sounds rather presumptuous and might be misconstrued by some. To avoid this possible chance of misunderstanding I wish to state that I had no choice in its selection. It was assigned to me and all I could do about it was to submit. I do grant that the title describes the scope of my work fairly well, especially after we add one more word so it will read "Among Wisconsin Farm Orchards."

It is my privilege and duty to come in close contact with many farm orchards in the state, particularly in those counties in which the farm orchard project is carried on as a major in the county agent's program. Contact is made with these farm orchards in a number of different ways, principally thru demonstrations in spraying and pruning. At these demonstrations modern approved practices of pruning and spraying are demonstrated to the farmer and considerable time is devoted to directed practice. In other words, the farmer is put thru the work under the direction of the county agent and the specialist. That this work would not be effective without the full cooperation of the county agent's help, interest and support is, of course, evident to all of you. The county agent must organize his county for the work, arrange for meetings and demonstrations and advertise the work. He must necessarily do the bulk of the necessary follow-up work after each demonstration to make it as fruitful as possible. He must supply each individual cooperator with the necessary information in the form of bulletins, circular letters and personal advice. In counties in which the orchard project is carried on cooperatively by the Horticulture Department and the county agent it devolves upon the specialist to help the county agent in every possible way to carry on the orchard improvement work in that county so that it will be well done. This is accomplished by demonstrations in pruning and spraying, personal coaching of spraying operators, orchard inspections, assistance with spray ring organization work, help with planning and execution of county orchard tours, apple grading and marketing conferences with spray rings, educational fruit displays at county fairs, orchard schools, and both general and specific seasonal information service thru the agency of the circular letters sent out to all county agents and Smith Hughes Teachers of Agriculture.

We are satisfied that a lot of good work has been done in all of the counties in which the work has been carried on, but we also realize that a great deal more still remains to be done. In fact, a staggering lot of work must still be done to bring the farm orchard of this state into its own. In this connection, it may be well to mention briefly the place of the orchard schools we instituted last winter.

One day orchard schools were held in Jefferson and Manitowoc counties for the express purpose of giving orchard cooperators, mostly spray rings, the opportunity to study their particular problems in detail. Accordingly at those one day meetings the county agent and the specialist discussed and demonstrated the most important phases of orchard work applying to that particular community. The subjects considered at most of these schools were as follows: selection, planting, pruning and care of young fruit trees, pruning of the bearing trees, the spray program, harvesting of fruit, disposal of surplus, storage of home supply and the use of fruit in the home. This work was well received. In fact it seemed to fill a long needed want. Each of these counties have already again applied for additional schools this winter and up to date several other counties have been added to the list. As stated before these schools are one day meetings. Both the farmer and his wife attend.

We started the meetings at about 10 o'clock in the forenoon and closed them at 3 or 3:30 o'clock in the afternoon. At noon a basket luncheon is served at the place of meeting and it helps much to make the meetings comfortable and successful. Starting the meeting late in the morning allowed the farmer and his wife ample time to do the necessary morning chores before the meeting, while early closing in the afternoon gave him plenty opportunity to reach home in time for evening chores.

In addition to the activities already mentioned, about two months of my time is given over to farm institute work in different parts of the state.

In closing my remarks, I wish to state that I have covered my subject rather briefly and without much detail, notwithstanding the fact that the work is tremendously important and receives my undivided attention and efforts thruout the year. It is interesting work and furnishes much encouragement every time a new convert is made, especially if his formerly worthless orchard becomes a source of pride, a factor in family health and happiness, and a farm asset in place of a liability.

Did you ever try fried apples? Jonathans are especially good that way. Cut the apples in eighths with peeling on, put in skillet with butter and a little water, fry until thoroughly cooked and brown. In the cooking add sugar to your taste. Eat them hot.

Send for that seed catalog today. Some of these snowbound winter evenings may be spent in planning next year's garden. A garden made from a plan is more apt to satisfy than one made on the spur of the moment.

SUCCESS WITH HOUSE PLANTS

It is well to recognize that many difficulties have to be faced before plants can be grown successfully in an ordinary dwelling house, but, by giving careful attention to cultural details these can often be overcome. The hot, dry atmosphere, the fumes of illuminating gas, insufficient light, and great variation in day and night temperature, all tend to make their cultivation a difficult operation.

However, in spite of these drawbacks, it is possible to grow a fairly large variety of plants in an ordinary house, and one need not be limited to the ubiquitous India-rubber plant. It is among the so-called "foliage" plants that the greatest number of suitable subjects for the purpose under consideration are to be found. The Boston Ferns, Dracaena, Pandanus, Aspidistra, and Sanseviera are well adapted to withstand adverse conditions. In selecting flowering plants, those should be chosen, as far as possible, which make a large part of their growth out-of-doors. Among this class of plants are the forcing bulbs, such as Hyacinths, Tulips, Crocus, and the well-known Azaleas. Primroses and Cyclamen will also last a fairly long time in good condition.

The best aspect for the majority of plants is in a window facing south or southwest, as there are comparatively few plants that will grow satisfactorily without abundance of light. If a well-lighted position is not available, one's choice is almost entirely restricted to foliage plants. A bay window on the sunny side of a house will provide almost ideal conditions for a considerable number of plants, and a delightful effect may be obtained by growing them either in pots or in boxes constructed to fit the window.

Temperature is an important factor in the successful cultivation of plants, and violent fluctuations should be avoided as far as possible. If warmth-loving plants are grown in a room which is unheated at night, as often happens, they should be protected in some way during severe weather. This may be done by removing them to a heated room or away from the windows. If this is impossible, they can be protected by covering them at night with paper or other non-conducting material. Bound up with the question of temperature is that of ventilation. Plants object to impure air as much, or more, than human beings; therefore, the room in which they are grown should be ventilated whenever possible, taking care, however, that cold drafts do not blow directly on the plants.

There can be no fixed rule as to the quantity and frequency of the application of water to plants; so much depends upon the humidity of the room in which the plants are growing, the nature of the plant, and the capacity of its roots to absorb water. Whenever watering is done it should be done thoroughly so that the earth is wet all through.

No further watering is needed until the earth shows signs of drying out, when another application should be given. Thorough watering is most important, otherwise the earth on the surface of the pot may have the appearance of being moist, while an inch or so below the surface it may be dust dry, greatly to the detriment of the plant. No definite rule can be laid down as to when plants should be repotted. If they are making vigorous root growth this may be done at almost any time; but, as a general rule, repotting is best done in early spring, just before the plants begin their new growth. Repotting into a larger pot should be done only when the pot is crowded with roots, otherwise harm rather than good will result; indeed, much of the unhealthiness in house plants can be traced directly to attempting to grow them in too large a pot.

It sometimes happens that repotting is necessary because there are too few roots in the pot rather than too many. This occurs when, through over-watering, the earth becomes sour, and, as a consequence, the roots are unable to maintain themselves in a healthy condition. Plants in this condition should have the soil gently washed from the roots previous to repotting them in fresh, sweet soil. Use pots large enough to contain the roots without crowding them. The new pots should be washed clean and allowed to dry before using.

Proper drainage is very important in order that superfluous water may be readily carried off, and this is best obtained by placing a layer of broken pots or coarse ashes over the bottom of the pot. When repotting into a larger pot, the plant should be turned out of the old pot, placed in position and earth filled in around it, tamping the earth down with a piece of lath or something similar, in order that it may come uniformly in firm contact with the roots. Care must be taken not to pot the plant too deeply: the old ball of earth should be covered with about one-fourth inch of soil.

Owing to the lack of facilities for syringing, plants in dwelling houses rapidly become coated with a layer of dust, and this must be removed if they are to be kept in good health. Those plants having large, leathery leaves are best dealt with by washing, using a soft sponge with tepid, soapy water. This process is too tedious an operation in the case of Ferns and plants having small leaves, which should be washed by spraying them with water from the faucet or garden hose. Advantage should be taken of warm gentle rain by placing the plants out-of-doors, as they are greatly benefited by this.

—*Exchange.*

HOW MUCH DOES A STRAWBERRY COST?

(Read at Green Bay Convention)

J. E. LEVERICH

In giving you my experiences on the cost of the production of Strawberries for market on a commercial scale, I expect there will be a general disagreement with the facts and figures I am about to present, which I might say are taken from my own personal experiences and the conditions I have to face in growing Strawberries. I hope there will be some differences of opinion, for it is through the open discussion that follows the relating of one's own personal experiences, that we growers are able to get the other fellow's views and many times are helped much with our own problems.

I have listened to the experiences of other growers, in years gone by, and have obtained many valuable pointers from them as to how to produce a good crop of Strawberries, but I have never yet heard any grower, myself included, make any kind of a statement or produce any figures, as to the cost of producing this crop; or, in other words, tell us what they would consider a fair price, per crate, for these berries.

If I remember correctly, my good friend D. E. Bingham did venture to give some facts and figures as to the investment one would have to make to carry on a successful orchard and, if I remember correctly, it shocked the nerves of some prospective apple growers beyond repair. Anyway the secretary reported that planting of new trees fell short for several years afterwards and yet Bingham didn't even take up the cost of production as I am going to do. However, I shall not attempt to tell you what is a fair price—that can only be figured over a term of years. If I did state my views, I might be considered a profiteer.

I, for one, do not think enough has been said about the cost of production. We growers are apt to kid ourselves into believing we are making a big thing out of Strawberries, while if we would only take pencil and paper and do a little figuring, taking everything into consideration, we might see it in an extremely different light. Some of us would find we were getting small pay for our work.

The growing and harvesting of Strawberries is quite parallel to the production of Dairy Products, in that the wife and kids are a great help in the occupation.

When butter fat goes up to a fair price, some feel we are raking in profits galore, while in reality we are just beginning to get a little pay for the services of the rest of the family who are the main spoke in the wheel, but who are seldom considered, when considering the cost of producing the product, and, in the case of ourselves—we have been working fourteen hours per day and are being paid for eight.

The same condition is true of the Strawberry grower. The whole family works during the Strawberry season, but their pay usually is limited to what berries they care to eat, when considering production costs. This condition was forcibly brought home to me the first summer after we were married. My wife, city bred, was anxious to help me harvest the crop of Strawberries. It was lots of fun for her (the first year), but before the season was over, the fun part of it had changed to hard work and, as it happened to be a season of low prices, her ideas of easy money to be made in Strawberry growing had been shattered and she begged me to plow up the whole field. She pointed out to me how much she had saved for me by her work and my not having to hire someone perhaps less efficient in her place. I dare say that, had she seen fit to make me come across in order to collect, she would have been forced to garnishee the cream check, or draw on the savings she had laid aside while teaching, if she had been in need of a winter coat or new dress that year.

I might say that it was this little incident that made me sit down and do some deep thinking. I resolved then and there to find out, as close as possible, what it would cost me to produce an acre of Strawberries, starting from the time the ground was plowed until the berries had been loaded on the car. I set five acres of Strawberries the following spring and, wherever possible, kept a fairly accurate cost account of same.

Before giving you my estimate based on the results of this cost record, will say:

First—I am speaking purely from a commercial standpoint. I mean to include everything, but there may be items which I have left out.

Second—There may be conditions which would, naturally, change these figures if applied to certain individual cases.

To begin with, it depends on the individual who is growing the Berries, as to how much it will cost him, his method of management, cost of labor, adaptability of soil to Strawberries, etc. The figures I am giving you are based upon my own individual case; it may be that yours will run higher, perhaps lower. I hope you can do better.

COST OF GROWING 5 ACRES OF STRAWBERRIES TO TIME OF HARVEST

Starting at plowing the land. It cost me $2.50 per acre to plow the land	$ 12.50
Fertilization: 10 loads of barnyard manure per acre at $1.00 per load	50.00
(Or 500 lbs. commercial fertilizer per acre at a similar cost)	
Applying same, 3 days @ $5.00 per day for man and team	15.00
Disc and Springtooth 15 hrs. @ $.60 per hr.	9.00
Harrowing 5 times, 15 hrs. @ $.50 per hr.	7.50

(Continued on page 59)

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SELLING AND GROWING

In previous issues we have mentioned the fact that there is now a corporation whose activities will be confined to the advertising of the apple. It is well that there be such an organization because of the heavy advertising competition coming from the citrus fruits, the banana, the raisin and other similar industries. There is no doubt but what this corporation is in good hands. The men at the head of it are acquainted with national advertising campaigns. The majority of men on the Board of Governors are men who are growing apples on a large scale and so we feel that there is no doubt as to the outcome of the corporation if the fruit growers themselves back it. We are talking about "Fruits for Health, Inc."

We hope that the growers in this state will get behind this movement. Along with this campaign for advertising the apple should be a campaign within the campaign for the bettering of the fruit that goes on to the market. Such information is available at the present time. Our state universities are maintaining huge experimental equipments and from these sources we obtain bulletins on culture, pruning and packing. Our larger growers have been experimenting and sometime we may learn more about the various phases of fruit growing.

We have noticed a tendency, however, for the fruit growers to cling to the old habit of quantity rather than quality production. It is true that a few years ago a man with a large crop could come out on the long end because of different marketing conditions but every day we are approaching that point at which it will be the quality of the fruit combined with attractive packing and package which will sell the fruit. We are going to have to realize that day after day we are approaching the point of high specialization in our industries. We advocate, therefore, in order to give greater force to national advertising that we begin to pay greater attention to our methods of production. Sooner or later, we venture to say, the apple industry will approach the standards now used in citrus fruit production. This will even apply to the orchardists who market their fruit locally. People are going to demand better fruit just as they are demanding quality in every other commodity which they are buying on the markets otday.

—J. S. P.

NEWLY ELECTED

We wish to present to the members of this society the newly elected officers and committeemen.

Mr. J. E. Leverich of Sparta, who has served as vice president for the past three years is president for this year. Mr. Leverich is a well known strawberry grower of Sparta, and has been active in society affairs for some time.

As vice-president we have Mr. C. J. Telfer of Green Bay. Mr. Telfer is a grower who manages quite a large orchard in Brown County near Green Bay.

Mr. W. A. Toole of Baraboo, late president, is acting secretary during the time a permanent secretary is being obtained.

The new names which appear on the Board this year are Mr. V. E. Brubaker of Bayfield, who is not only County Agent in Bayfield County but is also the manager of the Chequamegon Flower Gardens at Washburn, Wis.

Mr. H. C. Christenson of Oshkosh has appeared in the society in official capacities at various times. Mr. Christenson is a flower grower.

Mr. H. W. Ullsperger, the other new member of the committee, is the manager of the Door County Fruit Growers' Union and is therefore directly interested in horticulture.

The florist with the better flowers makes the best sale; the nurseryman with better stock keeps his clientel and reputation; and the fruit growers having well grown fruit will sell to better advantage.

Have you started your pruning? Are you going to prune? Every tree needs it.

House plants should not be allowed to become covered with dust. Spray them with water as well as giving water to the roots.

WHAT IS THE BIG IDEA?

(Address at Green Bay Convention)

G. A. SELL
Reporter's Transcript

What is the big idea? That is just what I would like to know. What is the big idea in this fruit growing game? When your secretary wrote me he said that he would like real personal opinions on this farm orchard proposition, whether it should be encouraged or should not be encouraged; whether as a state society and local societies and county agents and the rest of the agricultural extension force were justified or had a responsibility in encouraging farm orchards or were justified in working against the proposition of increasing any further farm orchards. Now, I would like to answer that in this way. I would like to ask you horticulturists who have had more years experience in this game than I have had, how shall we grow the fruit that the people of the country demand and, more than that, that they ought to have that they do not get now? I see three ways of doing it. Shall we grow it for them as specialists, commercial fruit growers only? Is that what we should encourage, only large commercial orchards? Shall we encourage and work for growing of fruit as a side line on our general farms, on our dairy farms and other livestock farms? That is, two or three or four hundred tree orchards that the fellows have spoken about. Is that the way that we shall lay our plans to grow the fruit for the next generation or two, or shall we rather encourage every single farmer who wants any fruit to grow his own? Shall every farm have a little orchard, not larger than the family needs for itself, not planning to have any to sell? There are three ways in which we can grow fruit for the coming generation.

Without answering which of those is the best I would like to ask you this: What is the purpose, the object, we have in view in growing fruit? Generally we speak of selling it, making it a business, so that may be is the hope that stands out more in our minds when we are talking about growing fruit; growing it to sell as a business proposition; making a living or a little better than a living. Another purpose that I see is just to grow it to eat, like the farmer who just has a small orchard and does not plant to have any to sell but just enough to keep the kids growing during the winter and some to hang on the Christmas tree and, if the work is done well enough, to have some to eat along during the winter until another crop comes in.

Perhaps you, as horticulturists, appreciate that purpose as well as anybody who makes a living from the soil. You might call it growing fruit just for the fun of it, for the enjoyment of it. I wonder how much of that we do. How many of the folks that set out the numerous farm orchards, many of them too big to be taken care of by the farmer with all his other things to do, how many of those folks set those trees out for the reason that they have in mind the apples they enjoyed back on their home farm in the east or in the old country? They like to see the nice green trees and the golden fruit. So there are those three propositions. I think what we have in mind when we are talking about growing fruit, possibly, is the enjoyment of it and the eating of it for health's sake. Now I wonder; sometimes when I overhear a couple of large fruit growers talking, whether they be from Bayfield or Door County or from the Sparta territory, it sounds almost as if nobody but the commercial growers ought to grow any fruit. There is a degree of justification to that feeling, perhaps. A lot of these small orchards on the farms when a good crop year comes around, grow more fruit than they use at home and they like to make something out of it, especially if they belong to a spray ring. If the owner is not in a ring the chances are the orchard was not very well taken care of. There are a lot of culls and these are not always gotten rid of to the hogs; we find a lot of them in our grocery stores, especially when we want to go and sell some real nice fruit, the grocer is all stocked up with this cull stuff and cannot move it and won't buy any good ones until he gets rid of it. The farm orchard proposition is quite a question and because of the culls produced it does spoil quite a portion of the commercial fruit growers market. Now the commercial grower, being a specialist, certainly ought to be able to grow good fruit; he ought to have nice clean fruit with no apple hash (plenty of fresh meat) in them. That ought not to be found in the commercial growers fruit, that is true, yet Coyner gave us a report of getting fruit from a commercial grower that was not of the very highest quality. I think, if the commercial growers want to cut down on farm orchards, or want to have the horticultural society or the extension forces generally, at least, work on the idea of getting these farm orchards either taken care of or gotten out of the way, those fellows must also be sure that they are living up to their responsibility, when they want to claim a large portion of the fruit market. Certainly they ought to be careful to furnish only the best quality fruit.

One suggestion brought out by the incident that Mr. Coyner speaks of, would be that in some way every commercial fruit grower should be made to belong to an organization that has very high standards of ethics for that profession, so that he can be kept in line on that proposition.

Now shall we as extension workers and as a society encourage the growing of fruit, as a side line on our general farms, our livestock and our dairy farms? Of course we have the

argument against that that it is not always taken care of, the farmer is too busy with his regular business and if it is only a side line and it is time to plant or cultivate corn, or later in the summer, if the blackbirds come in from the marsh and start going after the corn, he is going to leave the apples and go after the blackbirds and he will have only windfalls and nothing for winter use. There are disadvantages on the growing of fruit as a side line on the general farm but where spray rings are organized or good sprayers are employed and supervised so as to do the work very thoroughly you get good clean fruit and where the farmer will take time to get down the pack carefully and grade it and leave the culls at home to feed to the pigs (not the family) I believe there is lots of room for encouraging the growing of fruit as a side line on the general farm. I think there is lots of room to encourage farmers to grow fruit where they do not intend to sell it at all; where they have no notion of growing it for the market. The family can use a lot of fruit. I do not believe it will cut in on the market of the commercial growers very much. If the average farmer would have to spend the actual cash to supply the apples for his family he would not buy very many; maybe very few; maybe none at all. Certainly not as many as they would eat if they had them right at home. Of course it costs them something to grow them and takes up a certain amount of land; he has got to put something into spray outfits, something into spray material, something into work, but he does not see the actual cash going out of his pocket and with a dozen or two dozen trees the average farmer can get from 25 to 50 bushels of apples a year on the average. I think he can and will use that many whereas if he had to pay two dollars a bushel about all he would use would be three bushels.

There is just one other idea, I do not know whether it is the big idea or not, along that line. I was wondering on the way up here this morning whether it would be possible on this problem of cull fruit to take the apples—particularly in order to get that apple hash off the market that spoils the market and the sales for our good fruit—whether it would be possible through legislation to get some control over that problem. In the dairy business a man's milk has to be up to a certain quality or it is not supposed to be made use of in the city or to be made into cheese or butter or any other product. Now it is true that inspection of dairy farms has not been or probably never can be carried on to such an extent as to absolutely prevent milk going into use that is unfit for use, but certainly legislation and efforts toward quality in the production of milk have brought about a very great improvement in that line and we have in many cities regulations requiring that no milk be sold in that city unless it be from tuberculin tested herds, protecting it from disease. We have various other regulations, and in shipping the milk into Chicago and into Milwaukee those things have to be taken care of in a reasonably sanitary manner and the bacteria count of that milk can be only so high or it cannot be taken into the city. Now I wonder if it is any more antagonistic or radical or socialistic to apply legislation to keeping this cull fruit off the market.

Start planning next year's garden now. Making a plan to fit your conditions will make a garden that will give you more pleasure than a hurriedly assembled collection.

A seed catalogue, some paper, and a pencil.

Cold winter evenings with little to do.

Even the radio will take second place.

Make a plan of the garden this year.

CULLS

(Address at Green Bay Convention)

J. M. COYNER
Reporter's Transcript

The labor problem is one of the limiting factors in the cull problem and I sometimes believe that we should thank the Lord that we have a labor problem and that we have a cull problem. I was just reading a biography the other day of the life of Ogden Armour, the man who established the Armour & Company packing plant in Chicago, and there was an instance in which a man came into his office to try and interest him in a hog cholera cure. That was away back in 1893 when hogs were bringing about 3¾¢ in Chicago and cattle were bringing about $2.75 a hundred. Mr. Armour disposed of that man in short order but after he went out Armour said, "I believe that fellow has something in his head besides dandruff, but a cure for hog cholera is the last thing we want just now." So I say, thank the Lord for the hog cholera and the culls and the fireblight and the labor problem.

This matter just became a problem in the last two years. We started spraying about the time Mr. Glassgo's county started and we did not know where this thing was going to lead us, in fact we sort of took it up as a sort of experimental proposition. We are not supposed to experiment, but in the fruit extension man's judgment we are doing it, and somewhat to my surprise it proved to be a very popular extension project. We have got to the point now where there is a very definite line being drawn between consuming public, between the man who keeps his orchard in a business-like way (I mean the farmers' orchards, for we have no commercial orchards) and the fellow who just simply sprays and does nothing else.

Mr. Kuehner started me in doing a little demonstration work in taking care of orchards,

so I went out to a farm and found the man, whose name is Shepard. He lives west of Jefferson and has about 75 or 80 trees. They had been pruned fairly well and I said, going out into the orchard, "If you are willing, we will take several of those Wealthy trees and see what happens." He said, "Wait until I get rid of this load of hay," and after the hay was off we took a ladder, one 24 foot long and a small one, and went out. I said "We are going to start in a business-like way, keeping an accurate check on the time it takes to do this. We want to leave these apples eight inches apart and where there are two, take off one; and where there are three, take off two; and where there are four, well use your own judgment." We started out; I was rather discouraged at first but found we could use both hands when we got onto how to do it. We took off 1,200 apples and should have taken off 4,500, which would have taken probably half an hour longer. As it was, we spent one hour.

From another tree we took off 962. That was a small tree. From one tree we removed one-half 597, and then taking one branch of the tree we took off 257. "Now," I said, "I want you to mulch those trees heavily and a good lot to each tree; strawy manure." He did so and the results were remarkable. Unfortunately we had a rain storm with a very high wind the Sunday before we planned to pick them which brought the apples down in pretty bad shape. After that drop we had five bushels off of one tree and six off of the other, all extra fancy apples.

I did some thinning at the county farm and it took 45 minutes. The tree was much easier to get at and I had better equipment to work with. I took off 735 apples and then looked the tree over and thought, "I will prune you." The apples were the size of walnuts. I pruned everything I thought ought to come off and had 253 apples on those branches, so I had taken off about a thousand apples. These apples were picked before that rain storm, the tree was in none too good condition, and the results were very gratifying. The fruit was highly colored and while there was some dropping like the McIntosh, and that is a fault, we are not stopping growing it because they drop.

I just want to say a little bit about cherries. The housewives are very enthusiastic about Sturgeon Bay cherries and my wife along with our neighbors on the street wanted Sturgeon Bay cherries and although the price would be $2.50 a case they did not object to that at all; the price is always secondary to the quality. When they came they were small, badly hail marked and there were some insects in them. I got the name of the man who shipped them, they came from Cherry Heights, and I wrote him a letter and told him the condition of the cherries. I did not scold him for it but told him the good name of the Sturgeon Bay cherry was at stake in that neighborhood and I thought it was too bad he should send out such stuff. He wrote back saying he never had and never would guarantee the quality of his fruit. I found out afterwards that he did not sell that through the association at all and I am going to tell my neighbors and the housewives and I think the grocers to be sure and buy thru the association. This crate was not marked with the association label but they were Sturgeon Bay cherries so far as that is concerned.

The matter of culls is largely a matter of business ability and the man who produces culls, I should say, is the unbusiness-like fellow who is going to be relegated to the scrap heap so far as his future business is concerned. It is a matter of ethics; we have simply got to apply the Golden Rule to business.

I am going to close by telling a story. A little boy came from school and asked what was the meaning of ethics. The father attempted to explain it by telling the story. He said, if a customer came into the store and bought a bill of goods and it came to $20 and by mistake he gave me two twenty dollar bills, then the matter of ethics would come in as to whether I should tell my partner.

HOW MUCH DOES A STRAWBERRY COST?

(Continued from page 55)

Plants: 27,500 Plants @ $5.00 per M	137.50
Setting Plants @ $1.00 per M	27.50
Rolling and Harrowing land before and after planting 10 hrs.	5.00
Picking Buds @ $1.00 per acre	5.00
Cultivate— 1 May, 3 June, 3 July, 2 Aug., 1 Sept. } 10 times, 80 hrs. @ $.50 per hr.	40.00
Hoe—3 times, 204 hrs. @ $.30 per hr.	61.20
10 tons Straw @ $7.50 per ton, delivered	75.00
Spreading Straw, 50 hrs. @ $.30 per hr.	15.00
Taking off Straw 20 hrs. @ $.30 per hr.	6.00
Total — Labor, Plants and Straw	$466.20
Interest on same	27.92
Interest and taxes on land, improvements and equipment, value $600.00	45.00
Total expense to time of harvest on producing five acres	$539.12

Expense per acre—$107.82

We are now ready to harvest the crop. I think you will all agree that 300 crates is a good average yield for Strawberries, in fact, I question my figures, in that it may be too high an average for a term of years, but we will call it 300—16 qt. crates per acre.

300—16 qt. Crates @ $.30	$ 90.00
Drayage 1¢ per crate	3.00
Picking and pickers' exp. 48¢ per crt.	144.00
Field supervision, packing, etc. 15 days @ $3.00	45.00
Hauling Berries to car @ 3¢ per case	9.00

Miscellaneous expense — nails, hammers, tickets, stamps, carriers	9.00
Total expense of harvesting	$300.00
Cost of harvesting one crate of Berries—$1.00	
Exp. of producing 1 acre to time of harvest	$107.82
Exp. of harvesting	300.00

Making a total cost of _____$407.82 or, on a yield of 300 crates, a total cost of producing $1.36 per crate, not figuring compensation for personal supervision. We could also add at least 10c per crate as commission for marketing.

From the above it would appear that we growers should give more attention to the cost of production and to the selling of our product, and to increasing our yield instead of increasing our acreage. We are sure of this overhead, but we are not sure of a price for our fruit equal to meet it, year in and year out.

I think this Horticultural Society has a field of work before it in getting more reliable information on the cost of production of fruit. I feel that it is not only up to us to disseminate information as to suitable varieties and cultural methods, but also as to fixed expenses prospective growers will be compelled to face in carrying out these practices. That, if a policy similar to this is carried out, there would be less poor fruit, disappointed growers and we would all be better off in the end.

Let's face the facts as to what we are up against and then if we do get an extra high price, one year in five, let us conclude that we have it coming to make up for the years that we are forced to sell below costs, or another year when our crop is ruined by frost or drought. We have fooled ourselves long enough. We must face conditions that are sure to confront us so that we will be able to face the buying public and ask for a fair profit above cost of production without their feeling that we are profiteers. A little effort along the right channels will help a great deal.

It is not now a question of producing more horticultural products — that will naturally take care of itself; as I see it, the problem we have to face is that of producing a good quality fruit and being able to sell it at a fair profit above the cost of production, and I think we should all strive toward that end.

INTERNATIONAL COMMITTEE FOR HORTICULTURAL CONGRESSES

The Royal Netherlands Horticultural and Botanical Society, which organized in 1923 the First International Horticultural Congress at Amsterdam, has now taken the initiative to create an International Committee for Horticultural Congresses. The task of this committee will be to establish some link between the succeeding International Horticultural Congresses, that will be held in the future in various countries, to avoid a synchronism or a too short succession of two horticultural congresses and a damage that might be done by other international congresses on related sciences a. o. The Austrian Horticultural Society (Wien I Parking 12) has undertaken to organize the Second International Horticultural Congress in the first week of September, 1927, at Vienna.

Secretary of the International Committee will be Dr. M. J. Sirks at Wagenungen (Holland). The invitations for appointment of a representative, submitted through the courtesy of the Netherlands Government, have been accepted by the following Governments, which have nominated the members:

AUSTRIA: Regierungsrat F. Rottenberger, Direktor der Bundesgärten. Schönbrunn.

BELGIUM: H. van Orshoven, Directeur de l'Office horticole. Deptm. of Agric. Bruxelles.

ENGLAND: H. V. Taylor, Deputy Contoller of Horticulture. Deptm. of Agriculture and Fisheries. London.

FRANCE: Prof. D. Bois, professor de culture. Muséum d'Histoire naturelle, Paris.

GERMANY: Gärtnereibesitzer Schetelig. Vors. Reichsverband Deutschen Gartenbaues. Lübeck.

HUNGARY: Prof. dr. A. Magocsy Dietz, University professor. Budapest.

NETHERLANDS: Jhr. G. F. Tets, Pres. Kon. Ned. Maatsch. v. Tuinb. en Plantkunde. Zeist.

POLAND: Prof. P. Hoser, Agricultural High school. Warszawa.

SWITZERLAND: H. Duperrex, Directeur de l'Ecole cantonale d'Horticulture, Chatelaîne près Genève.

—*Horticultural Congress Bulletin.*

WINTER PROTECTION

Generally we think of winter protection of perennials as a covering against cold, but in reality it is little more than a prevention of excessive alternate freezing and thawing. Most plants that are at all hardy here stand Wisconsin's cold quite well, but need care that winter and spring surface drainage is good.

Probably snow, when it comes in plenty, is the best of all coverings but this is uncertain through much of the state. A thin layer of marsh hay is a very good covering material, straw is also good, rye or wheat straw is better than oat. Brush is a very good protection and it is surprising the amount of protection that even a thin layer of brush will give. If leaves are used as a covering, place some brush over the plants first so the leaves cannot mat too closely and smother the plants. This applies most especially if the plants are of a kind that carry a leafy growth over the winter.

Flower growers in eastern states make much of Liatris or "Blazing Star." Such real Liatris specialists should visit northern Wisconsin in July and August where they could see hundreds of square miles of it. Incidentally we would like to know who named this flower Blazing Star. Neither is it star-shaped nor does it blaze.

THE FLORIST'S PAGE

Edited by Huron H. Smith, Curator of Botany
Public Museum, Milwaukee, Wis.

EXCERPT FROM STATE FLORIST MEETING

Peter Pearson of Chicago then took the rest of the afternoon in addressing the society upon "Bulbs". Mr. Pearson's talk was rather upon the way bulbs are raised in Holland than the production of bulbs in this country, although he did have a good deal to say upon the latter subject after his talk to private inquirers. Mr. Pearson has been studying cultivation in England and Holland for the last two summers. He expressed the fear that the federal horticultural bulb would progressively prohibit the importation of any bulbs, except for propagation purposes. He expressed a doubt that we would ever be able to duplicate bulb raising here as in Holland. We have no parallel area in this country, and opportunities for similar cultural treatment do not exist here, he said. It is the current opinion in the United States that Holland is a sunken country saved only by high dykes but the bulb territory is all from 4 to 20 feet above water. Most of the territory is in constant state of being brought into cultivation, and it requires a year and a half to two years to get ready to raise bulbs. The land is not only prepared but must be under cultivation for two years. Typical conditions are found in Michigan in the sand dune country, but water is lacking there. The soil or sand is taken away in Holland until water is only 15 inches to 18 inches below the surface.

Mr. Pearson knew the keenness of the Hollanders, but was somewhat surprised to see how far they had adapted our machinery to their uses in saving labor. He said that steam shovels, gasoline engines, tractors, miniature railways, and American flivvers are now in constant use over there. He heard the statement made by them that they had spent more for our machinery in the past two years than the value of the bulb stock that they had exported to us. The last five years have been a wonderful harvest for them, and they have steadily invested their money in the best equipment. Their new warehouses are equipped with the latest American machinery for heat treatment or refrigeration. By special heat treatment or the lack of it they retard or advance the growth potentialities of narcissus and hyacinth bulbs.

Mr. Pearson noted the extreme care with which they handle their crop, and expressed surprise that American growers do not have more disappointments than they do have, because they handle them so carelessly. He advised a limited number of varieties for commercial raising on a large scale here, because of the different rates of maturity. Watch the temperature at which they go into storage and do not have it too drafty, he said. Examine the bulbs carefully for damage as soon as you buy them, he said. Insurance companies are losing money on insuring percentages of blooms, and Mr. Pearson thinks that this year will be the last that one can buy such insurance.- They are charging 4½% now and making it very difficult to establish a claim.

External appearances are very deceptive in hyacinths, he said. Reliable houses use great care in storing their hyacinth bulbs, to see that no diseased ones are exported. The worst hyacinth disease developes in the warehouse. Bulbs are least expensive immediately after harvested, but raise in price until at the spring auctions they often bring $130 a thousand, because of the fearful loss during storage. The only way to tell if the hyacinth is diseased is to cut the bulb from tip to center, so that bud and leaves may be separated. If yellow, the bud is healthy but if black it will surely blast. The black spot in either narcissus or tulip is a sign that the bulb is dead, he said.

In planting, Mr. Pearson said that he found that ten bulbs in a 7 inch pot is about right, 12 to 14 in an 8 inch and 4 to 5 in a 5 inch pot. Never use fresh manure or compost, he said, nor use any soil that has been used for their growth in the past two years. After planting they should be kept in a cool house and watched frequently or else under 16 inches of soil outside. He advised buying late bulbs. While one should never let them freeze until they are thoroughly rooted, they should not be placed under benches, nor near hot pipes. While they are in their period of active growth, they should be watered freely, he said. Hyacinths are not a success if taken in before January the 15th. They should not be found alongside tulips, because they will not stand the same humidity that tulips will. Heat too soon will force foliage at the expense of flowers, then grower is to blame. If narcissus is taken in too early, the crop will come hit and miss. By waiting one will save time, get an earlier crop and a more uniform production. The same warehouse can not store narcissus and hyacinths both successfully, so buyers should be very careful not to buy both from the same house.

Mr. Pearson described the methods of hyacinth propagation in Holland, one method by cutting the bulb three ways and getting the bulblets inside the cuts, and the other by hollowing out the bottom of the bulb, and

allowing the bulblets to grow. The latter method yield 4 times as many bulblets, but after planting them it takes 1½ years to get export size bulbs. The more rapid way is the first, and stock can be produced in one year this way, he said. Testing will reveal germination strength, he said, and will not require more than five or six days. Lots should be marked with results and stored until grown.

Mr. Pearson then proceeded to recommend varieties for different purposes. Single early flowering tulips for pots only: Colour Cardinal Brilliant Star, Vermillion Brilliant, Belle Alliance. Suitable for cut flowers: Cramoisi Brilliant. Rose and pink suitable for pots: Cullisan, Flamingo, Rose Cuissante. Best for cut flowers: Cullinan, La Reine, Rose La Reine, Flamingo, La Matelas, Mme. Frylinck. Yellows for pots: Mon Tresor, Ophir d'Or. Cut flower, yellows: King of the Yellows, Goldfinch, Pottebakker Yellow, Primrose Queen. Orange shades for pots or cut flowers: Fred Moore, Prince of Austria, Duchesse de Parma. Whites for pots or cut flowers: Pelican, Mont Blanc, White Hawk, Pottebakker White. Carmine rose colors: Proserpine, Salmon Rose and Max Havelaar. Red and yellow combinations: Duc de Berlin and Keizerskroon. Double flowering early tulip in yellow: Couronne d'Or, Golden King and Tearose. White: Boule de Neige. Pink: Lord Roseberry. Red: Le Matador, Imperator, Rubrorum. Red and yellow: Tournesol and Titian. In the Darwins: William Copeland, violet rose in color is the earliest of all commercial varieties. Others recommended are Pygmalion, Bartigon, Farncombe Sanders, Pride of Haarlem, Mme. Krelage, Ariadn. All are early. Unusual colors are: Dal Ongaro, Zulu (black), and Whistler which looks like a pansy when opened. Bybloems or bizarres, not well known but worthy of more use: Black Boy, Fancy, Bonaparte, Union, Flamboyante.

The hyacinth varieties Mr. Pearson recommends are: Blues: Bismarck, Grand Maitre, Admiral Courbet, King of the Blues. Red and rose: Garibaldi, Gigantea, Gertrude, Lady Derby and Cardinal Wiseman. White: L'Innocence, La Gradnesse, the especially fine Corregio.

Mr. Pearson told of a discovery he had made in keeping hyacinths and tulips for special occasions. He has kept them as long as six months, after their season in cold storage, just after bringing them into flower. The proper temperature is 34 degrees. At forty, they would grow and mature. He said it was possible to treat Darwins to keep two or three weeks without cold storage. Bunch and cut the stems squarely, then soak in plenty of water. Then put into tubs with no water and keep in the cool for two or three weeks. To keep they must be cut when the flower has just developed. Hyacinths can be placed in cold storage at any stage in their development. Tulips must be put into storage either before they have spread their foliage or after the flowers are half developed. Narcissus may be stored at any stage, and the earlier they are flowered the longer they may be left in storage.

There are numerous back numbers of the Annual Report of this society dating back several years. If you wish to fill out your set or wish to obtain any certain number let us know and we will supply it for the cost of the postage. Order by year.

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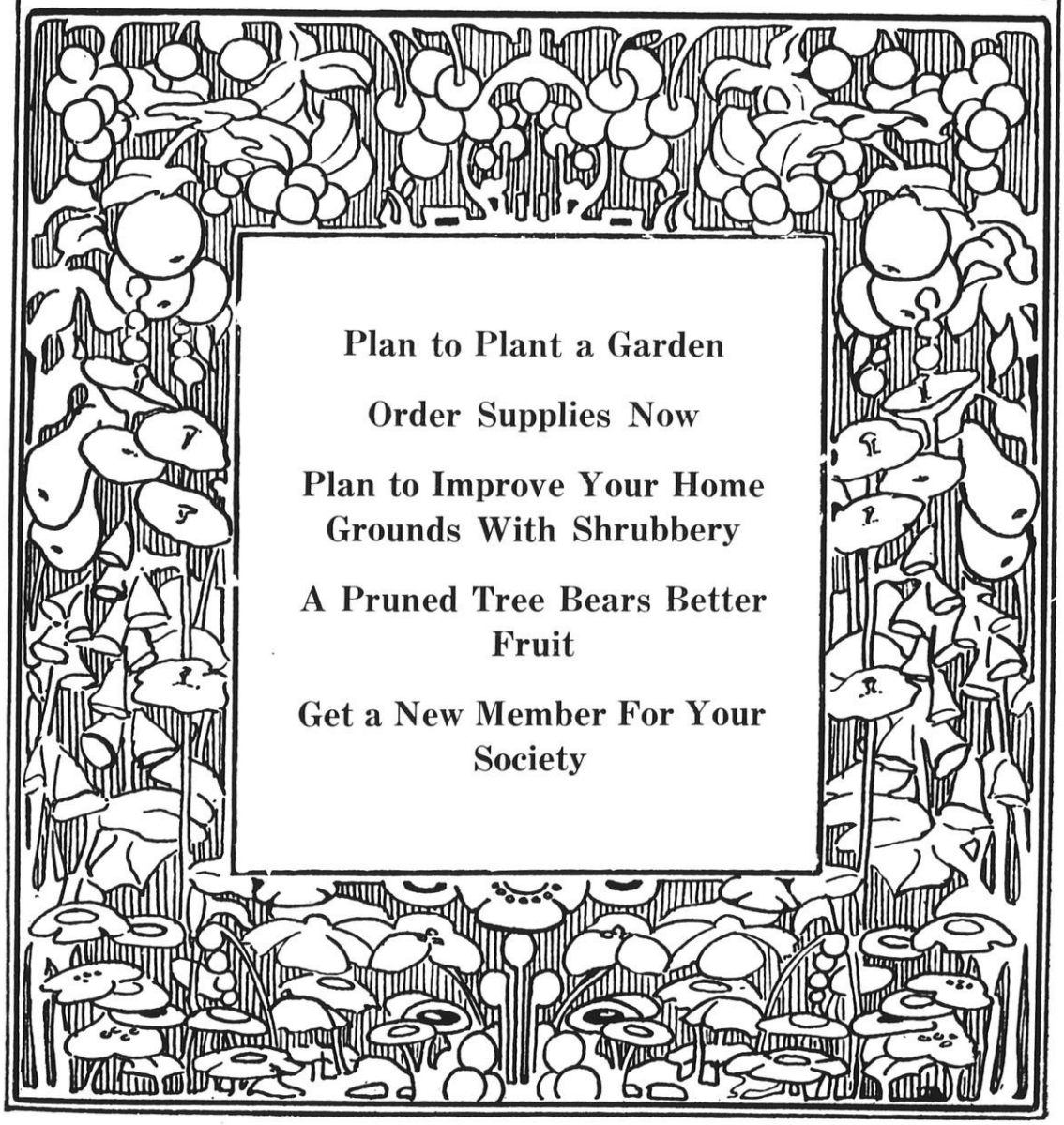

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CROWNGALL OF APPLE NURSERY STOCK

G. W. KEITT

(Given at Green Bay Convention)

As far back as we have records, it appears that a large percentage of apple nursery trees propagated by the root grafting method have been affected by enlargements, or overgrowths, most of which commonly develop at the union of stock and cion. There has been much difference of opinion as to the cause of these malformations and their effect upon the plants. A great step toward the understanding of plant overgrowths was made when Dr. Erwin F. Smith and his coworkers in the United States Department of Agriculture showed that certain galls on many plants, including the apple, are caused by bacteria. In view of the obviously serious nature of these bacterial galls, or crowngalls, the sale of crowngalled nursery stock has been prohibited in most states. The losses involved have become so serious as to seem to justify further investigations. Accordingly, various groups and individuals have cooperated in organizing a research project,[1] the the aim of which has been to investigate certain aspects of the crowngall problem, with special reference to its bearing upon the nursery industry. Crowngall of apple nursery stock was made the first subject of inquiry, and correlated research programs were started at the Iowa State College of Agriculture and Mechanic Arts and the University of Wisconsin. It is my purpose to present a brief report of progress on the studies which have been conducted at Wisconsin by Dr. A. J. Riker and myself.

[1]This project, which is being administered by the Crop Protection Institute through a committee consisting of I. E. Melhus (Chairman), G. W. Keitt, and M. F. Barrus, is supported cooperatively by the American Association of Nurserymen, individual nurserymen, the Iowa State College of Agriculture and Mechanic Arts, and the University of Wisconsin, in collaboration with the United States Department of Agriculture

Our first problem was to gain a clearer understanding of the cause or causes of the overgrowths on apple nursery stock commonly rejected as crowngalled. To what extent are these true bacterial crowngall, and to what extent may they be due to other causes? One of our first approaches to this problem was to attempt to isolate the crowngall bacteria from these overgrowths. In the course of this work, we secured several thousand trees rejected as crowngalled from 22 nurseries in 14 states in two seasons. Representative trees from all these collections were studied. I shall not burden you with the detail of the method, which was carefully worked out and standardized. As a check on its efficiency it was applied to known bacterial crowngalls throughout the period covered by these studies. In trials on 73 known crowngalls, the crowngall bacteria were isolated from 70, or 96 per cent, of the cases. The bacteria were readily isolated from undecayed portions of the crowngall tissue at various stages of gall development, even in cases where the galls had overwintered in the field. Of 407 nursery rejects studied the same method failed to yield the crowngall bacteria in 86 per cent of the cases. Approximately four per cent yielded the crowngall bacteria. The remaining 10 per cent yielded organisms which somewhat resemble the crowngall bacteria, but have not yet been positively identified. These results give strong evidence that a large majority of the malformations studied were not bacterial crowngall. Our next step, therefore, was to seek their cause or causes.

A study of the trees which failed to yield the crowngall organism showed that most of the overgrowths developed immediately above places where the downward flow of plant food was interrupted. The most common cause of this stoppage was the failure of union of some part of the stock and cion. The effects produced appear to be much like those which follow girdling. Many of the trees, especially those one year old, showed clearly that these failures of union were the results of poor fits in grafting. Examinations of freshly prepared grafts from seven of the nurseries from which crowngall rejects had been obtained for the isolation work showed ample misfits to account for the abnormalities found. This situation is not surprising in view of the fact that in many cases individual workmen cut and fit as many as three thousand grafts a day, an average of one in about twelve seconds of working time.

Our next problem was to see if we could experimentally produce overgrowths of the types found on the rejected nursery stock, without the intervention of the crowngall organism. To this end grafts of various types of fit and misfit were prepared from carefully disinfected stocks and cions and planted in pots of sterilized soil in the greenhouse. The well-fitted grafts developed very little excess callus or overgrowths, whereas the misfits developed enlargements of the types found in practice. Cultures made from these overgrowths failed to reveal the crowngall organism. This shows, therefore, that enlargements of the type dealt with on the rejected stock may be produced incidentally to the grafting process without any relation to the crowngall bacteria. As further evidence bearing on this point, malformations similar to those developed on poorly fitted grafts were produced almost at will on two-year-old apple trees by certain types of wounding. Similar enlargements were also produced at will in experimental callusing of cuttings shaped like the cions cut for whip grafting.

These and other experiments which cannot be reported here seem to justify the conclusion that a large percentage of the root knots on root grafted apple nursery stock are wound over-

growths, rather than bacterial crowngall.

To gain further data on the occurrence of bacterial crowngall, and wound overgrowths, a survey[1] was made of some of the more important nurseries of the North-Central and Northeastern United States. The bacterial crowngall was found to be widely distributed in the area studied, but it occurred on a very small percentage of apple trees in most nurseries. Wound overgrowths were generally of very considerable importance on grafted apple trees, but of comparatively little consequence on budded apple trees. Practical control of wound overgrowths was observed in three of the nurseries surveyed. In each case special attention had been given to the preparation and handling of the grafts.

Since wound overgrowths have been found to constitute a very large percentage of the malformations found on root grafted apple nursery stock, special attention has been directed to a study of their cause and prevention. The studies which have already been reported have shown that a large majority of the wound overgrowths on root grafted apple nursery stock develop at the union of cion and stock, chiefly as a result of imperfect healing of the grafting wounds. On both grafted and budded apple stock a smaller percentage of these non-parasitic overgrowths develop following mechanical injuries, most of which are ordinarily occasioned during cultivation. It is evident, therefore, that important opportunities for control of these malformations lie in improving horticultural practices, particularly grafting. Sufficient progress along these lines has already been made to enable us satisfactorily to control wound overgrowths of piece-root apple grafts under experimental conditions. Trials of these methods on a larger scale have been made in cooperation with several nurseries, and the results will be reported when they are available. Furthermore, as has been stated above, commercially satisfactory control of these wound overgrowths on root grafted apple stock has been observed in certain nurseries where special attention has been paid to methods of preparing and handling the grafts. While much remains to be done in the development of control measures, the following suggestions are made on the basis of what has already been accomplished.

It is important to avoid matching in which the cion has a greater diameter than the stock. In such cases much of the cambium of the cion must be placed in a position which makes satisfactory union difficult or impossible, and wound overgrowth ordinarily results.

The fit at the lower tip of the cion is very important. Examinations of many root grafted apple nursery trees have shown that a large majority of the wound overgrowths encountered have developed because of imperfect union at this part of the graft. It is very important for the cambium of the cut surface of the lower tip of the cion to lie opposite that of the cut surface of the stock. If the lower tip of the cion is cut short or long, the development of wound overgrowths is stimulated. Misfits in which the lower tip of the cion is too long are especially serious.

Tight wrapping which completely covers the grafting wounds facilitates healing and contributes to the avoidance of wound overgrowths. Even when the graft is well fitted a cushion of callus may at times force the lower tip of the cion away from the stock and lead to the development of a wound overgrowth unless prevented by the wrapper. Tight wrapping may in a considerable measure check the development of wound overgrowth by mechanical action, even on poorly fitted grafts. Wrappers of untreated string, cloth, or raffia rot after a comparatively short period in the soil, while waxed string, adhesive plaster, and ordinary wrappers which have been treated with certain antiseptics retain their strength in the soil through the most critical period for the development of wound overgrowths. Care should be taken to avoid a type of wrapping which will persist long enough to girdle the tree. Further studies of the relation of various types of wrapping to suppression of wound overgrowths are in progress.

Callusing in storage should take place at comparatively low moisture and temperature to avoid excessive callus formation.

Care in cultivation will minimize injuries which lead to the development of wound overgrowths.

The methods which have just been suggested will be successful only in the event that the work is properly done. Cases have come to our attention in which nurserymen who supposed that they were taking due precautions in preparing and handling their grafts failed to control root knot satisfactorily. Examination of the grafts showed enough misfits to account for this lack of success. An adequate inspection of the finished grafts is, therefore, an evident necessity.

[1] In collaboration with the United States Department of Agriculture.

One of our members writes in and suggests that each member who gets a new member be honored by having his name put on a monthly honor roll to be published in the magazine each month. He also goes ahead and says that all those who do not get a member be branded in some way or the other. But we think that if recognition is given to the worthy that more will strive for the Honor Roll.

Give the garden a better chance—plan it this winter.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

PLANNING THE GARDEN

At this season of the year the Catalogues are beginning to pile up on the table or shelves and soon we can indulge in that most delightful pastime planning the perfect garden. For the catalogues show the plants and flowers in all colors of the rainbow. All we need to do is draw our plans and use our imagination. Of course we know that the reality will fall far short of our dreams, yet the hours spent in planning are not lost, each year the real garden comes just a little bit nearer to that garden of our dreams as we add the bird bath, a pool, a stepping stone path, a new grouping of shrubs, perhaps a beginning of a rose garden or rearrange the border so it will show continuous bloom or more harmonious coloring. We need to read the catalogues and plan our gardens in cold stormy weather—else we would miss much that is beautiful, for when the actual garden time comes there will be no time for leisurely thought and decisions. We would be prone to grow only those plants that we were accustomed to seeing, we would have no time to linger longingly and lovingly over those fascinating descriptions of novelties that sound like fairy tales (and sometimes are) and thus miss the real pleasure of a garden—the looking forward to something different, something more beautiful than we have ever grown or seen; and to the real gardener "hope springs eternal." No matter how many times we have been disappointed we are still hopeful that the seeds and plants we will try out *this* year will be all they are claimed to be—and as we look back over the garden—the real garden—we see many lovely plants and flowers that came from the long list of novelties tried out. We forget the others and with pencil, paper and catalogues once more we plan the garden that will surely turn out to be the garden of our dreams.

FAVORABLE SIGNS

At the State Fair, at the Garden Shows in the Public Museum, and particularly at the Milwaukee City Garden Commission display in the Journal Building, we noticed one very hopeful sign among the exhibitors. There is a growing desire to know, "what is wrong with my exhibit." They are not finding fault with the judge—they are asking this question and other questions with the idea of being helped. They are beginning to look at these exhibits with a new kind of pride. They want to grow flowers and vegetables that are worthy of a prize—not win it just because it was the best there, even if the exhibit was not very good. They are asking questions like these, "Am I getting my seeds from the right sort of seedsmen?"

"Am I growing them properly, if not tell me what I must do?"

"What sort of treatment does this or that perennial plant need?"

"Can I transplant vegetable plants? Why did my melon plants die when I transplanted them from the boxes?"

"Give me a few rules to guide me in arranging flowers in vases and for table decoration."

They are asking the Judges, the Superintendents and others who grow and know flowers these and like questions—it's a *very* favorable sign for better gardens and exhibits.

On the corner of one of the unimproved streets of the town, a new house was built, the yard leveled, grass seed sown, shrubs and vines planted, even a tiny annual garden planted. It was very attractive to the passerby, but evidently the outlook was not satisfactory to the mistress of the home, for as usual next to the walk was the rough bank of dirt, coarse sod and weeds; when the street was paved this of course would be changed—at present it was just one of the untidy unsightly spots of the city. Most people seemed to think it was one of the things that can't be helped—not Mrs. G—. tho, for soon that rough bank was gay with Calendula and Centaurea (Bachelors Buttons) while thrifty Sweet William plants gave promise of more bloom another year. Even after the first frosts, that corner was cheery and bright, nodding a greeting to the passerby. Let us hope the idea will spread.

IT HELPED TO SELL FRUIT TO "SAY IT WITH FLOWERS"

On a trip to Michigan last year I noted a number of fruit farms belonging to one man who employed flowers as a novel and beautiful advertisement. On either side of the entrance gates along the road were gorgeous flower beds. Dahlias next the fence, then Zininas, Marigolds, Coreopsis, California Poppies and Phlox Drummondi, the effect of this bright coloring against the green of the cherry trees was most striking and from every passing car came the cry—"oh, look, isn't that gorgeous." If you speak of these fruit farms to any one who has driven through the county they will say—"Oh yes—those are the fruit farms with the lovely roadside gardens. We ask for and tell our friends to ask for his fruit in our city markets and also buy it when canned. We were sure that any one interested enough to beautify farms

as those were, would grow good fruit—and it surely *is fine*—always."

OVERHEARD AT A GARDEN MEETING

"Whenever I looked at the back end of our lot where all the stones had been dumped after building our home, I was disgusted. There seemed no way to get rid of them. Then I heard a talk on Rock Gardens. Now—this is what my husband says"—"Well women are the limit—for three years you fussed about those rocks in the back yard and now every time we take a little trip we come home with the car filled with more rocks." "Oh he admires the rock garden all right, but I'll admit I did grumble about those rocks, now I have more fun with that garden—I've sent to England and Switzerland for seeds, and almost every where for plants—and I read every thing I can find on the subject. You really would be surprised how much time can be spent on planning such a garden. I made a lot of mistakes first—but now you just come and see it—if you don't start one I'll be very much mistaken. Why I heard the other day of one woman who has a little pool in her little rock garden—the water comes trickling down over the rocks—and where do you think that water comes from—the drain from the ice box, now what do you think of *that?* I tell you rock gardens are *so* interesting—they make you *think.*"

One of the new ornamental shrubs from Asia that has proven hardy in Wisconsin is Kolkwitzia. The flower is much like a small Weigelia, to which it is closely related, but it is much more free flowering. The flowers are light pink with a slight yellowish cast.

CABBAGE GROWING

MR. RYALL

(Reporter's Transcript)

I had really intended to bring along one cabbage man with me so that we would have some one here that would be somewhat interested in cabbages. They had me on yesterday afternoon following the flowers and I felt cabbage was not a very fitting follow-up.

Commercial cabbage growing was originated in a territory between Racine and Kenosha by a man by the name of Jim Bohn in 1880. Mr. Bohn planted a few acres of cabbage and disposed of them at a fairly good price in the local markets. The following year he thought he would put in a fairly good acreage of cabbage and the result was that he over-crowded the market. He got his head to work and hired a refrigerator car and shipped a carload to Kansas City. The price was so good that he continued in the cabbage game. It has been a growing industry until today that small territory in the eastern end of Racine and Kenosha counties produces four per cent of the cabbages of the United States.

Cabbage growing was not a bed of roses. Along about 1895, as most of you know, the yellows developed and it got to such a state that in places you could not grow a head of cabbage to an acre and people that wanted to continue in the cabbage game had to rent or buy more land and use it until it became infected with the disease and then had to move on. About this time the machine planters came in and it was concluded by a good share of the farmers that the machine planter, dropping the little cup full of water with the plant as it was set, was to blame for the yellows, but no matter how they planted them they found the yellows was there anyway. This continued until 1911 when Professor Jones came on the scene and produced the disease-resistant strain of cabbage. You could produce a good Hollander cabbage and in fact acres of them, and production went up to the early stage.

Then they had other troubles. In the early days they used to get barnyard manure for their fertilizers. The men in Chicago would load it on the cars and it cost about eight dollars to the carload. When Henry Ford got to putting out his little product this form of fertilizer dropped and they had to go to the commercial fellows and they are now using thousands of tons of commercial fertilizer in the cabbage industry.

Then they had blackleg, but that was taken care of by seed treatment.

Later they took up this thing of onion sets. As the city of Chicago expanded it gradually crowded out of production certain lands that were producing onions. The people around Kenosha found there was a demand and entered into the industry, growing quite an acreage. They are also growing sugar beets, and trucks are coming up and buying the raspberries and strawberries. That phase is on the increase.

There are certain disease factors that we have got to consider, in this intensive form of agriculture. Only this summer I found that Rhizoctonia, which affects cabbage but also affects sugar beets, had gotten in. You can see what will happen to a piece of land that is rotated to cabbage, sugar beets and potatoes. There is going to be an increase in the disease and perhaps some of those crops have got to be dropped and others used. It has been suggested that Kenosha and Racine counties turn more to the market gardening. I suppose that would affect any part of the state that is near a large population. We can see, from results in the past, that if there has been enough money offered to make it an inducement, people will enter into most any form of agriculture where it is possible for them to do so. Cab-

bages were profitable, and they started growing cabbages; onion sets became profitable, and they are growing them. Wherever you have got the money offered for the crop, that is the crop to grow. Whenever there is an inducement for our people to grow market gardening crops such as cauliflowers, tomatoes, etc., they will be grown. I think the price that is offered will be the biggest inducement toward the production of that crop. There may be troubles enter in as the yellows did, but I am not afraid of those things; if we can find that the stuff is profitable enough I have no doubt that we can overcome those troubles as well as other troubles that have been overcome in the past. But I am wondering what the cost of production will be; I am wondering what the labor cost will be. Around Kenosha we have a little bit better conditions for labor. One farmer paid forty-five cents an hour for cutting the cabbage in his field. Inasmuch as it is located in the neighborhood of the city that pays the second highest wages in the United States, it is going to make our labor cost high. Who is going to pay those wages? Will they be paid by the man who is on the land already or will those farms be subdivided into small farms for market gardening crops? Shall we try to encourage it by an artificial stimulus on the growing of these market crops or shall we let it have a steady, natural growth? I am going to leave that as an open question; I am not going to answer my own questions, except this one: I have the feeling that the logical thing to do is to encourage the natural development of market gardening in the state and not try to boost it up to any high point all at once. Let the money that is offered be the inducement.

Get the catalogues now so that your supplies will come in before it is too late.

THE GRAND PRIZE

J. G. MOORE

(Reporter's Transcript)

As I look over this audience I do not know whether what I was going to say is going to be in order or not. When Mr. Cranefield called me up over the telephone some little time ago and asked me about talking here today I found myself in about the same position I usually find myself when I am asked to talk, and that is, I begin to wonder what I want to talk about and what they want me to talk about. After a little consideration I called him up and gave him the rather peculiar topic which you see is assigned to me. I will confess that that topic is more or less misleading, before I start out. The thing which I had in mind when I gave that topic was to say just a little relative to what might be called our attitude toward the exhibits. It so happens that during the fall season quite a little bit of my time is taken up with traveling around between various parts of the state and judging at county fairs, and I find this a rather interesting occupation because it brings out so many different things—both ideas which it is well to conserve; remarks which are humorous; and, sometimes, remarks which are not so humorous, particularly if they happen to apply to the abilities of the judge!

I do not think that there can be any controversy relative to the value of exhibits, providing the attitude of the people who view the exhibit is right. I am perfectly willing to confess to a belief that the majority of people who view exhibits get very little out of the exhibits, except what might be called momentary pleasure. They see this Wolf River apple, and say, "My! What a big apple!" That is as far as it ever gets. Or they say, "This sample of Ponderosa tomato is fine." And then they may get off something like this: "Well, I don't see what the judge could have been thinking about when he gave that other first prize and passed this one up." And that is as far as it ever gets. Oh, sometimes it gets farther than that, but I am speaking in the main. The average person who views an exhibit does it primarily from the standpoint of curiosity and not from the standpoint of education.

Now all the wrong attitude is not, I believe, on the part of the person who views the exhibit. I think frequently some of the wrong attitude is on the part of the exhibitor as well, and part of the wrong attitude, as regards exhibits, may be also charged against the fellow who ought to be an exhibitor and is not. Now it is not so much that I want to condemn the person who views the exhibit merely as a person who is out for entertainment but I want to talk about these last two cases which I brought up; the attitude of the exhibitor and the attitude of the fellow who ought to be an exhibitor and is not; and I am just going to refer to those in the order in which I talk about them. There is nothing that ruffles my feathers, so to speak, so much as to be judging at a fair and have somebody come along and get off this, and you hear it at every fair you go to and sometimes many times while you are there. The party will say, "Oh, I have got better than that at home." Now I would be willing to wager that in ninety per cent of the cases that is not so. I imagine that in the great majority of cases if that fellow was to bring in the stuff that he thinks is so good he would find that he did not even get in sight of the money. He is one of these fellows that tries to impress upon the people round about what a good agriculturist he is without presenting any evidence of the fact. Sometimes that goes so far that I cannot even keep my mouth shut; I have to say something; and I said to one of those fellows this year, after he had done considerable of that sort of thing in my presence, "What

kind of a county fair do you think you would have if everybody had the same attitude you do? What kind of exhibits could these fellows put on if everybody came here and said what good stuff they have got at home and nobody brought any of it?

The point I am trying to make is this, that the man who thinks he has good stuff ought to prove that he has good stuff, so far as the county fair or other exhibits goes; but that isn't the most important part; that is not the most serious condemnation of the fellow who does not exhibit. The fellow who has good stuff, or believes he has, is a slacker in not trying to make the community enterprise the most successful possible. We have come to that day where we believe that, after all, life is not getting all you can and canning what you get; we have come to that day when we believe there is something to be had in performing community service and there are any number of ways in which we can perform community service, and one of the ways and the one with which I am concerned this morning, is taking part in those enterprises which go for the upbuilding of the community, and an exhibit, whether it be the county fair or the horticultural society or a canners club or some other club putting on a produce exhibit, is that kind of an enterprise.

Now I think that is about all I have to say about the fellow who should exhibit and don't, but I want to turn now to the real topic which I was to talk about, the grand prize, and say just a word about what my impression should be of the attitude of the man who does exhibit at the present time, or the man who may exhibit in the future. I am inclined to believe that too often we are inclined to emphasize the tangible evidence of success in our exhibits; that is, the cash prize or whatever may go as an evidence of our successful competition; and, conversely, that too often we overlook the real value of the competition, the thing which is the real prize for our effort in competition, and I think there are two rewards in competitive exhibits which accrue to the exhibitor which are not evidenced by anything which is given you as a result of your success. The first of these comes, of course, to the man who is the winner, and that is the satisfaction of having successfully competed with his neighbors or with the people who are in the same sort of an enterprise as he is. I dislike to see an exhibitor come around and pat himself on the back because there is no competition; I do not believe that a man gets very much satisfaction out of a blue ribbon or any other colored ribbon when all the judge has to do is to walk up and say, 'Well, we will give him the first prize because there is no competition.' I think the great value and great satisfaction to an exhibitor comes when he has won out over the very keenest kind of competition, and it is worth more to him than any prize which is ordinarily given for successful competition.

The other reward which comes from competition and for which there is no tangible evidence given, is the educational value which the exhibitor gets; and this is particularly the prize which the unsuccessful exhibitor receives for his competition, because it shows him, or should show him, what the high standard is and he should be interested in learning either from a successful competitor or from other sources, how he may bring his products up to that same high standard; and, after all, that should be, I think, the fundamental basis upon which which our competitive exhibits, both at meetings like this and particularly in our county fairs and state fairs, should be based.

The grand prize, then, is the prize which comes to the man who exhibits because of the fact that he is put up beside his neighbor or his competitor in a commercial enterprise and receives the honor of having produced something which is especially good, or because he learns that his product is inferior as compared to that of his neighbor or competitor, and he has the incentive to bring his commodity up to that same high standard.

And the other part of that grand prize is the benefits which accrue to the community as a whole when all of you join together in making a community enterprise as successful as it is possible to make such an enterprise; and what we need in the state of Wisconsin today among all classes of producers is a greater interest in exhibits in county fairs; not from the personal standpoint but from the standpoint of the good which is going to accrue to those members of the community who are now producing the kind of commodity which makes it possible for them to compete successfully in exhibition and which probably also is of the character which makes it so that they are a detriment to the best interests of that commercial enterprise. In other words, if they are putting upon the market a kind of commodity which sets a low price and which a good producer has to meet. The grand prize! That is the spirit, a community spirit, a community uplift, and that should be the goal, in my opinion, of our fairs and exhibits.

Madison has joined the forward-looking cities and has obtained a City Forester, Mr. James G. Marshall of Lake Forest, Illinois.

This position was made possible through the passage of a tree ordinance. Mr. Frederic Cranefield was instrumental in getting the ordinance before the city council.

It seems as though it would be a pleasure to hoe in the hot sun—now that there isn't any sun.

Wisconsin Horticulture

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IT PAYS TO KNOW HOW

At a recent meeting of a State Horticultural Society a talk was given in which it was shown that although fifty per cent of the people *did* things only fifty per cent of that fifty per cent obtained results. The reason was that half the people performed their operations blindly, that is, for instance, they cut away branches but they did not prune; or they applied fertilizer but not correctly so to no avail.

And so it occurred to us that may be their story would be of interest to some of our readers. In Horticulture where we have a very specialized work to carry out it is to our benefit to know that we must not only do certain things but must do them correctly. You have seen a great amount of work expended in the name of pruning which brought little or no results because the pruning was done incorrectly. You have also seen a great deal of money expended for fertilizer—which turned out to be the wrong kind of fertilizer for that particular problem.

Each operation in every horticultural project is a more or less individual problem. It will pay to study the factors governing your problem with as great a care as a manufacturer gives in running his factory.

There are many sources of information in every state from where you may secure help in solving your horticultural problems. The State Horticultural Society will help, the Department of Horticulture at the University will give help, and if you have a county agricultural agent near you he will be interested in helping you solve your problem. But be sure that in laying a problem before any of these agencies you can give as many factors that control your problem as is possible. Certain plants need certain kinds of soil in which to thrive, and certain soils need different treatments, so in asking questions about a problem which might have something to do with soil treatment tell what kind of soil you are working.

In preparing for a project plan carefully. Take into consideration everything that may affect its success and see if they may be coped with satisfactorily.

In short the message that was brought to us and which we wish to hand on is that the successful grower does and knows why he does; but that the mediocre grower or the failure goes into a thing blindly, half doing, and not knowing.

All those who have been attending meetings for the last few years will be relieved to know that ex-President Toole's Franklin car has at last been sent to its just reward—the junk yard! It was a great vehicle from which to study nature because it stopped of its own accord every few miles and liked rustic surrounding much better than those in the immediate vicinity of a service station. In fact it has let us gaze at the beautiful scenery around Baraboo—with the train we were trying to catch forming part of the far background!

String beans and swiss chard are easy to grow, which is probably the reason most vegetable gardens have too many of these kinds.

New Zealand spinach has a fine flavor and will supply greens for a long season. The seed is often slow to sprout and it will pay to soak the seed over night before planting.

The following are good plants for Wisconsin Rock Gardens. These kinds are not hard to grow and will be good to start with. Dianthus deltoides (maiden pink), Dianthus caesius (cheddar pink), Campanula persicaefolia (peach leaved bellflower), Saponaria ocymoides (rock soapwart), Statice latifolia (great sea lavender), Nepeta mussini (dwarf catnip), Sedums in variety, Arabis alpina (rock wall cress), Alyssum saxatile (goldentuft), Gypsophela repens (creeping baby's breath).

What have YOU to advertise in WISCONSIN HORTICULTURE?

HOW TO KNOW YOUR TREES

R. H. ROBERTS
(Reporter's Transcript)

The plant grower, the fruit grower, secures his information by which he decides upon the kind of his transplants, from several sources. I want only three, and I will name them probably in their relative compartments. First is his own experience. Second is the experience of others—other growers—and, probably last, the experience of the experiment stations. These experiences, wherever gathered, generally crop up as recommendations or suggestions and quite generally they do not work. When Smith finds that he gets his best crops of apples in a certain way, it does not work in Jones' orchard. Now we have in our work at Madison and about the state taken another viewpoint. From this we come to decide that the way to find out best to know what to do to the plant, is to cut and try. We have taken this view, that the production of a plant—say the bushels of apples or the kind of apples on a tree—are very closely related to the kind of growth that the tree makes, and it is about the kind of growth that I want to talk to you this morning.

A tree takes in materials from the soil and air and, depending upon the proportions and combinations of those materials, in turn produces different kinds of growth; so that we have in general the old proposition which I have talked over with most of you from time to time—that we have plants which grow too little to fruit well and plants which grow too much to fruit well. In between are varying growth conditions and greatly varying production. If that proposition is true, we have two things. The first one is trees which are non-productive because of too little growth and which need to be treated differently in order to be made productive from those which are growing too much to be productive. In other words, a cut-and-dried rule for caring for the trees in fertilizing, growing and trimming does not answer the question properly. If the kind of growth and fruiting depends upon the composition of the tree, and those practically always go hand in hand, we have another thing and that is this—the kind of growth which the tree makes becomes the basis upon which to judge what to do with the tree. That is the point. That is, if certain kinds of growth produce the best fruit, our job, then, is to produce that kind of growth rather than to just do certain kinds of fertilizing, pruning or cultivating. We have made use of this proposition. I think it works out in the field. We have made use of this proposition in pruning and we say, cut off from the trees such wood as does not bear good apples. And we can make out of this, more fertilizing. For example, in the cherries I think we see that heavy production goes with lots of spur buds and we think we find that spur buds come from having certain types of growth in general. So that our problem, then, is pretty much reduced in the cherry, and generally the quality of growth that gives lots of spurs also produces fruit.

Now I brought along some colored lantern slides but conditions are not such that we can show these, so we will have to continue just talking. The kind of growth that we spoke of has reference to length, diameter, bark colors, foliage colors, wood colors and such characters as that. For instance, you know that starved trees, starved in nitrogen, have yellowish leaves and highly colored bark. You know that trees which are overfed give more shade, have greener bark, smaller, but greener leaves, more papery leaves, than trees which are making a moderate growth. In this case we generally have intermediate bark colors and leaf colors, thicker diameters, and you all know that it is the thick growth that puts on buds.

Now, the only thing that I have to say, really, is this: It seems to be pretty safe to presume that blossom buds and the setting of fruit and the facing of fruit in general goes along with the amount of growth and foliage that is produced; so practically, then, the question is to get to see more closely than we have what kind of growth is associated with the big, well-colored apples. Well, state it the other way. See, at harvest time, if the best colored apples don't come from about certain kinds of branches and certain amounts of growth, and are associated with certain kinds of foliage development. If that is the case, then the grower has a definite basis upon which to know how to prune and how much to make the trees grow, and he does not have to do the uncertain thing of following blindly what Jones or the experiment station or anyone else says he should do.

In comparative trials at the North Dakota Experiment Station this year corrosive sublimate proved best for treating potatoes, followed closely by hot formaldehyde and still lower, Semasan and Uspulin liquid treated. The mercuric dusts were very ineffective this year.

—*N. D. Bulletin.*

Chrysanthemums which have finished blooming should be rested now. Cut off the tops, put the pots in as cold a place as possible without freezing, and reduce water so they run rather dry. They need little light. Along toward spring, repot the best new divisions and bring into light and heat once more.

—*N. D. Bulletin.*

Every member get a member —and then another.

HORTICULTURAL TROUBLES

Edited by E. L. Chambers, Assistant State Entomologist

A SHADE TREE PEST

There is a pest which has been frequently reported as doing serious damage in various sections of our state during the past season by partially defoliating elm and other shade trees. This pest has a bad family history. It is an insect known as the white-marked Tussock moth. It belongs to the same family of insects as do the Gypsy and Brown-tail moths, two of our most notorious insect enemies which have been responsible for such tremendous losses in the New England states. The state of Massachusetts alone has expended over sixteen million dollars by known agencies in fighting the ravages of these two outlaws. Fortunately neither of these members of the family have ever gotten a foothold in Wisconsin and every effort is being spent to prevent such a misfortune. We have had some scares and previous to the restrictions placed in the shipment of azaleas into this country, an egg mass of the gypsy moth was intercepted by a state nursery inspector on some of these plants being shipped into Wisconsin from Belgium.

The white-marked Tussock moth has never been given a chance by its host of parasites to become as serious a pest as have the two species just mentioned. Occasionally they defoliate large numbers of trees but usually they are brought under control before another season arrives and are seldom able to duplicate their ravages two years in succession which might prove to be fatal to many of our shade trees.

About the time that the frost appeared this fall we began receiving specimens and inquiries as to what the large numbers of conspicuous white egg masses were appearing on the trunks and limbs of trees. These were recognized as the overwintering egg masses of this white-marked tussock moth. The egg masses are roughly circular in shape and about a half inch in diameter. They are very conspicuous, being almost of a snow white color on a gray background and containing from 100 to 500 eggs. The insect spends the winter in this egg stage, the eggs hatching during the middle of May when the young caterpillars begin feeding upon the under side of the leaves, eating at first only the green portion between the veins and not touching the upper epidermis. As the worms increase in size however they become more ambi-

Above—A Tussock Moth female and her egg mass. X3
Below—A White-marked Tussock Moth Caterpillar. X1½

tious and eat holes entirely through the leaves. About the time they reach their full growth these caterpillars devour the whole leaf, hardly leaving even the largest veins. When quite numerous they migrate leaving a path of defoliated trees behind them and may be observed crawling about over the walks and fences in mad pursuit of another happy hunting ground. When full grown the worm is about one and a half inches long and, being highly colored, is strikingly beautiful with its four white tussocks of hairs on the middle of the first four abdominal segments and its bright red head. Having reached its full growth the caterpillar spins a grayish cocoon of silk mixed with hair from its body. The female moth emerging from the cocoon about two weeks later being wingless does not move about very much and usually lays her eggs upon the cocoon from which she emerged.

Although heavily parasitized by natural enemies control measures are necessary to prevent defoliation of the trees and to hasten the control. There are several effective means of control. During the fall and winter the overwintering egg masses can be either scraped off and burned or painted over with crude creosote. In La Crosse the Boy Scouts and other children were interested in the project and rendered the city great assistance by collecting and destroying large numbers of these egg masses. Trees once freed from these egg masses can be further protected from reinfestation where the limbs do not interlock with adjoining infested trees by placing sticky cotton batting bands around the trunks during the crawling stage of the caterpillars which appears in the early part of the summer.

Shade trees being defoliated can be prevented from further injury by spraying them with arsenate of lead used at the rate of a pound and a half in fifty gallons of water.

E. L. CHAMBERS.

THE FLORIST'S PAGE

Edited by Huron H. Smith, Curator of Botany
Public Museum, Milwaukee, Wis.

OUR FRIENDS THE TREES

Trees are the culmination of the vegetable world. Eons of Plant life are their ancestors. Without them life would be cheerless indeed. Few realize just how much they mean to our daily life. Since we in Milwaukee live by lake Michigan, we are accustomed to think that it plays a large part in our climate and rainfall. But scientists have made a special study of evaporation, and they find that open bodies of water do not evaporate and give to the passing air currents as much moisture as a field of grass. Nor does a field of grass give off as much moisture as a field of corn. Nor does a field of corn give off nearly as much water as a forest. Careful records of growing trees show that individual trees give off as much as a barrel of water by evaporation in 24 hours. When we multiply this by a forest of trees, one can readily understand why trees have been termed "The Oceans of the Continent". If we have no forests, we are not the only ones to suffer. True, the rain and snow quickly leaves deforested areas and cause floods in our own state, making life more hazardous further down the Mississippi and uselessly fertilizing the bed of the Gulf of Mexico with the fine soil that is carried away. But the real sufferers are those western prairie states. Passing air currents do not pick up their accustomed moisture and there is nothing to drop in the form of rain, when those clouds pass over the prairie states. In this way, we are helping to make them deserts. China has long since cut their forests away, and we see the horrible example of man-made deserts there.

There have been many trees that are notable examples of the love men have borne for them. The Washington Elm, Sidney Lanier's Oak, the Ogelthorpe Oak, Pringle's Sycamore, and many others we might name speak of the esteem in which they were held. Down in Athens, Georgia, there is a white oak that owns itself. The former owner was so fond of the tree that he gave the tree a deed to the ground it occupied, in perpetuity. At the base of the tree stands a marble inscription of the deed, which is also recorded in the county records. Strange to say this man thought he had title to the land, but when he had the title examined, found that back in 1847 a man named Jackson had already given the tree the land that it stood upon in perpetuity, in a recorded deed. So doubtless this tree will reach a ripe old age, of possibly 900 years. The California redwood and giant trees are the sole remaining link that connect this age to prehistoric times. Some of them are more than 3500 years old, dating back before the birth of Moses. The tourist that drives beneath their lofty tops feels the thrill of age and accounts them among his friends.

Milwaukee loves trees because it is chiefly a city of homes. Nothing makes a place seem so permanent as a fine old tree. We have wisely adopted and are following out a progressive city forestry program, and the fraction of our tax dollar that keeps this work going is probably the best investment that we ever made. True, we cannot have a great variety of trees, because we must have heat in our homes and that means smoke and soot. Coal smoke has an acid content that makes it it difficult for the tree to get its breath as it should. The factory of the tree is the leaf, and the breathing pores are called stomates. Trees take in carbon dioxide, the waste product of our breathing, and use the carbon to manufacture starch, exhaling the unnecessary atom of oxygen back into the air. This oxygen is present in large quantities in a forest and explains our sense of exhilaration in the woods. So our city trees are helping make Milwaukee healthier.

Because of the smoke, evergreen trees do not do well in Milwaukee, but the broad leaved trees can survive and it is from them we get the most welcome shade, just at the time when it is most appreciated. The best tree for street purposes here is a variety of the white elm. For the yard, the Norway Maple would probably be the choice. Expert advice from the city forestry department is available at all times and this organization of some 80 people (in pruning season) know your tree problems and are glad to help you. In the neighborhood of Milwaukee there are growing 131 different species of trees, 65 of them native and 66 of them introduced from other localities. Why not learn to know these trees? It is not so difficult as you might imagine. A study like this will soon make you a greater friend of the trees than before. You are welcome to help from the Milwaukee Public Museum. Perhaps, if enough people want it, the county will start an arboretum, where we can become better acquainted with all kinds of trees.

Every member of a horticultural society should be vitally interested in a reforestation program, and should aid in every way to make our waste land come back into its own again. There are acres and acres of land in Wisconsin fit for nothing but timber and we hope our Society will be a factor in reforesting some of these areas

VARIETIES OF APPLES

H. W. ULLSPERGER

(Read at Green Bay Convention)

Opinions as to what varieties of apples to recommend have and always will vary considerably. Varieties now suitable may not satisfy ten years from now. Market conditions and demands change. A new variety not known or developed today may supersede all present varieties, therefore we can only make such recommendations of varieties that give us the largest money returns per tree under present conditions.

Varieties should be considered from the standpoint of

1. Location of orchard.
2. Bearing habit of the tree.
3. Diseases, blight, scab, etc.
4. Color and size of fruit.
5. Yield.
6. Market conditions.

I believe we will all agree that the McIntosh Red is our premier apple in the State of Wisconsin and can be recommended highly without reservations. The tree is a strong, hardy vigorous grower, not subject to blight; or other diseases. Apples are borne singly not in clusters; the fruit colors well; has good size; yields are very satisfactory and the consumer always asks for McIntosh after he has eaten one and tasted this wonderful fruit. Other apples may go begging for a market but McIntosh always sells well and makes profitable returns. We can register only one complaint against the McIntosh, that is, the skin is tender and stem punctures easily, but the careful orchardist can avoid this trouble by proper handling.

The new variety Courtland which is a cross between the McIntosh and Ben Davis may eliminate this trouble but it may not grow so successfully in this region. If I were to plant 40 acres today, one-half of it would be McIntosh however conditions change and ten years from today the McIntosh may not be recommended at all.

What about other varieties? We would suggest Snow, Tolman Sweet, N. W. Greening and Delicious.

The Snow or Fameuse yields exceptionally well, better than McIntosh but such diseases as blight, scab, etc., and aphis are always found on Snow apple trees if present in the locality. The trees grow rapidly, the apples are of excellent quality but somewhat smaller than other varieties due to the fact that the tree bears heavily. The color of the Snow is very attractive. Good sized Snow apples sell readily at remunerative prices.

The Tolman Sweet is in a class by itself. Many people like it. We have never been able to supply or satisfy the insistent demand for Tolman apples. The tree bears regularly every year. In my own orchard we have had three to four bushels per tree every year for the last fourteen years. No other variety can claim such a record. The apple is of excellent quality, a long, late keeper, fruit is good size, but yellow in color which detracts as people are educated to and want a red apple. If the Tolman were red in color with all its other favorable points it would be our best seller and money maker. Some of you will say the Tolman blights badly. We have had some small twig blight every year it is never serious and never does any appreciable damage; the tree continues to bear apples regardless of blight. Scab or other diseases are not important factors on Tolmans. We recommend it highly.

The N. W. Greening which we recommend next, supplies the pie and baking trade. This class of trade uses more apples than any other. You find apple pie or baked apples on the restaurant or hotel menu every day during the year. This trade wants a large apple uniform in size, so that there is very little loss in coring and peeling, demands no color, and is willing to pay good prices for an apple that satisfies their demand. The tree yields well, does not blight badly; but the tree is somewhat weak and inclined to break down under a heavy load. It is a profitable variety.

Delicious is next, what about this famous variety, much advertised and exploited. Is it a good variety for Wisconsin? So far the Delicious has not yielded satisfactorily in this State. In our section trees twelve to fifteen years old have not had a real crop of apples; many of these apples have been very small in size and off color; the crop has alternated one year good the next year no crop; the apple matures a little too late in Door County to permit proper harvesting. However, the Delicious grown here is more juicy and of better quality and flavor than the Western Delicious but less attractive in appearance. The trade must taste our Delicious before they will buy and considerable advertising must be done to convince them that our Delicious is superior in quality to that far famed Western fruit.

Perhaps we do not know how to grow Delicious. We know that heavy pruning and heavy fertilization not only with nitrates but with phosphates as well, has materially increased yield, size, color, and maturity. Mr. Kurt Stock one of our members has had some interesting results along this line. Time does not permit giving this data. The tree is hardy; does not blight, grows well and the fruit is not seriously affected by diseases. The apple is a late keeper and sells at attractive prices, in fact we have averaged higher prices per bushel for Delicious than any other apple we have sold. If we can overcome our difficulties by proper cultural methods I would recommend Delicious, if we cannot overcome them I would place this variety on the questionable list. Delicious have also been planted very extensively in all sections of the country and selling competition is going to be very keen.

I wish to mention two other varieties, Wealthy and Wolf River. I cannot recommend the Wealthy. Why?

1. The tree blights badly.
2. It has a habit of bearing heavily one year and the next year fails to produce entirely.
3. Thinning must be followed to secure good sized fruit, which adds to the cost of production.
4. The tree produces too many small apples which sell only at ruinously low prices.
5. Wealthies grown in Northern Wisconsin are sold in competition with southern Jonathans and other later varieties, this ruins the demand for Wealthy.
6. Color on Wealthy is not satisfactory. Some are well colored others no color whatever.
7. The Wealthy apple must be sold in the proper season, if held later, it will not sell at all.
8. The average price return per bushel for Wealthy and cash return per tree is much lower than any other variety I have mentioned in this article.

In view of these facts we cannot recommend it as a commercial variety in Wisconsin.

Neither can we say much in favor of the Wolf River although it has many redeeming features. The apple is large in size, good color, attractive in appearance, and is in demand by the restaurant trade as a baking apple. When covered with plenty of sugar it is a delicious breakfast fruit. Prices for Wolf River have not been so attractive to permit us to place it on the list as one of our standard varieties.

In the final analysis the cash returns per tree or acre are what really count in the apple business. While all the growers appreciate the fact that an apple a day will make us and thousands of other people more healthy, yet health alone, although valuable, will not buy that new automobile, or that new dress your wife wants about once every year, or send John to the University, therefore, in order to prove my recommendations as to financial returns I have selected a typical well cared for orchard in Door County and figured out the actual average yield and return per tree covering a period of four years, 1923 to 1926 on five varieties, Tolman Sweet, McIntosh, Snow, N. W. Greening and Wealthy, the results are as follows:

Variety	Av. age of trees	No. of trees	Total yield 4 years	Av. y'ld per tree
Tolman Sweet	16	80	1038 bu.	4.3 bu.
McIntosh ...	16	400	3994 bu.	2.5 bu.
Snow	16	400	5896 bu.	3.7 bu.
N. W. Green'g	16	320	3921 bu.	3.1 bu.
Wealthy	16	550	6669 bu.	3.0 bu.

Variety	Total gross returns	Total gross returns per tree	Av. gross return per bu. all grades
Tolman Sweet.	$2,131.42	$4.69	$1.09
McIntosh	6,401.36	4.45	1.1[illegible]
Snow	3,394.80	3.53	.9[illegible]
N. W. Greening	3,724.93	2.95	.9[illegible]
Wealthy	4,867.37	2.19	.7[illegible]

Apples for cider purposes are not considered.

You will note from the above figures that Tolman ranks first in both yield and return per tree, McIntosh, second; Snow, third; N. W. Greening, fourth; and Wealthy, fifth and last. Figuring 55 trees per acre the gross returns per acre per year would be as follows:

Tolman Sweet	$258.00
McIntosh	245.00
Snow	194.00
N. W. Greening	162.25
Wealthy	120.45

These figures tell the story. Which would you rather grow, Tolman and McIntosh or Wealthy? I submit the entire matter to you for discussion as stated in the beginning of this article local factors, local markets and local cultural and climatic conditions radically affect varieties. Your own judgment is best on your own fruit farm but in rendering your decision I hope you will consider some of the facts mentioned in this article.

SPRAYING

The following information is from Bulletin 36, published by the State Department of Agriculture, and compiled by Dr. S. B. Fracker and Dr. R. E. Vaughn.

Spraying of fruit trees and gardens has now become so standarized and simplified that it is an easy matter for the amateur to get profitable results without elaborate preparation, if a good spray pump is available.

Standard Sprays for various purposes:

Chewing insects—Arsenate of lead.

Sucking insects—(Aphis) Nicotine sulphate. (Scale) Lime sulfur, dust.

It must be remembered that there is a difference in the time of appearance of blossoms, insects and disease each year. Study , don't merely glance over, the above tables and fit the knowledge that you obtain to the conditions found in your own locality. If you need any help the State Horticultural Society will give it to you.

(Reprinted because of numerous requests)

ORCHARD SPRAY SCHEDULE

Plant	Disease	Insect	Spray	Time of Application				
				1st	2nd	3rd	4th	Remarks
APPLE Regular Annual Program	Scab	Coddling moth curculio others	Lime-sulfur 5 qts., *and arsenate of lead powder 1 lb.; in 50 gal. water	Blossoms, buds showing pink,*but after cluster separates	Petals mostly fallen	10 to 14 days later	9 weeks later usually about Aug. 10.	Plow under dead leaves
APPLE (Special Sprays)		Scale insects (if Oyster shell or San Jose are present)	Lime-sulfur, 1 gal. to each 8 gal. water, or a miscible oil—	Before growth starts				Do not use this spray unless needed. It is sometimes effective against hatching aphids also.
		Aphids (plant lice)	Add 1½ pint (¾ pint for cherries) 40% nicotine sulfate to each 50 gal. in regular spray program when necessary	As necessary				
CHERRY and PLUM Regular Annual program	Shot-hole or leaf-spot	Slugs, curculio, etc. (For aphids, see apple)	Lime-sulfur 5 quarts, and arsenate of laed powder 1 lb. to 50 gal. water	Just after the petals fall	10 days later		After cherry picking if necessary	Plow under dead leaves

*In spraying apples (badly scabbing varieties) greater protection against scab may be secured by including one or two additional early lime sulphur spray as follows: a "green-tip" spray when the buds first show green tips then a "pre-pink" when the first three or four leaves have separated from the fruit buds and at about the time the leading bud shows the first trace of pink. This is known as the "pre-pink" spray. Additional information will be furnished upon application.

Note—Bordeaux mixture may, if desired, be substituted for lime sulphur in any apple scab spray but it may russett the fruit. From one to eight gallons of dilute spray material will be used per tree, depending on the size.

WARNING: NEVER SPRAY IN BLOSSOM

SMALL FRUIT SCHEDULE

Plant	Disease	Insect	Spray	Time of application				
				1st	2nd	3rd	4th	Remarks
STRAWBERRY	Leaf-spot	Leaf rollers and slugs	Arsenate of lead powder 3 lbs. in Bordeaux mixture	When leaves appear	After petals fall if necessary			
CURRANT and GOOSEBERRY		Currant worms	Arsenate of lead powder 1½ to 50	When leaves are well open	As necessary			
		Aphids (plant lice)	40% nicotine sulfate 1-800	As necessary				
RASPBERRY BLACKBERRY	Anthracnose		Lime-sulfur	As leaf buds are opening, lime-sulfur, 1-10	About a week before the blossoms open, lime-sulfur 1-40			Two sprayings necessary if infection is heavy

There was to have been a new cover on this issue but it hasn't arrived in time. Next month should find the magazine blazing forth with a clean, bright and shining face.

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IN THIS ISSUE

A SUCCESSFUL APPLE CAVE STORAGE.

Fred Randau

(Given at Green Bay.)

Reporters Transcript.

I cannot call you fellow members, but I can call you either friends or sympathizers. I do not believe I can this afternoon give you the justice that you deserve because I just got off the train from a sixteen hours' ride and so you know I am not feeling very peppy.

Before I begin on my subject I want to bring to you the greetings of the Iowa society to your convention here and members out in the state, and I want to invite you people to come down to our big mid-west show next week at Des Moines. I think it is one of the biggest horticultural meetings in the United States. It is not only a convention but a number of states coming together there for a show and exhibit. Come down and see if I report this convention correctly next week. We are proud of our state and have wonderful opportunities. I expect you have all heard that we have the best state in the Union because the good side of all the surrounding states borders on us and naturally places us the best, and I think that when God started in he started at Ames and was a little over-enthusiastic and used up his good material before he got very far away. This is, of course, a little boosting, but it is the only chance I will have to boost Iowa.

I would like to change the subject of my talk and call it home storage, because I am not convinced that the cave storage is all I want. I want a combination storage. The storage that I am going to tell you about is both under and above ground and therefore I do not call it cave storage. I would like to call it a home storage, but I was sent up here to tell you people about my storage because it appears to prove very successful in keeping apples.

The state down there has done considerable experimenting; this is the second winter they are putting apples in our storage house, and this past winter it was found that two varieties will keep better in our storage than in any storage they have tried. They will break down after a while in cold storage. In no other place have they been able to keep Grimes as late and in as good condition as in our storage.

About ten years ago I shipped a hundred barrels of Duchess apples. They were graded especially, put into new barrels and shipped to Chicago. The check came back $26.00 net and I had to divide that with the landlord. I said I would never ship any more apples and I never have, unless it was some customer who had moved away from Ames. I sent to all the colleges that had bulletins on storage and took the plans and tried to draw a plan from those that I could use for storage and whether I was successful or not I do not know, but I want to make some change. However, I have had some success and the main thing is in holding an even temperature. In the winter, when the outside temperature in our locality varies from 20 degrees below to 80 degrees above, the temperature in my storage house will not vary over about four degrees and I have kept it for weeks at a time between 28 and 32; 30 degrees I consider the proper temperature and I have gone down and found that standing at 30 degrees whether it was warm or cold outside.

Now you may wonder why it manages to keep that even temperature but it is because half my basement is frozen and half is not frozen. The frost comes down about half way on the walls and below that it is not frozen. Now if you stop any circulation in there, then this bottom half is trying to thaw the apples as the upper half is trying to freeze them, and by not having any circulation it holds the temperature between the freezing point and the thawing point and I am able to maintain that temperature after the ground freezes. I cannot do that before. This chart will show you the plan of the building as if you were looking right down from the top of the building. It is 20x30 feet and has a grade entrance which comes up about three steps and down these stairs into the basement. This is the air shaft arrangement from the upper floor out through the cupola. This tile comes down on the outside of the building and enters the basement three inches above the floor. It is common field tile.

This is a view looking from one side, taking a cross-section view of that building. This shows the tile coming down, three on each side, one on each end. These windows are cellar sash, three in each side of the building, these three coming up and these three coming down for the intake of air. These walls are 5x8 tile, laid flatwise. The floor is cement. This floor is made of 8 inch joists and shiplap below that. This is filled with shavings and above that is shiplap and then six inch flooring boards. Six inches of lumber and then the shiplap. The doors are double boards with tar paper between.

The important things to consider, I think, is what kind of a market are you going to cater to. Do you intend to ship your apples in carload lots or smaller lots, or sell them locally. That will make a difference how or where you locate the building, or how you arrange varieties in that cellar. Up here you would have to build different than I did down there, you have a colder climate. As far as location is concerned, it makes a difference whether you are going to market those apples at home, while if you are going to ship them by carload it would be just as well to have them out in the orchard, but it should be arranged conveniently to the house and to the

orchard because there are hundreds of trips from both directions. I do not believe you can get it too big, if your pocket book will hold out; I find I am always crowded.

Then another important thing is the convenience of entering this building. I have a stairway going down into the building which I have to have on account of its being partly underground. Carrying apples up and down stairs is a hard task and when I built it I arranged for an elevator but found it would not be practical because we were taking them out and putting them in in small quantities, and I never completed the elevator.

Another important thing is to make it vermin proof. Don't have any possibility of mice or rats getting in; after they get in it is impossible to get them out and one mouse in a basket will make you think that the whole basket tastes like mice, and the rest of the apples in the cellar spoiled. There is nothing more disagreeable. Make it mice proof—it is most important.

To have it cold in summer and cool in the winter, that is the big task, having it cold when it is warm and have it only cool when it is cold weather. Certain varieties, like Wealthy and Grimes Golden must have plenty of humidity, around 85. We have very little trouble but sometimes have to put pans of water beneath the ventilators.

Another thing that is important is lighting. When I built the building I made these cellar sash out of glass so that I could open them and get light. Then shortly afterward we put in electric light. That is very important because you have to work in there and you know you cannot do much with an apple in the dark. My windows are double, a glass and board sash. If I was building again I would make them both out of boards; boards do not radiate heat and cold as glass does.

Another important thing is drainage so you can wash it out and get rid of the water, or if you happen to have seepage you can get that out.

Another thing is the ventilators. I have eight inlets and two outlets; one on the level with the upstairs floor and another about thirty inches above that. Between them I have an opening and an electric fan. That makes ten different shutters, or you might say eighteen, because these tile have an opening at the top and one at the bottom. These ventilators must be so you can close them conveniently, for they must be closed when it is cold.

Another thing is to make the building easy to clean. Blue mould will begin to develop in the spring and if you have not the building arranged so that you can get in there and get rid of the trouble it will be there to start with next fall. The matter of cleaning is very important. If you have your tile drain and your orchard sprayer and your hose it is very easily made clean, if you don't have in the way inside the building a lot of frame work or shelves.

This necessity to have that stairway open by trap door comes from top covering the stairway with tar paper. It is a nuisance to have to open that door but it gives a chance for a lot of warm air to get in and cool air out, so I would try to get into the basement first on the outside, instead of going down on the inside and also wasting space inside.

Another fault is that I have the ordinary cupola on top, the same as the old fashioned barn cupolas. That is, the air must go up and then go down. I would recommend the one now being used so that it always has an opening away from the wind. The inlet pipes are inside the walls. The temperature out of doors is around 60° and 70° in the fall and the air going down is always warmed going down. If it entered through the top of the ground it would be cooling your building as it is going down, it would not be warmed by that outside temperature. It would interfere a little with your room, but that would be more than off-set by not having that air warmed when it enters. Lots of nights in the fall we have around 40° to 45° while the soil temperature is still 60°.

You should have two rooms. Apples you do not expect to move for some time you could put in the room where you do not go in and out. We have that to contend with because we have about fifty or sixty varieties, which is about fifty too many, but they were put there before I was born and I hate to cut down a tree from whose apples you can even squeeze out cider. We ship dozens of cars and I was planning on improving this basement by making another room the same size one side of this and then, instead of putting the upper story on, just put on a roof of the shed type, making the floor just about level with the wagon box bed and have it open all the way around, with canvas curtains. That will give me a chance to bring these apples in, put them under that roof, cool them over night and then work there the next day if it is stormy, while with the present plan I have to take them into that room upstairs and it does not cool off at night. It would give a handier place to work, with lots of light, and if the rain happens to come up when your pickers are busy and you do not want to put the apples down in the basement without having them sorted, you have no place to put them down out of the wet with our present arrangement.

As soon as I shut my ventilators in the morning all I have got to keep those apples cool is the coolness that they have absorbed during the night. I can get this down to 40° during the night but just as soon as I close my ventilators it will work back to the higher temperature. I am going to insulate the walls more in this other room and put another floor

(Continued on page 91)

HORTICULTURAL TROUBLES

Edited by E. L. Chambers, Assistant State Entomologist

THE RED RASPBERRY MOSAIC SITUATION IN WISCONSIN

By E. L. Chambers

Wisconsin raspberry growers a few years ago began to notice that certain varieties were profitable for a number of years and then apparently ran out and became unprofitable. This trouble was partially associated with two diseases known as "Yellows" and "Puckers", of which very little was known since no causative organism could be isolated from either. In 1923 experimental workers in Ohio and New York recognized three systemic virus diseases on raspberries; namely, leaf curl, yellows and blue stem, which were transmitted from bush to bush by plant lice. Leaf curl had been known in Wisconsin for years under the name of "puckers", while the yellows, equally as familiar, was by far the most wide-spread. The blue stem disease, which occurs on black raspberries, is exceedingly rare in this state.

A peculiar obscure mottling was observed on the foliage of different varieties of raspberries, chiefly upon King and Latham by the inspectors for some time. They recognized it as an abnormal condition but did not fully realize its importance until 1924 when investigators established the fact that this too was an aphid transmitted virus disease and one that was very injurious to the plantings, especially when grown under adverse winter and moisture conditions.

There are six or seven different types of Mosaic recognized on the black, purple and red varieties of raspberries today. This disease derives its name "Mosaic" from the peculiar and characteristic extremely minute light and dark areas that are to be found in these mottled leaves, something similar to the effect of a stained glass church window. If lightly infected leaves are held up to the light and shaded, there will be observed small places where the normal smooth dark green is breaking up and light green portions will be seen scattered through them. The causative agent, although never as yet found, is thought to be an organism which is so small that we cannot even see it with a microscope (by any known technique), yet the disease can be characteristically reproduced in healthy leaves by inoculating them with sap derived from infected ones. The term "filterable virus" is often applied to these diseases since the causative agent will pass through a very fine filter when infected leaves are macerated in water and filtered through a very fine clay filter as evidenced by the fact that a drop of the filtrate will reproduce the disease.

Upon finding that there were some plantings of red raspberries relatively free from the mild form of Mosaic predominating on Latham and Kings, immediate steps were taken to rogue every visibly infected plant present and thus reduce it to a minimum. Since it was impossible to be certain that no infected plants were sent out to purchasers if infested bushes were allowed to remain within fifteen or twenty rods of the patch, these too were required rogued.

During the past two years all red raspberry plantings certified were given two inspections, once between June 15 and July 15, and again at least thirty days later. Each and every plant of

(Continued on page 89)

CORN BORER'S RELATION TO HORTICULTURE

"Of all the kinds of plants attacked the greatest damage is to sweet corn. Flint corn comes next and then dent corn, followed by a long series of thick stemmed vegetables, flowers and weeds. The borers in the New England States have been attacking tomatoes and celery so severely that tomato growing is proving unprofitable. In Ontario, Ohio and Michigan, corn seems to be preferred, and, so far, other plants have not been attacked, except such weeds as burdock."

The first paragraph is an excerpt from Wisconsin Bulletin 385, by S. B. Fracker and C. L. Fluke. It gives us the knowledge that the corn borer is directly as well as indirectly affecting the horticulturist. In as much as there is a new infestation not far South of the Wisconsin line in Illinois, it will be well for everyone interested in horticulture to aid in every possible way to keep this pest out of Wisconsin.

STATE EXTENDS CORN QUARANTINE

A revised quarantine order prohibiting the importation into Wisconsin of corn on the ear and cornstalks from the European corn-borer infested parts of the United States was announced today by the department of agriculture at the state capitol.

The new order includes the recently discovered infestations in Kankakee county, Illinois, Berrien county, Michigan, and the state of Connecticut in addition to providing for the destruction or return to the shipping point of all ear corn imported in violation of the federal quarantine which covers nearly all the northeastern United States from Kalamazoo, Michigan, and Fort Wayne, Indiana, to Massachusetts and Maine.

An inspection certificate from the United States department of agriculture is also required on all shelled corn which has been grown or stored in the quarantined parts of the fourteen infested states, and any uninspected shelled corn brought into Wisconsin from these infested acreas is subject to destruction or return to the shipping point.

The order is signed by John D. Jones, Jr., commissioner of agriculture, and S. B. Fracker, state entomologist. It is dated January 12 and becomes effective January 15.

The commissioner states that the extensive spread of the borer to the westward this year is a serious threat to the dairy industry of Wisconsin which depends on the corn crop for its success. An appeal is made to farmers, feed dealers, and seedsmen to purchase all corn so far as possible from points west of the Mississippi river for the next few years in order to run no risk of bringing in a borer

(Continued on page 87)

HISTORY OF THE REGALE LILY

The following article, giving the authentic history of the Regale Lily, was written by Mr. E. H. Wilson of the Arnold Arboretum, Harvard University, and appeared in **The Country Gentleman** of October, 1925. Mr. Wilson introduced this Lily to America.

A Treasure Wrested From Forbidding Thibet

By E. W. Wilson, V. M. H.

(Author of **"Aristocrats of the Garden," "Lillies of Eastern Asia,"** etc.)

How many people know the size of the mule's hoof? Quite a number have felt the strength of a mule's leg and the sharpness of his teeth, and his obstinacy is a proverb. But the size of his hoof is another matter.

Frankly I do not know with mathematical exactness, but as I lay on the ground and more than forty of these animals stepped over my prostrate form the hoof seemed enormous, blotting out my view of the heavens. The instinctive surefootedness of the mule is well known and I realized it with gratitude as these animals one by one passed over me and not one even frayed my clothing.

It happened in the no-man's land of the Chino-Tibetan borderland and my predicament had been brought about by a rockslide, a very common occurrence in that part of the world. I had left Boston, Massachusetts, at the end of March, 1910, and having crossed to Europe, reached Peking by way of the Trans-Siberian Railway early in May. From Peking I traveled by devious routes across China to Sungpang Ting, in the extreme west-northwest of China, which was reached toward the end of August.

Nature's Joke

My quest was the Regale Lily which I had discovered some years earlier but had failed to introduce successfully into American gardens. Its beauty and richness of fragrance had won my heart and I was determined that it should grace the gardens of the Western world.

That such a rare jewel should have its home in so remote and arid a region of the world seemed like a joke on Nature's part. However, there it was and my business in life was to effect its transference to lands where its beauty would find proper recognition.

Throughout an indefinite past, generations of the Regale Lily had lived unsung and unseen save by the rude peasants of a rude land. But few white men had passed that way when first I made discovery and none had noted my royal lady.

And what of the Regale Lily? Journey in thought with me for a moment or two, westward, until "west" becomes "east," although we still chase the setting sun. Across the broad American continent, across that wide ocean misnamed "Pacific" to Shanghai, the gate of Far Cathay; onward and westward up the mighty Yangtsze River for 1800 miles, then northward up its tributary, the Min, some 250 miles to the confines of mysterious Tibet; to that little-known hinterland which separates China proper from the hierarchy of Lhasa; to the wild and mountainous country peopled mainly by strange tribefolk of unknown origin; to a land where Lamaism, Buddhism and Phallism strive for mastery of men's souls; to a region where mighty empires meet.

There in narrow, semi-arid valleys, down which thunder torrents, and encompassed by mountains composed of mud shales and granite whose peaks are clothed with snow eternal, the Regale Lily has its home. In Summer the heat is terrific, in Winter the cold is intense, and at all seasons these valleys are subject to sudden and violent windstorms against which neither man nor beast can make headway. There in June, by the wayside, in rock crevices, by the torrent's edge and high up on the mountainside and precipice this Lily in full bloom greets the weary wayfarer.

Not in twos and threes, but in hundreds, in thousands—aye, in tens of thousands. Its slender stems, each from two to four feet tall, flexible and tense as steel, overtop the coarse grasses and scrub and are crowned with one to several large, funnel-shaped flowers, each more or less wine colored without, pure white and lustrous on the face, clear canary yellow within the tube and each stamen filament tipped with a golden anther.

A Fairyland

The air in the cool of the morning and in the evening is laden with delicious perfume exhaled from every blossom. For a brief season this Lily transforms a lonely, semi-desert region into a veritable fairyland.

Sungpang Ting is a military town situated on the headwaters of the Min River. It is a very important outpost of Chinese civilization and a trade center of considerable magnitude. Medicines in great variety, including the famous rhubarb and musk, are brought in by tribesfolk from the neighboring mountains and bartered to Chinese merchants.

Rested and reprovisioned I and my followers sallied forth and for seven consecutive days plunged down the seemingly interminable gorge of the Min River.

It was frightfully hot and traveling was most fatiguing. In many places the narrow track was hewn and blasted from solid rock and here and there tunneling had been necessary. In several places Chinese characters of huge size and carved in the rocks warned those who could interpret them of the dangers of the road and urged all not to tarry in particular places.

There was much traffic, largely coolies, but also several mule trains taking up brick tea and cotton cloth in particular and various merchandise in general, bringing down medicines, hides, deer horns.

The passing of mule trains was a difficult business, often

(Continued on page 88)

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Wisconsin State Horticultural Society

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WHAT A GARDEN CLUB CAN DO.

Every horticulturist is interested not only in his immediate home surroundings, but also in the beauty of his home town or city. But when something should be done in a town in a horticultural way it is usually hard to get started unless there is some sort of an organization to back the movement. That is the place for the Garden Club to function.

But first we must have the club. It takes no more than one or two eager horticulturists to start a local Horticultural Club. The club can function as a general horticultural club or as a specific such as Garden Club, Fruit Growers Club, Landscape Club—or what ever your locality needs and desires.

If your community needs the school houses landscaped; if your town needs parks; if your city needs well landscaped boulevards and streets; your Garden Club can be the moving spirit. If it is fruit growing that is wanted call your club a Fruit Growers Club, and make the meetings a time at which the problems of fruit growing may be discussed.

A man intensely interested in horticulture made the remark one day that there is no better thing about which to build community spirit than horticulture —the fruits and flowers that help to make life more interesting.

If you are interested in having a Club in your community a letter asking for suggestions as to organization will be gladly received and answered from this office.

NEW A. P. S. HEAD

Ralph W. Rees of Rochester, New York, was elected president of the American Pomological Society at the annual meeting in Grand Rapids. He succeeds Paul C. Stark, who has held this honored office during the past four years and declined this year so that he might devote more of his time to Apples for Health, Inc., of which he is president.

Ralph Rees is one of the best known in men in American fruit production work and few men have more actual production and marketing experience than he has had. The head of one of the largest and best Departments of Horticulture said some ten years ago that "Ralph Rees was the only man he knew that could step into a canning factory, a dehydrating plant or into an orchard of any kind of commonly grown deciduous fruit at any stage of the work and complete the operation or operations then in progress without a ball-up."

Mr. Rees joined the experiment station of the Oregon Agricultural College immediately after graduating from that institution. He later became the Extension Horticulturist of the Massachusetts Agricultural College and after some four or five years he transferred to similar work at Cornell University where he became particularly interested in the grading and marketing problems of the fruit growers of western New York. Largely as a result of his work the Western New York Cooperative Fruit Packing Association was formed and he resigned his position with Cornell University to become one of the managers of this large organization. Mr. Rees is now Horticulturist for the New York Central System and is the author of a recent publication of that railroad entitled "Apple Survey of United States and Canada," which is easily the best source of information of this nature. While gathering the material for this publication he personally visited every important commercial apple producing region of the United States and Canada. Mr. Rees was also the Manager of the American Pomological Society tour through the Pacific Northwest last summer.

The names of two new men appear on the Board of Managers. Dr. C. A. Bingham of Cleveland, Ohio, and H. D. Simpson of Vincinnes, Indiana, succeed, R. A. Van Meter of Massachusetts and A. J. Farley of New Jersey. H. B. Tukey of Hudson, New York, is the third and "hold over" member of the board. The new men on the Board of Managers are both fruit growers and men of wide acquaintance among commercial fruit growers of their own and neighboring states.

COMMERCIAL PEONY AND IRIS GROWERS MEET

On January 10 and 11 some of the leading Commercial Peony and Iris growers of the United States met at the La Salle Hotel in Chicago at the invitation of Lee R. Bonnewitz of Van Wert, Ohio, and organized to better the interests of the trade. Officers were elected and committees were appointed to give further consideration to many important topics. Among many things discussed was the question of what constitutes a standard peony division. After considerable consideration the members agreed to offer as a standard peony division, one with two or three eyes and with a natural and adequate root system.

Seed and catalog houses are showing a marked interest in bringing their peony and iris lists up to date. The following varieties were decided on as having been tested enough to prove their quality, and are recommended for general planting by the association. Some varieties are still a little high in price, but it is expected that the higher priced varieties will get within popular reach within a very few years.

Peonies recommended:

Philippe Rivoire,
Tomatbako,
Karl Rosefield,
Therese,
Fuyajo,
Tokio,
E. C. Shaw,
President Wilson,
Mrs. Shaylor Force,
Richard Carvel,
Adolph Rosseau,
Cherry Hill,
Mary Brand,
Mons. Jules Elie,
Le Cygne,
Rose Shaylor,
Albert Crousse,
Phyllis Kelway,
Solange,
Walter Faxon,
William F. Turner,
H. F. Reddick,
Charles McKillip,
Red Bird,
Ball o' Cotton,
Kelway's Glorious,
Laura Dessert,
Frances Willard,
Judge Berry,
Edulis Superba,
Sarah Bernhardt,
La France,
Baroness Schroeder,
Marie Lemoine,
Festiva Maxima,

(Continued on page 91)

(Continued from page 84)

infestation. For all eastern corn, a government certificate should be demanded from the shipper.

Extra clean-up work is being undertaken by the farmers in the infested area, which now includes 2,500,000 acres of corn, and with the present shortage of farm labor, it is hoped that such work can be postponed in Wisconsin as many years as possible.

OFFICIAL NOTICE—CORN BORER QUARANTINE EXTENDED

The European corn borer has recently been discovered in Illinois, and close to the eastern shore of Lake Michigan in Michigan.

Wisconsin's dairy industry, which depends on the corn crop, demands that this pest be kept out of this state as long as possible.

The following quarantine order provides for the destruction or return of any corn on the ear or cornstalks or any uninspected shelled corn coming from the main infested area covered by the federal quarantine.

In addition it prohibits the importation of ear corn from certain counties in Illinois, Michigan, New Jersey, New York, and all of Connecticut, where the borers have been found, but which are not yet covered by federal regulations.

The result is that no ear-corn or uninspected shelled corn may be shipped into Wisconsin from the areas shown on the attached map, including parts of the states of Illinois, Indiana, Michigan, Ohio, West Virginia, Pennsylvania, New York, New Jersey, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire and Maine.

Quarantine No. 4, Fourth Division

It has been determined by the department of agriculture that the presence of the European Corn Borer, **(Pyrausta nubilalis Hubner)** in Kankakee county, Illinois; Berrien county, Michigan; Hudson County, New Jersey; Kings, Queens, Richmond and Nassau counties, New York; and in the state of Connecticut, is creating dangerous insect infestations in such areas, and also that the Secretary of Agriculture of the United States has not made a determination concerning nor established a quarantine with reference to those infestations.

Therefore, under authority conferred by Sections 93.07 and 96.33 to 96.48 of the Wisconsin Statutes inclusive, and by the Act of Congress of August 20, 1912, (Thirty-seventh United States Statutes at Large, Page 315), as amended by public resolution No. 14 of the Sixty-ninth Congress (effective on April 13, 1926), the department of agriculture hereby established a quarantine against the infested areas and orders that no person, firm or corporation shall import living European Corn Borers in any stage, or shall receive, ship or accept for shipment, transport, sell or offer for sale, give away, deliver, plant, or permit to exist on his or its premises:

Corn and broom corn (including all parts of the plant, and including shelled corn), any sorghums, or sudan grass, which have been grown or stored in Kankakee county, Illinois; Berrien county, Michigan; Hudson county, New Jersey; Kings, Queens, Richmond, and Nassau counties, New York; or in any part of the state of Connecticut;

Provided, that plants or plant products covered by this quarantine order may be admitted to the state of Wisconsin when they shall have been manufactured or processed in such manner as to eliminate all risks of carriage of the European Corn Borer, and that cleaned shelled corn and cleaned seed of broom corn, may be admitted when they have been inspected by the United States Department of Agriculture and found to be free from the European Corn Borer, or if infested, have been disinfected or treated in such manner as to eliminate all risk of transmission of infestation, and are contained in a car, box, bale or other container to which is attached either (a) a certificate showing that the contents have been inspected by the United States Department of Agriculture and found free from any fragments of cob, debris, or other material which might carry the European Corn Borer, or (b) a certificate showing that the contents or the premises or the district from which they came have been inspected by the United States Department of Agriculture and found free from European Corn Borer infestation, or (c) certificate showing that the contents have been disinfected by the United States Department of Agriculture in such manner as to eliminate all risk of transmission of infestation; or (d) a permit from the United States Department of Agriculture showing that the contents originated outside the infested area. A copy of said certificate or permit must be mailed by the duly authorized inspector of the United States Department of Agriculture at the time said certificate or permit is granted, to the State Entomologist, Capitol Annex, Madison, Wisconsin.

Any products or material imported into the state of Wisconsin in violation of these regulations is subject to destruction or return to the point of origin at the discretion of the department of agriculture.

Any products or material imported into the state of Wisconsin in violation of United States Department of Agriculture Plant Quarantine No. 43 and the regulations supplemental thereto, is subject to destruction or return to the point of origin at the discretion of the Wisconsin department of agriculture.

Any common carrier, person, firm, or corporation who shall import or transport into the state of Wisconsin, material in violation of these regulations is subject to the penalties provided by section 96.48 of the statutes.

These regulations as revised shall take effect on January 15, 1927.

Issued at the State Capitol, Madison, Wisconsin, on January 12, 1927.

JOHN D. JONES JR.,
Commissioner of Agriculture.
S. B. FRACKER,
State Entomologist.

The annual flower garden should not be left out of the garden plans.

One of the newest of the Van Fleet Hybrid Roses has been named Breeze Hill in tribute to Mr. J. Horace McFarland, editor of the Rose Annual, whose home bears that name. This beautiful rose is a cross between Rose Wichuriana and Beaute de Lion. It is unusual among the climbing roses because of the large size of the individual flowers. The color includes tints of pink and salmon.

—Horticulture.

(Continued from page 85)

possibly only at particular places when one caravan came to a standstill and allowed the other to pass.

The eighth day I camped and for several days was busy arranging to secure in October, the proper season of the year, some six or seven thousand bulbs of the Regale Lily. Plans completed we set out for Chengtu Fu, the capital city of Szechuan.

The hardships of a four months' journey were beginning to tell on me and dysentery in a mild form had troubled me for days. Yet it was with a light heart and a satisfied mind that I rode in my chair. Soon after starting we passed a mule train breaking camp and bound our way.

A Hairbreadth Escape

We were making good progress, my chair leading with personal attendants and man carrying my large camera immediately behind, my black spaniel dog wagging his tail ahead of us.

Song was in our hearts when I noticed my dog suddenly cease wagging his tail, cringe and rush forward. A small piece of rock hit the path and rebounded into the river 300 feet below. A rock slide was upon us. I shouted an order and the bearers put down the chair. The two front bearers ran forward and I essayed to follow.

Just as I cleared the chair handles a large boulder crashed into the body of the chair and turned it over and down to the river it was hurled. I ran—a few yards more and I would be under the lee of hard rock. But I was bowled over, tried to jump up, found my right leg was useless, so crawled forward to the shelter of the cliff.

It was only a small slide and we had had a providential escape. My right leg was broken in two places below the knee and the side of my calf was badly lacerated.

With the legs of my camera tripod I improvised splints, and while these were being bandaged to my leg the mule caravan, passed in the morning, loomed into view. The road was too narrow for them to turn back and they dare not stand still since we knew not when the rock slide would recommence. There was only one thing to do. I lay across the road and the mules stepped over my body.

Then it was that I realized the size of the mule's hoof.

The men salvaged my wrecked chair and we started on our journey to Chengtu Fu. We made it in three days and three agonizing days they were for me.

Worth More Than They Cost

At Chengtu I was carried to the house of Dr. W. H. Davidson of the Friends' Foreign Mission, and all that could be done was done. The leg had become infected. In spite of every care at the end of six weeks there were no signs of the bones uniting. The question of amputation was pressed, but somehow I never felt this would be necessary. Other doctors were called in, including a distinguished French army surgeon named Doctor Mouillac. Some cutting and splitting was done and the infection stayed.

The leg is crooked, fifteen-sixteenths of an inch short, but is sound and has since carried me many thousands of miles.

The accident notwithstanding, I got my Regale Lilies and brought the bulbs safely to Boston. The bulbs were incased in clay, packed in charcoal, shipped at silk rates and reached Boston a few days after myself. Planted in a garden in Roslindale, Massachusetts, they flowered freely in the June following and some even ripened seeds.

From this stock has sprung the millions acclimated in American gardens and other gardens across the seas in Europe. Each year it adds to the pleasure of millions of folk. The price paid has been stated. The Regale Lily was worth it and more.

Proud am I to have discovered, introduced and christened the Regale Lily. Did what?

"God forgive me! No, I didn't.
'Tis God's present to our gardens.
Anybody might have found it but—
His whisper came to me!"
(With apologies to Kipling).

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JOHN RINDFLEISCH FINISHES A FINE NEW FLORIST STORE

John Rindfleisch takes commendable pride in a brand new three story brick building which he has just erected for his business on East Grand avenue. The premises were thrown open to the public for the first time this week.

The store interior is richly finished in green tile and marble with ample display cases, tables and a show window for his flowers. An iceless refrigerator cooling system has been installed in a cooling box used for his cut flowers. In the rear is a commodious work room. The building is constructed of cream colored Ohio fire clay brick. It is heated by a smokeless boiler steam heating system. Two six room flats above the store are now being completed. A formal opening of the store will be held later in the season, it is announced.

Mr. Rindfleisch came to this country with his parents in 1886. His first establishment was situated on a farm something over a mile southwest of Beloit on the Shirland road. Here he had 30 cold frames in which he raised early lettuce and vegetables for the market. Tomato plants and geraniums were also raised although it was at first difficult to find purchasers for the geraniums.

Moving to Milwaukee in 1888 he remained there for three

(Continued on page 90)

(Continued from page 84)

these plantings was examined individually. The inspector took but one row at a time and made an accurate count of the percent of diseased plants, based on the original number planted in each instance, with a mechanical counter. If the inspector was not immediately followed by the grower, who dug out the condemned plants as found, each plant was marked with whitewash, or otherwise designated, and the planting rechecked before the inspector left that vicinity. If, then, these marked plants were not rogued within 48 hours, the planting was passed up as not rogued. The growers were instructed to dig the marked plants together with every sucker within a radius of three feet, taking special care to get all of the roots. As an additional precaution the owner of the patch was advised to mark with a stake the place where the original plant had been removed in order that any roots missed during the roguing might be detected and dug upon sprouting.

Where the plants were crowded and the foliage touched an adjoining diseased plant, these were also marked for roguing without examining further. No red raspberries were certified within less than twenty rods of an unrogued Mosaic infected planting of raspberries. With but a few exceptions, no plantings were certified where the per cent of Mosaic during the first inspection exceeded five percent, and no attempt was made to rogue a patch which had more than five percent at the time of the second inspection. All condemned plants were ordered burned and when aphids were present in large numbers the grower was required either to carry the plants to the bonfire in a canvas or to scorch them before attempting to move them. Fortunately the plant lice were extremely scarce this past season.

In consideration of the results of the work of the past two

(Continued on page 90)

(Continued from page 89)

years, we are of the opinion that roguing for the control of mild Mosaic in red raspberries is entirely practicable. A number of the plantings rogued for two consecutive years now appear to have less than 1% infection. There have been some plantings which showed a marked increase in the percent of infection this year over last and others that have not shown as much decrease in percent as hoped. The explanation of this lies in the fact that the work was new to the growers and they failed to realize the damage they were doing by roguing and carrying aphid laden plants about their patches, and the fact that too many plants were pulled without preventing the roots from sprouting.

During 1925, 168 acres of raspberries were inspected in Wisconsin in 202 plantings. Fifty-nine of these were given what was termed a "Double Certificate", indicating that it was believed every visibly Mosaic-infected plant had been rogued from the plantings thus covered after two inspections. A hearing attended by the growers was held during the fall of 1925, just prior to the time of issuing the 1926 certificates, to ascertain what the demand for Latham and King raspberry plants would be for the following season. As a result of this conference, it was apparent that there would not be sufficient stock of these varieties rogued Mosaic-free to meet the demand and it was deemed advisable to release for sale, for fruiting purposes only, some of the Mosaic-infected plants. A special permit was therefore issued to 34 additional growers upon the receipt of their sworn statement that no sales would be made other than for fruiting and that each and every bundle or shipment would have attached to it a copy of the special certificate issued them, indicating the presence of Mosaic. Since the supply of plants for the 1926-1927 season is adequate, no further such release of infected plants was necessary.

Two hundred and seventy-eight out of 570 applications for nursery inspection received by the inspection office in 1926 included raspberries. Two hundred sixty-five of this number covered the red varieties but only fifty-three of them could be issued certificates and these covered less than thirty-seven acres.

(Continued from page 88)

years. When he returned to Beloit in 1891 he built two greenhouses 50 feet long and 16 feet wide on his farm. Soon he had a good business worked up but found the country location a little difficult for city trade.

Looking around for a new location he purchased a twelve acre tract fronting on Rock River at the upper end of Fourth street, owned at that time by the late Deacon Knapp. It was a desolate looking piece of land when he acquired it, a good share of it so low as to be deemed worthless for cultivation purposes. Mr. Rindfleisch had vision however, and has developed it into a valuable piece of property on which he raises practically everything sold in the downtown store. There are ten greenhouses, each one 20 feet wide and 100 feet long on the land at the present time.

(Continued from page 83)

underneath, and the tile floor, and when I get this room down to 40° it will stay there, because the soil temperature will not go down during the day. I will have the danger of freezing in cold times, because if I insulate this floor and the walls I will not get the benefit of the soil temperature that I now get from below, so it might be I would not use this in the winter, but put the apples back in the warmer room.

This building is 2½ feet above the ground and I have never had to bank the walls.

I would like to tell you about a new storage that the college put up a year ago this fall, and show you the comparison between that and mine by listing its good points and faults. It is about two times the size of mine; it is all concrete, built into a side hill with one end opening out on the level. It has two ventilators, the room is divided in the center lengthwise. It has three inlets on each side of the building coming down just about the same as my arrangement is here. They do not have the ventilators in the end. The advantage they have is that their inlets are on the inside of the wall instead of on the outside wall and another of their assets is that they have these other cupolas and they have slatted floors in the basement to keep these apples and packages from the floor so that the air can pass through under the apples and go back through the shafts in the center. Another advantage is coming in on the level ground. They dug it back and covered the top about four inches deep with soil. One end is open and that has a small lobby about 8x16 feet so that there are two doors to pass through to protect them from outside temperatures.

My cellar seems to be cooler than the one at the college and the humidity was better. One objection I have to theirs is that there is no possibility of getting any sunlight into that basement. I think sunlight is important; I can get it into mine at any time. Another thing is that they have no package rooms, they have just the basement for apples; everything that is done in out of the weather must be done in that room, while I have the room above. I can sort them and rush them in out of the storm. They have but one room and have no place to cool them unless it is done out in the orchard.

They also have trouble with their intake. They have mounded the dirt up over this cement and their inlets are on top and the cold air will naturally seek the lowest levels, so the cool air is around this mound and not at the top and you cannot get the cold air that you could have if they were on a ground level. They have the complete basement in the soil except on one side where there is four feet of soil. They do not have a chance of cooling that and protecting it from the freezing temperature in the winter time. The only way is by opening ventilators, and if the temperature goes up to 50 or 60 in the day time and then it goes down at night to twenty below, there has got to be a lot of ventilators changed, while with mine I can leave them open.

Another trouble they have is that the thing is built out of concrete, which radiates the heat from the soil much more rapidly than it does when of tile construction. They can cool it at night and in the day time it will warm up again; it is impossible to keep the temperature without continually changing these ventilators.

In closing, I think the most important thing is to have a storage place; the buyers know you have a place to hold them and do not have to get rid of them. We can put these in storage and hold them three or four weeks and bring them out when most of the Duchess are gone. Ours come on the market just after the glut is over and we do not have any trouble getting rid of them. The best time is thirty days after picking time and not at picking time. Most people put them on the market at picking time while the glut is on and have trouble getting rid of them.

One great consideration in your storage is to build it so you can keep it cool in the fall and keep it from freezing in the winter without too much attention in the night. If mine wasn't about right I would hate to leave it to the children and hired man to see that the temperature was right. Last night I shut the ventilators and the temperature was around thirty and I think it will stay there until I get back.

(Continued from page 87)

Mme. Emile Lemoine,
Lady Alexandra Duff,
Lillian Gumm,
Souv. de Louis Bigot,
Reine Hortense.

The varieties of irises chosen to be listed were:

Ambassadeur,
Morning Splendor,
Georgia,
Asia,
Ann Page,
Mother of Pearl,
Queen Caterina,
Aurea,
Sherwin-Wright,
Virginia Moore,
Gold Imperial,
Sunset,
Dream,
Lent A. Williamson,
Sweet Lavender,
Seminole,
Souv. de Mme. Gaudichau,
White Queen,
Rose Unique,
Aphrodite,
Dominion,
Valencia,
Germaine Perthuis,
Mount Royal,
Cardinal,
Yellow Hammer,
Susan Bliss,
White Knight,
B. Y. Morrison,
Midwest,
Opera,
Cluny,
Pallida Dalmatica,
Valkyrie,
Mildred Presby,
Alcazar,
Cecile Minturn,
Quaker Lady,
Archeveque,
Isoline,
Jacquesiana,
Lohengrin,
Magnifica,
Rhein Nixe,
Medrano,
Mlle. Schwartz,
Afterglow,
Fairy,
Mrs. Alan Gray,
Bluet,
Princess Beatrice,
Leonato,
Kochii,
Pocahontas.

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HANDLING TREES DAMAGED BY ICE

Dr. M. J. Dorsey, of the Illinois Department of Horticulture, who recently spent several days in southern Illinois studying the situation in reference to trees damaged by ice, makes the following recommendations in regard to handling and pruning such trees.

The breaks from the sleet are similar to those from the weight of fruit and can be roughly classified into three general types—crotch splitting, limb breaks and limb cracking or splitting. The treatment of each type is somewhat different and can best be discussed separately.

Crotch Splitting—This type of breaking may include either the scaffold limbs or smaller limbs. In some cases it may seem advisable to raise the part broken to the original position and hold it in place by wire cross braces in the smaller limbs and perhaps rods with the older trees. It must be kept in mind that the brace must be strong enough not only to hold the limb up in place but also to support the weight of fruit, even with considerable wind. Spikes, or preferably bolts, can be used to hold the break in position at the crotch. In putting in the cross braces care should be taken to place them at some distance from the crotch in order to secure greater strength. The point to be kept in mind in deciding whether to attempt such a procedure with a limb is the nature of the injury where the limb is broken. If the wood is nearly broken, and the bark badly injured, it will not pay to attempt to save the limb. If more than one limb or scaffold branch is broken it is possible, in some trees, to brace one with the others. These raised limbs should be pruned carefully by small, well distributed cuts which will remove generally about one-half of the bearing branches.

Young trees have suffered less from this type of injury, and of the apples, Jonathan seems to be broken worst. Rings or washers can be used at the point of union in the center, and any number of wires can be run from the center to the different limbs where the attachment can be best made with a screw eye.

Broken Limbs — The treatment of the broken limbs of the scaffold is more simple. If the limb is nearly broken off, renewal can be made best from the new growths which will come with spring growth. This is especially true with peach where the plan of renewing the top is about the same as in deformed trees. In these breaks the new growth in spring and laterals from adjoining limbs, where only one is broken, can be used to restore the bearing surface. In the peach where two or perhaps all of the scaffold limbs are broken the new growths can be summer pruned to advantage in order to favor as much as possible the limbs selected for the new top. Nitrate applications will stimulate the new growth to advantage.

Split Limbs — This type of breaking is quite frequent with both the peach and the apple. The opening in the limb may be considerable and extend up and down for a foot or more. The two halves are generally nearly equal. The limb is materially weakened by the split and may break during the summer from the weight of fruit. Spikes in the smaller limbs, driven through and clinched, or bolts with the larger limbs, will greatly strengthen the limb. Prune, in this case, to more upright branches, nearer the break and reduce the bearing surface so the fruit load will not break the limbs down. Allow further growth to stiffen the limb. In some cases renewal can be made in a year or so from a limb selected nearer the trunk. The broken part then can subsequently be removed.

It will be found that each tree will present a different problem. A little study before starting, however, will soon reveal the course of treatment. There will need to be some "follow-up" work with these injured trees in the next two or three years, to properly shape them. Incidentally much can be learned about pruning now by studying the type of crotch which breaks most frequently.

—Illinois H. S.

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30 OR 40 LEAVES REQUIRED TO MAKE ONE GOOD APPLE

The leaf area of an apple tree is capable of manufacturing sufficient food material for a given number of apples of good size and quality. On heavily loaded branches and trees there is often less than 20 or 30 leaves per apple, and under these conditions the fruit is small and of poor quality. Although some orchardists have practiced removing a few apples to increase the leaf area per fruit, until recently there were no experimental data available to indicate the exact number of leaves required per apple. Thinning has been more or less of a guessing operation.

M. H. Haller and J. R. Magness, horticulturists of the United States Department of Agriculture, in a series of tests made at the Arlington Farm, near Washington, found that different varieties vary in the relationship between the leaf area and the size and quality of the fruit. For the Grimes and Ben Davis under the conditions of the tests at least 30 to 40 medium-sized leaves per fruit were necessary to obtain apples of good size and quality, and as many as 50 for the Delicious. When a smaller number of leaves was present, the fruit was not only smaller in size, but was low in dry weight, low in sugar content, and of poor dessert quality. It was found also that apples grown with a large leaf area ripen slightly earlier than the same variety having fewer leaves per fruit.

These determinations were made by ringing or "girdling" the bark of a twig to isolate the fruit and leaves from the rest of the tree. Other investigations had shown that ringing largely prevented the passing of nitrogen and carbohydrates in either direction past the ring, thus making the fruit beyond the ring depend only upon the leaves with which it was isolated. By ringing and thinning the leaves to a definite number at varying distances from the fruit it was found also that apples can draw food material from adjacent leaves and leaves at a distance of 2 to 4 feet with almost equal facility.

—*U. S. D. A.*

If there is an orchard school in your vicinity do not fail to attend. A great many subjects of importance to growers are discussed there under skillful leaders.

DO IT MORE THOROUGHLY.

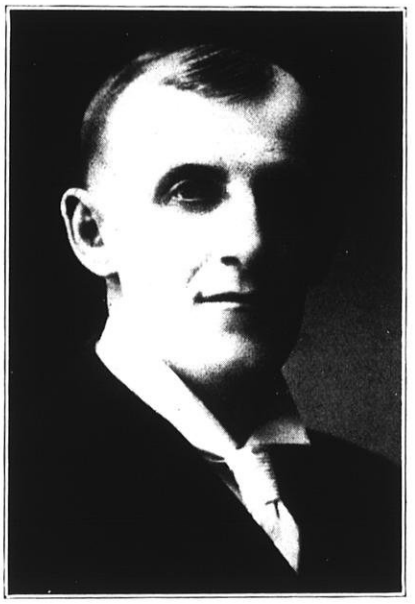
We heard some interesting data the other day. It was the material sent in from various spray rings, showing how they succeeded with their operations during the past season.

The rings that followed recommendations as to spraying and grading had much less loss than the rings that neglected one or two sprays. This loss was seen not only in the number of bushels sold but also in the amount received per bushel for the crop.

Mr. Kuehner of the extension department of the Department of Horticulture in cooperation with the county agricultural agents is doing a great work toward cleaning up and improving the output of the small orchard. If full cooperation is given to the Spray Ring movement it will eventually be one of the major improvements in fruit growing.

J. S. P.

WILLIAM HANCHETT



The College of Agriculture of the University of Wisconsin has each year selected a few of the men in agricultural pursuits whose lives have been devoted toward making important steps in the advancement of the business of farming and conferring upon them an honorary degree in recognition of their services. Among the five men thus honored during Farmer's Week was William H. Hanchett, Sparta, Wis., one of the life members of our State Horticultural Society. In response to our request Mr. F. Kern of Sparta has furnished the following sketch of Mr. Hanchett's life.

"A man born just prior to the panic of 1873, on a small farm in the town of Lafayette, Monroe County, began a career that to most boys even of this time would have seemed to have but little, if any future.

A farm, covered mostly with timber, with buildings scarcely on a par with farm buildings of that period, and a large family of brothers and sisters dependent with him upon the meagre income of a country blacksmith for sustenance, clothing and an education, perhaps forced the initiative spirit into the system of W. H. Hanchett very early in life, and sent him barefooted, to search the hills of the surrounding district for berries in summer to supply the family table, giving him an opportunity to make a study of supply and demand — the first principles in commercial horticulture — and to study horticulture. So it was, that he early began the study of family problems and how to solve them, and at about fifteen years of age he assumed the responsibilities of the farm, then only partially improved. He began by improving more land, adding new land to the farm acreage and growing the usual field crops of the time, when wheat would not pay for its raising, corn was worth twenty cents a bushel, and when twenty-five cents was a big price for a bushel of potatoes. The farm was still under mortgage, with barely enough cash income to pay the annual interest at the rate of 10%, and something had to be done. A change must come for the better.

A vision came to "Bill" one day while burning brush and he immediately began planning for a future income. If these trees would grow on the farm why not plant apple trees where he grubbed the oaks? Why not grow a tree that needed no attention, that would annually produce a crop of fruit, something that would sell readily for cash, a crop few people ever had grown and have a monopoly in his territory (which was at that time very limited)? Having found a way to secure some apple trees, such as were pictured in the plate books of some unscrupulous nurseryman of those early days "Bill" made his selection and placed his order with an agent who knew exactly what was wanted. The trees came and were planted in the virgin soil, then there was the lapse of time until they should bear fruit and his visions of ten years previous be fulfilled. The trees thrived, were very vigorous, splendid specimens, and as fruit pests had not at

that time learned to exist little difficulty was encountered, and the *hibernals* just grew and grew into bearing beautiful fruit and those hibernals are still standing, as vigorous and healthy to-day as they were forty years ago. They have borne every year, or at least every alternate year, and even in their old age they furnish the finest shade imaginable. But do not get the idea that all of his trees were hibernals, they were not. He had Wealthy, Greenings, Talman Sweets, as well as several varieties of crab apples, an assortment that would satisfy the demand of the most exacting (fifty years ago), and his venture proved a good one and from this experience sprang a fruit business rarely if ever equalled, until recent years at least.

His next venture was strawberries, and many varieties were tested out and almost as many discarded, those varieties being retained which proved most promising for quality, shipping condition and production. Thus he paved the way for those who followed in the growing of small fruits on a commercial basis. After proving that strawberries could be grown profitably—for 75¢ per crate, about the average price for that time—"Bill" added bush fruits of the various kinds (mosaic free mind you) until the Hanchett Fruit Farm was one of the greatest in all Wisconsin and the farm netted more for fruit in a single year than the land would sell for improved.

Mr. Wm. H. Hanchett, with but a country school education, until he could gather enough of the world's goods to pay his way through a Short Course at the University, with all the handicaps of a youth in his day, took the time and had the foresight to make his section of Wisconsin famous as the greatest small fruit section in the state at the time. He keenly realized that his knowledge was limited along this line but had the courage, and God gave him the power, to gather such information as would apply to his horticultural venture until success and happiness crowned his efforts.

Starting, amid the dark days of discouragement, with a mortgaged farm, without a cash crop, without a market, without anything but a determination and good sound judgment, he built gradually but permanently a fruit business and with it a market organization which still exists as one of the outstanding marketing organizations of today, and the one after which the Puyallup Fruit Growers Union was patterned.

Mr. Hanchett is to-day a leading authority on fruit-growing in his own section of Wisconsin and is widely known throughout the state as one of the most successful fruit growers in the state, and has ever been known for his production of high quality fruit."

The Worcester County (Massachusetts) Horticultural Society is building a $250,000 Horticultural Hall. The building will be very complete, with a lecture hall, library, kitchen, main auditorium, and a sunken garden.

IMPORTANT NOTICE

All correspondence intended for the secretary of the Wisconsin State Horticultural Society must be so addressed at 119 E. Washington Ave., Madison, Wisconsin. Any mail addressed to the former secretary, Frederic Cranefield will be delivered to him at 1934 Monroe St., Madison, Wisconsin. Mr. Cranefield informs me that some of the society's mail has been coming to him, since he has notified the Post Office to deliver all mail having his name upon it and has asked me to call this matter to your attention.

E. L. C.

BAD FOOD MAY MAKE BAD TEMPER

Irritable dispositions, bad tempers, listlessness, or apparent laziness and poor school work are often caused by poor food instead of by "pure cussedness", say child specialists at South Dakota State College.

The well-nourished child is sturdy, has a rosy, clear skin, and firm flesh. His hair is glossy and his eyes are bright; he stands erect, has straight bones, a flat back, and a well-rounded chest. His teeth are strong and white. He is enthusiastic, active, and energetic without being nervous.

Listlessness, nervousness, and irritability are apt to be signs of improper nourishment, or poor food. Poor standing in classes goes with malnutrition, and both physical and mental development may be retarded. Bow legs and knock knees are sure symptoms, says the college. Narrow, flat chests and shoulder blades that stick out like wings show that bone building foods have been lacking in the child's food. Such a child is usually thin and his flesh will be pale and flabby. His eyes may have dark circles around them, and his expression is probably dull.

Plenty of FRESH FRUITS and VEGETABLES and milk are good insurance against faulty feeding. When these are included in generous quantities in the regular diet, the child runs little risk of suffering from improper nourishment.

—S. D. News Letters.

It takes new ideas to make progress. Contribute some idea that has helped you and give your fellow members the benefit of your experience.

Send in a membership for your neighbor when renewing your own.

THE UNIVERSITY PAGE

Edited by the University Horticulture Department.

TURNING THE FARM ORCHARD TO PROFIT

By CONRAD KUEHNER

Many farmers have a splendid opportunity to make their orchards a more profitable part of their farm business. Instead of being satisfied with a shabby neglected orchard producing mostly scabby wormy fruit which can not be relished by the family nor sold to advantage, the farmer can manage his orchard so that his home will be abundantly supplied with clean, sound, wholesome fruit from September until late spring and in addition the surplus will find a ready market at fair prices.

To accomplish these results it becomes necessary that the farmer adopt the orchard practices in use by successful orchardists. They are:

Pruning—The trees must be pruned. Pruning is necessary as a means of reducing the number of cull fruits in the crop. This is accomplished partly by removing many of the badly shaded and crowded branches making very little growth. This kind of wood can not bear large apples. Most of the large apples grow on strong growing branches which have abundant access to light and air. Ordinarily, bearing trees are apt to become dense in the upper parts of the tree thus shading all branches below it. This must be regulated by opening the top of the tree. Remove upright parts of branches at a place where another part of the branch grows to the outside of the tree. Attend your county agent's pruning demonstrations and learn how to prune for better size and color of fruit.

Fertilizing — Trees must be fertilized regularly if best results are to be obtained. On the average farm stable manure is available and should be used for orchard fertilization. If it is not applied in the fall of the year chances are that the work is delayed until winter or spring and no application made. The manure should be spread over the entire distance between the rows. The custom of piling the manure around the tree trunks has little to defend it and often results in serious damage to the tree trunks. The manure should be spread directly over the feeding roots mainly, away from the trunk and under the spread of the branches. In this place it will also serve as a mulch in summer to hold moisture and as a protective covering in winter. Where manure is not available either sodium nitrate or sulphate of ammonia can be used with good success. The amount to use varies with the size and vigor of the bearing tree. Some 20 year old weak growing trees benefit greatly by the application of 3 to 5 pounds of one of these commercial nitrate fertilizers spread on the ground underneath the branches just before growth starts in the spring, followed by a second application about five weeks later.

Spraying — Spraying is the most important of all orchard practices. Without spraying most of the crop most years will be unfit for use, and unmarketable. Furthermore spraying must be done at the right time and in a thorough manner with the right materials if pest control is to be efficient. Of course it is true that the average Wisconsin farmer nearly always finds himself "head over heels" in some other farm work just when the orchard should be sprayed. Besides this, his orchard is too small to make it possible for him to own the most efficient spray machine. These difficulties seem to preclude the possibility that the average farmer will ever be able to carry out his spraying progress just as it should be done. However, there is a rescue. It has been tried out in more than 20 counties of the state and has been very satisfactory and successful. It is the Wisconsin spray ring. The spray ring is an organization composed of from 6 to 10 or more neighboring farmers who purchase a power spray machine with which to spray all of their orchards. They hire one man, usually a member, to operate the machine and spray all of the orchards for the ring. It is his duty to spray all of these orchards just when they should be sprayed. He keeps a record of the amount of spray material used in each member's orchard and also the time spent in doing each job. This way each farmer's spray bill is worked out in a fair way and settlement is made at the end of the spray season. The four spray program used by most spray rings means that the orchard is sprayed four times with a solution of 1 to 1½ pounds of lead arsenate and 1 gallon of liquid lime sulphur mixed in 40 gallons of water. The average cost per tree for these four sprays will necessarily vary with the size of the trees and the amount of pruning that has been done on them. Many of the spray ring orchards show an average cost of from 28 to 50 cents per tree for 4 sprays. Old orchards of large trees poorly pruned will cost from 50 cents to over $1.00 per tree for the four sprays.

Your county agent is in position to help any group of farmers to organize a spray ring and then give the necessary advice and coaching to get the operator started so he will do the work efficiently.

Continued on page 106

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

TULIPS AND MEMORIES

Two small boys on their way home from school, when the tulips were in bloom last spring, stopped to look longingly at the brilliant flowers. There were little exclamations of delight over this and that group of color, but their delight culminated in a long drawn O-H—as they spied two gorgeous red and gold double tulips, conspicuous against their background of dark peony foliage. Then they saw me at work among the shrubbery—"Please give us a flower" they begged. "Of course I will," was my answer, and I started to walk to the nearest group of tulips. "We want those—those over there"—and they pointed eagerly to the great double red and gold blossoms—the only ones I had of that variety. After a moment's hesitation I said, "No, I don't want to pick those—these will do just as well, won't they?" They thanked me for the bright red tulips I gave them—really were very much pleased—but they looked longingly at the red and gold flowers they had wanted me to give them, as they walked slowly down the road, while I went back to my work. But I didn't enjoy it—I didn't enjoy that gorgeous spot of color near the peonies at all—just because a vision of a small girl who loved flowers dearly and longed to have unusual ones given her, persisted in rising before me. How well I could remember her following Aunt Lisa or Grandmother up and down the garden paths as they cut the flowers they always gave her to take home—and how her heart positively hurt sometimes for fear she would not be given at least one of some particularly lovely kinds. The relief and joy when they were added to the glowing mass of color and sweetness that would make the two mile walk home seem all too short to enjoy them to the fullest extent—for she loved to have them near her — touch their soft petals, revel in their color and sweetness. She even talked to them—told her childish troubles—there would usually be some when a dozen cousins played and fought, as children usually do, but the sting would all be gone before she reached home—for the flowers told her stories.

The next morning my two red and gold blossoms were gone—and for a week two small boys went to and from school on another street. Then I met them near the school house—two unhappy frightened small boys; pretending not to notice their distress I asked them why they did not come to see the garden. I told them I could not pick flowers for all, because if I did there would be none left for others to enjoy—and that some kinds did not blossom again that year if picked; but I said nothing of the two missing flowers, because I felt as though I alone were to blame. "Don't you like to see the flowers", I asked again. "Yes'm," they said soberly and still unhappily, "and we won't pick none—" there was a pause—"though we do like 'em awfully." The next day the boys stopped again, this time with a tiny girl—"the creeping phlox"—like a "pink cushion" they sang, enchanted—so I filled their little hands—and everybody was happy again.

There have been several good reports on the Beaver Strawberry, a comparatively new but tried variety originated by the Beaver Brothers here in Wisconsin.

A CREED

"Let us get rid of our false estimates, set up all the higher ideals—a quiet home, cultivate vines of our own planting; a few books full of the inspiration of genius; a few friends worthy of being loved and able to love in return; a hundred innocent pleasures that bring no pain or remorse; a devotion to the right that will never swerve; a simple religion empty of all bigotry, full of trust and hope and love; and to such a philosophy the world will give up all the empty joy it has."—David Swing.

This could well be called the Horticulturist's Creed.

THE HALES CORNERS CLUB

The Hales Corners Garden Club is still growing. This club meets regularly once a month; two members chosen alphabetically read articles on some special gardening subject, or else give items of interest and help; during the rest of the meeting, gardens and garden problems are discussed most fervently. They are not content, however, with the beautifying of their own home grounds—they help their neighbors and friends to plan gardens—it is real help too—their advice has experience to back them and their extra plants give a most delightful start to a new garden.

They are also taking an active interest in the plans of the village, protesting the destroying of trees that are really grand old landmarks, and could be saved if a little thought was taken when streets were being laid out. They are sending their husbands to "meetings" with plans for the preservation of such trees. That bit of Wisconsin will be a more beautiful Wisconsin because of this Garden.

"Do you think I could grow some cotton plants?" Billy asked this question very seriously the other day, he is very much interested in gardens,

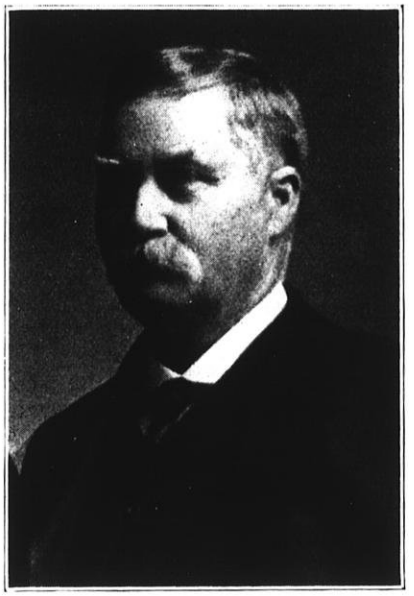
and likes to grow novelties, something different than the other boys and girls in the neighborhood. "Of course," he continued, "I know I couldn't grow any sort of a crop—but I wondered if I couldn't get a few plants to grow and bear cotton if I started them real early, just so I could see what the plants really looked like—and I could shut my eyes and imagine how a whole field would look." After expressing my belief that he could raise the plants if he were willing to be very painstaking in his care, and he had gone on his way to school, happy in the thought of this new stunt for his garden—this thought was uppermost in my mind—Billy is not cultivating plants alone—he is cultivating an inner vision that will bring him much happiness as the years go by.

WISCONSIN STATE FLORISTS ANNUAL

Edwin Matthewson, of Sheboygan, Wis., is to head the Wisconsin and Upper Michigan florists for 1927, and A. F. T. Lauritzen, of Eau Claire, Wis., is slated for vice-president, or the next in line. The next or summer meeting is going to Eau Claire and a more capable man than Mr. Lauritzen, or "Alphabet" as we call him familiarly, would be hard to find. Two officers were re-elected, Secretary Alfred Locker, of Wauwatosa and Treasurer Eugene Oestreicher, of Milwaukee. President R. E. Miller, of Racine in retiring becomes a member of the Board of Directors, as Walter Hamilton steps out, and the new director elected is James H. Dale, of Hancock, Mich. The hold-over director is Henry Benz of Racine.

H. H. S.

Pruning may be done to best advantage right now, as only a short period elapses before growth will be resumed and the healing of the wounds begins.



A. D. BARNES

A. D. Barnes, a pioneer in the development of horticultural interests in Wisconsin, passed away at his home in Friendship, January 31, 1927, at the age of 74.

Mr. Barnes was born September 5, 1852 in a log cabin at Le Roy, Dodge County, Wisconsin. Early in life he displayed horticultural propensities, grafting and budding fruit trees, planting, training and trimming them when only 8 to 10 years old.

In 1873, at the age of 21, he went west to Nebraska, homesteading on the plains of Fillmore County where he planted the first nursery and orchard in that part of the state.

After seven years he returned to Wisconsin and engaged for a period of time in the nursery business at the Waupun Nursery, canvassing a large part of the state. Becoming convinced that Central Wisconsin offered a large field for horticultural pursuits, he located at Waupaca in 1885 and established the Waupaca Nursery and Fruit Farms there, planting a large orchard of apples, cherries and plums.

After successfully conducting the Waupaca Arctic Nursery for 33 years, Mr. Barnes found it necessary in 1920,—due to a serious affliction of his eyes—to give up his horticultural pursuits and, selling his fruit interests in Waupaca, he moved to Friendship, Adams County, where he engaged in the real estate and abstract business.

Mr. Barnes was one of the first life members of the Wisconsin State Horticultural Society in which he took a great deal of interest. He has written a large number of horticultural articles, many of which have appeared in the reports of the society and during the time he was most active in the society he frequently served as their delegate to other state societies. For six years during the early nineties he was a lecturer on the Farmer's Institute Force. It was at the institutes he was given the appellation "Apple Tree Barnes" by which he was known throughout the state.

Only the best advertise in Wisconsin Horticulture. Read their ads. Give them your business and both will benefit.

Every Wisconsin housewife should have a copy of the University of Wisconsin bulletin that tells of more than 40 ways of serving peas, according to W. E. Nicholoy, secretary of the State Canners' Association. It is entitled "Peas in the Diet". Copies may be obtained by writing to the State College of Agriculture at Madison.

Washburn people are clamoring for another public park and propose to locate it on Bayfield street near Central Avenue. It is proposed that the floral design be an American eagle with a band stand and rest room in the body. The park will be lined with trees. The city will make an effort to secure the grounds.

Wisconsin Horticulture

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ERNEST L. CHAMBERS, Editor
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Remit by Postal or Express Money Order. A dollar bill may be sent safely if wrapped or attached to a card. Personal checks accepted.

Postage stamps not accepted

IN THIS ISSUE

GREATER OPPORTUNITIES

Horticulture has always played an important role in the welfare of our state, but since it was realized at an early date that live stock development should be the basic form of our agricultural activities this was assigned the leading part in the drama and with a half century's coaching has put Wisconsin on the map as the leading dairy state in the union. We are just enjoying prosperity and promise for greater market possibilities when along comes the European corn borer which insists upon playing the part of the villain and making a tragedy out of our drama. All eyes are now being focused on the stage and our heart-beats quicken. We have 110,000 silos in Wisconsin that have provided storage for the raw products which have been turned into weekly and monthly milk checks and provided the prosperity we have been enjoying. These silos must be filled if we expect to continue its enjoyment. Although the corn borer is still more than a hundred miles from our border it is causing a complete change in the methods of handling the corn crop that in itself is of grave danger to our dairy interests. In order to prevent the borers from over wintering in the corn stalks those in charge of the pest's control are requiring that all corn be shredded or put into the silo. This practice is accumulating a lot of dairy feed which will naturally stimulate dairy production and consequently build up competition in sections not formerly active in dairying in the corn belt. Such problems as this one have appeared from time to time and brought out the feeling that there should be more diversification in our agricultural activities and more emphasis placed on the building up of horticultural pursuits but none has gotten very far so far as the necessary appropriations were concerned. This problem of the corn borer menace should do more than arouse interest, it should get some definite action. It has been repeatedly demonstrated by growers of quality products that horticulture offers great opportunities for those skilled in its art. Let's have more horticulture.

SECRETARY

Our readers may be interested in knowing something about their new Secretary and Editor. A clipping from the Wisconsin State Journal of February 9 reads as follows:

"NAME CHAMBERS SECRETARY OF HORTICULTURISTS"

"Ernest Leslie Chambers, assistant state entomologist, has been appointed secretary of the Wisconsin State Horticultural Society, the executive committee of the society announced today. . . . Mr. Chambers has been with the state department of agriculture as assistant state entomologist for the past five years. Before coming to Madison he was employed by the

federal horticultural board of the United States Department of Agriculture."

Many of the readers have come in contact with the new secretary during his services as field entomologist and nursery inspector. Some of the readers will probably associate the name with the "Horticultural Troubles" page which was edited by him during the past five years.

Other Details

Born—Seville, Ohio, 1896.

Attended Ohio State University, 1914–1918.

Served in Medical Corp U. S. Army, 1918–1919.

Employed by F.H.B. at Washington, 1919–1921.

Graduated O.S.U., 1921 (B. Sci.).

Assistant State Entomologist, 1921–1927.

Master of Science degree U. of W., 1925.

Five farmers were honored by the college of agriculture of the University of Wisconsin at the general convocation of Farmer's and Homemakers' week when they were awarded testimonials in recognition of signal services rendered by them to the agriculture of the state and the nation. They are: Edward L. Divan, Browntown; S. W. Faville, Lake Mills; R. B. Melvin, Greenbush; W. H. Hanchett, Sparta, and Jens Jenson, Bone Lake. An account of Mr. W. H. Hanchett's activities appears elsewhere in this paper.

Secretaries of the local associations should report any change of officers to the state secretary as soon as possible together with a renewal for each one of their members not yet taken care of.

If you have any hints that might help the other readers to succeed in caring for plants, send them in for publication.

TOO MUCH PRUNING

Many orchardists prune too much, without regard to the real need of the tree and there is more danger of injuring the tree with too much pruning than with too little. Trees which are carefully selected when the orchard is set out require only the removal of an occasional branch which may start out in the wrong place, and the cutting out of dead, injured and crossed limbs.

If the trees are producing under-sized fruits, if the tops contain many dead branches, or if the seasonal growth is short and scant, judicious pruning is recommended as a means of rejuvenation. This usually consists in cutting back many branches and in entirely removing others. Prune weak-growing varieties heavily; strong-growing kinds lightly. Varieties which branch freely need little pruning; those with many unbranched limbs, much pruning. Prune trees in rich, deep soils lightly; in poor, shallow soils, heavily.

The cutting back of all the branches of a tree is practiced regularly only with Peaches and some Plums. This is attributed to the fact that, with these fruits, the wood of the past season, and therefore the crop, is borne progressively further away from the trunk, so that it is necessary to head-in these fruits by cutting back the branches in order to keep the bearing wood near the trunk. On the other hand, Apples, Pears, Cherries and most Plums are borne on spurs from wood two or more years old and with these heading-in is not so desirable. Experimental evidence obtained in tests on the Experiment Station grounds at Geneva, N. Y., indicates that winter pruning has no special advantage over summer pruning, except that the pressure of other work is less during the winter months. —*Horticulture.*

EXPLORERS RETURN FROM ASIA WITH PLANTS THAT MAY PROVE IMPORTANT IN AMERICAN AGRICULTURE

P. H. Dorsett, Agricultural Explorer for the United States Department of Agriculture, recently returned to the United States after two and a half years of searching in China and the tropical islands of Sumatra, Java, and Ceylon for plants that may be useful in American agriculture. With the assistance of his son, J. H. Dorsett, he made thousands of selections of seeds, plants, scions, bulbs, tubers, and cuttings.

This plant material, after passing inspection to determine its freedom from insect pests and diseases, and after being grown for a time in detention as an additional safeguard against the introduction of pests, will be sent to scientific workers of the department, State experiment stations and other testing gardens to determine its adaptability to our conditions of soil and climate, its possible use for breeding work, and other qualities. Such testing takes considerable time, often requiring ten years or more, before the worth of a particular introduction has been sufficiently established to warrant giving it to the public.

—U. S. D. A.

COVER PAGE

Vista in the Milwaukee Public Conservatory at Mitchell Park. Photo by H. H. Smith.

There is some talk of establishing the new national forest near Rhinelander following the approval of the project by Gov. Zimmerman. It will be used to demonstrate the practicability of forestry according to Earl W. Tinker, a representative of the United States forest service.

HORTICULTURAL TROUBLES

Edited by S. B. Fracker, State Entomologist

DESTROYING WILD CUCUMBERS AND MILKWEED CONTROLS CUCUMBER MOSAIC OR WHITE PICKLE

The most difficult disease to control in cucumbers is mosaic. Its presence has caused several cucumber growing districts to abandon their production entirely and increasing trouble with it has caused serious concern to the dealers in pickles.

It attacks both the plant as a whole and the fruits, reducing production and often rendering valueless such cucumbers as do develop.

Since 1920 the U. S. Department of Agriculture has been studying the control of this disease in Wisconsin and Illinois and the results are published in Department Bulletin No. 1461 by S. P. Doolittle and M. N. Walker.

When the control experiments were undertaken it was known that mosaic was carried in the seed of the wild cucumber and as the work progressed it was also found that the disease over-wintered in the roots of milkweed, pokeweed, ground cherry and catnip.

Mosaic is transmitted from the wild cucumber to the cultivated cucurbits by the striped cucumber beetle and to a lesser extent by the 12-spotted beetle. The melon aphis is the most important disseminating agent from other wild host plants.

In the earlier experiments attempts were made to remove all the mosaic host plants, that is all the weeds named, in areas of one-half to one square mile. It was later found, however, that it was apparently equally effective to confine the eradication to those host plants which occurred in or within 50 to 75 yards of the cucumber fields. Under this system all the known host plants were removed whether they showed signs of mosaic themselves or not. The work was begun at the time cucumbers were planted and the inspections were repeated at intervals of 10 to 15 days during the season.

In some cases these weeds and wild cucumbers were abundant, especially when the fields occurred near towns, as wild cucumbers are often planted in gardens.

The authors recommend that cucumbers should not be planted continuously on the same land. The rotation of the crop is advisable for the control of other diseases such as anthracnose and scab.

The cucumber field should be located at a distance from the farm buildings and vegetable garden as the wild host plants are more common around the buildings than they are at greater distances. The eradication of the wild host plants is also much more convenient if the field is surrounded by other cultivated crops.

In the case of the wild cucumber, milkweed, ground cherry and catnip the plants should be dug out if they are not too abundant, but it has been found that if the shoots are pulled up as fast as they appear the plants will eventually die out.

In Illinois the eradication of the pokeweed is a problem as they are difficult to pull and it is recommended that they be cut off and the cut surface covered with salt. Fortunately, these weeds are rare in Wisconsin.

The fact that the mosaic infection on the milkweed and wild cherry occurred almost entirely on land which had grown cucumbers before indicated that they had originally been infected from the cultivated cucumbers and emphasized the importance of crop rotation. It is evident that it is essential to keep the fields free from such host plants in order to prevent their becoming infected with mosaic and acting as sources of the disease to succeeding crops.

The results of the work showed that cucumber mosaic can be controlled by these methods under difficult conditions. Near Rockland, Wisconsin, the infection was reduced in two years from about 39% to 3% and at Madison from 100% to 10%.

The writers state that if this plan is carefully followed the losses from mosaic in the average field can be reduced to an amount not of serious importance. Where fields lie close together it is essential that all growers cooperate in removing the sources of infection about their fields.

The control of cucumber beetles and the melon aphid is also of some assistance. Several experiment stations have shown that the most effective method of controlling the beetles is by the use of a dust consisting of one part of calcium arsenate in twenty parts of gypsum or land plaster. This dust seems to reduce the beetle attack more than when the insecticide is used with lime or any other carrier.

An International Horticultural Congress will be held at Vienna September 20 to 25, 1927, coinciding with the centennary of the Horticultural Society of Austria. Amongst the subjects to be discussed are international regulations for a nomenclature of novelties, international agreements on granting certificates, international agreement on a uniform styling of colors.

THE FLORIST'S PAGE

Edited by Huron H. Smith, Curator of Botany
Public Museum, Milwaukee, Wis.

THAT HORTICULTURE PROGRAM

Although the Milwaukee County Horticultural Society has not become of age yet, it is a lusty infant and growing fast. It will be a year old next May. Outside visitors think the society has solved the program bugaboo, and it may be worth while to describe their methods. Nic Rasmussen thinks their programs are the "berries" and he ought to know, for he has specialized in berries for a quarter century. A Mrs. Evans of Evanston, no pun intended, is a member of the national garden club and spends lots of her time in Washington, D. C. She made a special trip to our last meeting, and said that she thought it the best she had ever attended. Where's so much smoke, must be some fire.

Perhaps we had better describe our last program and afterwards tell how we do it. This program was at 7:30 p. m. Tuesday, Jan. 25th, in the Trustees Room of the Public Museum. Our meetings are always on the fourth Tuesday evening and last from 7:30 until 10 p. m. Any visitors are welcome. All talks were by members. The first number was by Emil Kieckhefer, of 1483—24th street, who told of his twelve years experience in growing woods ferns on barren spots at his home. His failures and successes were recounted. Supt. Fay Coon, of 558—49th Ave., is superintendent of the West Allis schools, and brought along two of his 550 gardeners from the high school. They brought all of the material for demonstrations, and the girl gave a demonstration of how to plant and grow hyacinths, after singing their garden song. The boy gave a demonstration of planting a flat to tomato seeds, and told all about the seed bed preparation and methods of watering through cloth. Both demonstrations were received with great interest.

Louis R. Potter, 4125 Plankington Bldg., gave an interesting talk on the cultivation of Iris, dealing chiefly with the German Iris, and recommending various types for Milwaukee's growing. Archie Hill, 117 Greenfield Place, Wauwatosa, who won the national prize for garden design, and whose design has been worked out in the New York Botanical Garden, Bronx Park, as a perpetual object lesson, spoke about garden designing in Milwaukee and illustrated his remarks with two drawings to scale for the average Milwaukee residence lot. His two plans were for rectangular and circular treatments. Mrs. C. E. Strong, of West Allis, had a place on the program with a talk on perennials, but offered as a proxy, Mr. N. A. Rasmussen, of Oshkosh, Wis., who chanced to be in the city that day. He made a general talk on the aims of the State Horticultural Society and urged affiliation of the local chapter with the State body. Miss A. Beggs, of 2613 Kilbourne Ave., gave the nature poem for the evening,—Lines to a Daffodil. Following the meeting tangerines were passed with the compliments of the president.

Programs for this society are never lacking, for the members do it themselves. If they feel timid about talking, they are privileged to make it a paper, but so far none have availed themselves of that privilege. The alphabetical list of members is canvassed and each member gives the horticultural topic that most interests him. Speakers for the next meeting are chosen by skipping every other name until four to six are provided for the following meeting. Two hours and a half seem all too short, for while the talks are supposed to be six to ten minutes long, they often reach half an hour, and with the discussion that follows, animated and intensely interesting, it is difficult to get through. We have never called in an outside lecturer, and all the members are amateurs, hence the meetings are more like an old-fashioned experience meeting. That's why they interest. The meeting always starts with a nature poem, gleaned from any source whatever, and left entirely to the choice of the person whose time arrives for its presentation.

The January meeting also was election of officers, and since the society was only six months old, the old officers were again elected. They are: Huron H. Smith, President; Louis R. Potter, Vice-president; Miss Martha Krienitz, Sec.–Treasurer. The directors are Mrs. C. E. Strong, Mrs. F. Harmueller, Mr. L. A. Burmeister, Jr., Mr. John G. Cargell, and Mr. Frank Giloth. Dues at present are fifty cents a year, but in view of the many spring and summer flower shows that the society expects to hold the coming year, it was voted that each member contribute $1.20 or ten cents a meeting as they preferred to create a prize list for the shows. Certain nurserymen have indicated their willingness to give prizes of stock in addition to the cash premiums. The society has 65 members and each session sees additions.

Since the list of members has been run through once for programs they now propose to have symposiums upon certain flowers to use one evening for a separate flower like iris, gladiolus, paeony, roses, etc. Definite assignments will be passed out covering every phase of their culture, and discussion follow

Continued on page 106

THE MARKET PAGE

Edited by State Department of Markets

FACTS ABOUT MARKETING

WILLIAM KIRCH

The various activities of the Wisconsin Department of Markets can be said to deal with the organization of the marketing of farm products. This object is being gradually attained by organizing farmers for the co-operative marketing of their products, standardizing and inspecting these products as to quality, investigating costs of distribution, inspecting warehouses established for facilitating loans on stored goods, furnishing accurate and rapid market information, making accounting installations for co-operative associations and co-ordinating the various marketing functions which relate to the transfer of products from producer to consumer.

The complexity of the marketing problem necessarily makes this work of improvement slow. It should be remembered that the present marketing system developed without any planning and that in the course of its haphazard development business practices were established, which in numerous instances have lacked uniformity, have not been properly co-ordinated and have resulted in a great deal of waste and unnecessary expense as well as in duplication of marketing services. This lack of co-ordination and uniformity has been especially harmful to farmers. Not being organized they were completely at the mercy of the agencies which were taking care of the marketing end of the agricultural industry. One of the worst practices was the marketing of products without regard to quality and it was in this particular field that the Department of Markets has brought about the most substantial improvement.

The relation of the quality factor to agricultural marketing is best brought out by a comparison of modern practices of buying and selling with those which prevailed years ago, under the so-called self-sufficing economy. In those days farmers were either exclusively selling their products in the immediate locality or directly exchanging them for other products. The buyer was then always in a position to know by personal inspection the quality of the product which was sold to him, mainly because the sales and exchanges did not involve large quantities. Since the advent of commercial agriculture, however, farm products began to be shipped in large quantities to distant places. The buyer, at times a thousand miles away, was unable to know definitely the quality of the products that were being shipped. He was running a risk and the seller was naturally compelled to bear part of the risk in the form of a lower price; as time went on the ultimate seller, namely, the farmer, had to pay more and more for that element of risk. It became evident that some means must be devised whereby the party at the other end would know exactly the quality of products that were being shipped. In other words, a common language had to be devised to enable both parties to the transaction to understand each other. This common language consists of terms designating definite peculiarities relating to quality and giving in the aggregate a good description of the product.

Although the introduction of this common language is only of recent origin so much progress has already been made that the problem of standardization may be considered as solved. Wisconsin was the first state in the Union to introduce a complete program of standardization for fruits, vegetables, hay, honey, cheese, poultry and eggs and to devise grades on these products.

The grades established by the Department of Markets are the result of conferences which are held, prior to the establishment of the grades, with all the agencies concerned in the production and marketing of farm products. No order relating to grades is ever issued until all the important sections of the state producing a particular product are covered and the opinions of those who are interested enough to appear at the hearings are thoroughly weighed and analyzed. The resulting grades are, therefore, working rules which in the opinion of farmers, dealers and buyers can be lived up to and which, if properly enforced, are of specific value to the industry as a whole.

The work of standardizing fruits and vegetables in which the readers of the "Wisconsin Horticulturist" should be particularly interested was started by the Department of Markets in 1919 and it has been brought to a degree of efficiency which has repaid many times the funds appropriated for that purpose by the Legislature. Standardization involves inspection of shipments which is carried on by the Department of Markets in co-operation with the Bureau of Agricultural Economics of the U. S. Department of Agriculture. It should be noted that the work of inspection is done entirely on a voluntary basis, that is, inspections are made only when the department receives requests from growers or shippers.

The real meaning of this service will be best appreciated when certain features peculiar to modern business methods are taken into consideration. One

of these is that modern business transactions are founded on confidence. The standardization of farm products promotes this confidence inasmuch as the quality of goods ordered is guaranteed by an official certificate. This feeling of confidence results in the saving of time and the elimination of a great deal of waste. A good illustration of this is that under the present system of enforcement of grades less cars are rejected than before this system was introduced. Standardization also has the great advantage of placing the buyer and the seller on an equal footing in that a concrete and definite statement of quality certified by federal and state authorities prevents either party from taking undue advantage of the other either by underestimating or overestimating the quality of the product.

The most tangible proof of the value of standardization lies in the fact that marketing on this basis results in higher prices as is shown by the fact that during the last few years Wisconsin potatoes have been quoted higher on the markets of the country than those of Minnesota, a state where no standardization program exists.

Now is a good time to start agitation for a garden, vegetable, fruit, or general horticultural club in your locality.

Five catalogues for flowers, seeds, and trees have just come in. Remember when ordering that the advertisers in Wisconsin Horticulture would like to know that you saw their advertisement in this magazine.

It takes just a few seed catalogues and a little imagination to make a plan for that perfect garden that all of us have been wanting for so long. And the best time to plan it is right now, when we have long evenings and want to look forward to the spring and summer months.

Continued from page 97

Marketing—After the fruit has been grown it becomes necessary to market the surplus. This work is poorly done by the great majority of farmers. To market the surplus advantageously several things are necessary, they are:

1. Hand picking of apples—Windfalls will not keep in storage and they do not look attractive in the basket.

2. Careful grading — Apples to be sold should be graded so as to be without serious blemishes, and of uniform size and desired amount of red color, in the case of red fruit.

3. Package—Use new, clean containers of the size your *customer* desires. The half bushel and peck market baskets are very desirable roadside market containers, especially for early apples and fancy fruit. The bushel basket ranks high. Containers should be well filled with a uniform grade. The top layer should be rig faced to make the package attractive.

4. Advertising — You cannot expect to sell your surplus even if it is of high quality, without doing some good advertising. Let people know what you have, sell at a fair price, give first class service at all times and you will meet with success. Advertise thru local papers, telephone and large neat farm signs.

5. Cider — Good business in good cider. Sound clean apples for cider and clean cider press and surroundings will bring you good prices for apples which can not and should not be sold as eating apples.

Continued from page 103

every talk. No member likes to miss one of their sessions, for there is something new to be learned and appreciated at every meeting. Their latest activity is to create a purchasing committee, who gather up requirements and are able to purchase at wholesale rates. We hope this will stimulate other local societies thruout the state to "go and do likewise", for we know it works.

HURON H. SMITH.

One way to save labor is to put in on the best land. Another is to plan your work in advance.

LIST OF EXHIBITORS AT FALL FLOWER SHOW, MILWAUKEE, WIS.

We would like to comment upon every exhibitor's contribution but space forbids, so we append the complete list of exhibitors, which number the most of any show by one, or 71 exhibitors. The total attendance was:

1. Mrs. F. E. Morrow, Spring Green, Wis. Specimens gladiolus flowers and bulbs.
2. Burlington Floral Co., Burlington, Wis. 2 vases pompons, vase large mums, 2 vases carnations.
3. Holton & Hunkel Co., Milwaukee, Wis. Huge group assorted greenhouse ornamentals and blooming plants.
4. Sunny Point Floral Co., Milwaukee, Wis. 8 vases pompons, 2 cyclamen plants.
5. Riebs Bros., North Milwaukee, Wis. 4 vases pompons, 2 vases sweet peas, vase of snapdragons.
6. Norman Schmidt, Fox Point, Wis. 2 vases large mums, 1 vase pompons.
7. Frank Zacharias, N. Milwaukee, Wis. 4 vases sweet peas, 2 vases pompons, vase large mums, vase calendulas.
8. Greenwood Carnation Co., N. Milwaukee. 5 vases pompons, 3 vases carnations, vase gladiolus.
9. Albin Reinhardt, N. Milwaukee, Wis. 7 vases pompons, 3 vases carnations.
10. A. C. Spinti & Co., Milwaukee, Wis. 12 begonias, 1 Rubrum lily plant, 1 vase pompons.
11. Chas. Kitzerow & Son, Milwaukee, Wis. 4 pompon plants.
12. Herman Staeps Co., Elm Grove, Wis. 2 large vases pompons, 1 vase large mums.
13. South Milwaukee Rose Gardens. Vase Columbia roses.
14. Thos. Griebler & Sons, Inc., Milwaukee. 4 vases pompons, 6 begonia plants.
15. O. H. Eggebrecht & Son Co., Milwaukee. 2 vases pompons.
16. William Rayner & Son, Oconomowoc, Wis. 12 Golden Glorie mums, 50 Bright Eye pompons.
17. Gust. Pohl, Milwaukee. Vase Morning Glow carnations.
18. A. H. Arndt, Wauwatosa, Wis. 3 vases pompons.
19. Herman Schwann, Cudahy, Wis. Vase large mums.
20. Grunwald Bros., N. Milwaukee, Wis. 3 vases carnations.
21. Kochanski Bros., Milwaukee, Wis. 4 vases sweet peas, vase large mums.
22. Garland Flower Shop, Cudahy, Wis. Basket of roses.
23. North Side Floral Co., Milwaukee, Wis. Basket cut flowers.
24. Aug. Pagenkopf, Milwaukee, Wis. 4 vases pompons, vase large mums.
25. Frank Eberfeld & Sons, Milwaukee, Wis. 2 pompon plants.
26. Eugene Oestreicher, Milwaukee, Wis. Basket of pompons.
27. Chas. Menger & Son, Milwaukee. Box primrose and table decoration.
28. A. Brueggeman, N. Milwaukee, Wis. 2 vases carnations, 2 vases pompons.
29. Rud. Preuss & Sons, Milwaukee. Table decoration.
30. Hugo Locker & Sons, Wauwatosa, Wis. Vase cut rubrums, vase carnations, vase calendulas, vase sweet peas, table decoration, basket cut flowers.
31. C. C. Pollworth Co., Milwaukee, Wis. Large display greenhouse plants, blooming plants, vases of roses and mums.
32. Ernst Praefke, Milwaukee, Wis. 6 potted mum plants.
33. Ludington Floral Co., Milwaukee, Wis. Vase assorted pompons.
34. Fox Point Floral Co., Fox Point, Wis. 10 vases pompons.
35. Cudahy Floral Co., Cudahy, Wis. 5 vases roses, Premier, Red Premier, Butterfly, Sensation, and Briarcliff.
36. Scott Rose Gardens, Cudahy, Wis. 4 vases roses: Premier, Templar, Columbia, and Roselindia.
37. Zimmerman Floral Co., Milwaukee, Wis. Basket of cut flowers.
38. John Rosso, Milwaukee, Wis. 6 vases of violets.
39. F. C. Kaiser, Inc., Milwaukee, Wis. Vase assorted carnations, 2 vases pompons.
40. A. M. Dettmann & Son, Milwaukee, Wis. Large basket cut flowers.
41. Roscoe Godfrey, Wauwatosa, Wis. 5 vases pompons.
42. Edlefsen Floral Co., Milwaukee, Wis. Table decoration and corsage bouquet.
43. West Allis Floral Co., West Allis, Wis. 5 pots callas, vase assorted pompons.
44. Otto Sylvester, Oconomowoc, Wis. 5 vases assorted pompons.
45. Forest Home Cemetery, Milwaukee, Wis. Large assorted display, ferns, cypripediums, etc.
46. Semler–Leidiger Co., Milwaukee, Wis. Basket of cut flowers.
47. Bell Flower Shop, Milwaukee, Wis. Table decoration and mum plant.
48. Fred Manke, N. Milwaukee, Wis. 3 vases carnations.
49. Wm. Manke & Co., N. Milwaukee, Wis. 4 vases large mums.
50. A. Currie & Co., Milwaukee, Wis. Table centerpiece and candles.
51. Gus Holtz & Son, Milwaukee, Wis. Basket of cut flowers.
52. Estelle Gumz, Milwaukee, Wis. Centerpiece and candles with pumpkin bowls.
53. East Side Floral Co., Milwaukee, Wis. Basket of cut flowers.
54. Currie Bros., Milwaukee, Wis. Large basket of cut flowers.
55. Fisher Floral Co., Milwaukee, Wis. Table decoration.
56. Froemming Bros., Milwaukee, Wis. Basket of cut flowers.
57. Baumgartens, Inc., Milwaukee, Wis. Basket of cut flowers. Table.
58. Hillmans, Inc., Milwaukee, Wis. Basket of cut flowers.
59. Fred Gutermuth, Milwaukee, Wis. 3 plants, 2 baskets, 1 colonial and vase.
60. Alma Balfanz, Milwaukee, Wis. Bowl of flowers.
61. Beaver Dam Floral Co., Beaver Dam, Wis. 2 vases large mums.
62. Mary J. Skinner, Milwaukee, Wis. Basket cut flowers, and glass bowl flowers.
63. Gimbels Flower Store, Milwaukee, Wis. Large mum plant, 1 table decoration.
64. John Rost & Co., Milwaukee, Wis. Basket of cut flowers.
65. J. M. Euringer, Milwaukee, Wis. Flowers for new baby.
66. Mueller's Flower Shop, Milwaukee, Wis. Basket of carnations and pompons.
67. Wm. Nero & Son, Cedarburg, Wis. 2 Cleveland cherries, vase of carnations.
68. Loeffler & Benke, Watertown, Wis. 3 vases pompons, vase large mums.
69. Waukesha Floral Co., Waukesha, Wis. Vase large mums.
70. Aug. F. Kellner Co., Milwaukee, Wis. Woodland scene on stage.
71. Various pieces from demonstration by Preuss, Suzanne, Holtz, Skinner, Gimbels, Baumgartens, and Welke. Long basket of mums, collection bridesmaid's bouquets, collection of corsages, wrist, shoulder, ankle and knee, colonial for mother and new born baby.

HURON H. SMITH.

What a Garden Club Can Do may be found in this issue.

The best insurance for a good crop of anything is care in growing.

Mr. Hays of the Gays Mills Fruit Farm reports a successful apple season.

The spray rings that have been putting on all four sprays have been coming out on the long end of the deal.

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CHATS ABOUT PRUNING

By A MEMBER

Talks on pruning are much like a certain man's praise of his watch which he claimed was just splendid in every way except that it wouldn't run. A horticultural meeting without some one asking "When is the best time to prune?" and an answer "When your knife is sharp" would be unusual. The idea that pruning as to time is merely a matter of having a tool that will cut is only a trifle better than saying that the proper time to plant is when you have seed.

When *is* the best time to prune? The answer is "What are you going to prune? Is it for the purpose of cutting back to make stronger fruiting shoots, or thinning for the same purpose? Is it to clear neglected trees of water sprouts, dead limbs or blight? Is it to thicken the bearing area or to thin it? Is it to head back trees that are growing too tall or raise tops that are carrying too much fruit on or near the ground that never colors?" Aside from these important elements one may well ask another question, "Do you intend to use a knife, shears, saw or ax?"

Summer Pruning

Strawberries should be cut back, chopped out or thinned as fast as a surplus of plants are grown which will depend upon variety, fertility, and moisture. Blackberries and blackcap raspberries should have top bud pinched out when two and a half to three feet high so that the plant growth will go into laterals to increase branches. Where fruit trees have a tendency to make long terminal growth exhibiting a skeleton like top the end growths most evident should be clipped. This is usually shear pruning and done early in the summer. Where there is blight in apple orchards water sprouts should be cut as soon as they appear. Where a young water sprout blights it will generally make a canker and where it does the canker should be cut out, disinfected and shellaced. Tree and bush fruits may have an excess of small limbs a quarter of an inch in diameter cut with a sharp knife if carefully done as to cutting without projecting stump, loosening bark or damaging adjacent spurs or fruit in removing the cuttings.

Winter Pruning

People who advocate winter pruning have forgotten all their knowledge of tree life botanically speaking. Keep in mind that every cut in a tree is a wound to be healed or a dead spot in the tree. One of the most important things about pruning seems to have been overlooked. Wounds are healed by the "sap flow" and sap flows lengthwise and not crosswise of the trunk and limbs, and a wound that reaches a degree of dryness excludes sap flow and heals slowly or not at all. Winter pruning means dry wounds in cold climates with little or no rain and warm dry weather in any climate will make tree wounds dry out. Wounds well shellaced give protection to cuts in a tree. Another important fact usually overlooked is that the stumps of limbs heal slowly or not at all. When a stump is above the level of the bark there is very little sap flow in it and the longer and larger it is the more certain it is not to heal over. There is still another important fact that is overlooked and that is that only smooth wounds heal readily. Rough surfaced tree wounds do not heal at all. Saw scratches, splintered stumps, loose bark, all keep wounds from healing. Saw cuts must be smoothed with a knife and no loose fragments left and the bark must remain tight to the stump, otherwise the dry section of the stump will arrest healing.

When the sap is up it is difficult to prune with a saw without tearing the bark loose from the stump, besides the sap of the early spring months is necessary to heal pruning wounds. It is a common practice in pruning to cut the under or side nearest to the tree trunk even with the back, leaving the crotch side to project. After making a cut the stump should be trimmed down on the crotch side even with the bark leaving the wound smooth with the longitudinal edge of the bark.

Tree pruning other than described should be done after severe freezing, when Spring rains begin and the time sap rises, and cuts larger than a silver quarter should be shellaced if largest yield and long life is desired.

The time to cut big limbs is before they get big—do not cut off large limbs even though they are superfluous—the cut will make a dead place in the body of the tree, besides the shock to the tree is harmful. If an under limb is too large to cut off trim its branches leaving only enough to keep it alive.

IMPORTANT NOTICE

All correspondence intended for the secretary of the Wisconsin State Horticultural Society must be so addressed at 119 E. Washington Ave., Madison, Wisconsin. Any mail addressed to the former secretary, Frederic Cranefield will be delivered to him at 1931 Monroe St., Madison, Wisconsin. Mr. Cranefield informs me that some of the society's mail has been coming to him, since he has notified the Post Office to deliver all mail having his name upon it and has asked me to call this matter to your attention.

E. L. C.

THE FLORIST'S PAGE

Edited by Huron H. Smith, Curator of Botany
Public Museum, Milwaukee, Wis.

A CHICAGO FLOWER SHOW

It may seem a far cry from Wisconsin flower matters to a Chicago flower show, but there is a connection which will develop as we tell about their Spring Garden and Flower Show, which ran from March 7th to 13th. It was the writer's good fortune to visit the show on the 8th and 9th of March and study it carefully to see what we may gain by their example. Perhaps it is best to tell how there came to be such a show first.

Chicago in many lines of endeavor has an unquenchable spirit of citizenry that is constantly seeking expression in civic exhibitions. Their motto "I Will" for Chicago, comes lots nearer being the truth for them than it does for Milwaukee. The writer had abundant opportunity to witness that trait during his ten years of residence there. But the florists have often found that they set their ideal too high. The Coliseum show and the old Broadway Armory show were both losing ventures. While they all wanted a show, they got cold feet when they remembered the deficits. It was up to a new Moses to lead them out of the wilderness of inaction, and he appeared in the person of John A. Servas, the exposition manager of the Hotel Sherman. He offered them the fifty thousand square feet of space necessary free, depending upon the floor space he could sell among the trade, and the publicity that always accrues to the hotel in such shows. He could easily have had a profit of $1,000 a day from organizations who would have arranged banquets there, but was far-seeing enough to appreciate the advertising value of such a high-class show.

From the standpoint of the florists, it was a wonderful find. Any other place would have had to be transformed by the interior decorator at a great expense. Here was a perfect setting, ready to move in, using the Grand Ball room, the Exposition Hall and the Crystal Ball Room on the floor above. Admission was made nominal at 50 cents. Before the doors opened, premium lists, twelve gardens, and other expense brought the bill up to $25,000. That means that at least 50,000 visitors will have to view the show before it pays expenses. This looked quite possible when the writer visited the show.

The resources of the garden and flower people of Chicago warrant such a show. Thirty garden clubs scattered all over the commuting territory of Chicago joined hands with those directly in the florist business. In Chicago alone there are 26 wholesalers and 804 retailers. Growers that ship to Chicago number nearly a thousand. The Park Commissioners got behind the show also, and Lincoln Park, Garfield Park and Washington Park greenhouses each furnished a complete garden. The exposition hall housed 12 gardens. The Grand Ball room carried the exhibits of the growers and retailers, while the Crystal Ball room was completely filled by the Garden Clubs. The commercial exhibits clung to the outskirts or parlors above the main lobby of the hotel.

Just a word about these four sections, or rather a personally conducted tour of the show. As one comes up stairs to the second floor, the trade is first seen. Better Homes and Gardens, The Flower Grower, and the book department of the Florists Exchange are found busily engaged in building up their circulation with special offers. Local seedmen, bulb houses, and garden tool people all had booths. Water pumps, overhead irrigation systems, nursery-men and fertilizer people were present in force. Landscape gardeners and architects had planted gardens, showing "before and after taking".

The hall of gardens came next to view on our tour,—gardens covering 500 square feet, with flowers specially forced into bloom for the occasion, plenty of brick work, ornamental rock, trellises, pergolas and fabricated stage settings. Quantities of real grass had been grown to make beautiful lawns, and among flagstone walks budding crocus and squills gave a realistic touch. We have only space to name the gardens, though each warrants a description. The American Garden was the first one seen, designed and arranged by Vaughan's Seed Store. Plenty of perennials, baby roses, hybrid perpetuals, flowering shrubs such as almond, barberry, quince, deutzia, Chinese Golden Bells, lilacs, honeysuckle and bridal wreath, and bedding plants and vines, flowering bulbs gave one the feeling of spring. The Italian Garden, of Swain Nelson & Sons, made use of many varieties of evergreens. The English Garden, by Frank Oechslin, had a wonderful show of hyacinths, cinerarias, genistas, azaleas, Cibotium ferns, and other foliage plants. The Rock Garden, by Lynn, the Rustic Man, of Glenview, was elevated to eye level and appeared to be a mountain slope with a rivulet of water ever coursing along banks of heavily blooming primroses and tiny alpine plants. The Old Fashioned Garden was arranged by the South Park Commissioners, and if you don't think they can put up a garden of this kind, just let me remind you that their annual budget is eighteen million dollars. The Tropical Garden was the design of our

old friend, August Koch, of Garfield Park Conservatory, and of course there is no private grower in the whole of Chicago territory that has the material to make a tropical garden like he did. The Water Garden was the offering from the Lincoln Park Commissioners, and the many varieties of water plants in a pool were fittingly surrounded by slate walks, statuary and fountains from a famous artist of Chicago and New York. The Rose Garden designed and arranged by the Wallace Floral Co., had many high class accessories including real brick work, lattices, and statuary. The Spanish Garden, by Joseph Michal, represented a mission style house front with ornamental hardware, iron work and lamps, and a graveled path made from shining pearl pebbles, of course all planted in harmony. The Tulip Garden, by Frank Oechslin, was a wealth of breeder tulips seen at this time for the first time in Chicago. All named varieties and of such new shades and statures that they instantly attracted the attention of the visitor. We have saved the best garden until the last,—the Alpine Garden, arranged by Mrs. Carl S. Miner, of Glencoe. The judges thought so, too, and gave her first premium. The wealth of varieties, and the close simulation to a natural setting probably gave her the prize. We have about 16 rock garden bugs in Milwaukee and want to announce right here that it is the coming flower garden. England's greatest authority on Alpines, the late Mr. Farrer, says, "With six stones, two conifers and four alpines I would engage to make in a yard of ground a view that should be beautiful, satisfying and harmonious".

The commercial florists grand ball room, was of course the finest show of flowers. People who are dependent for their daily bread upon their success with flowers, become able to grow the finest specimens. Huge roses, perfect carnations, lilies, azaleas and many varieties of flowers staged in the height of perfection made this room a delight to the senses. One visitor remarked that it smelled like a funeral, but her guest took the better viewpoint and said it made her think of the time she got married. The show gave evidences of the work of American breeders and propagators. Since the many embargoes on importation, we have developed the fact that we can produce as good quality as our former source people could do. Any one seeing the azalea beds at the show would acknowledge them to be prime in quality. We have always depended upon Germany and France for our lily-of-the-valley pips, but the premium winners at this show got their stock from La Crosse, Wisconsin, where a grower has turned his attention to this stock. A new giant strain of freesia was much admired, the product of Elder Bros., Indianapolis, Ind. It had better fragrance than Purity variety and looked like a Purity grown up to four times the size of flower. A new violet attracted much attention, with better fragrance and flowers the size of half dollars. It was named Mr. David Lloyd George.

The garden club people in the Crystal ball rooms, gave their effort to decorating tea tables and dining tables. The arrangements showed a wide latitude of accessories, from "tea for two" to a regular family table, and in great numbers. One of the most interesting features of the show was the series of "shadow boxes" put up by the garden club ladies. In principle, they were much like the doll-houses we made in our childist days, with a peep-hole to look at the lovely cut-out furnishings displayed in a covered shoe-box, except here the whole hall was the darkened part, and the individual flower arrangements in a single bowl were lighted from above. It was like being in a picture gallery, with each frame enclosing a more entrancing living picture than the other. The Japs have nothing on us when it comes to arranging flowers, and this was well proven at the Chicago Show. We are breathing a prayer for the success of the show financially, so they can do it again.

HURON H. SMITH.

DEAN OF RETAILERS OMITTED

The March issue list of exhibitors at the Museum Fall Flower Show unintentionally left out one of the chief exhibitors,—James Fox, Inc., of Milwaukee.

SOUNDS LIKE RABBITS

Recently a newspaper clipping came to my attention which reads as follows:

NEW TYPE OF THIEF PRUNES APPLE TREES

Pewaukee, Wis., March 7.—(AP)—A new type of thief has been disclosed with the announcement of Sheriff Alvin Redford that he is searching for the person responsible for skilfully pruning off the tops of 250 valuable golden delicious apple trees on the Whitehorn poultry farm near here. The work was done at night and was apparently done for grafting and for new slips. Many trees are dying. The trees were leased from a Madison company under a contract which forbids pruning for grafting purposes.

It seems strange that any one skilled in the art of grafting would be guilty of such an offense as suggested in this clipping, nor is there any firm in Wisconsin leasing this variety of apple under such a contract. We have seen many cases that sound like this one that were nothing more than the work of a hungry rabbit.

We would suggest that the sheriff look around the base of these trees for the twigs and we believe he will find them as well as indications that rabbits have been feeding. We had a similar report of seedling elms being pruned and the pruning suddenly stopped when the gun was brought into play.

THE UNIVERSITY PAGE

Edited by the University Pathology Department.

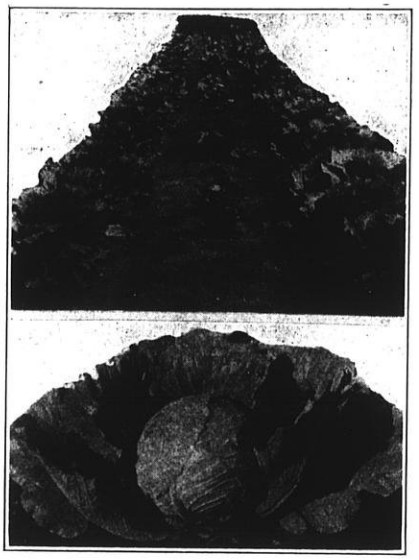
YELLOWS-RESISTANT MID-SEASON CABBAGE VARIETIES NOW AVAILABLE

By J. C. WALKER

Associate Professor of Plant Pathology, University of Wisconsin

Wisconsin cabbage growers who are located in the southern half of the state and whose fields have become infested with yellows will from now on have three new mid-season varieties to add to the list of those which will successfully resist this disease. The fungus which causes yellows once introduced into the soil remains and multiplies indefinitely and during the warm mid-summer weather attacks the ordinary cabbage varieties, destroying the plants very rapidly. Where, as in central and northern Wisconsin, the season is somewhat cooler, the disease seldom develops and probably never will become a serious factor in cabbage production. Where it does prevail the only means of combatting it is through the breeding or selection of yellows-resistant strains or varieties.

When any variety of cabbage is planted on thoroughly sick soil at least a few individuals survive. These are made the basis of selection and seed grown from them. When the progenies are grown again on sick soil they usually show a large increase in percentage of resistant plants while another generation or two of selection yields a highly resistant strain (See Fig. I). In the beginning heads were selected in the autumn, stored, and grown to seed the following summer when the seed plants were cross-pollinated by insects. Now the heads selected in the autumn are set out in the greenhouse and brought to blossom in time to furnish seed for the next season's sowing. Not only does this method save one year's time in every generation but it also allows one to artificially self each seed plant and cross with other plants as desired. In this way the original type may be adhered to more successfully, an important matter especially with mid-season and early varieties.



Above—(Fig. 1) Midseason resistant varieties on yellows infected soil: Left—Marion Market. Center—Golden Acre (non-resistant). Right—All Head Select. Below—(Fig. 3) Globe, selected from Glory of Enkhuisen.

The Wisconsin Experiment Station developed and introduced some ten years ago the yellows-resistant selection of late shipping cabbage known as Wisconsin Hollander. In 1922 the Wisconsin Brunswick and Wisconsin All Seasons, late varieties of the flat type, were first used extensively. The selection and breeding program started in 1910 by the Wisconsin Station and later joined by the Office of Vegetable and Forage Diseases of the United States Department of Agriculture has been continued and enlarged in scope. Progress has been materially advanced by liberal financial support from the National Kraut Packers' Association.

Before the work was completed upon the late varieties of storage and kraut cabbage, it became evident that these types would not meet all legitimate needs. Kraut manufacturers and truck growers emphasized the importance of having resistant strains of the more important mid-season and early varieties. Thus in recent years attention has been directed primarily toward selections from these types.

In order to meet the somewhat varied needs for varieties in the mid-season class three standard varieties were used as basic stocks. These were the All Head Early, a flat head type; the mid-season strain of Copenhagen Market, and the Glory of Enkhuizen, both round head types. This work was started in 1919. By the end of the 1923 season, strains were secured from each of these three varieties which though not perfectly resistant were sufficiently so to produce commercially successful crops on very sick soil. The best heads from each were saved and from them "stock seed lots" were produced in 1924. These were turned over to the National Kraut Packers' Association and in 1925 they were planted in the Puget Sound seed growing region. They yielded in 1926 seed crops available for distribution in 1927. Since the resistant strains are now distinct from the original varieties they are given new names under which they will be known hereafter. The brief descriptions of these new varieties are as follows:—

All Head Select.—Selected from All Head Early; highly resistant to yellows; close to All Head Early in type and time of

maturity. Suitable both for market and kraut manufacture (fig. 2).

Upper—(Fig. 2) All Head Select produces a flat head and is two weeks earlier than Wisconsin All Seasons.
Lower—(Fig. 4) Marion Market is a resistant selection from Copenhagen Market.

Globe.—Selected from Glory of Enkhuizen and conforms closely to it in type, except that it has a few more outer leaves at maturity. Season same as parent variety. Highly resistant to yellows. The 1926 seed crop of this variety is limited (fig. 3).

Marion Market.—Selected from Copenhagen Market; highly resistant to yellows; not so early as Golden Acre and early strains of Copenhagen Market, but matures about even with All Head Select; color and shape of head similar to early Copenhagen Market but plant is larger, somewhat leafier and produces a larger head (fig. 4).

All Head Select and Marion Market are now listed by a number of seedsmen. If you are unable to secure these seeds through your regular seedsman write to the Agricultural Experiment Station at Madison, Wis., for a list of those offering them for sale.

The further selection of these varieties has been continued and they have now reached a point where they are perfectly resistant under Wisconsin field conditions. These latest selections, however, have still to be multiplied, first to stock seed and then increased for general use. Their appearance alongside of commercial Copenhagen on the trial plots in southeastern Wisconsin is shown in figure 1.

Selections from very early varieties such as Jersey Wakefield, Charleston Wakefield, and Early Copenhagen or Golden Acre have been started. Now that the progress with the midseason strains is well advanced more emphasis will be placed on the early sorts. It is reasonable to expect that in four or five years more these will be perfected and available for general use.

A STORY WITH A MORAL

"If you collect this money," said the hardware merchant, "I will give you a regular job."

To the merchant's astonishment, the young man returned in half an hour with the money.

"How did you do it?" he gasped.

"I told him," said the young man, "that if he didn't pay me I would tell all his other creditors that he had paid."

If you have not already done so please send in your dollar to cover your membership and subscription, to the secretary of the Wisconsin State Horticultural Society, 119 E. Washington Ave., Madison.

Every year between 25,000 and 30,000 persons take correspondence courses of study from the University of Wisconsin Extension division.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

THE GARDENER

His canvas is the earth, the backyard fence,
Brick walls and corners where red roses grow.
His is an art of noble consequence.
Beneath his fingers, varied colors flow.
Because of him, the black earth blossoms green;
Because of him, thick ivy spans the wall.
An arbor vitae's branches thrust between
The grass and sky, and poplar trees grow tall.

He lingers in the garden he has made.
His plants are daughters cherished tenderly;
His trees are sons, beneath whose stalwart shade
He rests, alone with nature's harmony.
He knows the miracle of seed and sod,
And feels in every leaf the breath of God!"

ANNE CAMPBELL.

What a beautiful thought for every gardener to carry with him as he works. They are artists—painting pictures with living colors to gladden and brighten their own eyes and lives—as well as those who pass that way. We can truly feel like the little old lady whose garden we stopped to admire last summer. Grape vines, red raspberries and currant bushes made a background for orderly rows of rhubarb, tomato plants grown on a trellis, beets, carrots, beans, onions — thickly sprinkled with Shirley poppies, crisp lettuce, and swiss chard, bordered on three sides with old fashioned annual flowers. As we sat down on the bench beside her in the shade, she said—"Yes, I like it too. When it is hoed clean, and the plants and flowers look so fresh, it gives pleasure to my eyes."

GARDEN INSTINCT

Along with the March sunshine every real gardener is hunting a bit of ground so he may sow some seeds—there may be just a few in a flower pot or in a cigar box in the sunniest window—or the more roomy hot bed or cold frame. But plant seeds, he must. There is a joy in seeing them germinate —growing from a faint green line to sturdy plants, that only a gardener understands. One of these gardeners who lived on the fifth floor of a hotel, and whose "garden" consisted of two flower pots with a half dozen morning glory seeds, said "I suppose it sounds foolish, but *actually* I felt like a 'million dollars' when those morning glories popped out of the ground".

GLEANINGS FROM THE GARDEN BOOK

Almost all seeds, and especially perennials, will germinate more quickly if water that is quite hot is poured over them, and they are allowed to soak from twelve to twenty-four hours.

The Penstemon family are worthy of closer acquaintanceship—I am growing them "mixed". I need to know each one by name—fine for display in the garden and for cut flowers.

ARE YOU?

Are you ordering seeds and plants this spring with the expectation of showing flowers or vegetables, or both, at some show during the summer or fall? If not—why not? Don't you know you are missing a great deal of pleasure by not showing some choice fruit, vegetables or flowers in competition with your friends and neighbors. Begin to plan right *now* that you will do your share in this work,—if there has been no midsummer garden show in your home town —be the one that heads a committee to urge the benefits of such a show—then do *your* best to make it a success—plan to show also at the county fair—and then at the State Fair. Both you and the community in which you live will be the better for this resolution.

If gladiolus bulblets are kept between damp burlaps until they show signs of growth—then sown thinly in well watered drills, covered lightly with ground, and again with burlap, being careful to keep moist until the tiny green spike shows above ground, they will make blooming size bulbs very rapidly.

Some day I am going to have every variety of "Hen and chickens" in my garden—not the scratching variety—indeed not—but plants, properly called Sempervivum—House leek. I think I shall add to them the Sedums—as they too grow in dry sunny spots where other plants do not thrive.

Don't leave rubbish heaps about the garden or orchard. They are neither ornamental nor beneficial. Burn them now before it is too late, as they harbor insect pests and disease spores.

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COVER PAGE

One view of Joannes Park at Green Bay which won first prize in a Playground Beautification contest conducted by the Playground and Recreation Association of America last fall.

GREEN BAY WINS "BEAUTY PRIZE"

In this age of "beauty contests" the horticulturists as usual are in keeping with the times and have been putting on various beauty contests. One that has recently attracted considerable attention is the Playground Beautification Contest. This was sponsored jointly by the Playground and Recreation Association of America and the Harmon Foundation. The latter was organized by Mr. William E. Harmon in 1922 largely for the purpose of lending financial assistance to communities wishing to open play grounds. A need was felt for playgrounds that were ornamental as well as useful and consequently last year the Harmon Foundation put up three thousand dollars in cash prizes in a contest to encourage their improvement along this line. Certain nursery companies agreed and did furnish more than sixteen hundred dollars worth of the finest nursery stock, trees and shrubs to the cause.

About Christmas time last year 33 communities received Playground Beautification prizes varying from $50 to $500 in cash, plus $50 worth of nursery stock with which to carry on the good work another year.

We are glad to report that the playground in Joannes Park at Green Bay emerged as winner of first prize ($500) among the 153 cities entered in the group of cities having more than 25,000 population. Mr. M. G. Simonds, the superintendent of the parks of that city, has furnished us with an article appearing in this issue, telling how it was done. The picture on the cover page is one view of his playground which was nothing more than a graded piece of ground last spring and was improved by seeding and planting to shrubbery and by the construction of a wading pool. The park board of Green Bay and Mr. Simonds are to be congratulated upon this fine showing.

Such organizations as the Chamber of Commerce and civic clubs would find this a very profitable and extremely interesting way to develop community spirit and improve the appearance of their town or neighborhood. The Playground and Recreation Association of America, 315 Fourth Avenue, New York City, will supply pamphlets and specific information to any organization or individual desiring it and the secretary of the State Horticultural Society will gladly assist you in any way that he can along this line.

IN THIS ISSUE

More than 1,000 have attended short courses at the U. S. Forest Products laboratory at the University of Wisconsin.

Have you started your hot bed and cold frame yet? They afford a chance to start vegetables earlier and gain on the weather and insects and at the same time permit you to harvest an early crop when it has its greatest demand.

PLAYGROUND BEAUTIFICATION IN GREEN BAY

The object of the Playground Beautification Contest of the Playground and Recreation Association of America was to stimulate interest in the development and improvement of playgrounds. It is universally recognized that children get much more out of playing in a beautiful environment.

I have noticed here in Green Bay that they will desert a barren school playground to play in the shade and beauty of a park nearby where they really have less apparatus, and they enjoy and use apparatus much more if their playgrounds are beautiful.

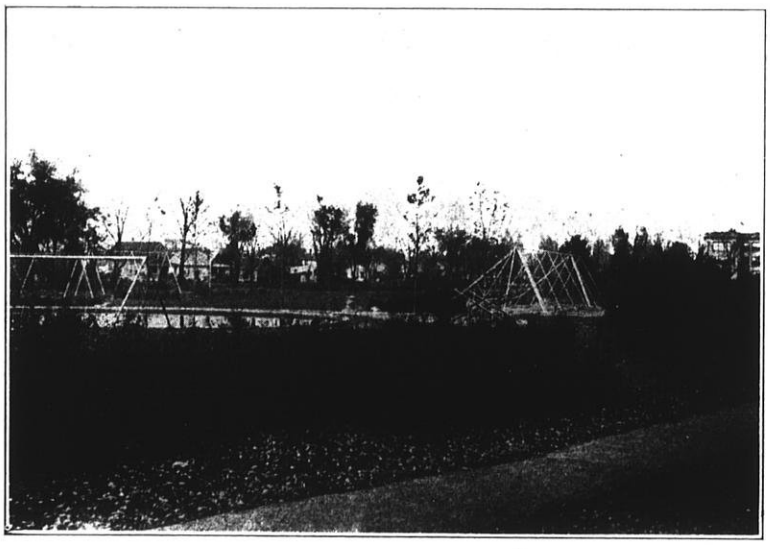
So the contest was a very worth while undertaking. The playground showing the most improvement in development and beautification during the year from Nov. 1st, 1925, to Nov. 1st, 1926, was to receive the $500 reward. Three classes of cities were entered; 1st above 25,000, 2nd from 8,000 to 25,000, and 3rd up to 8,000. Cash awards totalling $3,000 were offered by the Harmon Foundation. According to "Parks and Recreation" "the Middle West captured all the chief honors and many secondary ones. Joannes Park in Green Bay, Wisconsin, took the first prize of $500 among cities of more than 25,000 population; Scott Field in LaPorte, Ind., among cities 8,000 to 25,000; the community recreation park in Stillman Valley, Ill., among communities of less than 8,000. Stillman Valley has 300 residents 'the population of a medium-sized city hotel,' the Associated Press puts it."

One hundred and eighty nine communities entered 321 playgrounds in the contest. With such a number and with such cities as New York, Chicago and Pasadena entered in the contest we thought that we would stand small chance of a prize here in Green Bay; at any rate the Park Board decided to enter and I thought maybe we might get honorable mention or something if I took a poor enough photograph to start with. You see I always kept in mind that it was the amount of improvement that was called for. That required that the first pictures sent in be very ordinary, and if you should ask the judges I believe they would say that our pictures had all others beat by about ten points for pure homeliness. It was a dull cloudy day with not enough snow on the ground to cover up its naked ugliness; the leaves were off of what few trees there were and blown away. That was the setting for the fall pictures of 1925.

In the spring we finished our rough grading, planted Chicago Parks grass seed mixed with oats for a cover crop and planted about fifteen eight inch elms. Then the shrubbery followed with patches of evergreens. All of this planting we had grown in our nurseries from lining out stock and consequently it was not disturbed very much in the moving.

The place which had been excavated for our wading pool was full of mud and water, and on account of frequent rains we could not get it dried out enough to concrete the bottom before August. But what fun the kids had wallowing around in the mud. And what motherly scoldings these young mud urchins must have received when they got home. We bordered the pool and made a little drinking fountain at one end with flat stones, hauled from a quarry near De Pere. Along the north edge of the pool and also bordered with flag stones is a spacious sand box. Beyond this is an expanse of lawn for games, which itself is bordered on the east and west sides by stretches of playground

(Continued on page 121)



HORTICULTURAL TROUBLES

Edited by S. B. Fracker, State Entomologist

RECENT STUDIES ON CODLING MOTH CONTROL

Although spraying trees with poisons for the control of apple worms has been carried on for 50 years, much of the information on the subject is still uncertain and a number of points of primary importance still remain in the realm of theory.

There are so many variable features in orchards that Ralph H. Smith of the California Agricultural Experiment Station for several years has been trying to get more accurate results by performing experiments in the laboratory with freshly hatched codling larvae and known amounts of lead arsenate. His results were published not long ago in "Hilgardia", (Vol. 1, No. 17).

Four types of spray coverages were studied. The first of these was the "mist coverage" on the fruit produced by exposing the whole surface of the apple momentarily to a finely atomized spray. This resulted in a covering of isolated spots none of them exceeding in diameter the size of the head of a pin. The second, which Prof. Smith calls the "overspray coverage," was produced by applying the finely atomized spray in such quantity that large drops collected and ran down more or less irregularly over the apple.

The third type, or "coarse coverage," was produced by applying the spray continuously until the drops that formed on the surface of the apple were as large as would remain in place.

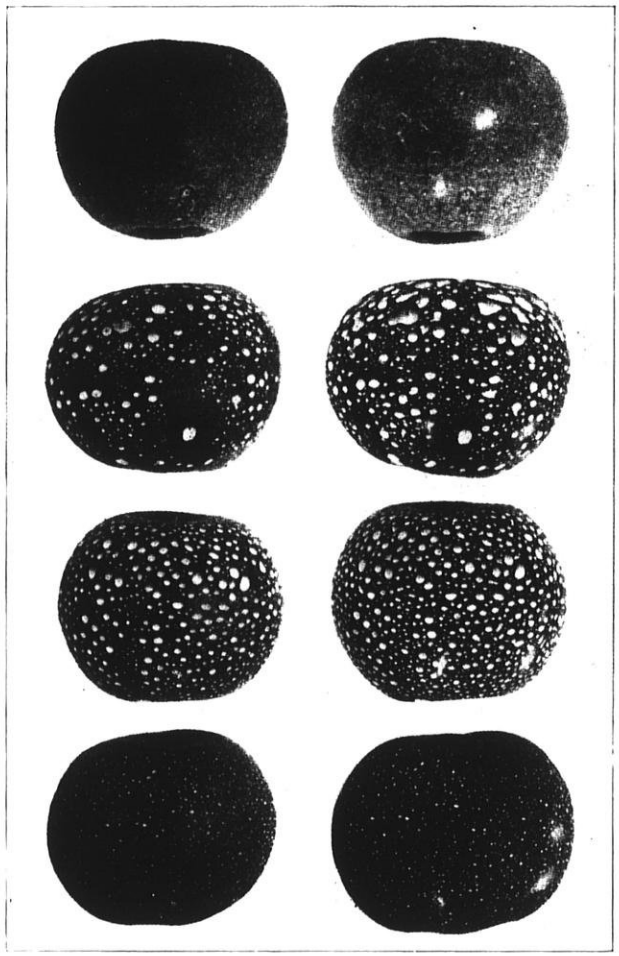
For the fourth, or "film coverage", a spreader was used consisting of a mixture of casein and calcium hydrate in the proportion of 25% casein to 75% calcium hydrate.

It was found that while the mist coverage is the type most often recommended in spraying literature, it proved to be much less effective than the other forms. At concentrations of more than 4 pounds of lead arsenate to 100 gallons of water the film coverage, that is spraying with the use of a spreader, gave greater protection than the others, but that at lesser concentrations the coarse and overspray methods were equally good.

Increasing the amount of lead arsenate in the solution resulted in all cases in reducing the injury.

Apples heavily oversprayed and then lightly shaken to cause the large drops of spray to run off were injured very much more than oversprayed apples that were not shaken.

The effectiveness of the coarse coverage seemed to be due to the fact that the thick lower edges of spray deposits caused the newly hatched worms to attempt to bore into the apple at such points, whereas the film coverage, except in the higher concentrations, did not result in the worms securing a fatal dose of poison.



Left: apples with one application of spray. Right: the same apples after a second application of spray has been applied. (Photo from Hilgardia, May 1926)

Experiments by E. J. Newcomer, of the U. S. Department of Agriculture, published in the Journal of Agricultural Research about the same time confirmed Prof. Smith's results in the fact that increasing amounts of lead arsenate gave better control.

He found that the addition of lime sulfur to acid lead arsenate materially reduced its efficiency but this reduction was overcome by the use of casein spreader with the combination spray.

In fact, Mr. Newcomer's results showed greater value from the use of a spreader than Prof. Smith's.

Increasing losses from wormy fruit, particularly in Colorado, Missouri, Arkansas and the Ohio Valley have caused many investigators to renew their study of the codling moth in the hope of getting better results. The large proportion of wormy fruit in some of the best orchard districts at the present time, combined with the agitation to reduce the amount of arsenic remaining on the outside of the fruit when it reaches the market, means that more careful attention to the apple spraying program is needed.

CAUGHT IN TIME

Two bills which might have affected the fruit growers of Wisconsin without any intent on the part of the authors have recently been amended by the legislature.

One was introduced by Assemblyman Gehrmann and was directed against hunters and settlers who distribute poisoned meat in order to kill wolves and similar predatory animals. Unfortunately, it is worded in such a way as to prohibit the use of poisons, gas or dynamite against any "wild animals" and the term "wild animals" is defined in the statutes to cover any organism capable of voluntary motion. The bill, therefore, prohibited the use of sprays, poisoned bait for grasshoppers, the use of fumigants for bedbugs and grain weevils and the use of dynamite for underground insects such as white grubs.

At the request of the State Department of Agriculture and the Agricultural Experiment Station, an amendment was introduced which exempts poisons, gas and dynamite when employed with reasonable care against insect pests and injurious rodents, from the operation of the bill.

The other measure was introduced by Senator Teasdale at the request of Dr. C. W. Muehlberger, the State Toxicologist. Dr. Muehlberger had found that poisonous shoe dyes and cosmetics were on the market and that no department of the state had any jurisdiction or control over them. When the bill was drafted, however, it authorized the State Board of Health to provide rules and regulations governing the sale not only of poisonous shoe dyes and cosmetics but "other poisonous or noxious products." As the Commissioner of Agriculture is already authorized to control the sale of insecticides and fungicides, this would have resulted in duplication and divided control over the subject. The State Board of Health and Dr. Muehlberger have, therefore, suggested to the Committee on Education and Public Welfare of the Senate that the bill be amended so that it will not apply to insecticides and fungicides but will leave the latter products under the control of the Commissioner of Agriculture as they are now.

THE MARKET PAGE

Edited by State Department of Markets

MARKETING OF FRUITS AND VEGETABLES

By WILLIAM KIRSCH

Wisconsin Department of Markets

One of the most important activities of the Department of Markets in the line of fruits and vegetables is the assistance given to growers in the marketing of their products. This line of work is carried on by Mr. W. P. Jones who is also in charge of the transportation activities of the department. As a result of his work a marked improvement has been made in the quality of small fruit marketed from Wisconsin. The number of fruit growers' associations is increasing annually and the members are developing a great deal of interest in all the questions relating to an orderly merchandising of their products.

One of the objects which the department has in view in prosecuting this work is to make the farmers of Wisconsin realize the importance of diversified farming and the value of cash crops in connection with dairying. In order to develop the growing of these crops, Mr. Jones is giving a great deal of attention to supervising the harvesting, packing and marketing of fruit in order to enable the growers to obtain satisfactory returns for their efforts.

Strawberries

When the department was first organized practically all of the strawberry crop of the state was marketed by individual growers. Today 90% of Wisconsin's tonnage is marketed through growers' organizations. When these organizations were first placed in operation much of the fruit shipped to the terminal markets was of a low quality. With the assistance of Mr. Jones a number of these organizations are now placing fruit on the terminal markets that cannot be excelled by any other state in the Union. Last June one of the leading distributing firms in Duluth, Minnesota, wired one of our shipping associations whose harvesting and marketing was supervised by Mr. Jones, that the car of strawberries which they have just received from the association was the finest quality ever received by them on the Duluth market. Other associations that have received help from the department are showing marked improvement in the quality of their fruit.

A new line of activity in the marketing of strawberries was undertaken during the past season by a number of our large shipping associations—that of cold packing the over-ripe and undergrade fruit in barrels and placing it in cold storage to be sold later to the soda fountain trade to be used as crushed fruit. This method of preserving the over-ripe and undergrade fruit, which has always been a drag on the terminal markets, has done much to keep our markets in a healthy condition and has contributed to the higher prices obtainable for the Fancy stock. At the same time the returns to the growers have been much better on the lower grades as a result of cold packing than by trying to dispose of it as fresh fruit.

Red Raspberries

The growing of red raspberries on a commercial basis is well established in some sections of Wisconsin. This product brings very good returns to the growers and always finds a ready market at our large distributing terminals at good prices because of the fact that only the states of Washington, Michigan and Wisconsin are considered commercial red raspberry districts. The growers of this commodity have accomplished much in the way of proper packing and the use of packages that attract special attention on the terminal markets.

Apples

The number of commercial orchards is increasing annually in Wisconsin. The largest orchard of the "Delicious" variety within our state came into bearing this season and it is interesting to note the improvement in the quality of the fruit, which is the best proof that more attention is being given to the orchards by their owners. This season Wisconsin harvested the highest quality fruit ever produced within the state and many of the growers are packing and marketing a very high quality product with the assistance of the Department of Markets. The better packs are finding ready markets at very satisfactory prices considering that Wisconsin is classed as a "Fall Apple" state and that the United States is marketing one of the largest crops ever produced. With more attention given to quality, pack and package there is no reason why Wisconsin should not take first place for quality of fall and winter varieties.

Cantaloupe

The growing of cantaloupe on a commercial basis is a new industry in Wisconsin. In 1925 one of our fruit growing associations planted a number of acres of this fruit. The variety selected is known as the highest type commercial melon grown and the result was that this association produced a crop of very high quality cantaloupe which found a ready market at a premium over the prices paid

on the terminal markets. As a result of this over 200 acres of this one variety were planted in the spring of 1926 by three associations within Wisconsin. Under normal conditions this crop brings the grower very satisfactory returns.

When your nursery stock arrives don't fail to unpack it at once and heel it in somewhere where it is protected from sun and wind until you are ready to set it out and then remember that you can not expect it to shift for itself even if you do give it a good start. Even if the nurseryman has guaranteed to replace stock which does not grow it is to your advantage to make it grow. If it doesn't you are both out—the nursery man is out the cost of the replacement and you are out a lot of time and labor as well as one year's growth of the tree or shrub.

(Continued from page 117)

apparatus. The planting of trees and shrubs around the apparatus is so placed that it will hide and take the curse off of the hard lines of the apparatus and will not be in the way of the children as they play and run from one place to another. Thus we have our playground pretty well framed with these high structures on the side—and in the course of two or three years growth the picture will be little short of beautiful. Looking at it from the north for instance, there will be the children dancing on the green in colorful dresses; glimpses through the bordering foliage of little tots sliding down slides, swinging, teetering, going around the merry-go-round or giant stride and in the background the merry splashing in the pool with castles of sand being erected on the edge.

M. G. SIMONDS.

LIBRARY PAGE

WHY BE IN THE DARK?

If you are interested in reading horticultural subjects and want to read more or are interested in certain phases of the work and wish to study it further and learn the opinions of others you are now being given that opportunity. An arrangement has been made with the Traveling Library Department of the Wisconsin Free Library Commission by which our readers may have access to the best books on horticultural subjects. A great deal of time and effort has been expended by the Library Commission to select these books from their shelves and list them for your convenience. They are likewise going to a great deal of expense to purchase the best books available. The first installment of their selection appears on this page, others will follow covering every important phase in horticulture. There is no charge made for this service. It is just a part of the valuable service they render to the public.

Read over the list of topics, select what you think would interest you most and indicate your preference. To borrow these books by mail apply to the Traveling Library Department, Wisconsin Free Library Commission, Capitol Annex, Madison. The loan period is for three weeks with postage prepaid. Those who live in cities maintaining public libraries should apply to their local library, others should write direct to the Traveling Library Department. Since we anticipate a big demand for these books you are requested to read and return them promptly so that others may not be deprived of their use. If you are contemplating buying books for your library here is an opportunity to study the book prior to making your purchase from the publishers.

FRUITS AND FRUIT GROWING

A selected reading list of
books available through
The Traveling Library Department
Wisconsin Free Library Commission
Madison, Wisconsin
Compiled by
Jane Morgan

"The kindly fruits of the earth".
Book of Common Prayer—Litany

Abridged agricultural records. 7v. 1912.
- v. 4 Field and garden products
- v. 5 Horticulture, forestry and floriculture
- v. 6 Diseases and insects which affect vegetation

American apple orchard, by F. A. Waugh. 1913.

American fruits; their propagation, cultivation, harvesting and distribution, by Samuel Fraser. 1924.

The apple, by A. E. Wilkinson. c1915.

The apple tree, by L. H. Bailey. 1922.

Beginner's guide to fruit growing, by F. A. Waugh. 1913.

Bush-fruits, by F. W. Card. 1920.

Commercial apple industry of North America, by J. C. Folger and S. M. Thomson. 1921.

Cyclopedia of hardy fruits, by U. P. Hedrick. 1922.

Dwarf fruit trees, by F. A. Waugh. 1906.

Fruit grower's guide book, by E. H. Favor. 1911.

Fruit-growing, by B. W. Douglas. 1922.

Fruit-growing in arid regions, by Wendell Paddock and O. B. Whipple. 1910.

Fruit harvesting, storing, and marketing, by F. A. Waugh. 1912.

How to make a fruit garden, by S. W. Fletcher. 1906.

How to make old orchards profitable, by F. A. Bates. 1912.

Lessons in commercial fruit growing, by E. S. Goff. 1902.

Making horticulture pay, by M. G. Kains. 1909.

Melon culture, by James Troop. 1911.

Modern fruit marketing; a complete treatise covering harvesting, picking, storing, transporting and selling of fruit, by B. S. Brown. 1916.

Modern strawberry growing, by A. E. Wilkinson. 1913.

Nursery book, by L. H. Bailey. 1901.

Orchard management, by J. H. Gourley. 1925.

Plant production, by R. A. Moore and C. P. Halligan. c1919.
- Pt. 1 Agronomy
- Pt. 2 Horticulture

Plums and plum culture, by F. A. Waugh. 1912.

Popular fruit growing, by S. B. Green. 1914.

Practical plant propagation, by A. C. Hottes. 1922.

Principles of fruit-growing, by L. H. Bailey. 1915.

Productive orcharding, by F. C. Sears. c1917.

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Standard cyclopedia of horticulture, by L. H. Bailey. 3v. 1925.

The strawberry, by Samuel Fraser. 1926.

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Text-book of pomology, by J. H. Courley. 1923.

Science of fruit growing, by Virgil Bogue. 1917.

$2000 a year on fruits and flowers, by Charles Barnard. n.d.

To borrow these books by mail, apply to the Traveling Library Department, Wisconsin Free Library Commission, Madison. The loan period is for three weeks—with postage prepaid. Those who live in cities maintaining public libraries should apply to their local library; others should write direct to the Traveling Library Department.

COOPERATIVE MARKETING

"The first farmer was the first man, and all historic nobility rests on possession and use of land."
—Emerson

Co-operation among farmers; the keystone of rural prosperity, by H. L. Coulter. 1911.

Coöperation in agriculture, by G. H. Powell. 1918.

Coöperative marketing, by Herman Steen. 1923.

Coöperative marketing of farm products, by O. B. Jesness. c1923.

Marketing agricultural products, by B. H. Hibbard. 1921.

Marketing of agricultural products, by J. E. Boyle. 1925.

Markets and rural economics, by T. J. Brooks. 1914.

Principles and practices of coöperative marketing, by E. G. Mears. c1926.

Rural credits; land and coöperative, by M. T. Herrick. 1915.
- Pt. 2 Coöperative credit.

THE MASTODON STRAWBERRY

The Mastodon everbearing strawberry is being widely advertised this spring. This berry was originated in Indiana a few years ago and the nursery inspectors of that state speak very highly of it. We have seen it growing on a small scale at various points over this state and the fruit and plants looked promising. We would like to hear from some of the members who are growing it and learn their opinions of it.

TWO NEW WISCONSIN STRAWBERRIES OF PROMISE

Recently we have been hearing quite a bit about two strawberries which have been on the market only a short time. They are the Beaver and The Oshkosh. The Beaver was originated by Jeff Beaver and Sons of Eau Claire, and has been so well thought of that a large acreage is being planted in the Sparta vicinity in the hope of adopting it as a canning berry. It is rapidly gaining favor wherever it has been tried.

After making special selections of individual plants Mr. Beaver succeeded in crossing the Dr. Burrill and the Premier. From nearly 4600 different seedlings he selected this variety which is now being sold under the name "Beaver." It is said to have inherited the good qualities of its parent varieties and in addition is a better canning and shipping berry, having a fine texture and being very firm.

The Oshkosh strawberry was originated by Mr. H. C. Christensen, an Oshkosh gardener, who like the Beavers has made strawberry growing a life study. This strawberry is said to have been tested under various conditions during the past several years with perfect satisfaction in every instance. It is reputed to be a heavy yielder throughout the season, continuing to bear for a long period because of the fact that its late blossoms do not blight as is the case with some other varieties but instead produce berries practically as large as the earlier ones. Those who have grown it claim that the "fruit is of fine texture, a dark red color, and is firm. It is of better flavor, somewhat sweeter, and fully as large as Senator Dunlap. The plant is a strong vigorous grower, deep rooted and has bright healthy foliage. Like the Dunlap it is a perfect flowering strawberry and may therefore be successfully grown when planted alone."

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THE WEST ORCHARDS

By PAUL E. GRANT

The Weston Orchards are probably better known outside of the state than in it, partly due to the fact that we are a little off the beaten tourist trails, but more likely because practically our entire crop is sold outside the state.

The Weston Orchards, comprising some 160 acres of which 120 are in orchard, were planted by the late William J. Starr of Eau Claire, on a limestone ridge in the southwestern part of Dunn county, almost at the intersection with Pierce and St. Croix counties.

The ridge is covered with a very deep, fertile, silt loam soil, and breaks off abruptly to the surrounding valleys which are from two to three hundred feet in depth and drain into the main Chippewa River Valley. This assures an excellent air drainage and we have not had any frost injury in the past seven years, which certainly is a high average.

As is so often the case, some mistakes were made in getting the orchard started. The trees might have been "headed" better; were planted too close; the manager at that time could not be induced to do any pruning, and the trees, like Topsy, "just grew."

A glimpse down one of the many rows at the Weston Orchard

When we undertook the handling of the orchard one of the first things we had to do was to get rid of the stumps, then plow and level off the ground so that one could get around with the spray rigs and handle the culture as seemed best for this particular locality. Next we had to remove enough "fillers" so that sufficient sunlight could reach the permanent trees which needed to be pruned and opened up properly.

We got this far, and then were visited with the most severe blight infection that I had seen up to the time. Unfortunately it was a "spur" rather than "twig" infection, and practically every Wealthy tree was hard hit. The infection was so severe that we appealed to the College of Agriculture and to Dr. Fracker, the state entomologist. Men were sent up to investigate and endeavor to discover and eradicate sources of infection. Quite a number of old and diseased crab apple trees were found in the locality. These the farmers pretty generally and willingly removed on the recommendations of Dr. Fracker's office. There were a number of crab apples in the Weston Orchards which were likewise removed.

In connection with our handling of the situation, I think I made a mistake. It was this—the infection of the individual trees was so evenly distributed that it was impractical to remove all the possible hold-over cankers—there would have been no trees left. Owing to early neglect the branches were somewhat "leggy," and because of too close planting the trees were too tall and upright. We proceeded to "head back" these trees, not only to bring them down to earth, but hoping to get some cankers out of the tops that we were afraid might become active the next season, and because of their location would easily permit the bacteria to be washed, blown or carried to low-

The Grant Home

er and more valuable parts of the trees.

What we should have done, I firmly believe now, would have been to leave the trees, infected as ours were, absolutely alone, encouraged sod or weed growth to check new wood, and delayed the "heading back" until we had the blight situation better in hand, as the additional cutting seemed to aggravate the infection the following season. We have been constantly on the alert since for hold-over cankers, removing them whenever found, and seem to have the blight pretty well in control now. We are hoping that our trees have been sufficiently "inoculated" by this time to be forever free from any more serious infection.

Unfortunately not much is known about controlling fire blight, other than the removal of active hold-over cankers. It does seem to appear and be most destructive when trees are over vegetative, being forced by too much fertilizing, cultivating or pruning.

The older we grow and the more experience we have—growing fruit or doing anything else—the more are we convinced of the wisdom of Dr. Eliot's rule of "Moderation in all things." *Except Spraying!*

One of the necessities in building any successful business is to supply if possible, something just a little bit better than the other fellow, and be sure to maintain or improve that standard.

Owing to fluctuations in the seasons and the possibility of the "unusual" occurring we have for several years been practicing a spray program similar to that outlined in the excellent Research Bulletin of Dr. Keitt and Leon K. Jones on "Studies of the Epidermology and Control of Apple Scab." There are some adaptions purely local in character that we practice, but will not touch upon here because of their local application.

Largely because of this, and careful grading, our fruit always brings a premium on the market. Our customers stay sold, and in a year like the one just passed, with a generally demoralized situation, it is rather gratifying to have more orders at satisfactory prices than one can fill.

Cultural practices vary with local conditions. Our soil being a rich silt loam very retentive of moisture, the most satisfactory handling seems to be the soil mulch with nitrole application. The grass is cut and allowed to lie on the ground—none is removed for hay.

Everyone who sees our fruit comments upon its high color and finish. That is one of the natural advantages this locality has to offer. We just get it, and are thankful. A good deal of it can be lost, however, through too much cultivation or too heavy fertilizing.

Another local advantage is proximity to an excellent market. We can place a bushel or box of apples on the Twin City, Duluth or Superior markets for 12 cents from the packing house. Contrast this with a freight charge of 75 cents per box from the Northwest.

As to our marketing we merely endeavor to use common sense. First, grow the best quality fruit we know how; grade it carefully and rigidly; pack it attractively; know our market; represent our stuff exactly for what it is; and lastly, deliver as good or a little better than we agreed to.

To me there seem to be just two things in the matter of the selling and distribution of fruit—the producer and the retailer. The much abused commission man or jobber, I have found, as a class, far above the general run of business men in honesty and square dealing, and he handles our produce remarkably efficiently on a close margin.

USE FRUITS IN DIET

Family physicians everywhere recommend the use of fruits in the diet. They are considered friends to health and foes to disease. They are not only foods, but tonics, condiments and cosmetics all in one. For example: It would be difficult for one to eat too many apples. Even after the heartiest meal, there is always room for another apple. Someone has said that plenty of good apples will keep the children at home and keep the doctor away.

TREE TRIMMING SCHOOL HAS LARGE ATTENDANCE

Twenty-five Wisconsin counties and the states of Minnesota and Michigan were represented among the line foremen who attended the tree trimming short course at the University of Wisconsin.

This course was especially prepared to meet the needs of line foremen of the telephone, telegraph and public service companies, and was designed to bring about better care and preservation of the trees along the highways and streets where these companies carry their lines.

The Wisconsin Utilities association, Wisconsin State Telephone association and the state College of Agriculture cooperated in organizing and conducting the school which is the first of its kind ever held in the middle west. The enrollment for the course was limited, the full quota being signed up for the instruction several weeks before the course opened.

Badger counties represented are: Columbia, Clark, Dane, Douglas, Fond du Lac, Green Lake, Jefferson, Monroe, Waupaca, Iowa, Sauk, Rock, Dodge, Barron, Calumet, Manitowoc, Brown, Winnebago, Oconto, Walworth, Milwaukee, Eau Claire, Chippewa and La Crosse.

WILL TRANSFORM DAIRY FARM INTO FOREST PRESERVE

The Sawyer farm near Oshkosh, which for many years has been operated on a scientific basis as a general dairy farm, will this spring be planted to forest trees. The undertaking will require approximately 60,000 seedlings and the varieties to be planted include White Pine, Spruce, Cedar, Basswood, Black Walnut, Elm, Maple, European Larch and Birch.

N. A. Rasmussen, Oshkosh horticulturist and fruit grower, will have charge of the work. Mr. Rasmussen has spent considerable time visiting reforested sections in Wisconsin and also in several neighboring states conferring with the Forestry Departments of each as to varieties, methods, etc.

The idea was conceived that if the natural resources could be restored and valuable timber grown on waste land from seedlings left to shift for themselves, much might be accomplished on richer soils with care and cultivation for a few seasons. With this idea in mind Mr. Phil H. Sawyer decided to make the experiment which involves considerable initial expense. Mr. Sawyer however does not consider this proposition a foolish fancy or hobby but instead a good sound investment with almost no labor expense connected with it, and he is supported in his theory by men in a position to know. He hopes and fully expects to see material results from his undertaking. Every effort will be made to reinstate in this forest species of wild life now nearly extinct in this section of the country.

Experience has proved that although the removal of forests and drainage of swamps has made tilable acres, serious losses have resulted to agriculture in general from the resulting droughts, hot winds, etc. Forests, swamps, lakes and marshes are absolutely necessary for the preservation of moisture, tempering of winds and general productiveness of the soil. It is a known fact that an acre of forest will set free more moisture than will a like area of lake or stream, and thus man is enabled to do his part by planting trees.

With our wonderful forests diminishing with such tremendous rapidity the lumbermen are foreseeing disaster and are planting great areas to forest tree seedlings. These plantings so far have been confined mainly to waste lands and barrens, burned and cut over timber lands, and little attempt has been made to reforest the richer, more productive soils of the state. Being the only project of its kind in this section of the country and one of the first to be undertaken on valuable land, the Sawyer proposition will be watched with much interest by Forestry Departments, lumbermen and any others who are contemplating reforestation.

Evergreens, trees being grown for re-forestation purposes at the State Nursery in Vilas County

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Prof. W. G. Brierley, acting chief, Division of Horticulture, of the University of Minnesota, in answer to an inquiry from us concerning plum varieties, has the following to say:

"Our best plums and the ones we are recommending most strongly for Minnesota planting are Radisson, Underwood, Tonka, Red Wing, Monitor and Elliot. To this list we feel that we can in certain cases add the Waneta, a South Dakota production, on account of its hardiness, and the Mendota for the southern part of the state. Of the plum-cherries, we feel that the Zumbra, Nicollet and St. Anthony, while not all of the same high quality, should be planted together, or at least two of the three, to insure cross pollination without which these fruits will not set."

WANTED

Prospective members for the Wisconsin State Horticultural Society. Send in the names of any of your friends that you think might be interested in becoming a member of the society and we will see that they are given an opportunity and that they receive a sample copy of "Wisconsin Horticulture."

LANDSCAPE APPRECIATION

A few weeks ago Mr. Jens Jensen of Chicago, national president of the Friends of Our Native Landscape, gave a talk in Madison, speaking before the state legislators at a dinner and program given by the Wisconsin members of the society. He explained the purposes and accomplishments of the society. Future plans of the organization, he stated, include an attempt to enlarge the Superior National Forest by five or six million acres and to issue bonds for the work of conservation and beautification.

Mr. Jensen is well known to landscape gardeners and lovers of the out-of-doors throughout this state. While here he delivered an illustrated lecture at the University and we were fortunate in being able to secure his manuscript to pass on to our readers. It follows:

"When Burton Holmes in a recent lecture at Chicago was showing some beautiful views of the Grand Canyon, he said, 'What wonderful compositions wouldn't Wagner have written if he had seen and felt the grandeur of this wonderful canyon.' Whether we are Wagner or ordinary folks, the outstanding form of beauty and the most accessible to all and most cherished by the average man, woman and child, is the native landscape. Whatever race, whatever language we speak, our hills, our plains, our little brook and the sweet meadow that skirts it, the solitude of the woods, and the open sea, become a part of our life and will to a lesser or greater extent work their influence on us. Prof. Waugh says, 'While painting and sculpture is available to comparatively few, while music does not appeal to everyone, while poetry is a taste of small party, the landscape is for all. Everyone loves the woods, the sea, the mountains, the sunset and the starry heavens.'

Prof. Santyana in comparing the landscape with the products of the fine arts, like painting, sculpture, etc., says that the landscape has no form. This is misleading and incorrect. Take for instance the monadnocks on the prairies of Wisconsin, or Mt. Shasta with its beautiful snow covered top against the blue heavens, or any other subject—a tree, a flower—these forms are as definite as a painting or a piece of sculpture, and in the varied moods and colors of their surroundings may arouse a deep sense of appreciation and understanding. They have the power of reaching our finer feelings, those feelings that set the strings in motion, that produce the tender notes of poetry and music or any of the finer arts, and in this way pass on in a definite interpretation to other human beings. The landscape unadulterated by man is a finer thing than that which man calls his work. It has something of a spiritual nature that is beyond man's ability. There is a mystery and a charm about it that leads one into a new realm of untold beauty, full of inspiration and a freshness and vigor that stimulates you to action. It is a different world—a world not of our making, that opens visions of depth and grandeur, with endless themes and forms for study, for spiritual enjoyment, and for a richer and broader life. If the city gave all that is essential for a higher life, there would be no pilgrimages to the country.

As a boy I had the habit of walking up a small hill on our farm, from where I could see a rim of purple on the far horizon, and in me grew the desire to reach and explore this phantom land. Often have I wondered how much this yearning that grew in me from year to year has added to my vision and enriched my life, and as I now travel across the prairies in Illinois, rich in the purple of the woodlands along our streams, like masterful etchings or woodprints, my memories go back to the purple hills of boyhood days, and life is relived once more. Does this not make for a richer life? It certainly reveals a world of beauty, seemingly free from struggles, from jealousy and hatred. It is a friendly world, something to love, something to tie to.

It is long ago now when one of my teachers took the class into a nearby woods—our first visit. The forest floor in certain sections was covered with thousands of native pansies, a carpet of exquisite beauty, and

the first of its kind I had ever seen. From this first contact came growth with added knowledge and a greater appreciation of life. A new feeling, a new love for native soil and native land was developed, and a better understanding of the world not of our making. Life became more joyful, more purposeful. Human intellect was raised to a higher plane from new thoughts, study and appreciation.

To many, the prairie country is monotonous and uninteresting, but to us who have lived with it most of our lives it shows great breadth and freedom that works upon the imagination in many ways. There is a certain fascination and a drawing power in the purple ridges on the crest of a prairie wave that only those can understand who have watched them from boyhood up. Few who have been born and bred on the prairies are happy amongst the hills, with the vision shut in, and deprived of the beauty and the expanse of the far distant horizon. Its influence on the imagination and the character of the prairie man and woman is already evident, whether in arts, in poetry, in politics, or in masters of industry, and one can not foretell the growth of intellect due to the character molding by the prairie landscape. Masters like Louis Sullivan, Frank L. Wright, Walter Griffin, Vatchel Lindsay and Carl Sandburg are all of mid-America growth. It has inspired a distinct type of architecture, decorative design, and a new form of poetry, and some foreign artists say that there is more freshness and vigor in the work of our Mid-American novelist than found anywhere else in the western world. In politics and the industries we have such men as Lincoln and Henry Ford. Judging from present day happenings here will be the center of intellect and of power in these United States.

On a recent November day we were coming up over the hills back of Sturgeon Bay. Beyond to the north lay a broken landscape, its hill tops covered with birch and beech then in their soft greys and pinks, and all illuminated by the after glow of the setting sun. We paused and thanked God that we had lived the day to see this great painting of the Master's Hand. Who doubts that such an impression is not of a higher order, and for the good and betterment of mankind? On a similar occasion some great American pointed out the beauty of the reflection of the sunset and said to me, 'What a wonderful thing to be able to see this, and to appreciate it, and how much more we owe humanity that we have been given this vision.' Is it not in this way that we take soundings with ourselves and see where we stand?

Those who have seen the rim of the oak forest, festooned with the delicate pink of the crab apple blossom, entwined in the silver and rosy buds of the oak, against the blue sky of May, must have been inspired by their color composition—a symphony of colors, so to speak. It is one of the many instances of nature's great ability in color composition and living picture making, something so fine that it leaves an impression on the human mind never to be forgotten, something that does truly inspire for the best and noblest in human life. Watch the flaky blossoms of the Juneberry in a snow storm, sweeping with the wind as if actually a part of the snow, revealing the struggles of life in the most romantic way; the tender blossoms in the blast of winter's day enjoying storm as it seems and surviving it as beautiful as ever. Let us call this a folk song.

Years ago we used to pilgrimage to a hill in southern Wisconsin covered with birch trees and a few Juneberries. There was a spiritual note in this grove of birches, and with the Juneberries in blossom, their delicate white entwined with the bark of the canoe birches, we could hear a spring sonata. You have heard McDowell's musical interpretation of the wild rose—one of the sweetest American compositions—but a wild rose was needed for its inspiration—and do you know that this great American composer left his wealth for the establishment of the Petersboro colony, where artists can study in God's Out-Of-Doors.

We often are told of the thrill that the mountain flowers adjacent to the melting snow give to the visitor; but who has seen the delicate rosy blossoms of the trailing arbutus against a snow drift in early May in our own woods, and enjoyed its beauty, its daringness, and its joy over freedom won? Follow the trail on a beautiful spring morning and discover the first violet blossoms amongst the grasses. Shy and timid it hides from the world. There is no show, no pretense, no grandeur, but an exquisite beauty, so tender, so noble that it produces an immediate reaction on the mind. It demands a fine sense of color to feel and see its beauty. It makes you halt and think. The little friend has a daring spirit. It has to fight the battle of existence as courageously as the giant oak along side of it. It gives so freely of its beauty and scatters its sweet perfume along your trail. I love its simplicity, its shyness, and its delicate beauty, and I wish that its message could touch the soul of every human being. Such a message makes life worth while. It stirs our imagination and awakens a love for friend and foe. It broadens our thought and lifts our minds out of bondage.

The grandeur of the towering mountains, cliffs, the moving dunes, the roaring sea, the babbling brook, and the silent river each and all have a message for us. There is the brilliant sun-

(Continued on page 146)

THE FLORIST'S PAGE

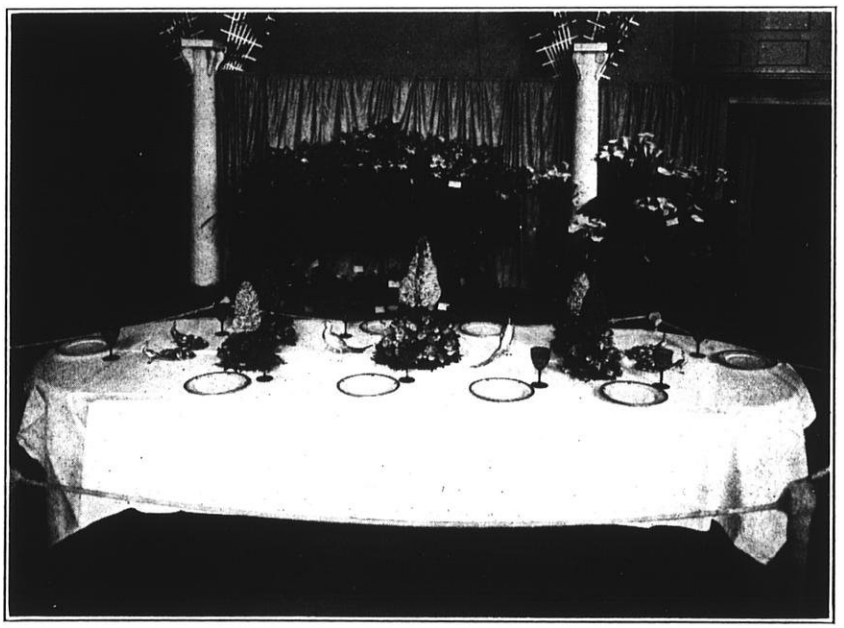
Edited by Huron H. Smith, Curator of Botany
Public Museum, Milwaukee, Wis.

CREAM CITY'S SPRING FLOWER SHOW

Milwaukee florists and growers are great flower show visitors and learn something every time, as was proved by the best flower show they have ever staged, March 25 to 27, in the Public Museum. While not so large as the recent Chicago Show or the National Show, yet there were several exhibits in which they excelled either. The foundation idea of these annual spring and fall shows is different from most flower shows. After all, such shows are to get enough people to see them, and last spring's show had an attendance of 105,225. If a great deal of effort is spent by the exhibitors, an admission charge of fifty cents is needed, and often the paid admissions leave the florists in the hole. The Milwaukee shows are always free and no direct advertising is done. The Florists Publicity Association shares the expense with the Milwaukee Florists Club and the Public Museum. In this way, plenty of free news space is obtained, pictures and reading matter that are worth more than paid ads, and practically obtainable in no other way.

The present show was the most beautiful of any, in treatment of space and quality of exhibits. Being in a measure a city show, the Mitchell Park Conservatory belonging to the Park Board, brought in several truck loads of their best palms, foliage and flowering plants, to entirely fill the beautiful entrance rotunda. Several baskets of orchids were used, cinerarias in a Moorish window for spring color effect, and a new plant to Milwaukeeans,—Rehmannia ungulata from China. This exhibit was but to lead one to the main show in the Museum Annex.

Four rooms were used in the annex. The first room was a very large collection of carnations, some 80 vases of 25 blooms each. The second room housed a fine collection of heliotrope scented cinerarias and many retailers' flower baskets. The large room, formerly the great ball room of the Calumet Club, made most visitors exclaim with delight. The stage was made into a formal garden, with a bulb garden, arborvitae walls, with borders of cinerarias and lilacs, an evergreen background, and a fountain with doves, against a background trellis and pergola with open white gates. One of the finest exhibits was a selected range of 36 amaryllis grown by James MacGregor at Forest Home Cemetery. For size, color and variety nothing like it was seen at either Chicago or Detroit. A splendid group of callas was near by, one of the finest groups of callas coming from Wm. Rayner & Son, of Oconomowoc, Wis. The gem of this room, though, was undoubtedly the magnificent plant group of Holton & Hunkel, of Milwaukee and Brown Deer. Palms, many foliage plants, trellises of climbing roses, azaleas, genistas, Darwins, other tulips, blue and yellow crocuses, and many other flowering plants, such as Astilbes, etc., entered into a harmonious whole under the skillful hand of Fritz Ernst. We have never seen a better grouping. One of the unique pieces in this room was a large banquet table set with a garden effect decoration by James Fox, Inc. Five flower trees were made up of solid sweet peas, in lavender and red, their bases worked out of California freesia and pansies. Silver peacocks with candies on their fan, and silver partridges matched the table service. A very pleasing group in this room consisted of genistas, and primroses, the greens furnished with Sansevieria Laurentii and Boston ferns, shown by C. C. Pollworth Co.



A unique exhibit arranged by James Fox, Inc., of Milwaukee, for the Cream City's Spring Flower Show

Many samples of the retailers art were shown there. The rose collection was there too, with some of the newer roses, such as Briarcliff, Roselandia, and Silver Columbia shown. C. Niss & Sons furnished three truck loads of their best furniture to assist in staging the jewelry and table settings of Bunde & Upmeyer Co., who used $7,500 worth of sterling and gold to enhance the fine floral centerpieces.

The final room was for novelties and table settings. The center of this room had a fine bed of baby rambler roses edged with a pink geranium border. Sweet peas were all exhibited there too. Ranunculus, delphiniums, anemones, and most of the spring bulb stock in pots, pans and boxes were shown there. Most visitors thought that we had saved the best room for the last. The first day of the show was only a short one from 2 p. m. to 9 p. m. and yet nearly 15,000 visitors came in that time. The total attendance was 111,951, with 14,911 on Friday, 26,424 on Saturday, and on Sunday 70,616.

PRIZE WINNERS AT MILWAUKEE SPRING FLOWER SHOW

Roses: Firsts by Gust. Rusch Co., Milwaukee on Premier, Briarcliff, Butterfly, Coolidge and Templar.
First by Gimbel Bros., Milwaukee, on Pernet.
First by South Milwaukee Rose Gardens on Silver Columbia.
Carnations: Firsts by Otto Sylvester, Oconomowoc, Wis., on best red and best Laddie.
First on best white by Grunwaldt Bros., N. Milwaukee.
First on best pink other than Laddie by C. C. Pollworth Co., Milwaukee.
Seconds on best white and best red by C. C. Pollworth Co.
Second by A. Brueggemann, N. Milwaukee on best pink other than Laddie.
Second by Waukesha Floral Co., on best Laddie.
Third by Grunwaldt Bros. on best red.
Third by A. Reinhardt, N. Milwaukee on best white.
Third by C. C. Pollworth Co., on best pink other than Laddie.
Sweet Peas: First by A. Brueggemann; second and third by Riebs Bros., N. Milwaukee.
Violets: First by John Rosso, Milwaukee.
Pansies: First by Thos. Griebler & sons, Milwaukee.
Mignonette: First by A. C. Spinti Co., Milwaukee; second by Thos. Griebler & Sons.
Ranunculus: First by C. C. Pollworth Co., second by Hugo Locker & Sons, Wauwatosa.
Anemones: First by Fox Point Floral Co., Fox Point, Wis.
Stocks: First by A. Reinhardt; second by Frank Zacharias, N. Mil.; 3rd, Fox Point.
Tulips: First by Aug. Pagenkopf, also third, Milwaukee; 2nd by Baumgarten, Inc.
Calendulas: First by Arthur J. Rhodee, Oconomowoc, Wis.
Amaryllis: First by James MacGregor, Forest Home Cemetery.
Cinerarias: First by Forest Home Cemetery; second by Mitchell Park; 3rd, Hugo Schwan, Cudahy, Wis.
Growing tulips: First Otto Eggebrecht, Milwaukee; 2nd by Richard Lietz, Milwaukee; 3rd by Rud. Preuss & Sons, Milwaukee.
Orchids: First by Mitchell Park Conservatory.
Palms: First by Mitchell Park Conservatory.
Calla lilies: 1st by Wm. Rayner & Son, Oconomowoc, Wis.; 2nd by Waukesha Floral Co.; 3rd by Froemming Bros., Milwaukee.
Daffodils: 2nd prize by Frank Heyden, N. Milwaukee.
Best basket Spring cut flowers: Fred Gutermuth, Milwaukee; 2nd by Boston Store; 3rd by Dettmann's Flower Shop, Milwaukee.
Best basket of blooming plants: 1st by Eugene Oestreicher, Milwaukee; 2nd by Ernest Prefke, Milwaukee; 3rd by Joseph Bluemel, Wauwatosa.
Best carnation arrangement: 1st by Bell Flower Shop, Milwaukee; 2nd Rud. Preuss.
Best Colonial bouquet: Lnor Floral Co., Milwaukee, first.
Best Corsage Bouquet: First by Kroseberg's Florists.
Best formal garden: Aug. F. Kellner Co., Milwaukee.
Best table decoration: Gimbel Bros. 1st; Chas. Menger, Milwaukee, 2nd; Hugo Locker & Sons, 3rd.
Best formal table arrangement: James Fox, Inc., Milwaukee, Wis.
Best display accessories, jewelry, etc.: Bunde-Upmeyer and C. Niss & Sons.
Best group of plants: Holten & Hunkel Co., Milwaukee; 2nd by C. C. Pollworth Co.
Best snapdragons: 1st by Sunny Point Floral Co.; 2nd by R. Godfrey, Wauwasota; 3rd by A. Reinhardt.
Best Rehmannia ungulata: Mitchell Park Conservatory.
Best group of roses: C. C. Pollworth Co.
Best larkspurs: Sunny Point Floral Co.
Best Orange tree: John C. Rost Co., Milwaukee, Wis.
Judges: James Livingstone, Brown Deer, Holton & Hunkel Co.; James MacGregor, Forest Home Cemetery; Julius Erdmann, Mitchell Park.

LIST OF MILWAUKEE EXHIBITORS AT SPRING FLOWER SHOW

1. Loeffler & Benke, Watertown, Wis., 2 vases caranations.
2. Sunny Point Floral Co., Milwaukee, vase snapdragons; vase delphinium.
3. Valley Gardens, Caledonia, Wis., 12 vases sweet peas.
4. Frank Zacharias, N. Milwaukee, Wis., 5 vases forgets; 3 of carnations, 2 of stock.
5. Albin Reinhardt, N. Milwaukee, Wis., 5 vases carnations; 3 stocks; 1 snaps.
6. Richard Lietz, Milwaukee, Wis., 10 boxes hyacinths and tulips; centerpiece.
7. Frank Heyden & Son, N. Milwaukee., 3 vases sweet peas; 3 pots daffodils.
8. R. W. Buchholz, Wauwatosa, Wis., 1 pot begonia; pot strawberry geranium.
9. Wm. Rayner & Son, Oconomowoc, Wis., vase of 50 Godfrey Callas, ficus foliage.
10. Rud. Preuss & Sons, Milwaukee, Wis., basket carnations; 5 pots tulips. Table.
11. Grunwaldt Bros., N. Milwaukee, Wis., 3 vases carnations.
12. A. C. Spinti Co., N. Milwaukee, Wis., 4 vases eupatorium, statice, mignonette.
13. W. H. Thompson Co., Milwaukee, 2 boxes Darwins; 2 pots astilbe,, yellow daisy.
14. Gust. Pohl, Milwaukee, 2 vases Morning Glow carnations.
15. Wm. R. Schroeder Floral Co., Milwaukee, 4 vases carnations.
16. Hugo Schwan, Cudahy, Wis., 6 pots cinerarias.
17. Greenwood Carnation Co., N. Milwaukee, 6 vases carnations; 2 of stocks.
18. Herman Staeps Co., Elm Grove, Wis., 4 vases carnations—Supreme, Surprise.
19. Norman A. Schmidt, N. Milwaukee, 2 primoses; 5 pots bulbs.
20. Riebs Bros., N. Milwaukee, 3 vases carnations, 3 sweet peas; 1 of snaps.
21. Baumgarten, Inc., Milwaukee, 1 table decoration; basket; vase flowers.
22. Holton & Hunkel Co., Milwaukee, plant display 30 by 15 feet—immense.
23. Roscoe W. Godfrey, Wauwatosa, Wis., vase snapdragons.

(Continued on page 146)

NATIVE PLANTS IN THE FLOWER GARDEN

By W. A. TOOLE

For years it has been the aim of garden lovers to obtain rare plants for flower gardens that have come from far lands, and there will always be a fascination about something that has come from strange places. The last few years there has been, however, a growing interest in the possibilities of our own wild flowers, due in part to the fact that many of them are rapidly disappearing from their native haunts in the vicinity of the larger cities or wherever the progress of civilization is crowding them out.

There has been a great deal written and said about the preservation of our native plants, much of which is very true. There is much needless and heedless despoiling of our native landscape by those who have had no thought of the possible pleasure of those who may follow them, and careless and needless destruction of the life of the plants gathered. The great pity has been that so often after gathering the plants or flowers or vines, no after care is given them and they are simply treated as garbage as soon as home is reached. Many people are so constituted that because a thing is apparently free they want to gather in far more than they can possibly make use of, and because of its cheapness it immediately loses value or beauty as soon as it is acquired. It is towards this class that educational work of preserving our native landscape must be directed.

Another phase of this problem must be recognized. It is that the natural progress of civilization, the growth of cities and the clearing and pasturing of farms and the draining of swamps must continuously narrow down the area where plants are to be found growing in a wild condition. As these areas are cleared up and the wild flowers are killed out, the chance to make the acquaintance of their beauty is removed farther and farther away from a large part of the population. Because of this it is important that parks or refuges be established where the native plant life can be protected and as much native material introduced as will thrive under the existing conditions. Also where there is a genuine liking for the shy beauty of the flowers of our northern springtime, or if one admires the striking colors of the later flowering plants of our open prairies and sandy waste places, they may well be introduced into our gardens.

With the exception of the comparatively small number of kinds that require a positively acid soil, such as the Arbutus, the Stemless Lady Slipper, and members of the Ericacea family, about all our native plants will do well in any good garden soil. Most of our wild plants show a preference in their natural location for certain soil and water and shade conditions, but when introduced into our gardens, they will accept widely varying conditions without protest provided they are not crowded out with grass and weeds and stronger growing plants.

While many varieties will thrive under average garden culture, usually the best results will be obtained if one will observe and provide as nearly natural conditions as your garden will permit and your pleasure in having them in your garden will be greatly increased because of the study that this will require.

There are always opportunities to secure wild plants for your garden, when on auto or vacation trips, if you keep your eyes open. Plants should not be dug from public or semi-public places or where they are being enjoyed by many people, especially if the particular variety is not plentiful. In certain sections there are always some kinds that are very common and a few plants will not be missed. Take up only the number of plants you can actually use.

It is a good idea to always carry a stout trowel or small spade, a basket or box and some old newspapers when out on an auto trip for one never knows when they may find some desirable plant. We have found that most all kinds of the smaller plants may be safely moved while in flower if wrapped snugly in a newspaper and packed

(Continued on page 141)

BADGER NEWS

From Wisconsin Papers

JUNEAU COUNTY FOREST RANGERS TO PLANT TREES

(Special to The Telegram.)

NEW LISBON WIS.—Thirty thousand pine trees will be planted by members of the Juneau county junior forest rangers this spring. The trees are to be furnished free by the Wisconsin Conservation commission and will come from the Trout Lake nursery. The junior forest rangers have been organized through the rural schools of the county. Besides planting trees the rangers will collect pine cones from which they will extract the seeds. The seed will be planted in nursery beds and from these beds the seedlings will be transplanted into the open. Work of the rangers will tend to create a sentiment for protection from forest fires in the county.

WAUKESHA NAMES ITS FIRST PARK BOARD SUPERINTENDENT

WAUKESHA—(UP)—Martin C. Stuhr has been appointed general superintendent of the city park board a position recently created by the council. He will have complete charge of all work connected with the city's park project.

50,000 MORE CHERRY TREES FOR DOOR CO.

STURGEON BAY.—About 50,000 cherry trees will be planted in Door county this year, reports the Door County Fruit Growers Union which this week received three carloads of the stock for distribution and expects two more carloads next week. About 20,000 trees came in last fall while about 30,000 are being received this spring.

The planting for 1927 is the largest in many years, state the Union officials. The trees come from nurseries in New York state, Kansas and Iowa.

Since the cherry trees are planted twenty feet apart and in rows twenty feet apart, there are 108 to the acre. With this as a basis, the 50,000 trees to be planted this spring will cover approximately 465 acres. With the present acreage of cherries in the county nearly 5,000, the 1927 planting will bring the average well over 5,000.

Among the growers planting large increases in acreage this year are Dr. Eames, Egg Harbor, 3,000 trees; John Boler, Sawyer, 1,700 trees; Chris Trodahl, Sawyer, 1,000 trees; Cady Land company, Egg Harbor, 1,000 trees; Wm. Kinnaird, Sevastopol, 1,500 and the Wisconsin Fruit Farm, 1,000.

INSTRUCTS ON GARDEN AND SHRUBBERY

In keeping with the planting and transplanting season of the year, Julius Quentin of this city, president of the Milwaukee County Agricultural Society, gave an interesting talk and demonstration on strawberries, tree planting and shrubbery before the Kiwanis Club on Tuesday evening. Mr. Quentin brought with him some actual specimens and demonstrated some of his work by the use of a pruning scissors.

Talking on strawberries, he showed the need of a healthy root system, what kind of plants should be set out for a new stand of berries and how to plant them, favoring the hill plan with no runners and a big plant rather than the matted row.

With actual specimens he showed how grape vines should be cut back each spring and how the roots and limbs of young trees should be cut back for transplanting, holding that a heavy cutting off of the top is best for the first year, so as to give the roots broken in transplanting a chance to catch up with the limbs.

In the matter of pruning he favored the cutting when the plants were alive and containing sap, as the wounds would heal over much quicker and not "check", as they would when the wood was dry. He said flowering shrubs should be cut back and excess wood cut out in the summer, after they were through blooming.

ASHLAND, WIS.—The Roy Kelley Post of the American Legion here will continue the work of planting elm trees at one hundred foot intervals along highway 13 this year it was decided recently at a meeting of the organization.

The local Legion is sponsoring a move to have the entire length of highway 13, comprising more than 350 miles, planted with elm trees as a memorial to the Wisconsin men who died in service during the World war. Trees have already been planted for more than 15 miles south of Ashland, and several miles of elms have also been planted north of Mellen, through the efforts of the Legion there.

NEW COMMISSIONER HAS WIDE FARM EXPERIENCE

W. A. Duffy, newly appointed state commissioner of agriculture, has for years been in close touch with agriculture in Wisconsin, having farmed for himself and also served as a county agricultural agent.

After serving four years as a teacher and six years farming he was elected to the state legislature for one term. While a member of the law-making body he also attended the agricultural course at the University of Wisconsin from which he was graduated in 1920. He has since been engaged in county agent work, having been employed for four years in Barron county and for the past 27 months in Rusk county.

FLOWER AND PLANT NAMING CONTEST IS BEING STAGED HERE

SHEBOYGAN—A flower and plant naming contest will be conducted at the high school.

A number of plants will be put on display, bearing tags that give their names and their flowering times. These tags will be left on two days, and on the closing day of the contest, the tags will be removed and the flowers re-arranged. Contestants will be required to write the names of the plants and other information about them on cards that will be furnished. Suitable prizes will be awarded the one giving the largest number of correct answers.

The contest is being conducted under the direction of E. D. Antoniu, recreation director, and prizes are to be furnished by local florists.

MAKING THE TOWN MORE BEAUTIFUL

(Waushara Argus)

Waupaca, which has long been noted for the beauty of its homes and gardens, has inaugurated a move this spring which is being pushed with enthusiasm by the home owners of the city and which promises to make a still greater improvement in the beauty of that little city. This movement inaugurated is a yard and garden contest wherein prizes will be awarded for the most beautiful yards and gardens and an especial contest for children's gardens is a feature of the move for a more beautiful town. Wautoma has innumerable beautiful homes but an especial effort in the way of landscaping and planting of shrubbery and flowers would still further improve them.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

THE WEST ALLIS HIGH SCHOOL HOBBY CLUB

This Club has gardens for its "hobby," and its members are discussing most earnestly the merits of various plants, bulbs and seeds. They meet in one of the home rooms at the High School on Friday afternoons and are presided over by a President and Secretary whose poise might be envied by older people.

At their last meeting they were desirous of information on "Growing Flowers for Show" and called on the writer for a little talk along these lines. (Such an opportunity is never missed—for the writer believes in early training.) It was an attentive audience, and their questions showed that they were interested. Notes were taken and time was asked for between questions so the answers could be carefully written down for future reference.

These boys and girls gave a very creditable show at the First National Bank last summer. They are planning a larger and better show this year.

In order to assure the speaker that her talk was appreciated, a diminutive cheer leader took the floor and led the club in a vote of thanks that could be heard two blocks away. There has been a glowing spot in the region of our heart ever since. Other clubs are being organized in the grade schools, and a general flower and vegetable show will be held at the High School in September. Who can measure the value to this town in beauty alone because of these Hobby Clubs, saying nothing whatever of the lessons they are learning that will be of untold value to them through life; for the boy or girl who works in a garden learns many lessons not taught in books—nor schools—nor anywhere else but in God's great outdoors.

At the regular meeting of the West Allis Garden Club, various advertisements were discussed by the members. This has been one of the things this Club has always been interested in, and many "exceedingly wonderful" plants and seeds have been given a publicity not desired by the advertiser.

The members of the Hales Corners Garden Club voted unanimously at their last meeting to join the State Horticultural Society. We surely bid them Welcome.

HALES CORNERS GARDEN CLUB AFFILIATES WITH STATE SOCIETY

The members are pooling their funds as usual and buying seeds and plants in quantity, thus securing them at a very reasonable rate. It's an inspiration to visit this Club—the members are so enthusiastic. One of the members said, "I just received a catalog in which were listed two hundred varieties of plants I never even heard of. I feel as though I would have to grow a whole lot of new flowers this summer or I'm afraid I won't live long enough to grow them all." This woman's garden would be a revelation to those who say "I can't have a garden—I know nothing about caring for plants." Neither did she a few years ago, but when they moved to Hales Corners she began to grow flowers. She particularly enjoys seeing them grow from seed to maturity. Sometime I hope she can be persuaded to tell us the story of her garden.

GROWING DELPHINIUMS FROM SEED

There has been much discussion and quite a good many inquiries as to the best method of growing Delphiniums from seed. I do not say this is the best way—just my way—and as fully ninety five per cent of the seeds germinate it is proof conclusive that it is a good way. Soak the seeds for 24 hours in warm water, drain and pat the seeds softly on a cloth to remove surplus water, mix with fine sand or soft leaf mold and sow thinly in flats or flower pots which have been filled with a mixture of leaf mold or any good light soil mixed with a very little sand. The surface should be well watered before scattering seed, pat down lightly and then cover with a mixture of light soil and dry sphagnum moss rubbed fine. Dampen with warm water and cover flat or pot with glass or cloth. Never allow soil to become dry. Usually seed will germinate in from seven to ten days. Seed that is several years old will germinate quite readily by this method especially if the water in which seed is soaked is kept quite warm.

Attention Please:

I am sure there are other Garden Clubs in the state, children as well as adults. Won't you write and tell me what you are doing? We will all be interested. Address—Mrs. C. E. Strong, West Allis, Wisconsin.

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COVER PAGE

One view of the 120 acres of orchard to be seen at the Weston Orchard located in Dunn County.

HOW MUCH SHALL WE ADVERTISE

This is a question that we often hear discussed and usually the discussion ends with a general agreement that it pays to advertise.

On Easter Sunday, an exposition train from Florida was parked at the Illinois Central Depot in Madison for the entire afternoon and the public invited to inspect their exhibits. The train consisted of four coaches, one of which was equipped for moving pictures and six films were being run continuously. An entire car was used to exhibit the products of the City of Miami, while another contained the products of Manatee County, J. C. Penney-Gwinn Institute and the city of Jacksonville.

Among the exhibits was quite an elaborate display of fruits and vegetables, both tropical and sub-tropical.

Among the vegetables which included all of our garden produce were some very fine looking Triumph potatoes which happened to be grown from some of Wisconsin certified seed. The largest seed potato distributers of Florida buy large quantities of Wisconsin seed potatoes annually. Some fine looking tomatoes were shown from the vicinity of Miami, and we were told that 12,000 acres of them are being grown for the northern markets during April and May. Other plants of interest were wild orchids, Cassava roots from which tapioca is made, cocoanuts, a banana tree with fruit, pineapple plant with fruit, an Australian pine tree and many other interesting novelties.

On April 25 another exhibit train visited Madison. This one, drawn by two locomotives, contained five exhibit cars, a club car and eight Pullman cars, and brought 140 Vermont boosters, including Governor and Mrs. Weeks, to Madison. The visitors were greeted by Governor Zimmerman, and a committee of citizens. This was the second good will publicity train sent out by Vermont, the first one having been sent out in April, 1926, so evidently the Vermonters consider this a good form of advertising. The five exhibit cars represented an investment of $500,000 and contained 125 different exhibits coming from every section of the Green Mountain State and covering every phase of the state's industrial and agricultural products. (Among the many agricultural products were several very attractive looking trays of Delicious and Northwestern Greening apples.) The famous Vermont marble, used so extensively in the building of Wisconsin's capitol, was a feature exhibit. Vermont's "maple syrup" was also well advertised by a carload exhibit.

Wisconsin may not need a train full of exhibits to sell its products and get them before the public, but a little more advertising of our horticultural products might well be considered.

IN THIS ISSUE

McINTOSH APPLES POPULAR

It has been quite generally agreed that if a sufficient quantity of any one good variety of apples can be obtained in a given locality so that it can be properly graded, attractively packed, and offered in large enough quantities, that there will be no trouble in finding a permanent market. The quality of the product of a given brand must be kept constant in order that the buyer can depend upon it. The big question, in some sections, has been to find that one variety of apples that is adapted and will fill the bill. The average orchard has too many varieties and not enough of any one kind to cater to the larger markets which usually are the most profitable ones. The quality of these varieties are often excellent and yet, because of insufficient quantity they are difficult to dispose of. In New Hampshire the McIntosh apple is becoming very popular and this variety is being widely planted as a fall and early winter dessert apple. This apple has likewise won a prominent place among our Wisconsin varieties, and we believe it worthy of more attention.

A recent publication of the University of New Hampshire has the following to say about this apple:

"The popularity of the McIntosh is due to many factors. It is relatively hardy and bears large regular crops at an early age. Its fine dessert quality has created an active and growing demand in the market. While production of McIntosh has increased with great rapidity in recent years, its popularity with the buying public has made demand keep pace with supply.

New England growers have been conservative, and many have felt that production of even this fall variety with a limited storage period might be overdone. Some at first did not pick and handle it with sufficient care. However, within the past five years methods of picking, packing and handling the McIntosh have so improved that at the present time with prompt storage it is kept on the markets until March or even April. Now an increasing competition between the McIntosh and Baldwin is being felt. The buying public prefers the McIntosh as long as they can get it with the result that the stocks of Baldwins cannot be placed on the market as early in the season as was formerly the case.

Fear of the scab disease undoubtedly restricted planting of McIntosh at certain times. For a period prior to 1920 when the infection had gained a foothold in the orchards, some growers were nearly discouraged and even thought of grafting the trees to other sorts. With the development of better spraying methods the disease has been fully controlled and is no longer feared by the up-to-date grower.

The gradual appreciation of these facts has resulted in a growing confidence in this variety. An interesting side-light on the changing opinion as regards McIntosh may be gained from the proportion planted as fillers in recent as compared to former years. Ordinarily, because the fillers are removed at from 15 to 25 years of age, the bearing trees of any variety consist more largely of permanents than do the non-bearing. Thus with Wealthy, for instance, about 30 per cent of the bearing and 50 per cent of the non-bearing trees are fillers. With McIntosh 10 per cent of the bearing and slightly less than 10 per cent of the non-bearing trees are fillers. This simply indicates that growers who formerly planted the McIntosh for a filler are now setting it for a permanent tree.

Apples are now among the lists of nationally advertised fruits. Watch for the APPLES FOR HEALTH posters and signs.

WHAT IS THE STATE HORTICULTURAL SOCIETY?

The Wisconsin State Horticultural Society is purely an educational institution having as its purpose the advancement of every branch of horticulture throughout the state. This is accomplished through publications, individual help and conventions. "Wisconsin Horticulture" is the official organ of the society. It is a 16-page monthly magazine containing each month articles on fruit, flower, and vegetable growing and some of the problems involved in the art, written by Wisconsin growers and professional men for Wisconsin conditions. Every person in this state interested in fruits, flowers, vegetables, ornamentals and trees should be a member. You are cordially invited to join. Any person may become a member of this society for the year by payment of the annual fee of one dollar. In addition to "Wisconsin Horticulture" every member receives a copy of the Annual Report which contains all of the papers presented at the winter and summer conventions and the discussions that follow. This alone is worth the price of the membership since the very best authorities on the various phases of horticulture are secured for these meetings. Sample copies of "Wisconsin Horticulture" will be gladly furnished upon request.

HORTICULTURAL TROUBLES

Edited by S. B. Fracker, State Entomologist

AIRPLANE DUSTING IN A STATE PARK

By S. B. FRACKER and A. A. GRANOVSKY

Last July, the state conservation commission used over seven tons of arsenic in Peninsula State Park, and killed some thirty million measuring worms with the poison.

The work was one of the most spectacular and, at the same time, efficient insect control projects with which the writers have ever been connected. Not only was the dust cloud laid down by the plane, trip after trip, a thrilling sight, but the mortality of the insects, which had begun to kill the trees, was at least as great as could have been expected with land machines under ideal orchard conditions.

The worms doing the damage were larvae of a grayish-buff moth known as *Ellopia fiscellaria*. A convenient popular name is "hemlock spanworm" from their principal food plant and their manner of looping as they crawl.

In 1925 they killed six million board feet of hemlock timber in Peninsula Park and probably ten million more on private property in Door County outside the park.

No damage was discovered in Wisconsin outside this one county but they were injurious in Michigan and in eastern Canada the same year. No previous records of a similar outbreak by this species have been published, although it has been known as a forest inhabitant for half a century, and although a close relative has destroyed hundreds of acres of Douglas fir and western hemlock in the Rocky mountain states.

Peninsula Park is a rugged, forested area of six square miles, surrounded by the waters of Green Bay on three sides. In addition to many shallow valleys there are steep cliffs and escarpments, some of them over 200 hundred feet in height. It is a popular summer resort for campers, and the hemlock and balsam trees constitute the most attractive features.

The worms feed from the middle of June to early in August. They then develop into moths which lay eggs in September, the winter being passed in the egg stage. It is possible to poison the larvae only during the feeding period, and for that reason the work was done early in July.

The plane used was owned and operated personally by Les. W. Smith, Springfield, Ill., and had been adapted for dusting immediately before the work was done.

The hopper occupied the entire compartment for the mechanician so that the pilot was alone in the plane during dusting. The hopper would hold about 350 pounds of calcium arsenate, but after several trials of different amounts, ranging from 200 to 300, a load of 250 was found both safe and convenient.

Agitation was secured by a small air propellor mounted on the lower left wing, driven by the airblast from the plane propellor and geared to the agitator in the hopper.

The dust was released by pulling a lever in the cockpit which opened a door in the floor of the hopper 27″ x 7″ in size.

An airplane shown in action distributing dust over the hemlock forests in Door county

Sixty-three flights were made, each load being 250 pounds, except in the first eight flights, on which 200 to 300 were tried, and the last three, when 275 were carried.

Each round trip, including loading, occupied about fourteen minutes, at times as many as five loads (1,250 lbs.) being distributed over sixty acres of forest in one hour.

Taking the work as a whole, it may be of interest to note that the plane flew 252 miles of active dusting, about 100 miles

while turning around after each strip, and over 500 miles from and to the loading field.

The material employed was in the main, Corona calcium arsenate, a total of 14,500 pounds without dilution with a carrier. In one section, 1,000 pounds of Niagara calcium arsenate was used.

The dust distribution could be very readily determined on almost any deciduous leaves, as well as hemlock needles. When evenly distributed at twenty pounds to the acre, it could be seen at a glance on the leaves of such trees as basswood, oak, beech, and maple and such undergrowth as dogwood, wild currant, fern and wild strawberry.

The number of dust particles per hemlock needle was of special interest. Accordingly, an effort was made to determine the distribution of dust on hemlock foliage. Naturally, it varied considerably, ranging from 0 to as many as 20 per one needle. Most of the needles had from one to six particles per needle.

It is of interest to note that the dust particles did not adhere well to the deciduous foliage. Upon shaking or even touching the leaves many particles fell off the foliage. Evidently there was lacking any electrical attraction between the foliage and the dust particles.

The swirling motion noted so often in connection with cotton fields is probably due to the interaction of the propeller blast, the ground, and the cotton plants. In the case of forest work, the ground is not near enough to cause air eddies in this way and there was no tendency for the particles to attach to the under side of the leaves. It descended in about 20 seconds, straight down on calm days, and diagonally when there was a slight wind. An 8 mile breeze did not interfere with the work, but 10 miles per hour caused too much drift.

The best method for the determination of the mortality of the larvae was found to be the use of square-yard pieces of muslin. Many such pieces of cloth were gently placed three days before dusting on the ground under hemlock trees of different sizes and in different densities of forest to determine the mortality before, if any, and after the dusting. The height of the trees was recorded in order to estimate the relative area from which the larvae fell on the muslin. Approximately the same size twigs in the vicinity of these stations were shaken to determine the infestation before dusting. These stations were visited daily three days before, during, and five days or later after dusting. No dead worms were found in a single instance before dusting. The worms continued to die for 5 to 8 days, but most of the larvae died between 24 and 72 hours after the dusting.

Some trouble was experienced from animals in the woods which often disturbed the pieces of muslin at night.

In some instances as many as 97, 85, 73, 72, etc., dead larvae fell on the ground per square yard.

It is estimated that in a solid hemlock stand the mortality was 90 to 95%, while in the mixed forest not less than 80%. In only one area which consisted of young hemlocks over-topped by deciduous trees, and another which was dusted just before a rain, were the apparent results somewhat less than expected, with a mortality about 60%.

Cost

The contract called for a payment of $4.00 per acre by the Wisconsin Conservation Com-

(Continued on page 141)

THE MARKET PAGE

Edited by State Department of Markets

APPLES

The market season for the heaviest commercial apple crop on record is about to close. Total apple shipments were running about 3,200 cars in excess of last season's movement up to about April 5th. The output of western fruit has been just about the same as a year ago, and the excess is principaly in eastern shipping sections, Virginia, West Virginia and Pennsylvania.

Prices of the present season were much later reaching the peak. According to reports from the U. S. Bureau of Agricultural Economics the top of $3.75 prevailed in country shipping sections from February 10 until the last week of March. Western New York prices began to fall in March. For the past two months New York City dealers have been averaging 10¢ to 15¢ per barrel less than the shipping point level. One of the reasons for this is that some of the big distributing centers, like New York, have received large quantities of poorly-colored or lower grade fruit, which has tended to depress the market. It should be noted that during February and March New York Baldwins sold consistently higher than a year ago at shipping point because of better keeping quality and a more active export demand.

Notwithstanding the fact that returns for the 1926 crop have been generally unsatisfactory it is the belief of the marketing specialists of the U. S. Bureau of Agricultural Economics that the apple industry as a whole is approaching a more stabilized condition. However, a recent report of that Bureau warns growers that commercial plantings would hardly be justified at present except under unusually favorable conditions. It is also held advisable that growers substitute where it is possible the more promising varieties for those which have been unprofitable.

According to this report the 1925 census showed that during the previous 15 years there was a considerable decrease in the number of apple trees in the United States. The rate of decrease was somewhat less during the 5 years preceding the census than during the previous 10 year period. Most reductions have occurred in the scattered and less productive districts or in orchards located on unfavorable sites and such plantings as have been made have been mostly in commercial sections. This has resulted in a gradual increase in commercial production but a decrease in ordinary farm production. Approximately one-fourth of the total number of trees in 1925 were under bearing age and this is probably not more than enough to maintain the present number in bearing. There are, however, many orchards which have not yet reached full bearing.

The average yield per tree has been increasing due to the tendency to eliminate unproductive orchards and to concentrate the industry in favored locations. There has also been a marked improvement in cultural conditions and a shift toward the more profitable commercial varieties. For these reasons annual commercial production during the next 5 or 10 years may show some further increases over the average of recent years.

STRAWBERRIES

The active strawberry season usually begins in March with the movement of the Louisiana crop which is marketed through April. This season was one of the earliest on record, starting before the end of February, about a month earlier than last year. May is the big strawberry month. Production continues rather heavy through June and the arrivals in the distributing markets from some of the eastern, north central and northwestern states extend in a small way into early July.

Strawberry prices start high, often at about $3.00 per quart for the early winter berries sold in northern markets. When the berries begin to arrive in greater quantity the price tends downward rapidly, reaching 25¢ and 50¢ by the end of the winter. Lowest prices appear in the various markets during the main season of a city's principal region of carlot supply, usually in May and June. Then the price recovers because of the arrival of homegrown berries of good fresh quality.

According to the reports of the U. S. Department of Agriculture the estimated farm value of strawberries in early sections last season ranged from 18¢ to 35¢ per quart. The second early states showed returns of 15¢ to 19¢ while growers in the intermediate group got 12¢ to 20¢ and the late states 11¢ to 19¢ a quart. The total commercial crop of 256,500,000 quarts had an estimated farm value of $44,500,000, the highest value in three years.

So far as the 1927 season is concerned reports from the U. S. Department of Agriculture state that in the southern and midseason states indications are for an acreage for harvest in 1927, 22 per cent greater than that of 1926 and 18 per cent greater than the 1923–26 average. The earliest shipping states have an indicated increase over 1926 of 15 per cent, while Arkansas, the Carolinas, Tennessee, and Virginia show 26 per cent more acreage than in 1926. The next states to ship including Dela-

ware. Maryland, Illinois, Kentucky and Missouri will probably harvest a 21 per cent greater acreage than in the previous year. Late states have also shown a tendency to increase plantings. The expansion over 1926 has been especially marked in Arkansas and Missouri. Increases have also been large in Tennessee, Louisiana, Illinois and Maryland.

WILLIAM KIRSCH.

(Continued from page 139)

mission to the Decatur Air craft Company, the Commission to furnish (a) the dust, (b) assistance in loading, (c) full instructions as to boundaries of the areas to be dusted (d) a landing field. Fortunately a rental expense for the field was unnecessary, as it was offered by the owner for the purpose.

All areas dusted a second time were paid for at the same rate. The initial experimental flights thus proved expensive.

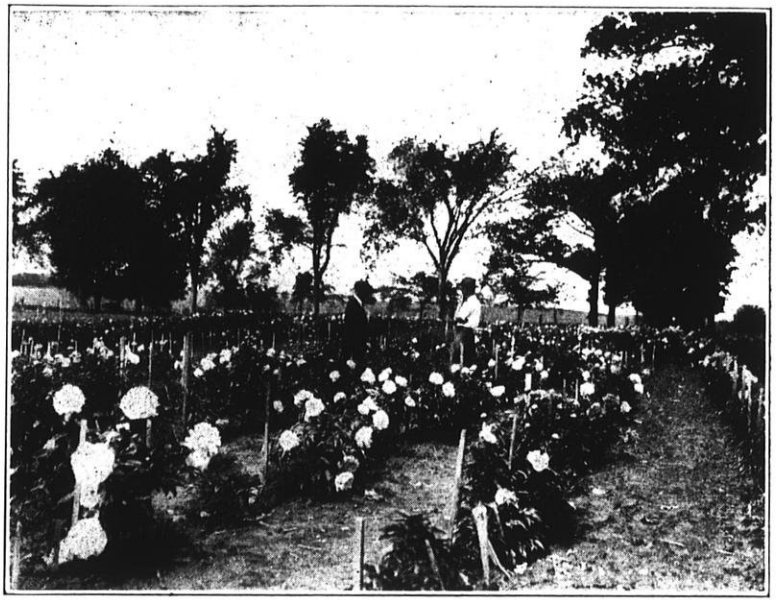
The commission informs the authors that including the preliminary flights the total cost was as follows:

Decatur Aircraft Co.	$3,860.00
Corona Calsenate	957.60
Niagara Calcium arsenate	74.55
Freight and dray	112.90
Labor (approximately)	30.00
Total	$5,035.05

This shows an average total cost of $7.04 per acre for labor and material for the 715 different acres covered at full dosage. This amount is considered very moderate when compared either with the value of the trees saved, or with the cost of dusting from land machines.

Recently we had the privilege of visiting "Sisson's Peonies" as Mr. Sisson's nursery is known and interviewing Mr. Sisson. They specialize in Peonies, Iris and Gladiolus. Although only recently taking up the growing of Iris, Mr. Sisson informed us that they were working with over three hundred different varieties. He said that he had not yet developed the interest in this flower that he has in the peonies, yet he felt that they were to be the coming flower. As an example of this growing popularity we were told of a man with a world wide reputation in flowers who had remarked that although his flower was the peony and his firm gave it first attention, yet the Iris sales exceeded those of the peonies last season. Mr. Sisson believes the Gladiolus to be the most popular flower in existance because of its long flowering season and easy culture and the fact that it has behind it one of the most powerful and live societies we have, the American Gladiolus Society.

"For myself," Mr. Sisson volunteered, "I prefer the peony to all others. Its growth is slow but sure. There is no other flower that will make the show that a peony will. The season is short. June about covers it. There is but one time to plant and that is in the Fall."



W. A. Sisson and W. A. Lawson of Sisson's Peonies, Rosendale, Wisconsin, looking over the products of their labor

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(Continued from page 133)

in a box or basket. If a little soil sticks to the roots they may be wrapped without further care for a single day's trip, but if the weather is very dry or the trip is a long one or all the soil drops off the roots, the roots should be moistened at the first opportunity and wrapped in wet newspaper.

Kinds that you cannot collect yourself, and that you may wish to add to your garden may be bought from firms who specialize in growing and collecting our native plants.

Following are a few of the more desirable of our Wisconsin wild flowers that anyone may easily grow. Anemone patens, Badger; Hepatica triloba, Liverleaf; Cypripedium pubescens, lady-slipper; Trillium, Wakerobin; Polemonium reptans, Jacob's Ladder; Asclepias Tuberosa, Butterfly weed; Violets, yellow, blue, and white in variety; Dodecatheon meadia, Shooting Star; Aguilegia canadensis, Columbine; Campanula rotundifolia, Harebell; Sanguinaria canadensis, Bloodroot; Phlox divaricata, Wild Woods Phlox; Gentiana Andrewsii, Bottle Gentian; Liatris in variety; Physostegia virginiana, False Dragon's Head; Iris versicolor, Blue Flag; asters in great variety and many other interesting and beautiful kinds.

LIBRARY PAGE

BOOKS LOANED FREE

In the April issue of Wisconsin Horticulture we introduced this new service to our readers. Many are taking advantage of it already and we believe that a great many more will avail themselves of this splendid opportunity to secure the best books on gardening and other related horticultural subjects when they see our lists. Last month we published a list of books on "Fruits and Fruit Growing" and "Cooperative Marketing." Next month we will cover the books dealing with "Landscape Gardening", "Trees and Forestry," and "Disease and Insect Pests." Get the reading habit and inform yourself on horticultural subjects by studying the works of specialists along the line in which you are most interested. The Wisconsin Free Library Commission is anxious to furnish you with the very best books available on all subjects and is going to considerable expense to secure them for your use. Take advantage of their offer today.

A selected reading list of books available through The Traveling Library Department Wisconsin Free Library Commission Madison, Wisconsin Compiled by Jane Morgan

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To borrow these books by mail, apply to the Traveling Library Department, Wisconsin Free Library Commission, Madison. The loan period is for three weeks—with postage prepaid. Those who live in cities maintaining public libraries should apply to their local library; others should write direct to the Traveling Library Department.

VEGETABLE GARDENING

"God Almighty first planted a garden."
—Bacon "Of Gardens."

Another hardy garden book, by H. R. Ely. 1905.
Around the year in the garden, by F. F. Rockwell. New edition. c1926.
Asparagus, by F. M. Hexamer. 1915.
Backyard farmer, by Bolte. 1914.
Bean culture, by G. C. Sevey. 1913.
Beginner's garden book; a text book for the upper grammar grades, by Allen French. 1917.
Big crops from little gardens, by A. B. Ross. 1925.
Biggle garden book, by Jacob Biggle. 1919.
Book of the home garden, by E. L. Fullerton. 1919.
Busy woman's garden book, by I. D. Bennett. c1920.
Cabbages, cauliflower and allied vegetables, by C. L. Allen. 1917.
Celery culture, by W. R. Beattie. 1907.
Crop production; an agricultural text, by C. M. Weed and W. E. Riley. c1914.
Culinary herbs, by M. G. Kains. 1912.
Farm horticulture; by G. W. Hood. Second edition thoroughly revised. c1921.
Garden and farm topics, by Peter Henderson. 1884.
Garden farming, by L. C. Corbett. c1913.
Garden-making, by L. H. Bailey. 1899.
Garden primer, by Grace Tabor and Gardiner Teall. 1910.
Garden profits, by E. L. D. Seymour. 1912.
(The) gardenette, by B. F. Albaugh. 1917.
Gardening for profit, by Peter Henderson. 1911.
Gardening with brains; fifty years' experiences of a horticultural epicure, by H. T. Finck. 1922.
Growing vegetables, by R. L. Watts. 1923.
Home garden, by E. E. Rexford. 1909.
Home gardening, by B. F. Albaugh. 1917.
Home vegetable gardening, by F. F. Rockwell. 1911.
Home vegetable garden, by Adolph Kruhm. 1917.
Home vegetable garden; suggestions of real gardens for homemakers and others. 1922. By E. M. Freeman.
Home vegetables and small fruits; their culture and presentation, by Mrs. Frances Duncan. 1918.
Home vegetable gardening from A–Z, by Adolph Kruhm. 1918.
Horticulture, by K. C. Davis. 1922.
How to grow vegetables, by Allen French. 1911.
How to make home and city beautiful, by H. D. Hemenway.
Little kitchen garden, by Dorothy Giles. c1926.
Making a garden with hotbed and cold-frame, by C. H. Miller. 1912.
Manual of gardening; a practical guide to the making of home grounds and the growing of flowers, fruits, and vegetables for home use, by L. H. Bailey. New and revised edition. 1925.
Muck crops; a book on vegetable crops raised on reclaimed land, in some localities known as black dirt or muck, by A. E. Wilkinson. 1916.
New onion culture, by T. Greiner. 1916.
New rhubarb culture, by J. E. Morse. 1912.
Peas and pea culture, by G. C. Sevey. 1911.
Plant breeding, by L. H. Bailey. New edition revised by A. W. Gilbert. 1915.
Plant breeding; comments on the experiments of Nilsson and Burbank, by Hugo DeVries. c1907.
(The) potato, by Samuel Fraser. 1913.
(The) potato, by A. W. Gilbert. 1917.
(The) potato, by E. H. Grubb and W. S. Guilford. 1912.
Practical garden book, by C. E. Hunn and L. H. Bailey. 1906.
Practical gardening; vegetables and fruits, helpful hints for the home garden; common mistakes and how to avoid them, by Hugh Findlay. 1918.
Practical school and home gardens, by G. W. Hood. 1916.
Principles of vegetable gardening, by L. H. Bailey. 1921.
Productive vegetable growing, by J. W. Lloyd. 1918.
School and home garden, by K. C. Davis. c1918.
Suburban garden guide, by P. T. Barnes. 1913.
Success in market gardening; a new vegetable grower's manual, by W. W. Rawson. Revised and enlarged edition. 1910.
Tomato culture, by W. W. Tracy. 1915.
Tomato production, by Paul Work. 1926.
Vegetable forcing, by R. L. Watts. c1917.
Vegetable garden, by I. D. Bennett. 1908.
Vegetable gardening, by S. B. Green. 1915.
Vegetable gardening, by R. L. Watts. 1914.
Vegetable growing, by J. G. Boyle. 1917.
Vegetable growing for amatuers, by H. H. Thomas. n. d.
Vegetable growing projects, by R. L. Watts. 1922.
Yard and garden, by Tarkington Baker. 1908.

FLOWER GARDENS

"Roses red and violets blew,
And all the sweetest flowers, that in the forrest grew."
—Spencer.

Amateur garden, by G. W. Cable. c1914.
Amateur gardencraft; a book for the home-maker and garden lover, by E. E. Rexford. 1912.
Amateur's book of the dahlia, by Mrs. H. M. S. Stout. 1922.

American flower garden, by Neltje Blanchan c1909.
Among school gardens, by M. L. Greene. 1911.
Art out of doors, by M. G. Van Rensselaer. New and enlarged edition. 1924.
Beautiful gardens in America, by Louise Shelton. Revised edition. 1924.
(A) book about roses, by S. R. Hole. (Ref. date 1901).
Book of annuals, by H. H. Saylor. 1913.
Book of gardens and gardening, by R. T. Townsend. 1924.
Book of roses, by Louis Durand. 1911.
Bulb gardening, by Mary Hampden. 1922.
Bulb gardening, by A. J. Macself. c1925.
Children's gardens, for school and home, by L. K. Miller. 1904.
Chronicles of the garden, by Mrs. L. Y. King. 1925.
Chrysanthemums, and how to grow them, by I. L. Powell. 1911.
Color planning of the garden, by G. F. Tinley. 1924.
Color schemes for the flower garden, by Gertrude Jekyll. 1914.
Come into the garden, by Grace Tabor. 1921.
Commuter's garden, by W. B. Hayward. c1914.
Content in a garden, by Mrs. C. T. Wheeler. 1904.
Continuous bloom in America, by Louise Shelton. 1916.
Culture of perennials, by D. M.-P. Cloud. 1925.
Daffodils, by Joseph Jacob. n. d.
Design in the little garden, by Fletcher Steele. c1924.
Everblooming roses, by G. T. Drennan. 1912.
Ferns and how to grow them, by G. A. Woolson. 1914.
Flower garden, by I. L. Bennett. 1909.
Flower gardening, by H. S. Adams. 1913.
Flowering trees and shrubs, by A. J. Macself. 1925.
Four seasons in the garden, by E. E. Rexford. 1907.
Garden blue-book of annuals and biennials, by H. S. Ortloff. 1924.
Garden-making, by Elsa Rehmann. 1926.
Garden making and keeping, by Hugh Findlay. 1926.
Garden month by month, by Mrs. M. C. Sedgwick. 1907.
Garden planning, by W. S. Rogers. 1911.
Garden week by week, by W. P. Wright. 1909.
Garden whimseys, by C. R. Lomas. 1923.
Gardening indoors and under glass, by F. F. Rockwell. 1912.
Gardening under glass: a little book of helpful hints written particularly for those who would extend their gardening joys around the twelvemonth, by F. F. Rockwell. 1923.
Gardens: quick results with flowers and vegetables, by Mrs. J. G. Cosgrave. c1925.
Greenhouse management, by L. R. Taft. 1902.
Greenhouses; their construction and equipment, by W. J. Wright. 1921.
Hand-book of tree-planting, by N. H. Egleston. 1903.
Hardy bulbs for amateurs, by Joseph Jacob. 1924.
Hardy perennials, by A. J. Macself. 1922.
Herbaceous borders for amateurs, by R. V. G. Wooley. c1926.
House plants and how to grow them, by P. T. Barnes. 1909.
House plants, their care and culture, by Hugh Findlay. 1920.
How to grow roses, by Robert Pyle. Edition 16, revised. n.d.
Ideal garden, by H. H. Thomas. 1910.
Indoor gardening, by E. E. Rexford. 1910.
Indoor gardening, by H. H. Thomas. 1912.
An island garden, by Celia Thaxter. c1894.
Let's make a flower garden, by Hanna Rion. 1912.
Little book of annuals, by A. C. Hottes. 1922.
Little book of climbing plants, including a discussion of climbing roses. ground covers, trailers, arbors, and trellises, by A. C. Hottes. 1924.
Little book of modern dahlia culture, by W. H. Waite. 1925.
Little book of perennials, by A. C. Hottes. 1923.
(The) Little garden, by Mrs. L. Y. King. c1921.
Little garden for little money, by K. L. Brewster. c1924.
Little gardens, by C. M. Skinner. 1904.
Making a garden to bloom this year, by Grace Tabor. 1912.
Making a rock garden, by H. S. Adams. 1912.
Making of a flower garden, by I. D. Bennett. 1919.
Manual of floral designing, by W. C. Harry. 1919.
Milady's house plants; the complete instructor and guide to success with flowers and plants in the home, including a remarkable chapter on the ideal sunparlor, by F. E. Palmer. 1922.
Miniature and window gardening, by Phoebe Allen and Godfrey. 1902.
My growing garden, by J. H. McFarland. 1915.
Old-fashioned gardening, by Grace Tabor. c1913.
Old gardens of Italy, by Mrs. E. A. F. LeBlond. 1926.
Old time gardens, by A. M. Earle. 1902.
1001 garden questions answered, by A. C. Hottes. 1926.
Peonies in the little garden, by Mrs. A. H. Harding. c1923.
(The) perfect garden, by W. P. Wright. 1908.
Plea for hardy plants, by J. W. Elliott. 1902.
Practical book of outdoor flowers, by R. L. Wright. 1924.
Practical book of outdoor rose-growing, by Thomas. 1917.
Practical floriculture, a guide to the successful cultivation of florist's plants, for the amateur and professional florist, by Peter Henderson. New and enlarged edition. 1919.
Practical flower garden, by Mrs. H. R. Ely. 1911.
Practical flower gardening, by K. M.-P. Cloud. c1924.
Principles of floriculture, by E. A. White. 1915.
Rhododendrons for amateurs, by E. H. M. Cox. 1924.
Rose in America, by J. H. McFarland. c1923.
Roses and how to grow them. Revised by J. H. McFarland. 1924.
Roses and rose growing, by R. G. Kingsley.
Roses and their culture, by S. C. Hubbard. c1926.
Roses for all American climates, by C. G. Thomas. c1924.
Roses in the little garden, by G. A. Stevens. 1926.
School and home gardens, by W. H. D. Meier. c1913.
School garden book, by C. M. Weed and Philip Emerson. 1909.
Season in a flower garden, by Louise Shelton. 1907.
Shakespeare garden, by Esther Singleton. 1922.
Shrubs for amateurs, by W. J. Bean. 1924.
Sun dials and roses of yesterday, by Mrs. A. M. Earle. c1902.
Sweet peas, by C. W. J. Unwin. 1926.
Sweet peas and how to grow them, by H. H. Thomas. 1909.
Taming the wildings, by Herbert Durand. 1923.
Town gardening, by Mary Hampden. 1922.
Variety in the little garden, by Mrs. L. Y. King. c1923.
Vines; how to grow them, by W. C. McCollom. 1911.
Water lilies and how to grow them, by H. S. Conard. 1907.
Well-considered garden, by Mrs. L. Y. King. 1915.
What England can teach us about gardening, by Wilhelm Miller. 1917.
Window gardening, by H. B. Dorner. c1908.
Woman's hardy garden, by Mrs. H. R. Ely. 1903.

We have some good news for the florists. A report just issued from Washington shows that the sales of artificial flowers have declined, as well as the number of firms engaged in their manufacture. The public knows a good thing when they see it and the novelty is wearing off. No one ever tires of the real thing.

FACTS FOR ORCHARDISTS AND BEEKEEPERS

By V. G. MILUM
Beekeeping Dept., Univ. of Illinois

The value of bees as an aid to fruit growing is recently receiving more and more attention throughout the country, although the fact has long been known that the value from the cross-pollination of the fruit-flowers, probably is equal to or exceeds the value of the profits derived from the sale of honey produced by the bees. The role of the bees and other insects, since wind is of little value in cross-pollination, is that of carrying the pollen or male element of the flower from the anthers of the stamens where it is produced to the stigma where the pollen tube then grows down through the stalk to the ovary where the embryo seed is to be found. This act brings about the union of the female nucleus of the ovule and the male nucleus of the pollen, which is known as the process of fertilization, the first step in the development of the next plant generation, which results in fruit being produced.

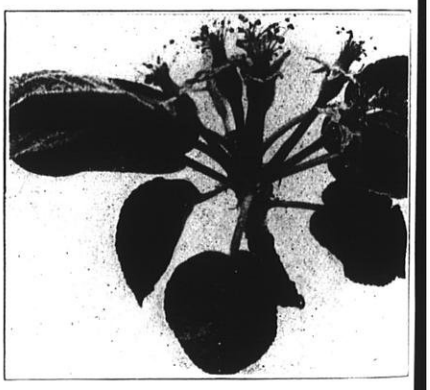
The flowers of the principal fruits have many variations. Some are self-fertile, which means that they may be self-pollinated, that is they may be fertilized by pollen from the same flower, from another flower of that plant or by pollen from another plant of the same variety. Other flowers are self-sterile, meaning that pollen from another plant of another variety is necessary to complete fertilization. In the strawberry for example, many varieties have flowers which bear only pistils, which requires that the pollen come from other varieties, whose flowers have stamens. Some varieties of fruit are even inter-sterile, that is, pollen from these varieties is not functional within the group of varieties but requires pollen from certain other varieties only. Furthermore, it is a generally recognized fact that even among self-fertile flowers, cross-pollination is very desirable as it often increases the set and quality of the fruit produced.

Many and varied experiments have been performed to demonstrate that cross-pollination is always desirable and usually necessary for best set of fruit. Prof. M. J. Dorsey and other workers have shown by bagging experiments that about two-thirds of the varieties of apples are self-sterile. Waite in 1895 showed that 22 of the 36 principal varieties of pear are self-sterile. The peach is generally considered to be self-fertile, yet Hutson reports that in New Jersey the J. H. Hale is a notable exception. All varieties of sweet cherry are self-sterile while many are cross-sterile according to various workers. Dorsey reports 37 of the 132 important commercial varieties of grapes as being self-sterile. The case of the strawberry has already been alluded to, while self-sterility is common among red and black berries, currant and gooseberry.

Since these conditions exist among the principal commercial fruits, the problem of cross-pollination becomes an important one for the fruit grower. Wind and rain have been shown under most conditions to be of little value in helping to complete the process of fertilization. As hand pollination is out of the question, the role of insects in cross-pollination is an important one. Many species of insects besides the honeybee may be found in the orchards in the spring, among them being midges, ants, aphids, bumble bees, Syrphidae, house flies, and various beetles, yet their numbers are never abundant owing to their habits of living a solitary existence during the winter and because of the short period for reproduction during the spring preceding the fruit blooming period. Because the honeybee lives in colonies of 15,000 to 30,000 individuals during the winter and is under the control of man in that the number of individuals can be increased to double or triple that amount at the proper time for best results in pollinating the fruits, orchardists are showing increased attention to the subject of beekeeping.

That these facts are fully appreciated in some localities is shown by the inclusion of a course in beekeeping in the prescribed horticultural course of some universities and the establishment of apiaries in conjunction with many commercial orchards. The value of the honeybees for pollinating purposes when placed in the orchards with due care and attention and with proper management has been shown by many experiments and under many practical conditions. In a certain California orchard of 180 acres of prunes with a production of 344 tons of dried fruit in 1916, the placing of 115 colonies of bees in the orchard is credited with being responsible for an increase to 432 tons in 1917. A seven acre plot of cherries produced 17 tons of fruit in 1918, while with 10 colonies of bees added in 1920 there was a crop of 52 tons of cherries in 1920 and 49 tons in 1921. The results at Hillview, Green County, Illinois, during the season of 1925, as reported by Cale in the American Bee Journal, are just as striking and convincing. In the McClay orchards, in one 40 acre plot of Ganos there had not been a paying crop since 1910, three barrels of apples per tree being considered as a paying crop. This plot produced 2½ barrels per tree in 1923, the best since 1910. Colonies of bees were placed in this orchard before the fruit bloom in the spring of 1925, one colony being set at points every 12 trees in a row and in every sixth row, alternating with colonies of adjacent rows. Thus no tree was more than six trees distant from a colony of bees. They were left in the orchard during the blooming period but were moved out just previous to the petal drop "calyx cup" spray. The result was that a crop of 5½ barrels per tree was realized. In another plot of Pippins the report was that the trees were loaded as never before. Other orchards in the near vicinity showed no such corresponding increase. Needless to say this Illinois orchard has now established a complete apiary with an experienced beekeeper in charge of the bees.

This practice is probably best for the largest orchard orchard tracts, yet in New Jersey in 1924, 800 colonies were rented from the beekeepers at $6.00 per colony. The bees were placed in the orchards during the blooming period but were removed by the beekeepers just previous to the "calyx cup" or "petal drop" spray. This practice is followed to prevent arsenical poisoning of the bees, since it is customary to apply this late spray when seventy-five to ninety percent of the petals have dropped. This together with the fact that different



APPLE BLOSSOMS AFTER THE PETALS HAVE DROPPED. Time for first codling moth spray. The calyx cup should receive some of the poison spray. 85% of the young apple worms enter the young apple at this point.

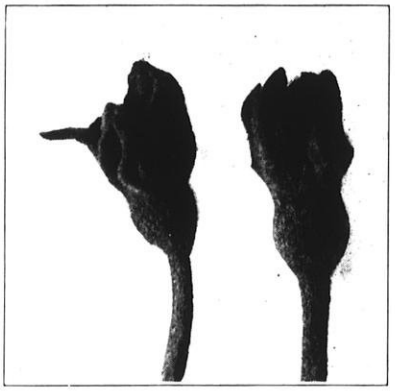
varieties have different blooming dates and even parts of the same tree bloom at different times make it imperative to remove the bees before spraying after the petals drop. However, there are a few orchardists that insist on spraying during full bloom with the resultant loss of valuable colonies, not alone the less efficient results in controlling the fruit insects, the injury to fruit and the loss of the value of the honeybee in cross-pollination. However, such fruit growers are only few in number and usually operating with a lack of information on the importance of the honeybee. There has been some attempt at the use of repellents applied with the spray but these have not been entirely satisfactory in some cases. Closing the colonies just previous to the

"calyx cup" spray is sometimes practiced, but occasionally this results in loss of bees by smothering if the weather is warm. For the smaller fruit grower the best plan is to spray after the petals have dropped, while for the larger tracts of orchard trees it is best to remove the bees at the end of the blooming periods, since there is usually not sufficient honey plants of other kinds to sustain the colonies of bees during the rest of the year due to the large areas being devoted to fruit trees with constant cultivation during the summer months. If the bees are moved to other areas, the danger of spray poisoning is eliminated and the colonies may secure a profitable surplus crop from other plants such as the clovers, especially, alsike, white and sweet clover in the North Central States.

While bees fly distances of one and one half to two miles under ordinary conditions, this distance is much decreased during the unfavorable weather of the spring blooming period of fruits. The lowest temperature limit of fair flight is around 46° F. but this is greatly influenced by atmospheric conditions of moisture, sunlight and wind. Hutson, of New Jersey, in his recent bulletin, "The Relation of the Honeybee to Fruit Pollination in New Jersey" points out the fact that "temperature and sunlight are usually satisfactory in the blooming period but moisture and wind often reduce the flight appreciably". He found that when the wind was above 20 miles per hour there was little flight. Under Illinois and Wisconsin conditions, there is often such a combination of these influencing conditions that there is little opportunity for flight during the blooming period, and even when the bees do not venture far from the hives. Hutson, as a result of his extensive studies, confirms the often recommended suggestion that there should be one colony of bees to each acre of fruit, and points out that placing the hives 210 feet apart secures this result with the most economical utilization of any flight made. He also suggests the use of "Pollunation bouquets" which should be placed about 15 feet from the hives. "Pollination bouquets" are flowering branches set in tubs. Branches are cut from some suitable variety of fruit which thus serve as an aid in cross-pollination, unless the varieties are mixed in planting the orchard, when the bouquets would not be necessary.

Having decided to make the best use of honeybees for purposes of fruit pollination, the orchardist or orchardist-beekeeper must make a careful study of the best beekeeping practices. There are certain underlying or basic principles which must be considered and carefully applied. The bees cannot be left to shift for themselves since they are subject to diseases which attack and kill the young developing bees which eventually means the extinction of the colony. These dead colonies then become a menace to all the other colonies in this neighborhood and the purpose is defeated. If colonies are not properly cared for their forces are divided by swarming, with a consequent loss of bees and the season's honey crop which pays the profits. Hence good beekeeping is essential to secure the best results.

For ordinary beekeeping conditions the beekeeper strives to have his colonies in the strongest possible condition by the time of the first big honey flow, which usually begins in early June in the clover areas. This is from forty-five to sixty days later than the period of blooming of the orchard fruits. Therefore, the bees must be in the strongest possible condition at a much earlier date if their full value is to be realized for pollination purposes. As space prevents a detailed discussion of the ways of securing the best results, the basic principles of good beekeeping practices will only be outlined in this article.



TIME FOR SECOND CODLING MOTH SPRAY. Too late for the first spray. Calyx lobes have already closed.

The first step in the production of a strong colony of bees containing from seventy-five to one hundred thousand bees for the following year, is the introduction of a young vigorous Italian queen in each colony some time previous to August 15th of the preceding year. Every colony should be supplied with at least 15 pounds of stores or else there should be a good honey supply available from the nectar of flowers in the field. With a young queen and plenty of stores, the colony will then produce before October 1st a large force of young vigorous worker bees to pass through the winter period. Since the bees have now done their part, the beekeeper should see that each colony is supplied with forty to fifty pounds of good white honey for winter stores. This can be best accomplished by saving the first super of stores collected at the beginning of the last previous honey flow. Furthermore, every colony should be provided with plenty of winter protection in order to reduce the consumption of stores and consequent loss of vitality of the bees during the long cold winter period since a colony of bees passes the winter in a compact winter cluster in which heat is created by muscular activity and metabolism, the source of this energy being the stores of honey consumed. The less the bees are required to work during the winter period, the more are they able to carry on their duties the following spring. Good winter protection may be supplied by a good cellar or packing from one to four colonies in wooden cases which provide room for four to six inches of some insulating material as forest leaves or planer shavings. A tunnel is made from the hive entrance through the packing material to the outside by means of which the bees may reach the outside to take flight when the weather is favorable. For best results the colonies should be packed for winter at the points in the orchard where they are needed the following spring.

With strong colonies going into proper winter quarters with a good supply of stores, strong colonies should emerge in the spring, much more able to gather their early supplies of pollen. nectar and water for the production of young bees previous to the fruit blooming period and the main honey flow later in the season. Since water is a very essential provision during brood-rearing the beekeeper can aid the colonies by supplying some sort of watering place close to the bees, thus eliminating long flights to the fields for water and the consequent loss of many bees, during the cold and windy days of the early spring brood-rearing period. Placing of a water supply in the orchard close to the bees would, no doubt, reduce the amount of spray material gathered by the bees, especially following a cold period when bees often rush out of the hives on the first warm day to gather water from leaves, blades of grass and moist earth. During this spring period the beekeeper should assure himself that every colony of bees has plenty of bees, abundant stores of honey, and plenty of room for the expansion of the brood nest on good worker combs.

With the suggestions here outlined, the colonies should be in the best of condition at the time of the fruit blooming period with a large force of worker bees available for pollinating purposes, which means a good set of fruit for the orchardist and perhaps home surplus honey for the beekeeper or at least sufficient stimulus for the production of a still stronger colony in preparation for the main honey flow. Then if due precaution is taken during the spraying season, the heavy losses of bees can be avoided, with a

mutual benefit of good feeling and profit for both the orchardist and the beekeeper or the orchardist-beekeeper, whatever may be the condition. Let us hope that the value of the honey bees in pollination purposes will never be forgotten or minimized.

(Continued from page 132)

24. C. C. Pollworth Co., Milwaukee, group rose and geranium; group Genista and Axalea; 6 vases carnations; Ranunculus.
25. Forest Home Cemetery, Milwaukee, 36 Amaryllis; 36 cinerarias.
26. Eschrich Nursery Co., Milwaukee, Group nursery specimens; 3 vases willows.
27. Herbert Johannes, Milwaukee, 3 pots Easter lilies.
28. Frank Eberfeld & Sons, Milwaukee, 4 begonias; 2 primulas.
29. Otto Eggebrecht, N. Milwaukee, two boxes Darwins.
30. Ernest Praefke, Milwaukee, baskets of Primulas and Justicea; cineraria; hyd.
31. S. Milwaukee Rose Gardens, vase Silver Columbia roses.
32. Thos. Griebler & Sons, Milwaukee, 6 begonias, 2 vases carnations, sweet peas.
33. F. C. Kaiser Co., Milwaukee, boxes hyacinths, tulips, primrose.
34. Jos. Bluemel, Wauwatosa, Wis., begonias, sweet peas, dish pansies and begonias.
35. Chas. Menger, Inc., Milwaukee, Kaiserkron tulips, 1 table decoration.
36. Fox Point Floral Co., Milwaukee, 3 vases stocks; 2 anemones; 1 Linaria.
37. Aug. Pagenkopf, Milwaukee, 2 vases tulips.
38. Gust. Rusch Co., Milwaukee, 6 vases roses: Briarcliff, Roselandia, Pernet, Coolidge, Butterfly, Templar.
39. Dreihuizen Bros. Lisse Holland, 6 pots new tulips.
40. Gimbel Bros., Milwaukee, 1 table decoration; floor vase Pernets.
41. H. Schwebke & Son, Milwaukee, 3 vases callas.
42. Jos. Kowalsky, Milwaukee, 2 boxes tulips; 1 basket tulips.
43. A. R. Brueggemann, N. Milwaukee, 2 vases carnations; 3 vases sweet peas.
44. Otto Sylvester, Oconomowoc, Wis., 2 vases carnations, 3 vases peas.
45. Fred Manke, N. Milwaukee, vase Beacon carnations; vase Wards.
46. H. Locker & Sons, Wauwatosa, Wis., table decoration; spring basket; 5 plants.
47. North Side Floral Co., Milwaukee, 1 vase cut flowers.
48. Mary J. Skinner, Milwaukee, 2 baskets cut flowers, 1 colonial bouquet.
49. John Dobnick, Milwaukee, large basket cut flowers.
50. Fisher Floral Co., Milwaukee, 1 table decoration.
51. Eugene Oestreicher, Milwaukee, basket of spring plants.
52. Bell Flower Shop, basket carnations; plant of Deutzia.
53. Waukesha Floral Co., Waukesha, Wis., vase callas; vase Laddies.
54. Froemming Bros., Milwaukee, vase cailas, vase peas, vase forgetmenots.
55. F. Gutermuth & Co., Milwaukee, basket cut flowers; box begonias.
56. Dettmann's Flower Shop, Milwaukee, large basket plants.
57. Kummer Floral Co., Milwaukee, basket cut flowers.
58. John Rosso, Milwaukee, 2 vases violets.
59. John C. Rost, Milwaukee, orange trees, Phillodendron, Begonia.
60. Frank Ruesch, Milwaukee, basket of cut flowers.
61. Lnor Floral Co., Milwaukee, colonial bouquet.
62. Estelle Gumz, Milwaukee, bouquet of mixed flowers.
63. Fox's, Inc., Milwaukee, garden effect table decoration.
64. Alma E. Balfanz, Milwaukee, basket of plants.
65. Mitchell Park Conservatory, Milwaukee, entire rotunda display.
66. Boston Store, Milwaukee, basket cut flowers.
67. Edlefsen Floral Co., Milwaukee, basket of plants.
68. Mueller Flower Shop, Milwaukee, basket spring flowers.
69. Semler-Leidiger Co., Milwaukee, basket spring flowers.
70. Gregerson & Kellner Co., Milwaukee, basket of spring flowers.
71. Wm. A. Schmidt, Milwaukee, 6 pots hyacinths; 5 pots coleus; 3 pots cinerarias.
72. Welke's House of Roses, Milwaukee, basket of Iris; vase flowering crabs.
73. Arthur J. Rhodee, Oconomowoc, Wis., vases calendulas, Orange King, Lemon Queen.
74. August F. Kellner Co., Milwaukee, formal garden on stage.
75. Bunde & Upmeyer, table accessories, jewelry, etc.
76. Kroseberg's Florists, 183 11th St., corsage bouquet.
77. A. Currie Co., 130 E. Wisconsin Ave., centerpiece.

(Continued from page 130)

set or the poetic sunrise, the moonlit landscape and the starry heavens. These impressions are passed on to the subconscious mind, later to be expressed by the creative mind in many ways. The finest qualities of man can only grow in free air.

In primitive America are still visible the foot prints of the pioneer—the one that struggled with the wilderness, the one that hewed the trail for you and I, and the Indian and his life before him. Thus we are linked to the distant past, just like the old tree with its roots deep in native soil links us to past ages—a lesson in history for the imaginative mind. Birds sing to us and enliven the scenery with their beautiful plumage. Deer and partridge are denizens of the forest. Without them or any other wild life the silence of death hovers over the woodlands. There is a lesson of freedom and beauty in the act of the deer jumping across the trail that is not to be found in any Zoological garden, with its caged and confined animals. Destroy the wilderness and its spirit and you destroy yourself. Our country is swiftly filling up with human habitation, and the native landscape is encroached upon everywhere. The hum of machinery reaches every section of this earth, and the madness of modern life has a tendency to crush the finer feeling within us. At such times there is a strong urge towards the primitive for balancing up. It is here that the artist and the philosopher turn for new inspiration, for freshness, for vigor and strength of mind.

I have been trying to reveal to you the out-of-doors as it has penetrated my soul and influenced my life by a few inspiring pictures, (just a few words, about which books might be written). It has taught me spiritual values that man has never been able to do. It has given me something to build my life's work on—a message pure and unadulterated, a message of beauty from the Master's mind. It is for you to partake of for the enrichment of your own life and for the enrichment of others. It speaks in many languages. It is a book beyond man's conception.

Watch the little moss, the first expression of life on the new made dune, or the lichen

climbing up the barren face of a towering cliff—the beginning of things as it were. Only the truth is written here, and its message is of the finest kind. Listen to the voices of it all. It is the biggest thing on the earth, and the inspiration of every great artist. To say it has no cultural value is not to know it, or not to know what life means.

THE REYNOLDS SPECIAL

The Reynolds Special is a new late ripening strawberry which has been attracting considerable attention the past two or three years. It was developed by Mr. Wesley Reynolds of Tomah, Wis., from a chance seedling discovered in Green County, Wis.

He says: "I first made some attempt to introduce the berry in 1926 and sold about 100,000 plants, about 70,000 of which were set in the Warrens district which includes Tomah.

The berry ripens about 12 days later than the Dunlap which is an advantage as we need a late berry to avoid competition with other states. It is perfect blossom and I prefer to set it in a block separate from other varieties. It stands up well in transit. A case will weigh two pounds more than a case of Dunlap of the same average size, and a case properly packed will not settle from handling. The largest berries are not as large as the largest Dunlap but they will hold up a much better average size throughout the picking season."

DANDELIONS CANNED LIKE OTHER GREENS

Early patches of dandelions will mark the opening of the canning season in many Wisconsin homes this spring.

Dandelions are canned like other greens. They have proved favorites with women because they may be secured easily and do not require any time for planning or cultivation, according to Miss Wealthy Hale, home management specialist at the University of Wisconsin.

Dandelions are popular with the family, especially in winter when their pungent and slightly bitter flavor adds variety to the menu. When they are served, a small amount of bacon fat or butter may be poured over them just as when they are cooked fresh.

Starting early in the spring to can dandelions will help insure plenty of green vegetables in the winter diet, Miss Hale says. She recommends making a canning budget before planting the garden this spring in order to make certain that plenty of green vegetables are included.

If all of the vegetables are used, about one-and-a-half times as much spinach, Swiss chard and other greens as are usually planted for a summer's supply will no doubt provide a liberal supply for the year, Miss Hale believes. A generous amount of other vegetables, either for canning or for storing, should also be planted in the garden, including beets, beans, carrots, parsnips, and asparagus.

The commercial apple crop in the United States during the past season is reported to be the heaviest since 1920. In 1925 the crop was estimated at 99,132,000 bushels and the 1926 crop at more than 118,000,000 bushels.

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WISCONSIN HORTICULTURE

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APPLE-THINNING

By Moulton B. Goff

"Does apple thinning pay?" If Wisconsin fruit growers had positive convictions on this question the only thing that would be necessary in an article like this would be a discussion of the methods of thinning. Thinning in Wisconsin, however, has not reached the point where the ways and means are the only things to talk about.

We have thinned for the past five years in the Goff Orchards and our opinions, based on our own experiences, will not be convincing to many, although they are so settled in our own minds that we would as soon omit spraying as to omit thinning. The cost has averaged over a five year period approximately 2¾¢ per bushel, based on the final crop. Wealthys and McIntosh have received most of our attention. The cost of thinning Wealthy is nearly twice that of thinning McIntosh. This is due to the habit of growth of the McIntosh which scatters the fruit pretty well along the main branches, and tends to thin out the crowded clusters. However, we have found thinning to be very necessary with the McIntosh for although we do not have to go over some of the branches it seems necessary to check over the more crowded limbs in order to prevent small fruit. With the Wealthy no one will of course deny that thinning the clusters down to a single apple and scattering the apples from six to eight inches apart on each branch will produce larger fruit. The whole question, I fancy, in the minds of apple growers is whether in the production of larger fruit the total yield hasn't been reduced.

Our own observations make me think that we are getting just about as many bushels of apples from the thinned trees as from the unthinned, and certainly the size and quality of the fruit we do get is decidedly better than that on the unthinned trees. Considering apple market conditions during the last few years, it is not worth while to raise any apples for market that will not pass muster in the better grades, both as to size and as to color. Even in years of unfavorable growth conditions we have found that the thinned trees have given us good size and greatly improved color. We are not exaggerating when we state that our returns per tree from thinned orchards have been far greater than those experienced by many apple growers of our acquaintance who have not thinned.

The next question on the part of the man who admits that thinning has some virtues, is as to the method to be employed. Some growers argue that pruning alone will accomplish the necessary thinning. There is no question about the value of pruning which is done with the thinning viewpoint in mind. Such pruning increases both size and color. However, I am not convinced that such pruning is adequate for the reason that as a rule a number of branches still remain that are not properly thinned, and as a result bear small fruit.

On a variety like Wealthy, Wisconsin orchardists know only too well that no cultural practices which we have yet found, other than thinning, will fill the bill on those branches which crowd two or three apples in a cluster. There is an old saying that it takes at least four years to teach a man to thin; in my own case I know that it has taken longer than four years, for we have still a lot to learn in our orchard, but the biggest difficulty has been overcome when we have gained the necessary courage to thin clusters down to a single fruit. We have many times left two apples on a cluster thinking that certainly these two should develop sufficiently well to pay for leaving, but unless it be on terminal clusters on trees not heavily in fruit I think it better to be content with a single apple rather than with two. It takes courage to thin enough. When you look back over the ground under the thinned trees you have a queer tightening on the chest similar to heart failure at the thought of what the slaughter is going to do to your profits. I can't conceive of the man who has courage to thin as he should the first time he tries it. Furthermore, if his work has to be done with hired help I can't imagine the type of labor which would thin well the first time. Long after my own convictions were at rest on this question I had to struggle with each new employee to get him over the idea that picking off all of this fruit was not a specially wasteful brand of sinfulness.

Thinning is to horticulturists what public opinion is to politicians, a slowly gathering and growing idea, all powerful when it once gets under way.

The next question asked is—"Who do you get to thin?" We have found mature women best. The ordinary school girl we have tried doesn't take the job seriously enough, and it must be taken seriously, if it is to be done at all. It is considerable of an effort to train people to do this work, and on that account employees should be selected who will presumably be available for future years.

"What equipment is necessary?" Except ladders we use nothing. We do not use snippers or shears. Various devices of this kind have been produced, but we have not found them necessary. If the thinning is done at the correct time the apples can be snapped or pushed off very readily with the fingers and it can be done we think more rapidly than would be the case if shears were used.

"What time do you thin?" The decision as to time is very important and yet hard to advise others about. We have found early thinning to do the most good, for the quickened

impulse to growth that thinning gives is most profitably given early in the season. There is an old saying that it is better to wait with the thinning until the June drop, but this is not entirely true. It is of course unwise to thin before you can tell those apples which will probably drop, but it ought to be done in any event before the June drop is well under way. Certain apples on each branch seem to take the leadership in size and apparent vigor at this time, and you can forecast almost with a certainty the fruit which is going to drop. It is wrong to begin thinning before this time and useless to wait any longer.

Then comes the hardest question of all—"What do you take off?" Of course we try to eliminate those apples which show scab or other blemishes, and if we do not take off all of the apples which will drop in the June drop, we at least in going over the limb consider these apples as gone. We then try to space the remaining apples from six to eight inches apart on the limb. Eight inches is usually better than six. In thinning clusters we pick off those apples which will be least exposed to the sun. In thinning top branches and those parts of the tree most affected by the light, we are sometimes not quite so careful as we are on the other side of the tree, but it is very difficult to get labor to use great discretion and we have found it much better to train the women to more or less of a definite habit than to urge them to use their own individual discretion too much.

"How many women work on a single tree?" is sometimes asked. On trees varying from twelve to twenty years old we usually allow two women to work together. Two women can thin a tree with a twelve to fifteen bushel crop in about a half hour. If it took in this manner one hour to total labor per tree in the whole orchard, thinning would be a rather burdensome job, but some trees can be thinned very readily due to the ease of getting at the fruit. Many trees in the orchards do not have heavy crops and those can of course be gone over rapidly, so that we have found year after year that the total cost figures have worked out about the same, never less than 1¾¢ per bushel and never more than 3¼¢.

Coming back to the question asked in the beginning — "Does thinning pay?" We usually answer this by taking it for granted that the final crop is about the same from the standpoint of tonnage. If this is true as we think, anything that does not cost us more than 3¼¢ per bushel does not need to produce very greatly improved results to pay. We have found that the difference in quality in some years has been so marked that it has in some instances made the difference between fruit that was marketable or else could only be best disposed of at the cider mill. Two years ago was exceedingly dry, yet in that year our Wealthy apples averaged 2¾ inches in size. We seriously considered making our minimum 2¾ rather than 2½, since the extra amount of fruit to have been discarded would have been less than 10%. Many of our Wealthys in that year ran over 3¼ inches in size.

As stated in the beginning, thinning with us has become a definite part of our program and is a procedure which we certainly feel we can not afford to neglect.

The University of Wisconsin leads all other institutions in America in awarding advanced degrees in agriculture.

More than 5,000,000 acres of the land which once produced fine Wisconsin white pine is unproductive today—unsuited to farming, neglected for the purpose of growing trees.

APPLE INDUSTRY TO BE STUDIED

At a recent meeting in the U. S. Bureau of Agricultural Economics, called by Lloyd S. Tenny, chief of the bureau, questions that have arisen in connection with an economic study of the apple industry of the country were discussed. The object of the study is to develop a basis upon which apple producers may make plans for the advancement of their business. The market for apples will be analyzed. The demand and practices with respect to varieties will be investigated. Competition between varieties and regions, probable shifts in sources of supply for specific markets, and present status, recent trends, and probable future developments in each important commercial producing area, will be studied. The bureau will cooperate with the agricultural colleges and experiment stations in the States involved. Several divisions of the bureau will be concerned.

There is nothing monotonous about the apple crop. You can get them in all sizes, flavors and colors, hard and soft, red, green, yellow and all other colors. And then think of the various uses to which the apple can be put. You can bake it and boil it and roast it and fry it and service it with meats or preserve it or jam it or pickle it—there is no end to the uses to which you can put it. Who ever heard tell of a boiled orange? The apple is a versatile crop. It has many sorts and many uses, and that is what makes it so wonderful. Not only is it good for food but also good for fun, for who will forget the days when he peeled an apple and then swung the peeling around his head and threw it on the floor to see what letter it would make, as that would declare who his sweetheart was.

—Canadian Horticulturist

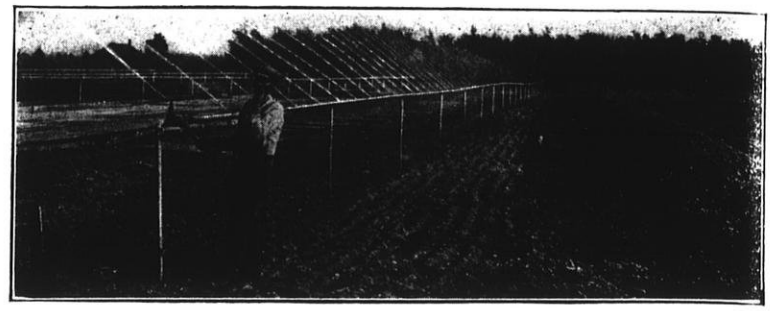
OVERHEAD IRRIGATION

"It looks just like a rain," is the favorite comment of visitors when they first see the spray from a long line of overhead sprinkling system. Then they want to know where all the water is coming from, and we show them the 8,000 gallon cement reservoir. This is deep enough in the ground for water to be kept in it all winter for fire protection, and yet the top serves as a broad cement platform immediately back of our house.

Our sprinkling system is planned for five acres of crops without the use of city water, and perhaps a few words of description would interest readers of WISCONSIN HORTICULTURE.

The main item, a reliable source of water in time of drought, is furnished by a strong, deep well in a building twenty feet to one side of the reservoir. A two-horse electric motor through a line shaft furnishes the power to pump the water into the reservoir, and runs for hours without attention. When we wish to irrigate, the same motor operates a piston suction pump which has a capacity of 27 gallons per minute at very high pressure. The pipe near the pump is 2 inches in diameter. Most of the supply line which runs along the ends of the rows is 1½ inch pipe and is 1 foot under ground. Our irrigating lines are each about 280 feet long and connections for attaching these are about 55 feet apart. These lines are of 1¼ inch to ¾ inch pipe with nozzles 3 feet apart. The pump supplies too much water for one line so we have to turn a little into a second one.

The initial cost of such a system is rather high but we expect it to pay for itself before many years. The use of portable lines enabled us to keep down the cost at the start. We use the water only on the higher priced crops. If it is intelligently applied as a life saver to moderately priced product and more regularly to the more valuable crops such as berries or lined out nursery stock, there is no question in my mind but that it will, within a short period of years, repay the total investment and labor.



An Overhead Sprinkling System in Action

For a few years, we tried a simple system which cost less than 1/6 as much as our present one. This consisted merely in using a gas engine, pump jack, cushion tank (range boiler), common pipe, sill cocks, garden hose and lawn sprinklers. It is all right for anyone having little surface to cover and lots of time to spend. The up-to-date system has shown many advantages.

The water can be put on in less than one-third the time, due to the faster pressure pump. Two years ago I visited a greenhouse where a pump costing $500.00, over five times the cost of ours, was delivering water from the bottom of the well to a 200 foot irrigating line. It was not delivering enough water to keep up pressure in the line. So if you are getting water from a deep well, it may be cheaper and give better pressure to handle it twice.

The advantages of putting water on in a hurry are very evident. One can lessen damage from burning in the hot part of the day by following the strawberry pickers with a cooling shower to refresh the bruised plants. I have yet to do any damage by putting cool water on plants in the middle of a hot day. Some say to be sure to put on plenty so the plants will not scald.

If evening watering is desired, we can wait until 4:30 P. M. and then empty our reservoir. We generally use a five shovel cultivator between the rows before watering nursery stock or truck crops as this leaves high ridges which soon dry and can be leveled down with a 12 tooth harrow. There are no pools and dry spots as with circular sprinklers, and no tramping on wet ground is necessary as the lines are operated from a gravel driveway.

There is no need to wait for a rain before planting in the garden or strawberry bed. If small seeds were planted and the ground has baked, a shower will give the tender shoots a chance to break through. You need not fret when clouds pass overhead and the air becomes cool for a day, showing that someone else got the rain. That is an ideal time to water as the moisture has time to soak in, and the ground is not likely to bake. Sometimes we get a light rain and decide to finish the watering ourselves.

We have found that freshly transplanted or lined out nursery stock makes almost as much growth for us now in one year as it did in three with the same cultivation and only natural rainfall. Of course, we can be more liberal in the use of fertilizers without fear of burning the roots. We are digging much stock now, and the rank tops and root systems developed in one year seem too good to believe.

(Continued on page 156)

BADGER NEWS

From Wisconsin Papers

FLOWER-FRUIT GUILD TO OPEN HOME JUNE 1

The Milwaukee Plant, Flower and Fruit guild, organized to distribute fruit and flowers to the indigent and ill, will reopen seasonal headquarters at the Plankinton Arcade June 1. Mrs. J. V. Quarles has been re-elected president.

PLANT PINE TREES ON FARMS AT EAU CLAIRE

Eau Claire, Wis. — Several thousand three year old pine seedlings have been received here from the Trout Lake nursery and will be planted on farms near Eau Claire. An acre of the pine seedlings will be planted at the county asylum.

A junior forester club, consisting of five boys, at Augusta will receive 1,500 of the Norway and White pine seedlings, which will be equally divided among them for planting. Some of the shipment will also be planted near Altoona, according to County Agent W. C. Stauss.

CUT ACREAGE FOR PEAS IN WISCONSIN

Athens—The acreage which will be devoted to peas in this part of the state this year has been reduced from 800 to about 600, due to the overproduction of peas during the last few seasons. Peas are being planted and the work will be completed by the end of May.

LEGION COMPLETES TREE PLANTING TO CEMETERY

Thursday evening the Hurley, Wis., Legion post completed the work of setting out young trees along Highway 51 from the court house to the cemetery. A total of 60 young soft maples have been placed on either side of this stretch of highway, which in a few years will be a tree-lined driveway. The Legion members deserve much praise for their interest in the matter of beautifying the highways.

IZAAK WALTONS AT MERRILL PLANT WILD RICE AND CELERY

Merrill—Six bushels of wild rice and 500 wild celery bulbs were planted along the river and lake shores in this vicinity Tuesday by the Merrill Chapter of the Izaak Walton league in an effort to secure the flight of birds over this section. Other chapters along the Wisconsin valley are co-operating.

SERVICE TO FARM FOLK PERPETUATED BY TREES

Two young trees, one a white pine and the other a white elm, were this week planted on the agricultural campus of the University of Wisconsin to commemorate the distinguished service of two Wisconsin men. Both have for years been prominent figures in the development of the state's and the nation's agriculture.

The men honored are E. H. Farrington and A. S. Alexander, both of whom are living and still active at the state college.

Farrington has been associated with the state college for 32 years and is at the present time head of the dairy department. Alexander, a member of the veterinary science staff, is well known among stockmen of the country because of his genial personality and facile pen.

Two other trees stand on the campus in honor of leaders in agriculture. Both are red oaks. One bears evidence of the splendid work of W. A. Henry, first dean of the college of agriculture, and the other is in honor of S. M. Babcock, inventor of the milk test which bears his name.

A TREE SURVEY CONTEST

Madison, Wis.—A contest to discover how many varieties of trees, shrubs and wild flowers grow in Shorewood and College Hills is announced today by J. C. McKenna in behalf of Shorewood.

This information, is desired for various reasons, and it was decided to let the school children of the city who are interested in botany make the survey, and to award them according to the value of their aid. The contest, beginning today, will close May 28. It is open to all school children in Madison from the first grade through high school.

Cash Prizes Listed

Cash prizes totaling $80 will be given for the longest lists of trees and shrubs, and for the longest lists of flowers, according to Mr. McKenna. All entrants in the contest will be awarded small gifts in appreciation of their work in the survey, and all entrants will be guests of Shorewood at an entertainment, details of which will be announced later.

Many of the trees in Shorewood and College Hills are foreign to this locality and many are foreign even to this country, having been imported especially for planting there, but any tree now growing there may be listed by contestants, the rules say. John M. Olin, nature lover and one of the founders of Madison's Park and Pleasure drive association, who formerly owned part of the tract of land which is now Shorewood, planted most of the trees there which are not native.

RADIO A VALUABLE AID

The radio is proving a valuable educational aid to the cornborer control campaign and is being used to advantage in each of the five states involved in the work. In Michigan after each of the large inter-county demonstrations a first-hand report of the meeting is broadcast. Inquiries received show this radio program has been the first means of reaching a good many farmers with information as to the clean-up and regulations governing it.

—American Nurseryman

BEWARE THE TREELESS TOWN

"You will notice that the substantial, the thrifty, the worthy and the likable classes of people plant trees, no matter whether they are in a new and treeless country or in one already well planted, and that the shiftless, the transient, the careless and the selfish are as little likely to set out sheltering trees as they are to be neat, thrifty or good neighbors.

"Show me a developed town with no trees and I will show you a town to avoid as a home for your families. Go through districts where want and squalor and crime and filth are the rule and you will be lucky to find even a gaunt specimen of a tree anywhere about.

"This is not by chance; the planted and tended tree is as sure a sign of civilization as a revered flag or a church spire or a schoolhouse belfry, and the English, who have carried civilization to every part of their dominions scattered far and wide about the earth, plant shade trees almost before they finish their houses or start their towns". (Luther Burbank from the Saturday Post).

UNIVERSITY OF WISCONSIN HERBARIUM

By CARL CODDINGTON

Five thousand specimens of fungi, flowering plants, lichens and mosses have been added to the collection of the university herbarium during the last year. These specimens, which were collected from all parts of the world by exchange and purchase, have increased the total number of specimens at the herbarium to 120,000.

The herbarium, which is located on the second floor of the Biology building, is taken care of by Dr. J. J. Davis of the university botanical department, and his assistant, Mrs. Eugenie Gerhauser.

Dr. Davis has been curator of the herbarium for 16 years and it has grown rapidly under his management. At present, the herbarium compares favorably with the best in the world. The assistant curator, Mrs. Eugenie Gerhauser, has aided Dr. Davis for seven years.

A State Authority

Dr. Davis has specialized in the study of parasitic fungi and at present is the recognized authority in the state on fungi native to the state. His records of parasitic fungi form the basis for all the records for this type of fungi in the state; besides, they have all been recorded in the transactions and records of the National Academy of Science.

The general herbarium contains 35,000 specimens of various plants, which have been gathered from all parts of the globe. There are also 20,000 flowering plants which were collected in Wisconsin.

A South American collector, Dr. Bryan, recently made large contributions of South American lichens. Dr. Bryan is now in West Africa for a botanical survey. Several hundred flowering plants, of rare varieties, have recently been imported from Uruguay.

Member of Group

At present the university herbarium is a member of a group of herbariums which exchange specimens with each other. Among these are the Gray herbarium of Harvard university, the Montreal herbarium, the Portland Society of Natural History and the New York Botanical gardens.

The first herbarium of the University of Wisconsin was housed in the old Science hall and was entirely destroyed when this building burned. A private collection, owned by I. A. Lapham, was then given to the university and this forms the nucleus of the present herbarium.

At present negotiations are under way for the purchase of the herbarium at Naperville, Ill., which contains 45,000 specimens.

Exchange Specimens

Two thousand, five hundred specimens of fungi were recently received from Dr. Petrak of Bohemia in exchange for an equal number sent there. These fungi are native to Europe.

The Rabenhorst Europae, a collection of German fungi, is another recent acquisition.

The present collection of mosses was started by Prof. Charles Reid Barnes, who was a professor in the botany department at the university from 1887 to 1898. This collection contains specimens from all over the world.

Copied from Wisconsin State Journal

Birds are important aids to agriculture, horticulture, and forestry. They are active everywhere. Flickers, blackbirds, robins, and thrashers seek their insect prey on or near the ground; woodpeckers, nuthatchers, titmice, and chickadees closely search the trunks and limbs of trees; vireos and warblers scan the leaves and probe the flowers; and flycatchers and swallows sweep their prey from the air.

G. B. SUDWORTH

George Bishop Sudworth, chief dendrologist of the Forest Service, dean of the profession of forestry in this country, member of the Federal Horticultural Board, and distinguished authority on the trees of the United States, died at his home in Chevy Chase, D. C., on Tuesday, May 10, after a very brief illness, at the age of 63.

He was born in Wisconsin in 1864. At the University of Michigan his natural bent came out in his omnivorous pursuit of the sciences, from physics and psychology to ornithology and dendrology, with an important side excursion into medicine and surgery. After a year of teaching he entered upon his lifelong service in the United States Department of Agriculture.

His contributions to systematic dendrology—the science of the classification, naming, and morphology of trees and shrubs—have been many and important, none more important than the widely known "Check List of the Forest Trees of the United States, their Names and Ranges," first published in 1898 and reissued by the department in a completely revised and up-to-date edition only a few weeks before his death.

He made contributions to other phases of forestry, such as nursery practice, wood identification, forest products, shade trees, and basket-willow culture. He was much interested in Boy Scout work, and among his contributions to that organization is the well-known section on tree identification in the Boy Scout Manual. For 15 years he performed active service as a member of the Federal Horticultural Board and participated in its important decisions regulating the importation and interstate shipment of nursery stock for the purpose of checking the spread of tree diseases and insect pests.

THE UNIVERSITY PAGE

Edited by the University Pathology Department.

AN ONION DISEASE UNDER SUCCESSFUL CONTROL

By J. C. WALKER, Associate Professor of Plant Pathology, University of Wisconsin.

Some fifteen years ago the onion industry of southeastern Wisconsin was threatened by a fungus enemy known as "smut". This disease had probably been introduced some years before and had gradually increased without attracting attention until it reached sufficient proportions to make serious inroads into the crop yields. In 1913 several fields in the heart of the old onion district were found to be so badly infested that they were being abandoned for onion culture.

The "smut" disease is one which has been known in America for over half a century. In the sixties it was causing alarm to Connecticut Valley onion growers and has gradually spread westward until nearly every northern onion section as far west as Oregon is more or less affected. The cause is a fungus which attacks only the onion and closely related species. It resembles in many respects the various grain smuts. The black dusty material which appears in the swollen pustules on diseased onion plants (fig. 1) consists of myriads of spores or seeds of the fungus which are returned to the soil with the decayed leaves or scales. The spores remain in the soil indefinitely and some of them appear to remain viable for as many as a dozen years. In any case, if onions are sown on this soil again within this period the germination spores near the young onion seedlings send fine, fungus threads into the first leaf. Once within this leaf the fungus may continue to invade the inner leaves. As the leaves expand and grow they carry the fungus threads with them. The parasite is meanwhile feeding upon the onion leaf tissue and retarding the normal development of the plant. Eventually the fungus threads break up into spores which form the black pustules so characteristic of the disease.

Fig. 1.—Onion smut. A half-grown plant showing unbroken blisters on scales and leaves. These later split open and expose the black, powdery spore masses. This plant was infected while very young and most diseased plants die before they reach this size.

All of the original infection takes place in the young onion seedlings, and when half grown diseased plants are found one may be certain that the fungus has persisted in the plant since the latter was very small. A majority of the infected plants are killed while young and comparatively few live through to mid-season or to harvest.

The successful control of onion smut is based on the knowledge of its life history We know the fungus persists in the soil and attacks the subterranean parts of the plant. We know that the young seedling is susceptible for only two to three weeks after the seed has germinated. It thus became a question of protecting the base of the plant for this short period. Several chemicals applied with the seed had been tried in other states but the one which gave most promise was formaldehyde solution. This disinfectant must be applied in a small stream in the row with the seed, where it moistens the soil immediately around the latter. But more than that the formaldehyde soon volatilizes sufficiently to

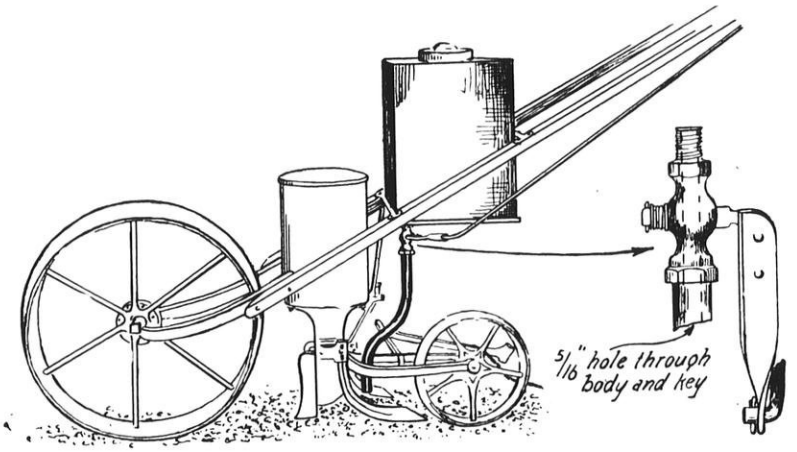


Fig. 2.—Onion seeder with a formaldehyde drip attachment for disinfecting the soil at the time of seeding, to control onion smut. The cut-off valve is regulated from the handle.

permeate the dry soil which has been thrown into the furrow by the packing wheel. By this means the fungus in the soil above the seed is either killed or retarded so that infection is reduced to a small percentage of plants. Much experimental work has been necessary to determine the concentration and amount of formaldehyde solution adequate for the most effective control. It is obvious that the smaller the quantity of liquid necessary the less cumbersome the task of application. On the other hand the concentration must not be increased beyond the point where injury to the onion seedlings is likely to occur.

The formula which has now been accepted for general use by Wisconsin growers is as follows: One quart of formaldehyde* to 16 gallons of water applied at the rate of one gallon to about 370 feet of row.

Attachments to onion seeders for the application of formaldehyde are listed by most manufacturers. They are used on single row hand seeders (fig. 2), on Bolens three row seeders (fig. 3), or on six-row gang seeders (fig. 4). The arrangement is quite simple and can be readily made by any skillful tinner. The size of tank must be adapted to the type of seeder. The outlet pipe should be so adjusted to the speed of the seeder and height of the tank to apply the desired amount. A shut-off valve controlled easily by the operator is essential and the stream of disinfectant should be so directed as to enter the furrow just behind the seed without splashing on any of the parts of the seeder.

By this means on soil where 95 per cent of the plants would ordinarily be killed, the damage from smut may be reduced to a negligible quantity.

Fig. 4.—Six row horse drawn gang seeder equipped with formaldehyde drip attachment. This type is in common use in the Racine-Kenosha district.

Fig. 3.—Formaldehyde drip attachment to Bolems three row seeder.

* This refers to standard commercial formaldehyde which is a 40% solution.

(Continued from page 152)

In working over old strawberry beds in July, everyone knows that the main drawback is usually lack of rains. We mow and rake the bed and then soak it a few inches deep. A six inch plow, one section of harrow with the teeth set back, and a little two-horse disc which has a two foot gap between the gangs, are used to work the soil. Then we put on nitrate of soda pulverized finely together with acid phosphate, and the water is turned on again to wash the fertilizer off the leaves and set it to work immediately to cover the bed with a fresh growth of foliage. The water settles the soil in against the narrowed rows so that the roots cannot dry out.

We have had two experiences in turning the spray onto a freshly picked strawberry bed on Saturday in very hot weather to keep the berries firm and free from burning until the next week, and we are satisfied that it does the trick. Often in hot weather, berries are burned ripe and softened a few days before they would have ripened naturally.

Yes, it costs more than a rainy day and probably is not so effective, but does it always rain when you need it? Also remember that when it rains on you, it rains on your competing neighbors. All have good yields and local prices are low. Dodge a few failures. Have good crops on dry years. They will then mean easy sales and big profits.

VIRGIL FIELDHOUSE.

Water cress is one of our most valuable greens; being rich in mineral salts, it is a valuable tonic.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

GARDEN INTELLIGENCE

Several years ago, I heard a speaker say, "There is no need of spending good money for 'Garden Institutes'. It's foolishness, this telling the same things over and over. People are not so ignorant, they can read. Besides, how foolish to act as though there was any one who did'nt know enough to make a garden."

People may not be what this man called ignorant, yet they may know nothing whatever about a garden or how things grow. I know a bright young lawyer who picked the blossoms off one tiny cucumber vine he had managed to grow in his back yard, and wore them in his button hole or put them in a tiny vase on his desk, confidently expecting to "dig" up a "mess' of nice cucumbers later on in the fall. His amazement, on being told that no blossoms meant no cucumbers, was real. "Why I supposed they grew like potatoes." And his interest in that cucumber vine grew, and his desire to know more about plants grew also. Today he is quite a farmer. He was not ignorant except on that subject. Yesterday a bond salesman called to ask about some flowering plants. His neighbors and friends are vieing with each other as to who will have the prettiest yard. He asked questions about different plants and was amazed to learn that asparagus was a perennial plant. He supposed it was sown early in the spring every year. "Gee," he remarked, "I'm finding out I'm a regular bonehead about this garden business. There's more to it than I thought."

Two of my neighbors, enthusiastic and quite successful gardeners now, laugh as they tell how they planted muskmelon seed in a hole *two feet deep.* It was a real tragedy then.

We go to experts for advice on legal and other subjects. We do not feel that we are ignorant. We simply feel that they can help us because they have made special study of this subject. Why then should not the gardener feel the same way?

SUCCESS IS THE REWARD

Huron H. Smith, president of the Milwaukee County Horticultural Society, gives you splendid reports of the growth and work of this society, of the absorbing interest the members have in the programs, forgetting to go home until the janitor warns by turning out the lights. But he has not told of those early meetings when there was no one present but the President, Secretary, and two others, and after waiting vainly for others to come the President took the "entire meeting" in his car to view some of the beautiful things Milwaukee florists were growing, the while he urged us to "stick". "Just keep on coming. We will get them after a while," he said. And because he was sure that this work was worth while, that it needed time and a bit of stick-to-it-ive-ness to make it a success, these meetings are an inspiration to the amateur gardener as well as to those who have always known and loved the great out doors. Every meeting is helpful. We go home with a feeling of gladness that we belong among this group of people whose interest in, and work among trees, plants and flowers, can not help but have an influence for beauty that will make itself felt in any city. They are not forgetting the children, but in quiet practical ways are showing their belief that older folks must show the way, not merely talk about a general direction.

AN ACTIVE MEMBER

Eighty years young—that seems the way to express it, for we usually say a person or article is "old" when they are past their usefulness or worn out. But no one could apply the word "old" with that meaning, to Mrs. Anna Letts of Outagamie County, as I saw her, in her home and garden. Eighty years young, she still keeps house beautifully, takes care of a large flower garden, paints pictures worth looking at, and in an emergency, doesn't hesitate to help her son do the milking.

Mrs. Letts has always been interested in Horticulture, and was a leading member in the local Society that did many things to further the growing of better fruits, flowers, and vegetables. This society, whose ranks have been sadly thinned by the grim reaper, usually had four meetings a year. Then all the members and all others who were interested in Horticulture came with well filled baskets to the home of some member for an all day and evening meeting. Papers were read and *discussed* with emphasis on the word "discussed", for this friendly discussion of the subjects they were all so much interested in was considered the best part of the meeting. At the fall meeting they had an exhibit of fruits and flowers, especially of any new varieties that had been tried out. The members of this society took an active interest in the County Fair, rightly believing that much can be done here towards education along Horticultural lines. Mrs. Letts was for years superintendent of woman's work and flowers. The members vied with each other in making the exhibits worth while, from the grains, fruits,

(Continued on page 168)

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COVER PAGE

"AMONG THE IRIS" at the Hood Studio in Racine, Wisconsin. Photo by J. H. Hood.

SPRAY CALENDARS

We are often asked why our orchard spray calendars are not simplified by recommending dates for the application of the various sprays instead of "confusing the fruit growers by complicated schedules based on the appearance of the buds." Such a calendar could be furnished from year to year if the composer did not have a number of factors to take into consideration. The seasons of any given locality vary from one to three weeks from year to year and the area over which a Wisconsin spray calendar must be adapted has regions that vary from two to three weeks. For instance, this year instead of blooming on May 15th as expected, the Door County cherry orchards did not start blooming until about the 26th, and the cold weather similarly delayed the apple blossoms.

On May 2nd the earlier varieties of apples in Dane County were well in the pink blossom stage when the writer left on a trip through the northern part of the state. At Oshkosh these earlier varieties of apples were just barely showing the pink stage, and at Green Bay the orchards were just in their prime for the pre-pink spray. The following day at Sturgeon Bay, the orchardists were just applying the delayed dormant sprays and some of the earlier varieties were just a day or two from being ready for the pre-pink spray. The next day a survey was made in Bayfield to determine the cause of some of the growers' troubles, in an attempt to control oystershell scale, and the buds there were still in the dormant state, only the earliest ones showing any trace of green tips.

The University of Wisconsin, through its branch station at Sturgeon Bay, is able to be of great service to the orchard owners of that locality and Mr. Wilson, who is in charge of that station, does furnish the apple growers in that vicinity with accurate information as to the best time to apply the various sprays. He is able to advise them at what period the scab spores are being discharged into the air from their dormant stage, and consequently the sprays are applied when they are most effective and when they are needed for protection against scab infection.

IN THIS ISSUE

REFORESTATION

The greatest flood of recent years has brought home to us the importance of a good reforestation program. Coming as it did in the midst of American Forest Week, (April 24th to 30th, as proclaimed by President Coolidge) this flood, causing several hundred million dollars damage, has been brought squarely to the attention of the entire country through the newspaper reports and appeals of the Red Cross for funds to relieve the suffering of the victims. It seems reasonable that a few million dollars might well be spent on reforestation as a step toward the cure of the trouble at its source.

This appalling flood in the Mississippi Valley is a part of the tragic price that we must

pay for our folly of forest devastation. We are witnessing, as years go by, an increasing danger from inadequate water supply on one hand, and an increasing menace from floods on the other, in other periods of the year. We are just coming to realize the large part played by trees and other vegetation in acting as a sort of reservoir to hold the water back and let it seep out gradually and most efficiently. Many tracts of land which should never have been drained have been ruined by large drainage projects. Valuable cranberry land has been made barren and useless by drainage in an attempt to make it tillable for grain crops. With a net work of big ditches and with the land stripped of trees and other vegetation, what can be expected but overflowing rivers trying to carry off all the rainfall as fast as it falls at the expense of the crops, which may suffer from drought at a later period when they should be still enjoying the moisture slowly released by the wooded hillsides and other reservoirs of water supply.

RACINE COUNTY SPRAY RINGS

We recently received a letter from Mr. Hugo Klumb of the Racine County Agriculture School, Rochester, Wisconsin, regarding the progress of local spray rings, and a portion of it follows:

"After a number of years of educational work, enough interest in orcharding was created in Racine County to organize five spray rings on a stable basis. These rings have a membership of from six to thirteen members each and are all equipped with power sprayers. A total of about 2500 trees will receive attention. All the rings have engaged competent men to operate the sprayers, under the direction of Mr. C. L. Kuehner and the Racine County Agriculture School. Pruning demonstrations have been given either this spring or previously in the communities where a spray ring has been organized.

Three of the rings are largely the outcome of evening schools in horticulture conducted by our school and the others may be attributed to a general awakening of interest in orcharding due in no small measure to orchard projects carried on by the students here.

As a matter of interest it might be stated that one of the rings is the result of the reorganization of an old ring which failed because of inefficient management. In the first place, the old ring bought a small sprayer rigged up with an engine. Each man tried to do his own spraying. Some of them knew how to spray and some did not. Some of them realized the care a sprayer needs between sprayings and others did not. The result was that as a rule when one man was through spraying he wished any clean up job of the sprayer on to the next man who used it. The result was what might be expected—complete dissatisfaction. This spring the members realized the mistake that had been made and a new ring with a good machine and a good operator was organized.

Plans are being made for a spray ring exhibit at the Racine County Fair this fall. Each member will be expected to exhibit two trays of apples. These apples will be judged, and after the ribbons have been awarded the name of the grower will be put on each tray. This will be done not only to show local people that good fruit can be grown in Racine County, but also where it can be purchased."

Parsley, both for garnishing and flavors, is indispensable. It enters into all manner of dishes. A small row of parsley, one of the moss curled varieties, will give sufficient supply, and a plant or two potted up in the fall may be made to yield in the kitchen all winter.

STANDS BY WARFIELD AND DUNLAP

Recently Mr. H. H. Harris of Warrens, Wisconsin, called at the secretary's office and, in discussing several of the new varieties of strawberries now on the market, said that their association had been "exposed" to some of these and that a number of the members had purchased new varieties to the extent of setting over one half of their last spring planting, thus displacing that many of the Warfield and Dunlap which have been so reliable there. He expressed some concern as to the advisability of this, and said that while he believed in testing the new varieties when the description appealed to him even then he would not set over 50 or 100 of any variety that had not been grown in the immediate vicinity long enough to show superiority to the kinds known to be reliable.

Mr. Harris stated that he had planted and tested 165 different varieties, some for one year only and others for several years, and while several varieties were good enough so that he did not care to discard them at present yet if he were obliged to choose just two varieties for shipment to market he would stick to the Warfield and Dunlap.

In a letter sent upon his return home he writes "Upon studying my records I discovered that since 1895, when the records begin, that Warfield predominates on two rows of each trial from that time to the present. I think I got the first of the Warfields set in this locality in 1891 from E. J. Schofield of Hanover, Wisconsin. We used Burt, Splendid and Enhance as fertilizers about that time. The first Senator Dunlaps grown here I got in 1900, starting with 6 plants, and at the present time they are used almost exclusively to fertilize the Warfield."

Sample copies of Wisconsin Horticulture will be sent free upon request.

HORTICULTURAL TROUBLES

Edited by S. B. Fracker, State Entomologist

Raspberry Diseases

A general outline for the control of diseases of cane fruits has recently been prepared by B. O. Dodge and R. B. Wilcox and published as Farmers' Bulletin 1488. Some of the recommendations of interest to Wisconsin growers are the following:

Among the most serious diseases of raspberries are those belonging to the virus group. This includes mosaic and leaf curl, which were formerly confused under the term "yellows," and streak, which is confined to black and purple raspberries. These diseases have certain characteristics in common. An infected bush never recovers. If one part of a plant is attacked, the whole bush—leaves, canes, and roots—will eventually suffer from the malady. All stock propagated from such plants, either by rooting of the tips of canes or as suckers from the roots, is likewise affected. The general effect of any one of the diseases is a sharp reduction in the growth of the plants and in the yield of fruit.

Control

Secure Clean Nursery Stock

It is most important that plants be obtained from fields or localities free from mosaic, leaf curl, and streak, or from districts where systematic efforts have been made to produce clean nursery stock. It is, of course, useless to go to the trouble and expense of getting healthy stock and then planting it near diseased bushes. The farther from diseased plants the clean nursery stock is set the better the chances for its remaining healthy. Where healthy plants are to be grown for sale the plantings should be at least 20 rods from outside sources of infection. Where the planting is only for the purpose of fruit production, the distance need not be so great.

Varietal Resistance

Reports as to the degree of resistance to these virus diseases shown by different varieties of raspberries in various parts of the country are so contradictory that no general statement can be made with regard to the susceptibility of particular varieties. Perhaps the wisest policy would be for each grower to select for planting those varieties which have proved to be most resistant in his locality.

Insect Control

It might seem that the spread of these diseases could be prevented by controlling the aphid carriers. Aphids may be largely controlled by nicotine in the form of either dust or spray (see Farmers' Bulletin No. 1371, entitled Diseases and Insects of Garden Vegetables), and this treatment may be used where they are very abundant. Under conditions of moderate infection, however, it is not certain that treatment for the control of aphids will result in any material slowing up of the spread of the disease, since not all of the aphids can be killed by any known method, and those remaining will still act as carriers.

Roguing

If the planting has been set out with certified nursery stock, the chief method of preventing the further spread of these virus diseases recommended at present is roguing, that is, inspection of the plantings and destruction of diseased plants. Roguing as a means of control of mosaic of red raspberries is not advised in a planting over 2 years old where the proportion of mosaic is over 5%. Having secured certified stock and planted it in a location sufficiently removed from outside sources of infection, such as wild raspberries and infected fields, the grower should have his plantings examined at least twice during the growing season by a reliable inspector and the condemned plants marked. The last inspection should be made some time in September, or at least after the passing of the hot-weather period, as the symptoms of mosaic are obscured on growth made in hot weather. Leaf curl and streak can be detected equally well during hot or cool weather. As soon as practicable after each inspection the diseased plants should be carefully dug and burned. This will prevent any aphids moving from them to healthy plants. If young canes are merely broken over, the plants to be removed at leisure, aphids feeding on these canes will pass to other plants as soon as the leaves begin to wilt. It should be remembered also that where the diseased plants on which the aphids are feeding are roughly handled in digging or assembling for burning, some of the aphids will be knocked off on the ground or on other plants. Thus, the disease may be spread more rapidly in attempting to control it by roguing than would have been the case if the affected plants had not been disturbed.

In taking out diseased red raspberries, it is important to remove all connecting roots; otherwise new shoots from remaining roots will spring up and, being diseased, will serve as a source of further infection. Remove all canes and roots within 3 feet of an infected plant. The removal of one apparently healthy plant on each side of the affected plants may not be necessary in the first inspection of a new planting from certified stock. Effective roguing of blackcaps is somewhat

easier than that of red varieties, because no suckers spring from the roots if plants are taken out with reasonable care. Diseased plants should never be cut off at the surface of the ground but should be dug up. Thorough and repeated inspection, followed by prompt destruction of diseased plants in such a way as to avoid scattering the aphids, has been found to be fairly effective in controlling these diseases on varieties which are not very susceptible and which show the symptoms of the disease clearly enough to enable one to detect its presence sufficiently early.

It is highly important in the control of mosaic to detect the disease in its earliest stages if the results to be obtained from roguing are to be satisfactory. There should also be community action and local cooperation. The methods recommended to the grower should be applied even more carefully by those propagating plants for distribution or sale. The practice of obtaining stock for new plantings from one's neighbors simply because they are handy and inexpensive should be discouraged. Only certified stock or that which is known to be healthy should be used for new plantings.

Anthracnose

Anthracnose has been found to be one of the most destructive fungous diseases of black raspberries wherever grown.

Symptoms on the Canes

The symptoms of the disease are manifested most strikingly on the canes, which are frequently found spotted with light grayish areas an eighth of an inch or more in diameter.

New plantings should be set out with disease-free nursery stock.

Thorough cultivation should be given the crop, to insure that the rows are kept free from weeds and rubbish, which tend to maintain moisture among the canes.

Raspberry leaves are very susceptible to injury by the ordinary fungicides. In certain experiments conducted by the department, when either lime-sulphur or Bordeaux mixture was applied to the leaves, especially after they had matured and the plants were in vigorous growth, more damage was done by the fungicide, as shown by the quantity of fruit harvested, than was being done by the fungous disease. However, experiments carried on in Wisconsin would indicate that when the sprays are applied not later than a week before the blossoms open, the leaves are not noticeably injured. The leaves on the new shoots especially show little, if any, injury. In case the treatment previously suggested has not proved sufficiently effective, the following spray schedule is recommended:

(1) Lime-sulphur 1 to 10 or Bordeaux mixture 4-4-50 (with calcium caseinate 1 pound to 100 gallons, or a gelatin sticker), applied as a delayed dormant spray or when the leaves just begin to show green.

(2) In the most serious cases a second application of Bordeaux mixture may be advisable. The plants should then be sprayed not later than a week before the blossoms open. Only the young canes should be sprayed, care being taken to avoid spraying the foliage of old canes. Lime-sulphur solution 1 to 40 may be used instead of Bordeaux mixture.

General Control Measures for Raspberry Diseases

Certain measures of sanitation are helpful in the control of

(Continued on page 164)

THE MARKET PAGE

Edited by State Department of Markets

FRUITS AND VEGETABLES

Strawberries—The reports of the U. S. Bureau of Agricultural Economics indicate that during the month of May about 34,500,000 quarts have been deducted from the official forecast of the strawberry crop in five second-early states. Freezing temperatures in some sections, dry weather elsewhere, and floods and excessive rainfall combined to reduce the original estimate of 98,000,000 quarts to about 64,000,000 which is still 2,000,000 quarts more than these states produced last year. The Arkansas crop forecast has been reduced by almost one half. About 3,000,000 quarts were taken off the North Carolina estimate, while Tennessee and Virginia were reduced about 8,000,000 each. This leaves the latest forecast in the respective states about the same as the 1926 crop, except that North Carolina probably has 13,000,000 quarts, compared with 11,000,000 last season.

These four important states each shipped about 1,300 cars of berries last year, but up to May 10 this year North Carolina has already forwarded 1950 cars, Tennessee more than 1,400 and Arkansas about 1,000. Large quantities are still expected from Arkansas and Tennessee, and the season is opening in Virginia. The North Carolina shipping period is approaching an end. Shipments this season in leading states up to May 10 have exceeded 7,700 cars, compared with 3,300 a year ago. Approximately 10,000 cars were shipped after May 10, 1926, when the season was later. Heavy additional supplies were expected from the intermediate states. Maryland, Delaware, New Jersey, Illinois, Kentucky and Missouri together expected a crop about equal to that of last year, or 86,000,000 quarts. These six states together shipped about 4,500 cars of berries in 1926, besides vast quantities hauled by truck or used locally. However, during the middle of May reports came of 35 to 50% crop damage, chiefly by rain and frost in Arkansas, Missouri, Texas and Kentucky. Some flood damage occurred in Missouri. This resulted in an upward trend of prices in midwestern cities. Eastern shipping sections suffered much less injury and Eastern market prices held about the same, mainly 15 to 20 cents, quart basis, while choice fruit brought as high as $4.00 to $6.00 per 24 quart crate in Western market centers.

Apples—Cold storage holdings of Eastern apples in barrels and baskets May 1, were 17% above those of a year ago and somewhat above the five-year average but holdings of boxed apples were 600,000 bushels (21% less than last season and not much above the average). Stock in good condition seems to be moving out at steady prices.

Cantaloupes—Cantaloupes appeared in a small way in Northern markets, the Mexican product bringing $10.00 a crate at the start and first express arrivals of Southern California stock selling at fancy prices in Chicago. Imperial Valley shipments rule the market for the present, becoming active in early June. With large acreage and rather light yield expected, the Valley output may still exceed that of last season and possibly equal that of the heavy producing season in 1924.

Melons — The watermelon acreage is less excessive than last season and about like that of 1925. It is therefore expected that the market season will be less unfavorable than it was last year. First sales of Florida melons in Northern markets ranged $6.00 to $7.00 per 100 lbs. with full carlots above $1,000 at Chicago.

Potatoes—Potatoes, old and new, made further gains of about 50% 100 pounds the second week in May. Most Northern shipping points quoted well above $3.00 and Southern producing sections around $4.00. The rise followed a rapid diminution of the supply from the West and some shortage in Southern shipments owing to drought and rain injury.

Conditions indicate a moderate summer market supply. An output of about 3,500 cars is expected from South Carolina, shipments continuing to about June 10. North Carolina shipments should reach the peak of 250 cars daily early in June. Texas shipping districts were expected to send out possibly 1000 carloads. Oklahoma shipping in June and later with about two-thirds the usual crop would ship about 1600 cars. Old potatoes have been coming liberally from Maine, Minnesota, and Wisconsin. Remaining stock of potatoes was reported light in Michigan.

WILLIAM KIRSCH.

Any one visiting at the Holton and Hunkel nurseries at Brown Deer during the middle of May would have wondered why it was necessary to visit the state of Washington or Holland to see narcissus and daffodils when he could feast his eyes right there on several acres of just as fine a planting as could be found anywhere. Mr. James Livingstone, who has charge of their growing, has something to be proud of and his efforts have been well repaid.

METHODS OF BREEDING

The methods followed at the Experiment Station at Geneva, N. Y., in the breeding of new varieties of fruit are briefly described in a recent publication of the station available free of charge to anyone interested in new fruits. The pamphlet is well illustrated and the account of the methods used at the station has been prepared by Richard Wellington, associate horticulturist, who has done much of the actual crossing in the station orchards.

The breeding of new fruits has been one of the important activities of the Geneva station for more than thirty years, it is said, and during that time thousands of seedlings of apples, pears, peaches, plums, cherries, grapes, and the various small fruits have been grown on the station grounds. Of the lot only a few survive the rigid selection to which the new fruits are subjected. Several creations of the station fruit breeders have come into general favor with the fruit industry and are gradually replacing or supplementing older sorts.—American Nurseryman.

THIRTY ORCHIDS DWELL IN STATE SWAMPS.

Queen of Wisconsin's native flowers is the showy lady's slipper, one of 43 orchids native in the state, 30 of which are swamp dwellers. The lady's slipper is at its best, according to Albert Fuller, assistant botantist at the Milwaukee museum during June in the densest portions of the swamp.

Among the many other orchids of the bog, he said, there is the sundew that lives on insects, the bladderwort that has a draft net for minute water animals, the ram's head and the arethusa.

"Our orchids and many of our choicest plants will be extinct within a few years, because their haunts are being destroyed in all parts of the state," he said.

COMMERCIAL FERTILIZERS

There is no place in agricultural crop production where the use of commercial fertilizers plays as important a place as with vegetable crops. This fact becomes more evident every year as growers find it necessary to alter their methods of maintaining soil fertility. Manure, the old standby of the gardener, has become both scarce and expensive to what it used to be. Modern practice and experimental results have proven to us that soil fertility may successfully be maintained through the judicious use of green manures, cover crops and commercial fertilizers. It is possible, also, to grow just as good crops of many of our vegetables, through the use of limited quantities of manure with the addition of a suitable application of commercial fertilizer.

Nitrogen fertilizers, especially those in a readily available form, such as nitrate of soda and sulphate of ammonia are of great value in giving early crops a start and particularly are they useful in helping along the leafy crops such as lettuce, spinach and cabbage.

Phosphorus-bearing fertilizers are found to be useful and profitable to apply with practically all of the vegetable crops. The most common form used is acid phosphate containing 16% available phosphoric acid. Early crops are assisted toward maturity by the use of such fertilizers.

Potash in moderate applications is valuable, especially where no manure or very little is used. Muck soils require fairly heavy applications. Some special crops such as potatoes need more than others under general conditions.

Determining Relative Value

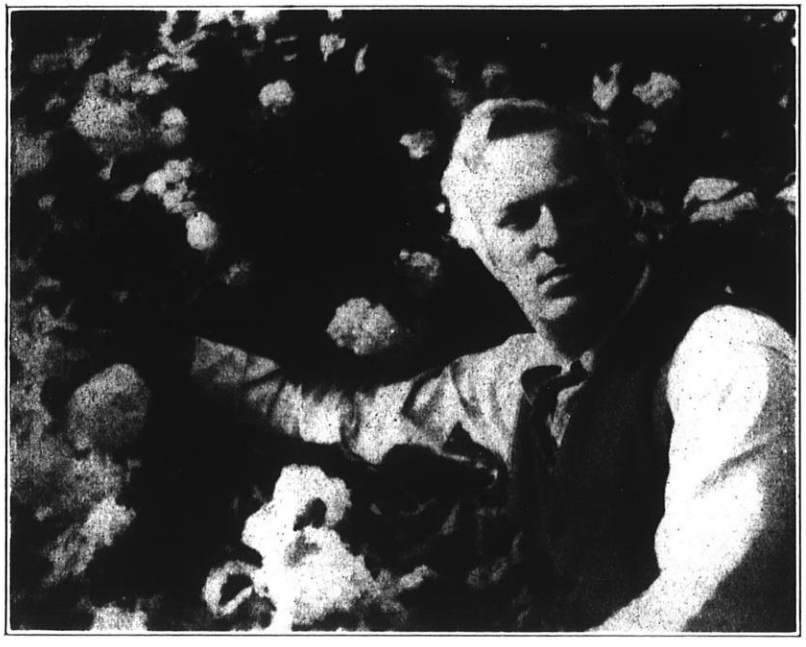
A simple method of computing the actual cost of the plant food contained in a fertilizer, either as a single element or when sold as a mixed fertilizer, may be determined by using the "unit" basis.

A unit of plant food, which is really the only part of a fertilizer with which we should concern ourselves, may be taken to represent 1% of 1 ton, or 2000 lbs., which gives a unit as 20 lbs. Hence, in 1 ton of 16% nitrate of soda we have 16 units of plant food or 16 x 20=320 lbs. Now suppose nitrate of soda costs $65.00 per ton, therefore 1 unit would cost $4.69. Sulphate of ammonia might be procurable at $80.00 per ton, and since it contains 21% nitrogen, therefore each unit would cost $3.81.

Nitrate of soda is somewhat more readily available than sulphate of ammonia and for some uses this fact would have to be considered but knowing the price of a unit of each gives a basis for price comparison.

In purchasing mixed or complete fertilizers the grower generally economizes by buying the one with the high analysis rather than the low analysing mixture. Not only is this true of price per unit of plant food represented, but also it applies to the material used in the mixture. This "unit" value method may be used to calculate the actual value of the mixtures offered.

Obtain prices at which the single elements, such as nitrate of soda or sulphate of ammonia, acid phosphate and muriate of Potash may be purchased. Arrive at the value of a unit of plant food of each and then figure out the value of your mixture as if these materials had been used to prepare it. A 5-10-5 complete fertilizer, for instance, contains 5% nitrogen or 5 units, 10% phosphoric acid or 10 units, and 5% potash or 5 units. An allowance must be made in favor of the manufacturer to cover cost of mixing, bagging, etc., but this need not be very great. — Canadian Horticulturist.



John Hood Among His Shrubs

(Continued from page 161)

the various diseases of raspberries.

Rotate crops. After destroying an old raspberry field, allow at least three or four years to elapse before replanting it to berries. Grow corn or other cultivated crops, grass, and legumes.

Practice clean cultivation so as to insure a good circulation of air among the canes. A heavy growth of weeds promotes a moist condition around the canes, which is favorable to the production of fungous spores and the infection of healthy plants.

Remove old canes immediately after the close of the picking season, cutting them as close to the ground as possible. At the same time dig out all dead or badly diseased plants.

Remove prunings from the field and burn them.

Procure clean nursery stock. Set the plants while dormant, and with blackcap varieties remove the attached stubs of old canes.

Destroy wild brambles in the vicinity of a plantation.

FOR MORE TREES

Charles Lathrop Pack, as president of the American Tree Association, has devoted most of his life to the cause of forest conservation.

This spring he has inaugurated a new campaign—"Grow trees for growing people." He points out that our population is increasing at a rate of a million a year, and that this means an ever increasing drain on our ever-dwindling forests.

He urges that our idle land—there is more than 81,000,000 acres of it in America—be planted with young trees.

It is a worth-while suggestion. Unless we take the subject of forest conservation very seriously, our grandchildren won't have any forests to conserve. — Manitowoc Herald-News.

Spearmint is needed for mint sauce to accompany the spring lamb, to be used in making mint jelly and for flavoring various drinks and fruit juices. It is best to get plants of mint and sage for quick results.

A STUDIO GARDEN

Recently in the interests of Garden Club organization, the writer had the privilege of calling at the home of Mr. John Hood of Racine, Wisconsin and inspecting his unique studio garden. With a small rock pool in the center surrounded by profuse plantings of iris, peonies, lillies, rose bushes and a great variety of other perennials and shrubs in an attractive informal manner, the garden, although covering only a couple of city lots, gave one the impression of being isolated in a huge botanical garden. This garden is utilized by Mr. Hood as his outdoor studio during the summer. The work of caring for and planting it is done almost entirely by him. He has a very desirable location equipped with a fine studio well adapted for a meeting place for a local garden club, and we believe he will be able to attract a large membership.

Twelve county boards in Wisconsin have increased the salaries of their county agents since the beginning of the year. The increases range from $200 to $700 per year, or an average of $300 per county for the group.

The department of agriculture has announced that a machine with a capacity of 350 to 500 bushels a day has been perfected by experts for cleaning blueberries. Under the federal pure food act none but clean, sound, berries may be canned and sold, and efforts to devise some method to separate decayed and infected berries from the good ones resulted in the invention by the department experts. The invention has been patented and may be used by blueberry growers without paying royalties to the inventors. This machine saved a large part of the blueberry crop in Maine last year. This should interest all berry men and canners in Wisconsin.

LIBRARY PAGE

OUR FREE LIBRARY

A selected reading list of books available through The Traveling Library Department Wisconsin Free Library Commission
Madison, Wisconsin
Compiled by Jane Morgan

To borrow these books by mail, apply to the Traveling Library Department, Wisconsin Free Library Commission, Madison. The loan period is for three weeks—with postage prepaid. Those who live in cities maintaining public libraries should apply to their local library; others should write direct to the Traveling Library Department.

LANDSCAPE GARDENING

"My garden is a lovesome thing—God wot!"
—Thomas Edward Brown.

American homes of today, by A. O. Patterson. 1924.
Art of landscape architecture, by Samuel Parsons. 1915.
Art of landscape gardening, by Humphrey Repton. 1907.
Complete garden, by A. D. Taylor. 1921.
Design in landscape gardening, by R. R. Root and C. F. Kelley. 1919.
Design of small properties, by M. E. Bottomley. 1926.
English flower garden and home grounds, by William Robinson. 13th edition. 1921.
Gardens near the sea, by Alice Lounsberry. 1910.
Home grounds, by A. F. Oakey. 1889.
How to lay out suburban home grounds, by H. J. Kellaway. 1907.
How to plan the home grounds, by Samuel Parsons. 1907.
How to plant the home grounds, by J. H. McFarland. n.d.
Introduction to the study of landscape design, by H. V. Hubbard. c1917.
Italian landscape in eighteenth century England, by E. W. Manwaring. 1925.
Italian villas and their gardens, by Mrs. E. N. J. Wharton. 1920.
Landscape beautiful, by F. A. Waugh. 1910.
Landscape gardening, by S. T. Maynard. 1903.
Landscape gardening, by Samuel Parsons. 1900.
Landscape gardening, by O. C. Simonds. 1920.
Landscape gardening, by F. A. Waugh. 1919.
Landscape gardening book, by Grace Tabor. 1911.
Landscape gardening; how to lay out a garden, by Edward Kemp. 1911.
Landscape gardening studies, by Samuel Parsons. 1910.
Lawns, by L. Barron. 1906.
Making a water garden, by William Tricker. 1913.
Making paths and driveways, by C. H. Miller. 1912.
Our country home: how we transformed a Wisconsin woodland, by F. K. Hutchinson. 1908.
Outside the house beautiful, by H. C. Peabody. c1923.
Parks, by George Burnap. 1916.
Picturesque gardens and ornamental gardening, by Charles Henderson. 1901.
Practical landscape gardening, by R. B. Cridland.
Rescue of an old place, by M. C. Robbins. 1900.
Royal palaces and gardens, by Mima Nixon. 1916.
(The) small place; its landscape architecture, by Elsa Rehmann.
Spirit of the garden, by Mrs. M. B. Hutcheson. 1923.
(The) water garden, by William Tricker. 1897.

DISEASES AND PESTS

"I will go root away
The noisome weeds which
without profit suck
The soil's fertility from
wholesome flowers."
—Shakespeare—Richard II.

Book of garden pests, by R. H. Pearson. 1908.
Diseases of cultivated plants and trees, by George Massee. 1914.
Diseases of economic plants, by F. L. Stevens and J. G. Hall. 1919.
Diseases of truck crops and their control, by J. J. Taubenhause. 1918.
Farm friends and farm foes, by C. M. Weed. c1910.
Injurious insects and useful birds, by F. L. Washburn. 1914.
Injurious insects; how to recognize and control them, by W. C. O'Kane. 1915.
Insect pests of farm, garden and orchard, by E. D. Sanderson. Second edition, revised and enlarged, by L. M. Pairs. 1921.
Insects injurious to vegetables, by F. H. Chittenden. 1907.
Insects of economic importance, by G. W. Herrick. 1920.
Manual of fruit diseases, by L. R. Hesler. 1917.
Manual of fruit insects, by M. V. Slingerland and C. R. Crosby. 1914.
Manual of tree and shrub insects, by E. P. Felt. 1924.
Manual of vegetable-garden diseases, by Charles Chupp. 1925.
Manual of weeds, by A. E. Georgia. 1914.
Weeds of the farm and garden, by L. H. Pammel. 1912.

TREES AND FORESTRY

"The groves were God's first temples."
—Bryant.

Book of forestry, by F. F. Moon. 1916.
Brief history of forestry; in Europe, the United States and other countries, by B. E. Fernow. 1911.
Care of trees in lawn, street, and park with a list of trees and shrubs for decorative use, by B. E. Fernow. 1910.
Constructive forestry for the private owner, by J. J. Crumley. c1926.
Cultivated evergreens, by L. H. Bailey. 1925.
Elements of forestry, by F. F. Moon. Second edition. 1924.
Farm woodlot; a handbook of forestry for the farmer and the student in agriculture, by E. G. Cheyney and J. P. Wentling. Second edition. 1926.
Forest management, by A. B. Recknagel and John Bentley. 1919.
Forest mensuration, by H. H. Chapman. 1921.
Foresters' manual, by E. T. Seton. 1912.
Forestry almanac, by American Tree Association. c1924.
Ornamental trees for the amateur, by W. J. Bean. 1925.
Our vanishing forests, by A. N. Pack. 1923.
Plant materials of decorative gardening; the woody plants. Third edition, revised. 1926.
Practical forestry, by J. C. Gifford. 1907.
Practical tree repair, by Elbert Peets. Revised edition. c1925.
Practice of silviculture, by R. C. Hawley. 1921.
Primer of forestry, by Gifford Pinchot. 2v. 1900–1905.
Principles of handling woodlands, by H. S. Graves. 1911.
Shade-trees in towns and cities, by William Solstaroff. 1911.
Training of a forester, by Gifford Pinchot. 1914.
Trees, shrubs, vines and herbaceous perennials, by John Kirkegaard. 1912.
Use of the national forests, by Gifford Pinchot. 1907.
Tree planting on streets and highways, by W. F. Fox. 1903.

THE FLORIST'S PAGE

Edited by Huron H. Smith, Curator of Botany
Public Museum, Milwaukee, Wis.

AMATEUR FLOWER SHOWS

There is no good reason why any town or city in Wisconsin can not carry on an amateur flower show during the summer months, at least insofar as the few outstanding plants are concerned. There is scarcely a neighborhood without iris, peonies, roses, gladiolus or perennial fans. One flower lover in every community is enough to start a flower show. There will always be some person or business within the city that is very glad to give you the chance to stage the show for the advertising value it has in bringing people to their establishment. An ideal place to show flowers is in a local museum or library. Failing this, the banks are always glad to get an opportunity to exhibit flowers, so that it is not a question of finding a show place.

A person who wants to start a flower show can issue an invitation in the local paper, and thus get acquainted with the other people who may have stock to exhibit.

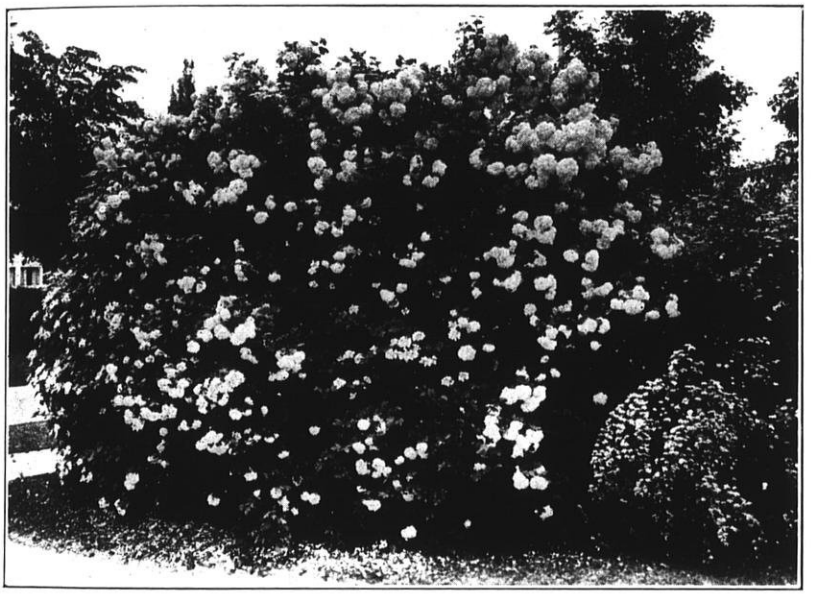
The size of the town has very little to do with the flower show, it depends upon the inhabitants who are interested in the particular kind of flowers you want to exhibit at your flower show. Even in so small a town as Zeist, Holland, with only three hundred inhabitants, the writer saw a very good flower show two years ago. It was their Fifty-sixth Annual Dahlia Show, and the writer was given an engraved invitation to attend. During the summer time in England it is possible to spend every day at flower shows somewhere in the limited confines of that tight little island. One of the smallest groups that we saw in England was that of a group of employees in one of the round-houses of one of the railroads, and this was not in a large city, either. Everybody loves flowers here just as much as they do there, and frequent flower shows will do more toward the encouragement of the use of them in any locality than anything else.

More friends are made through a common interest in flowers than probably any other hobby that we know about, and the interchange of ideas and "swapping" of varieties and seed will certainly result in the formation of a local garden society which will be sufficiently wide in its scope to interest all parties and should be termed "a local horticultural society". We would suggest that for the present, at least, these societies be limited entirely in their membership to amateurs. When such a local horticultural society has been formed and has gained a sufficient number of members and local strength, it is a very good idea to affiliate with the Wisconsin State Horticultural Society, because in that manner one can get their magazine and the benefits of the larger association for only 50¢ a year. Thus from a selfish point of view, there is a great advantage in joining the State society. It may not be well known that the State of Wisconsin furnishes about nine thousand dollars each year toward the expenses of the state association, and by joining their society one gets the magazine free and all of the benefits of their advice and assistance.

Most people are particularly interested in finding out how to finance the flower show and how to get the sufficient interest in the community to make the show worth while. It is not necessary that a flower show cost anything, except the time and interest of the people who are willing to exhibit. One only needs a sufficient number of water glasses or vases to start his first exhibit, and perhaps the first objective of a local garden club would be the raising of sufficient funds to purchase suitable flower vases in which to exhibit their flowers. These need not be expensive vases, but a certain variety of different types of vases would be wanted for future shows, and the ownership might be vested in the local garden society. Since these would be wanted in wholesale quantities, it is quite certain that any of the members would be able to get wholesale quotations upon their needs. Following this, it is suggested that the members tax themselves a small amount for each time that they meet, so that a small monitary prize might be given for their future shows. In Milwaukee the members of the local Horticultural Society assess themselves 10¢ per meeting. This makes it possible to give cash prizes of $3.00, $2.00 and $1.00, besides prizes of stock that have been generously donated by nursery men in this and other states who consider it a good advertising propaganda. The innate desire to excel in growing flowers holds just as true as it does in any other endeavor of the human race, and the pride at receiving any prize, no matter how small, is sufficient to make a prize show the best thing to do in holding a flower show among amateurs. There will be no trouble about the number of visitors to come to the show, especially if it is a free show. As we said before, everyone loves flowers even though they may be too lazy to grow them themselves.

The choice of a right date will have a good deal to do with the success of the flower shows during the summer months, and this can only be learned through experience in your own locality. In Milwaukee, for instance, we have chosen May 15th for the

date of our outdoor bulb show, such as tulips, hyacinths, squills and the like. We have chosen May 29th as the date of our iris show. Our iris show last year was quite the talk of the town, and this year it promises to be much better and larger. At the last meeting of the Milwaukee County Horticultural Society, the topic discussed was Iris, and in the matter of purchasing iris, it developed that Mr. Louis R. Potter had given three years of his thought to the selection of one hundred of the best iris known, running in price from $2.00 a rhizome up to $200.00 a rhizome, which naturally were rather beyond the means of the ordinary individual. However, all of them were grown by a friend of Mr. Potter's at Highland Park, Illinois, and we have his promise to receive cut flowers of all of these hundred varieties for our next iris show on May 29th at the Public Museum, Milwaukee. This will really be worth journeying from distant points to see.



"Snowball Time." Photo by H. H. Smith, Milwaukee Public Museum

Unfortunately, some of the best flower lovers who will want to start a local society, will be those who are the shyest in the neighborhood, and for those and others who may hesitate to start a society, we might cite the best experience to follow. There are always plenty of people ready to join anything, in case they think it is an established and a going society, so we suggest that when you put your notices in the newspapers that you do not say that you are getting people together to form a local horticultural society, but that you give out the information that the first annual meeting of your local horticultural society will be held at a specified place on such and such a date, on such and such an hour, and if only you and one other show up for the meeting, go ahead and organize, let one of you be president and the other secretary and treasurer. The members will come fast enough after they know it is a growing society.

There really ought to be more than two thousand local horticultural societies in the state of Wisconsin, and there will be, too, if you take this message to heart and start right in calling the first annual meeting of your local horticultural society. All societies start in thought anyhow, and actions are but thoughts expressed, so we will

close by wishing you success in your new county or city horticultural society.

HURON H. SMITH.

(Continued from page 157)

and vegetables to the delicious "eats" and other products of the artistic fingers of the "women folks". The ladies were especially pleased when they succeeded in growing something unusually fine in house plants or cut flowers.

One of the party who visited that day at Mrs. Letts' home said, "How in the world can a woman of your age do all this? I should think you would rather live in the city and enjoy yourself."

"Why I don't believe I think about my age", said our hostess smilingly. "I'm too busy. I love to work in my garden, to paint pictures of the flowers. I'm just living and enjoying myself in my home. I would not be contented in strange surroundings."

"But you will have to give up sometime," the visitor persisted.

"When the time comes there will be time enough to think of such things. Why spoil life by fretting and worrying about the bridge I may never need to cross? It is much pleasanter to enjoy life as it passes along, to plant new things and wonder what they will be like. There is joy in anticipation, you know."

And as I look back over her words it seems to me that here is the secret of her eighty years of youth—"There is joy in anticipation." She has not come to the end of the road. There is beauty and joy still ahead. She has looked for it and found it in a garden.

It pays to advertise in Wisconsin Horticulture.

DEMOCRAT PRINTING COMPANY
MADISON, WISCONSIN

WISCONSIN HORTICULTURE

Vol. XVII Madison, Wisconsin, July, 1927 No. 11

BETTER VARIETIES OF FRUITS

By E. A. Petranek

The world moves fast these days. If one wants to keep in step with the progress of the times, one must advance with it or fall out of the race. One can't stand still.

You have only to notice the alertness with which all corporations and manufacturers watch their competitors, each bettering his product and keeping ahead of his competitor. The race of the "Survival of the Fittest" automatically weeds out the standpatter.

Those of you who have had an opportunity to visit any of the larger industries, know that they all maintain their own laboratories and experimental plants. Here, they employ the highest paid specialists in the country and furnish them with all the experimental equipment necessary to carry on their experimental work. The result is that such a manufacturer is always a leap ahead of his competitor.

Progress in the Horticultural world, like in every other phase of life, depends on this evolutionary trend toward the better and more efficient method of conducting our business. The various new fruits and new ornamentals that are originated from time to time may be aids that, if adopted, may sometimes help us to make more profit and get more enjoyment out of our horticultural endeavors.

While most business firms maintain their own experimental laboratories, the horticulturist must depend on the untiring efforts of a few men or a few institutions who devote their energies toward breeding, testing and bringing out new fruits and ornamental stocks.

The problem of plant breeding is a complex one, requiring years of labor and patience on the part of the experimentor. For this reason, most of this work is done by state institutions rather than by private individuals. Furthermore, there is little incentive in plant breeding work for an individual to spend years of time and patience in developing new plants, when there is very little hope of financial reward, should he succeed.

Getting back to the subject of "Better Varieties of Fruits" worthy of consideration in Wisconsin, consider the plums.

Professor Hanson of the South Dakota Experimental Station at Brookings, South Dakota, started his work on plums about 1895. However, it was not until 1910 that he came out with the Waneta, which is still an outstanding production and worthy of consideration for Wisconsin plum growers. The Waneta is a large, red plum, growing to one and one-half and one and three-fourths inches in diameter. The flavor is delicious and the tree is hardy practically all over the state.

Then came the Loring Prize plum, originated by John Vikla in central Minnesota. While the fruit is larger than the Waneta, the tree has the bad habit of skipping years of bearing. However, when it bears, it bears heavy and certainly is a sight to behold.

The greatest strides in plum advancement have probably come from the Minnesota Fruit Breeding Farm near Minneapolis, where they have developed a score or more of good plums in the last ten years. This farm was established by the Minnesota legislature in 1907, and all who know the work it has done will admit that it has returned the investment back to the people of that state a hundred fold.

Every home owner can well afford to grow one La Crescent plum tree. This is a yellow plum, ripening about August 5th and is about an inch or an inch and a quarter in diameter. To eat raw, it is as delicious as a genuine California Burbank plum. However, it will only keep a few days and must be used at once. For the general plum orchard and for the commercial plum grower, the writer would recommend the following: Underwood, Tonka, Red Wing, Monitor and Elliott. These are all large plums, ranging from one and one-half to two inches in diameter and ripening from August 10th to September 10th, in the order named.

The Red Wing and Tonka seem to carry some characteristics of the Burbank plum. They are free-stone and very delicious. The Underwood is a very thrifty growing tree and is the first of this group to ripen. The Monitor and Elliott are both late plums and take on a large size. They are both considered very good commercial varieties.

If you have trouble in growing the regular sour cherries (Montmorency cherries) on your soil, or if you live in the central or northern part of the state where the sour cherries do not grow well, try a few trees of the Zumbra and Nicollet cherry. These are both Minnesota productions and make fairly good cherry substitutes. The Opata and Sapa cherry plum hybrids can also be used in this manner. The trees are short lived, but bear enormously and have their place in certain sections of the state.

You will no doubt notice that the writer has given considerable space to plums, which is only as it should be, because these newer varieties of plums represent such big improvements over the older varieties that we used to grow, that they should displace them. The only exception would be to a few Lake Michigan Shore regions, where some of the European and Japanese plums do fairly well. However, in most cases, these foreign plums are no better than some of the above and thus need not be taken seriously.

In the apple line, the Minnesota Fruit Breeding Farm has again produced the Haralson and Folwell apples. The Haral-

son is winning favor in the northern part of the state, where it is absolutely hardy and keeps well unto spring. The Perkins seedlings originated by T. E. Perkins at Red Wing, Minnesota, are also productions calculated for the sturdier climates of our state and the neighboring states. They include the Bayfield, Goodhue, Red Wing, Jumbo and Perkins varieties.

The Cortland apple may be of interest to the apple growers of the state. It is a cross between the McIntosh and the Ben Davis, and originated at the New York Experiment Station, Geneva, N. Y. This station claims that it has the eating qualities of the McIntosh and the keeping qualities of the Ben Davis. If this proves true, it will be a meritorious addition to our list of apple varieties in Wisconsin.

The Latham raspberry seems to be an outstanding success over most parts of the state, and is rapidly taking the place of the King and Cuthberts. Its chief points of merit are hardiness, heavy yielding and good shipping qualities.

The Minnesota Fruit Breeding farm has done some work on pears, but to date, has not had much success. So far, they have only two varieties that they have distributed for trial: i. e., Mendel and Minnesota No. 1 pears. We will probably hear more about pears in the future.

This same station hopes to put out a new grape that will be as good as the Concord and still absolutely hardy in that region. If trials prove that true, then every farmer can grow grapes of the Concord quality without the bother of winter protection.

Then we have new varieties of strawberries that show up one after another. Most of these seem to come and go with time. Apparently, the Senator Dunlaps, and Warfields are still good old standbys. The New Mastodon everbearing strawberry seems to be attracting wide attention this year.

Summing up the "new variety of fruit" situation, I don't want to give the impression that they are all gold bricks. I will say, however, that each may have its merits in certain locations and soils of the state, and it is up to the individual fruit grower to study the merits of these new varieties before planting too heavily. Some of these have already proven their worth, others need further testing.

Secondly, let us give full credit to the individuals and institutions who devote their efforts toward breeding and developing better varieties of fruits and ornamentals, and, as these are put on the market, give them a fair trial. The results of your tests will be appreciated by the readers of "Wisconsin Horticulture". Write the editor what you think of this or that new variety. He will be glad to pass it on to your neighbor horticulturists and thus assure them of the value of these new fruits, or else save them time and money if experience proves them valueless in your section of the state.

Don't forget to take the vacation you have promised yourself this summer. What could be nicer than a day or two off for the whole family at our summer meeting at Kenosha on August 19 and 20? You will enjoy the scenery and obtain some good pointers that will help you.

THE PART HE PLAYED

The speaker was delivering a lecture on forestry. "I don't suppose", said he, "that a single person here has ever done anything to conserve our valuable timber."

There was silence for a second and then a meek little man at the end of the hall arose and observed: "I once shot a woodpecker". (From the Country Gentleman).

RAINS HELP TO APPLE INFECTION

Madison, Wis.— Heavy rains of spring, spreading fungus of apple scab over Wisconsin orchards, will probably result in substantial losses to state growers this season, R. L. Vaughan, of the University of Wisconsin's agricultural school, believes.

The necessity for equipping orchards with adequate spraying apparatus will be brought out by the damage done this season, he said, and will probably result in the formation of more "spraying rings" in rural communities.

"There will undoubtedly be more scab infection this year than in previous years," he declared, "because conditions for spraying have been the worst in history. This, combined with the fact that the heavy rains have spread the spores over the various orchards, will cause an early drop."

Scab Fatal to Sale

"Orchard men in some instances, have sprayed when they could, regardless of proper times, by this hoping to check the spread of the fungus to some degree. When the apples are infected with the scab, they are very poor and practically unsaleable. The outer coat of the skin is killed as it grows and it dries and cracks."

"During the winter, the fungus lives on dead leaves but when the heavy rains come, the spores are discharged in the air. The fungus is largely dependent upon environmental conditions for growth. Lime sulphur is the most satisfactory of the early sprays but it is too late for such applications now."

"Lime sulphur combined with arsenate of lead will destroy the insects, also, but in order to be effective the spray should be used as soon as the blossoms fall."

Suggests Co-operation

Suggesting the formation of the spraying rings, Prof. Vaughan pointed out the value of such organizations and explained how rings in Jefferson, Rock, Grant, Kenosha, Eau Claire and other counties are already organized. Ten or twelve farmers in a community get together to form rings, he said, and the cost of protecting orchards is therefore reduced and most modernn equipment can be purchased at a minimum cost.

This appears to be a banner year for insect pests and plant diseases. If you have not already done so, you had better be prepared to combat your enemies and at least have a supply of nicotine sulphate and calcium arsenate on hand.

HORTICULTURE IN BAYFIELD COUNTY

By V. E. Brubaker

When thinking of fruit, the word *Bayfield* is widely known to consumers, jobbers, retailers, and commission men. Some 20 years ago, people in the Bayfield district strongly advertised lands for fruit growing, and buyers from many parts of the United States purchased land, and planted apples, cherries, plums, raspberries, and strawberries. From this start our Bayfield fruit has been shipped long distances to markets calling for it.

William Knight, now 80 years of age, is one of the pioneer fruit growers. Roy and C. W. Smith, Hokensen Brothers, Fieldmier Brothers, Jos. Drinville, Peterson Brothers, E. C. Carver, Elmer Beebe, Nels Hagman, and John Hagberg are all pioneer fruit growers and still are growing apples, raspberries, and strawberries.

There are also many possibilities for nurserymen in Bayfield County. John Hauser, owner of Superior View Farms, has been a successful grower of Hardy Perennials for the past ten years. The writer, owner of Chequamigon Flower Gardens at Washburn, has also had a large planting of Perennials and bulbs during the past five years.

Strawberries and Raspberries

The Bayfield Peninsula, including Port Wing, Herbster, Cornucopia, Washburn, Bayfield, Moquah and Brule Communities, marketed over 75,000 cases of strawberries four years ago. Since that date we have had three years of exceedingly dry weather, especially in early spring, cutting the yield and discouraging our growers to the extent of quite a decrease in acreage. This spring with plenty of moisture, we will have a heavy crop.

Berries going on the market from the Bayfield district are of a high quality and much stress is being given to proper grading and shipping. Many of the berries reach markets in Chicago, Milwaukee, Duluth, Superior, Minneapolis, and parts of Dakota and Canada. The Senator Dunlap has been the leading variety.

Raspberries have also been extensively grown. Malborro, King, Latham and Ontario are being grown at present, the two last varieties finding preference among the growers, producing large fine fruits and thrifty canes. Milwaukee and Chicago are the best raspberry markets at this time.

Tree Fruits

Apple growing in Bayfield County is expanding slowly but steadily. Leading varieties are Wealthy, Duchess and North Western Greening, which were planted heavily fifteen years ago and at present are bearing large crops almost annually. McIntosh Red, Red Delicious and Salomes are being quite extensively planted at present. In the early history of apple planting in Bayfield, it was thought that the latter mentioned varieties would not mature fruit satisfactorily, but the McIntosh especially is gradually showing that they should be the leading varieties here.

In many of our orchards, culture and spray methods have not been thoroughly carried on and apples have not given the results they would have if better care had been given.

Crab apples are grown to some extent but fire-blight attacks them badly some years and discourages larger plantings. Red Wing, Dudley, Okehena, and McMahon have also been planted but not so extensively.

Early Richmond and Montmorency cherries were planted very extensively twelve to fifteen years ago, but they died out very badly from lack of proper cultivation and control of Shot Hole Fungus disease. Personally, we believe there is a fine future for cherry growing in our district if proper care is given and we hope to see more cherries planted in the future.

Many varieties of plums thrive well here and should be planted more extensively than they are at present.

LETTUCE IN HOT WEATHER

As the weather gets warmer it will be found more difficult to grow lettuce in hot, sunny positions. Many amateurs are finding it an excellent plan to set out their lettuce plants or to sow lettuce seed in the spaces between the rows of cabbages. In this way the little plants get protection not only from the sun but also from the hot winds. Another good plan is to drop in an occasional lettuce seed when planting turnips, as the turnip leaves give the lettuce plants the protection they need. Lettuce may also be grown to advantage in hotbeds or coldframes, no glass being used.

SEED POTATO INSPECTION

The Horticultural Department has just mailed the 1927 seed potato inspection applications to growers of certified seed potatoes in the state. Growers who have not received applications and who desire to apply for inspection are requested to notify J. G. Milward, U. of W. Horticultural Bldg., Madison, and the regular application blanks will be forwarded.

The Horticultural Department has requested growers this year, as far as possible, to return their applications immediately after the close of the potato planting season. An early return of application blanks will assist the department in perfecting plans for the first inspection. The last date for receipt of applications is July 15.

The Horticultural Department estimates an increase of about 25 percent in the acreage to be inspected for certification this year. About 1,500 bushels of Triumph seed stock, representing an increase from the tuber index work, was distributed from the Spooner branch station.

BADGER NEWS

From Wisconsin Papers

ANNUAL FARMERS' FIELD DAY DRAWS 3,000 TO U. OF W.

A crowd of 3,000 farmers from southern Wisconsin attended the eighth annual Farmers' Field day held at the university agricultural experiment station and college of agriculture Monday. This was the first of a series of six such days to be held at the six experimental stations throughout the state.

This system of field days was inaugurated in Wisconsin in the summer of 1913, when 200 northern Wisconsin farmers met at the Ashland experiment station. Previous to this year, they were known as Station days. However, due to the increasing diversity of the fields covered, and to the fact that all members of the farm family are now attracted by the various features the name was changed.

Shows Stations Work

The primary object of the Field day is to acquaint the farmer with the work of the college of agriculture and the work and development of the experimental station in this section of the state, as well as to inform him of new developments along the lines of agricultural science.

For this purpose, the departments of the college of agriculture have prepared exhibits showing the type of work covered in the lines of home economics, dairying, agronomy and general agricultural science.

The program, which called for events from 9 a. m. to 4 p. m., included demonstrations, educational and sight-seeing coach tours about the university grounds, a lecture by Prof. E. B. Hart on the subject "New Ideas in the Nutrition of Humans and Animals", field exhibits by the Boys' and Girls' Rural clubs, a program in the open air theater and the graduation of the class of 1927 at Camp Randall.

The entertainment in the open air theater was furnished by Farmers' community organizations and included a program by the Windsor orchestra, a group of dances by the Milladore folk dancers and the presentation of the prize winning Dane County home talent play, "Just Like a Woman," by the Hillcrest Players.

GARDENS OF 28 NATIONS SEND SEEDS

Exchange of seed with 212 botanical gardens of Europe and Asia is reported by the Morton Arboretum here, which lists 28 foreign countries which are helping stock the young Illinois preserve.

More than 1000 packages from foreign gardens were received in exchange for Illinois seed during the last six months, H. Teuscher, botanist of the arboretum, states. Native American wild flowers and shrubs, he notes, are much in demand in other lands. —Christian Science Monitor.

WISCONSIN VEGETABLES SENT TO FLOOD DISTRICT

At least 3,000 cases, containing 2,000 cans of peas, corn, beets, and other vegetables will be shipped by Wisconsin canners to Memphis, Tenn., to be used in flood relief work by the Red Cross, it was announced today at the offices of the Wisconsin Canners association.

These canned goods already are shipped free of all charges by both railroads and express companies, to Charles P. Doe, supply officer for the American Red Cross, at Memphis.

J. W. Richardson, assistant director of relief, wired the thanks of the Red Cross to Win E. Nicholoy, secretary of the canners' association here.

STATE'S CROP OF MAPLE SYRUP 154,000 GALLONS

Wisconsin farmers produced 154,000 gallons of maple syrup and 19,000 pounds of maple sugar during the present season, according to statistics in the Wisconsin Crop and Livestock Reporter, issued jointly by the United States department of agriculture and the state department of agriculture.

The number of trees tapped was given as 570,000. The quality of this year's sap was reported as being good, though somewhat darker than a year ago.

Markets are reported as being good in most parts of the state. The price per gallon of syrup to farmers is $2,50, and the price per pound of maple maple sugar is 38 cents.

PLANNING HUGE CRANBERRY FARM IN UPPER STATE

Permission from the Wisconsin railroad commission to construct a dam across the Clam river in Burnett county will be followed by the development of one of the largest cranberry farms in America, with 2,500 acres planted to this crop. A hearing is scheduled to be held before commission representatives in Hudson with the Kohler-Peet Co., Minneapolis.

While the cranberry farm project is the main purpose of the dam, providing irrigation for creating the marshy land needed for the crop, power will also be developed. Plans submitted to the commission call for a 12-foot dam developing 500 horse power with double turbines at the site and a raceway to Norway Point. The course of the river will be changed for about seven miles.

The state of Wisconsin owns 600 acres of the land which will be a part of the area to be developed for cranberries.

Edward L. Peet of the Kohler-Peet Co., former Burnett county resident, is one of the promoters of the project. The application for the dam follows a survey and study of many years.

SEE BUMPER BLUEBERRY CROP THROUGHOUT STATE

Birchwood, Wis. — Present prospects warrant the general belief in this part of the state that the crop of wild blueberries this year will be exceptionally large. Wherever the bushes thrive, a profusion of blossoms are now to be seen indicating one of the best yields in years.

Not only does a bumper blueberry crop mean much revenue to people of this region but an army of outside pickers come to this county to gather the fruit. Only a killing frost now will injure the 1927 crop.

Rhinelander, Wis.—A log drive has just been completed on the Turtle river at Lond Lake, near Mercer. The drive comprised over 10,000 pine logs, which were sold to C. C. Collins Lumber Co., which operates a large saw mill in this city. Log drives, which were common in the early lumber days of upper Wisconsin, are now rare in this state.

Copies of "Our Native Landscape," a new publication edited by officers of the Wisconsin chapter of the Friends of Our Native Landscape, were distributed for the first time to members attending a joint conference of the Wisconsin and Illinois chapters Saturday and Sunday on the banks of the Rock river, near Rockford.

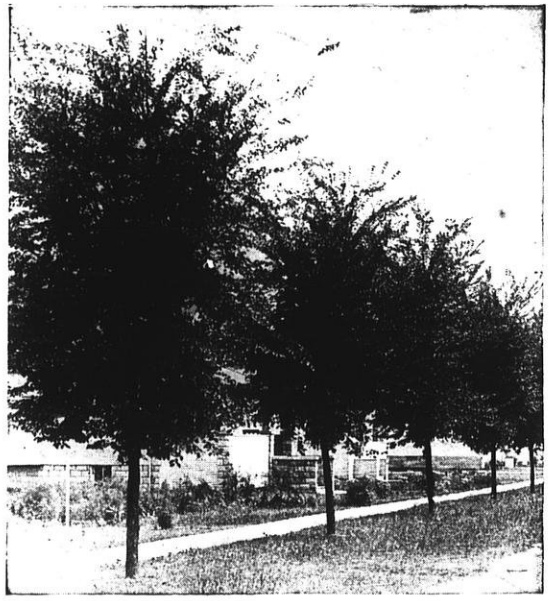
The publication is designed to serve as a medium of expression for the various chapters in their continued efforts at preservation and restoration of the native landscape.

Another feature provided by Wisconsin's delegation was native Indian music by Chief Oliver La Mere and Indian war dances by his small son. Prof. John S. Donald, president of the Wisconsin chapter, and Prof. Franz A. Aust, its secretary, were among the speakers.

TWO NEW ELMS

Although the elm has for a long time been considered one of our best trees for street planting, it has not been planted as extensively as it should be due to the fact that it is naturally a slow grower. The public demands a shade tree that will grow quickly. To get this they have accepted short lived trees having brittle wood and those with a tendency to heave up the side walks, just because they wanted quick shade of some kind. They got the shade quickly but they never were satisfied with it.

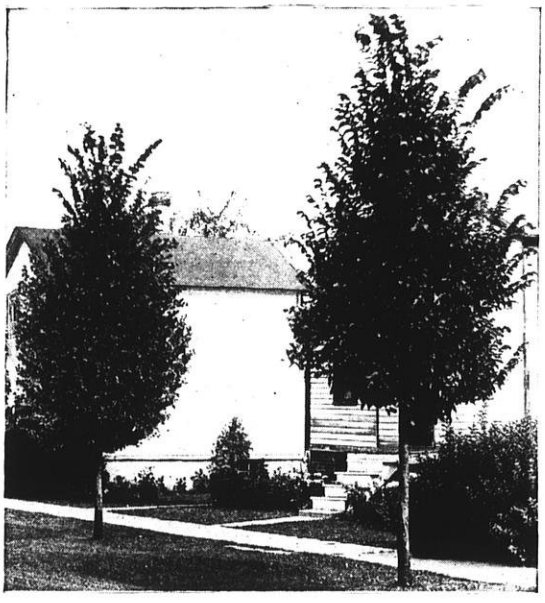
The nurserymen, realizing the wishes of their trade, set about to discover a more satisfactory tree with a long life and yet one that developed quickly. This they have accomplished by budding and grafting desirable types of elms upon the well known American white elm seedlings. These new types are known as the Moline and Vase elms, respectively, and with this method the usual wide variation in types of trees resulting from seedlings in a nursery can be avoided. This insures, therefore, uniform growth and development in a planting.



VASE ELM

MOLINE ELM

The outstanding characteristic of the moline elm is its conical shape and pyramidal growth. Its habit of growth is narrow and upright, as seen in the accompanying cut. It develops very heavy and strong branches. The leaves are dark green, deeply veined, and nearly twice the size of the ordinary elm leaf. In its young growth the bark is smooth and greenish-gray in color. The principle factor of this type is that it is an unusually fast grower. The moline elm, being an upright growing tree, can be planted on narrow streets or where spire-like specimen trees are desired on the lawn. This new elm was first noticed by Mr. George Klehm, and he named it the Moline elm. The parent tree was planted twenty years ago and is said now to be about two and a half feet in diameter of trunk, and about seventy feet tall. It is growing in northern Illinois. It seems to bear no seeds. An important feature about this type of elm is that it has no crotch to split. This is a very serious fault of the excellent American white elm.



MOLINE ELM

VASE ELM

The other type of elm is the Vase shaped one also shown in a cut on this page. The type received its name from its characteristic open top or vase shape of branching. The growth is spreading, but still upright, with its top much broader than the center. The young trees carry smooth bark which becomes more rugged as the trees

get older. They come out with foliage early in the spring and hold a good dark color until late in the fall. The Vase Elm is adapted for use in wide streets where a broad growing tree is desired. A street planted with these trees and properly pruned and cared for will prove to be a sight to behold for generations to come.

The practice of budding and grafting these types of elms on our native white elm seedlings has, besides guaranteeing uniformity in the row, made it possible to avoid the ravages of the most serious disease of this tree, known as *elm canker*. This disease has resulted in heavy losses to nurserymen of our state since their native elms have frequently had to be condemned in large numbers by the nursery inspectors. Many promising trees have fallen victim to this malady, which results in the dying back of the tops and complete disfiguration if not the death of the tree. By selecting strains of these types which have proven to be resistent to this trouble, the nurseryman has been able to furnish not only a disease resistant tree but a tree having the desirable shape and quick growth. Large numbers of these trees are being propagated annually now by Wisconsin nurserymen. One of our largest nurseries makes it a practice to sell only these two types and because of their good qualities is able to sell them at a premium. They are worth it.

If you run across a pest or disease that is new to you don't fail to take advantage of the service your State Entomologist and Experiment Station entomologists and pathologists offer you. They will tell you what it is and how to control it.

Are you keeping a record of your garden, planning changes? If you jot it down now, it will be easier to get it just right later on when the plants are out of bloom.

THE STORY OF THE RASPBERRY

The following very interesting article on the Raspberry prepared by Professor Ralph A. Van Meter of the Massachustetts Agricultural College at Amherst, Massachusetts appears on a page conducted by him in the June issue of "The Flower Grower". Believing that our readers would enjoy reading it too, we quote it.

After twenty centuries of recorded contact with civilization, the Raspberry is still in the early stages of its cultural development. It is a matter of record that wild Red Raspberries grew abundantly over great areas in Europe nearly 2000 years ago, but the development of the Raspberry as we know it has just begun. As a cultivated fruit it is one of the newcomers.

The European Red Raspberry (now Rubus idaeus) was mentioned by Pliny in the first century, but it took fifteen hundred years longer to make a place for itself in the gardens of the Old World. Even then the "Raspberry" enjoyed no great popularity as a table fruit. Its juice was used alone or with that of other fruits as a beverage and to some extent in medicine.

The early settlers in America found a native Red Raspberry (now Rubus idaeus strigosus), and the common Black-cap (now Rubus occidentalis), growing freely along the northern Atlantic coast. These wild fruits crept into the clearings and forced themselves upon the attention of the colonists, but seem to have suggested few possibilities as cultivated fruits. They gave rise to the high hope, however, that where Raspberries grew so abundantly the Red Raspberries from English and French gardens might thrive. So the meager list of varieties then grown in Europe was transplanted to America, where they held the center of the stage until after the Civil War.

The culture of the European Raspberry was attended by serious difficulties in this land of severe Winters and dry Summers. Now the species has almost disappeared from American gardens, replaced by the more sturdy native Raspberries and by hybrids. On the Pacific coast, however, several European varieties are still to be found.

FIRST AMERICAN VARIETIES

The first appearance of native blood in a prominent variety came in colonial days in a popular variety called *English Red.* It was believed at first to be an importation from England. Later, when the nature of the plant made it apparent that it was not identical with the Old World Raspberry, the name was changed to *Common Red.* Still later, when the tendency of Red and Black Raspberries to hybridize freely was understood better, the *Common Red* was recognized as a hybrid, or Purple Cane. When and where this Raspberry originated is not recorded, but it was known before the Revolutionary War and for a hundred years it was an outstanding variety.

Some Wild Raspberries found their way into colonial gardens, but the first attempt to introduce a native variety to the trade, also said to be the first attempt to so disseminate any native species, came with the introduction of the *Ohio Everbearing,* by Nicholas Longworth of Cincinnati. This Black-cap was found in 1832 and transplanted to the Longworth garden, where many other varieties of small fruits were being tested. The chief merit of the *Ohio Everbearing* seems to have been its curious habit of producing a second crop late in the season on the tips of the new canes, a characteristic later found to be fairly common among native Raspberries. After the Civil War, when the culture of the Raspberry began to attract more attention, better varieties soon appeared. By 1875, when Raspberry growing had reached the status of a commercial industry,

Ohio Everbearing had departed forever from the list of preferred varieties.

At first new varieties appeared slowly. As cities grew and the market demand increased, more people became interested in better varieties and the pace was accelerated. *Cuthbert* was disseminated about 1880. This cosmopolitan Red Raspberry was soon found to be adapted to a wide range of soil and climatic conditions. Its dessert and shipping qualities made possible the rapid expansion of the growing of Red Raspberries and *Cuthbert* became the cornerstone of that industry. For a half a century it has been the standard by which new varieties have been measured and only now is its leadership among Red Raspberries being challenged successfully.

The culture of Black Raspberries developed even more slowly. The market demand for fresh Raspberries has always been, as it is today, for red varieties. The first black variety to be widely grown was the *Doolittle*, which was admitted to the lists of the American Pomological Society in 1860 and was grown until the early years of this century. *Gregg* appeared about 1880; and *Plum Farmer*, *Cumberland*, and *Kansas*, were introduced in the nineties. These are standard sorts at the present time.

While Purple Canes were grown in colonial days, they did not achieve any great prominence until about 1900. Now the hybrids are receiving more attention from plant breeders than either of the parent species. There is a wide variation in canes. Some have bright-red fruit, others bear fruit almost as dark as the Blackcaps. The plants also vary widely in other important characteristics. The best Purple Canes are more productive than any red or black variety, and are also more resistant to diseases.

Where extreme variations are common, the chance for selection and improvement are correspondingly good, and an excellent field is offered to the plant breeder. He can encourage variations and pursue his program of selection with the assurance that results will come more quickly than with fruits having fixed or less variable characters. At present the Purple Canes promise more than either Red or Black Raspberries, and it is quite possible that the Raspberry industry of the future will be built around hybrid varieties more productive and satisfactory in every way than any varieties known today.

In 1919, when the last census was taken, 54,256 acres of Raspberries and Loganberries were reported. Loganberries and some Raspberries are grown in the Pacific Northwest, but the greatest acreage in Raspberries lies north of the latitude of the Ohio River and east of the Mississippi.

The commercial Raspberry industry is now marking time once more. It is not waiting for better varieties this time, nor for more extensive markets, nor for the solution of cultural problems, but for better ways of combatting diseases of the mosaic type. These troubles are so widespread and destructive that they have made the growing of Raspberries on a large scale too difficult and uncertain to be profitable in a great many places. There is no reason, however, why the gardener should not continue to supply his family with this delectable fruit.

Remember arsenical sprays such as Paris Green, Calcium Arsenate, and Arsenate of Lead are not soluble in water. They merely go into suspension like sand in muddy water, and for good results the spray must be kept well agitated.

Legume crops return two dividends—a crop and soil enrichment.

FRACKER RESIGNS AS ENTOMOLOGIST

State Official Takes Position With U. S. Agriculture Department

S. B. Fracker today announced his resignation as state entomologist of Wisconsin to accept a position carrying a greater salary and increased responsibility in the plant quarantine work in the United States Department of Agriculture.

Dr. Fracker has had charge of the division of insect and plant disease control in the state department of agriculture since 1918. He came to Madison from the University of Illinois and occupied the positions of instructor in economic entomology at the university, and assistant state entomologist, before being appointed to his present position. His best known activities in the state consist of work in bee disease control, establishment of the cranberry, insect and plant disease control service, organization of the volunteer pest reporting service in the various counties and control of the hemlock spanworm in Peninsula Park by means of airplane dusting.

He is a member of the Lions club, the Nakoma Country club and the Masonic lodge of this city and of several Wisconsin agricultural and horticultural associations.

Dr. Fracker expects to leave about the middle of the month for Washington, D. C. — Wisconsin State Journal—June 6.

Dr. Fracker asks us to pass on to his friends of the Horticultural Society his "goodbye" and to assure you of his continued interest and good wishes. He extends an invitation to all his Wisconsin associates to look him up when they are in Washington.

Thorough cultivation is an important factor in controlling weeds.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

SOME GARDENS

When two or three garden lovers go for an automobile ride, they just naturally are looking for beautiful and unusual gardens.

In one very shady side yard where the grass grows thinly, hundreds of wild blue violet plants have been set until it is a veritable blue carpet. The owner is now adding other shade loving wildlings and the "garden" is a source of pleasure to its mistress and of great interest to the children in the neighborhood.

I believe such gardens are of real benefit in teaching children not to pick all the wild flowers.

A little girl looked admiringly at a group of wild columbine under the trees. "Is they wild or is they planted?" she asked.

"Both," I said, smiling at the question.

"I know" she said, nodding her head, "You don't want them picked. My daddy has one patch in the woods at home. He says they are his. He put a sign up 'Don't pick' and that patch is getting bigger and bigger."

It was just a sixty foot lot with the steep terraced sides that are so hard to mow. You see hundreds of them as you drive about the city. But, when we came in sight of this lot every one in the car said, "Oh!" The driver stopped the car that we might admire, for the owner had planted a flower garden instead of grass, and hundreds of iris blossoms bade you linger and admire. Stones had been used to prevent the dirt from washing too easily, and here and there shrubs and rose bushes had been cleverly planted to give a natural appearance to the bank. This also gave a bit of privacy to the strip of lawn encircling the house. Some of the neighbors had seen and other steep banks were being planted. One owner, who was evidently a rose lover, had pegged down hardy climbing roses. I can imagine how lovely it will be later on for, on a sandy bank along a road in Michigan grow trailing juniper and Dorothy Perkins roses—once seen, never to be forgotten.

A HOUSE OR A HOME

Along with many other wiser people, I have always contended that you needed to plant a garden, trees, flowers and shrubs before you could really call a place "Home".

A man whom we knew as a shrewd business man laughed at such nonsense. He had built several houses, had put down neat walks, and had a lawn. In each case he sold at a good profit. "One place is as good as another. I will sell any time I get my price", he had remarked. Then he bought a lot in a neighborhood where there were a number of nice gardens. Because his neighbors planted trees, shrubs, and a flower border, he did the same. "Increases the value to some folks," he explained in the beginning, but after a bit he seemed reluctant about setting a price, and now he flatly refuses good offers for his very beautiful home. "Sell my home? Well I should say not. I've got the prettiest yard in the neighborhood. You should see my 'Peonies'!"

He hasn't a house to sell anymore, he has a Home. He has become rooted in the deep fragrance of a garden.

Flowers should be cut during the cool hours of the day.

FAME

We are all naturally proud of "Lindy" and his flight across the ocean. His fame will go down the years to come and the small boys are all dreaming of the time when they can follow in his foot-steps, and be famous and feted. Yet, a grey haired man said the other day. "I wouldn't change places even with 'Lindy' ". A little girl said to her mother. "I think Mr. C—— is the nicest man. I'll remember him when I'm an old, old lady. He always talks to me and is so nice and funny. I feel all nice and happy inside when he goes by." There were tears in the grey haired man's eyes when the mother told what her little daughter had said. "If I have given one child such a memory to take with her through life, I feel I have not lived in vain."

If you like to see the birds in your garden, don't forget to have plenty of Centaurea, Bachelor Buttons, going to seed. One corner of my garden is gay with yellow birds, the wild canaries, who sing sweetly as they feast.

Dead plants in the garden harbor disease. Keep the home garden clean.

In some of the papers are numerous requests for aid in getting rid of ants on the lawn. Just persuade a family of Flickers or Yellow Hammers to take up their abode near you. They will work from daylight until dark, tearing up the hill, greedily devouring both ants and eggs.

A feeding tray with crumbs and meat scraps near a bird bath is a wonderful help in coaxing the birds to remain in your vicinity. They like hospitality as well as folks. (We like to be invited out to dine. It rests us and makes us happier.)

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Postage stamps not accepted

COVER PAGE

"The Yucca"

Photo by the J. Horace McFarland Co.

FOREST OF FAME

During the past decade there has been developing within three quarters of an hour's ride from Madison a unique park planting which will beyond doubt become one of our most interesting spots to lovers of nature in this section of the country. From

1. John S. Donald, president of the Wisconsin Chapter of the Friends of Our Native Landscape, and originator of the "Forest of Fame" project.

the desire of a man to bring back to his native Mount Vernon, Wisconsin, some of the beauty of Mount Vernon on the Potomac, grew this unusual park plan. With this as a beginning the originator, John S. Donald, is adding to it as rapidly as possible with the hope of developing eventually a forest of historic interest.

The Forest of Fame at Mount Vernon, Wisconsin, is situated on a branch of Sugar River, the same direction and distance from the capitol of this state as is Mount Vernon, Virginia, from the National Capitol at Washington. It is in a beautiful, picturesque valley flanked with hills and rocks.

Ten years ago, after two attempts to grow here black walnuts, brought from the home of George Washington on the Potomac, had been made and had failed, a half dozen small elms and maples were secured from this historic place and were set out on the public square of Mount Vernon, Wisconsin. The schools of the township and a number of people from surrounding towns and Madison took part in the ceremony of the planting. These trees thrived and this was the beginning of the movement to obtain other trees from the homes of great men.

Since then trees have been obtained, set out and are growing in this park from the homes or birthplaces of Presidents Lincoln, Grant, Hayes and McKinley, also from the homes of Governors Rusk, Fairchild and Hoard. On May 14 of this year an elm tree from the home of Governor Farwell, a maple from

IN THIS ISSUE

the home of Governor Taylor at Cottage Grove, Wisconsin, and an elm from Governor Washburn's home at Madison, were planted. At this time also was set out a memorial elm from the LaFollette farm, and dogwoods from the Roosevelt estate at Sagamore Hill, Long Island, New York.

In addition to these trees from the homes of famous Americans there is a spruce tree from the American Expeditionary Force Headquarters of General Pershing at Chaumont, France, and a laurel willow from the birthplace of Joan of Arc, Domremy, France. Two Robinhood oaks from Sherwood Forest, England, have been grown from acorns secured from those historic trees. There are also the Babylonian, Norway, and Welch willows growing in the park.

Trees from the homes of a number of presidents, governors and other distinguished persons have been promised for planting in the near future. The "Public Square" has now been converted into a public park and incorporated, in order that the trees may have proper control and care. Each tree will be charted and permanently marked, and with other interesting additions from time to time, this park should ere long become a real "Forest of Fame."

2. Spruce from A. E. F. Headquarters, Chaumont, France.

3. The picturesque valley at Mount Vernon, Wisconsin, where the "Forest of Fame" is located.

USING ALOES TO KILL BIRCH BORERS

The article recently published in *Horticulture* about the experiments being made by H. B. Peirson, forest entomologist, in Maine, to determine the possibility of saving White Birches from the borers by using a preparation of aloes, has evidently aroused much interest because of the fact that White Birches all over the country are being killed by these pests. In a personal letter to an inquirer Professor Pierson says:—

The work which we are doing with aloes is still purely in the experimental stage, so that at present no recommendations are being made. Once, however, a White Birch is attacked by the bronze Birch borer, that tree is doomed, so that in case you wish to experiment with the aloes you cannot make matters any the worse.

A solution of one-half ounce of aloes to eight ounces of water is used. The holes bored into the trees should be about three-eighths of an inch in diameter and one and one-half inches deep. They should be placed about four inches apart around the trunk at breast height and must be on a slight downward slant, so as to hold the solution of aloes. This can be put in with a medicine dropper and the hole then sealed with paraffin to prevent evaporation or the entrance of fungi.

It would be my suggestion that you put the aloes solution in the trees right away. Of course limbs already dead will not come back to life, but the proof of the success will lie in the fact that no more limbs die. Dead limbs and branches should be carefully pruned off and the cut surfaces treated with a heavy lead paint. I would also advise fertilizing the trees rather heavily with a mixture of possibly bone meal and wood ashes, which should be placed in holes punched in the ground about two feet apart in a circle around the trees just underneath the outer part of the crown of the trees.

We are glad to welcome to our state society the Milwaukee County Horticultural Society. They are nearly a hundred strong now and still growing.

The common barberry spreads black stem rust in small grains during the spring and summer. It should be destroyed. The Japanese barberry is harmless and should be encouraged. A new purple barberry is now on the market which will not spread the stem rust.

HORTICULTURAL TROUBLES

Edited by S. B. Fracker, State Entomologist

INSECT ENEMIES OF THE FLOWER GARDEN

A recent Farmers' Bulletin (No. 1495) with the above title contains a great deal of valuable information for the gardener. Some suggestions of general interest are the following:

The enemies of plants are of many kinds and demand methods of control that vary somewhat according to the insect to be combated and the nature of the plant to be treated. It is therefore necessary that the grower recognize the manner in which the insects feed and the kind of insecticide that is applicable to each.

In some instances, particularly when flower-infesting insects are in question, it is extremely difficult to control the insect and at the same time to preserve the beauty of the flower. Insecticides, especially when improperly prepared, are sometimes too strong for tender foliage and delicate flowers and injury may follow their use. Promiscuous spraying is, therefore, not advised. Insecticides are seldom if ever beneficial to the plant itself, and are good and useful only in so far as they remove dangerous or destructive pests with a minimum of damage to the plant. Do not spray unless some insect appears as a potential enemy of the plant or is found actually injuring it. Where only a few plants are concerned it may be sufficient to pick off the infested leaves or to remove and kill the insects.

Certain preventative measures are synonymous with good gardening, such as clean culture and proper fertilization. All flower gardens should be well cared for and kept free of weeds, and the plants should be furnished with the necessities for development and such stimulation as will assist them to maintain a vigorous and healthy growth.

Insects That Eat Plant Tissue

Insects belonging to the plant-eating group, such as caterpillars and other wormlike forms, beetles, and grasshoppers, feed by biting or tearing, chewing and swallowing portions of the foliage and flowers of the plant, and are responsible for the most obvious and frequently noted type of insect injury, that is, defoliation. Such injury, although frequently not a menace to the life of the plant, detracts from its beauty and vigor. The insects treated in the following section are the most common and the most generally encountered representatives of the species which devour plant tissue.

Control such by spraying or dusting with arsenate of lead.

Stalk, Stem, and Root Borers

Several species of caterpillars have the insidious habit of boring and tunneling through the stalks and stems of fleshy and thick-stemmed plants such as dahlia, aster, zinnia, lily, hollyhock, peony, goldenglow, phlox, and delphinium.

The Stalk Borer

The stalk borer is the chief offender in the flower garden. Before it is discovered its work usually progresses to the point where wilting and breaking over of the plant occur. A close examination of plants so affected will disclose a small round hole in the stem, which is the entrance to its burrow. Splitting the stalk lengthwise, one may find the culprit, a slender striped caterpillar which when full-grown is an inch long. The parent moths occur in late summer and leave a pupal case in the burrows. They deposit eggs for the next season's brood on burdock and ragweed as well as on a variety of other plants.

There is no effective way of poisoning this caterpillar, as it is an internal feeder. The best remedy is clean cultivation and the burning of all stems, roots, and plant remains which are likely to harbor overwintering eggs. The growth of large weeds, especially the giant ragweed, should be prevented or they should be cut, raked together, and burned before the caterpillars contained within them can escape and migrate to garden plants near by. Removing the borers by slitting the stems lengthwise at the point of attack may be successfully employed. Cutting and crushing or burning the wilted tips is effective.

Blister Beetles

Many garden flowering plants, particularly aster, phlox, and gladiolus, are attacked by blister beetles, especially the black blister beetle. These beetles frequently occur in enormous numbers and ruin the plants infested. They usually appear after about the middle of June and their injury is accomplished in the adult stage.

Thorough spraying or dusting of the infested plants with an arsenical as soon as the beetles appear is recommended, although bagging or protecting with cheesecloth or mosquito bar may be resorted to for choice plants. According to H. F. Dietz, spraying the plants with nicotine oleate, a contact insecticide, 1 fluid ounce to 1 gallon of water, has proved successful in Indiana.

Mealybugs

Somewhat closely related to the armored scale insects described above is a group of soft-bodied sucking insects called mealybugs, which includes the short-tailed mealybug and the derive their name from the long-tailed mealybug. These fact that instead of a scale

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they are protected by a white, waxy, or mealy secretion that coats their bodies. This secretion is peculiarly protective against spray materials.

In combating mealybugs with sprays it is essential that the spray be applied forcibly. Sprays such as nicotine sulphate, soap, and water, or frequent and forcible syringing or spraying with plain water, will usually be found effective. As in the case of scale insects, dead, dying, and heavily infested, or less valuable plants that can be spared should be removed and destroyed by burning. On hardier plants either a 5% solution of kerosene emulsion, or the nicotine-fish oil soap solution which is recommended for the oyster-shell scale is a satisfactory remedy to apply.

Slugs and Snails

Garden slugs and snails are sometimes injurious to flower gardens and are usually unwelcome guests.

All decayed boards, debris, bricks, and old flowerpots which serve as hiding places should be removed and airslaked lime dusted liberally throughout the infested area. Moreover, a poisoned bait, such as boiled potato sprinkled with white arsenic or Paris green, should be distributed in this area.

In case of slugs collect the masses of translucent, yellowish eggs found in dark and damp locations and destroy them.

SPRAY RESIDUES

In Oregon they have been investigating the removal of spray residues from fruit and seem to prefer acids to mechanical methods.

In bulletin 226 just issued by that station, Professors Robinson and Hartman reach the following conclusions:

The removal of spray residue by wiping and brushing has not been entirely satisfactory. No form of mechanical cleansing thus far tested out has proved effective under all conditions.

Mechanical cleansing has resulted in more or less injury to the fruit.

Mechanical cleaning devices, in some cases, may also aid in the spread of decay organisms.

Experiments with solvents have shown that certain acids and bases will remove spray residue in varying degrees of effectiveness.

It is apparent, however, that only a comparatively few compounds offer possibility from a practical standpoint, and that under no condition can any solvent be used until an adequate storage test has demonstrated that no injury to the fruit results from its use.

Of the many compounds tested, none has proved to be superior to hydrochloric acid. This acid was found to be effective in removing not only arsenicals, but also such forms of residue as lead, copper and lime.

Hydrochloric acid has proved to be practically non-injurious to the fruit when properly used.

Other acids such as nitric, acetic, and sulfuric, while promising in some respects, have generally proved to be inferior to hydrochloric acid.

Although bases in general tend to remove spray residue, sodium hydroxide is the only basic compound discovered that successfully removed arsenate of lead under all conditions.

While this compound offers some possibility, it has proved to be generally less desirable than hydrochloric acid. When used at ordinary temperatures and at the same concentrations, sodium hydroxide has been no more efficient than hydrochloric acid in the removal of arsenate of lead and has been ineffective in the removal of copper and lime.

(Continued on page 183)

THE MARKET PAGE

Edited by William Kirsch, State Department of Markets.

TREND OF THE MARKET

Watermelons — Government reports indicate that the watermelon crop will be considerably lighter this year in the middle tier of states from Virginia up to New Jersey and across the country to California. Growers report total intended plantings of 34,000 acres compared with 50,000 in 1926 and 30,000 to 42,000 in other recent seasons. The biggest decreases are in southeastern Missouri and central California. Missouri may have but 10,500 acres or forty per cent less than last year.

Cantaloupes—Very encouraging prospects are reported by the Department of Agriculture for the Imperial Valley cantaloupe. Cool nights have retarded the crop and the shipments but the melons are developing excellent flavor and good size. A preliminary estimate in 19 intermediate cantaloupe states shows 43,110 acres, very little more than last year. Increased plantings in Arizona and Maryland are nearly offset by decreases in Arkansas and other sections.

Strawberries—The total indicated crop this season in commercial areas is about 330 million quarts, or 55 million more than last year. Of this total, early states had 48 million; the second-early group 92 million; the intermediate states 106 million, and ten late states may have 83 million quarts. The central states harvested many more berries than were originally expected after the April freeze. With favorable weather conditions Wisconsin should hit the peak of marketing about June 30. The outlook in Wisconsin is for one of the largest crops harvested in the state in recent years. Quality will be good and there is every reason to believe that the price will continue to be satisfactory to the grower. The largest strawberry producing section of Wisconsin is at Warrens, with Sparta second, Sturgeon Bay third, and a number of other smaller associations in other parts of the state.

Raspberries—The outlook for the red raspberry crop in the Bayfield (Wisconsin) section is very promising. A good crop is also reported in the Onekama district just across the lake in Michigan. Indications are that the crop will begin to move about July 15th to 20th. Both associations have perfected their sales organizations and have distributors who will handle the fruit direct from the grower.

Marketing of apples — Readers of "Wisconsin Horticulture" will be interested in the following information recently published by the Bureau of Railway Economics, Washington, D. C., regarding the production and marketing of apples in the United States.

According to the report of this bureau the production and distribution of apples is widespread throughout the United States. Practically every state raises apples. The large centers of apple production are in the northeastern and northwestern parts of the country. New York, the largest apple raising state in the United States, produces approximately 19 per cent of the total crop, while Washington, the largest apple raising state in the west and the second largest producing state in the country, produced 17 per cent. These two states together originated over 50 per cent of the total rail shipments in 1925, and furnished nearly 54 per cent of the number of cars unloaded in the 36 large markets.

New York City, the largest apple market, received apples by rail from 23 different states. Of the total receipts in that city, 48 per cent originated in New York state, over 25 per cent in Washington, and about 8 per cent in Virginia. Chicago, the second largest apple market, received apples by rail from 25 different states, 35 per cent of its unloads coming from Washington, about 22 per cent from Michigan, 15 per cent from Illinois, and 13 per cent from New York State.

The Apple Crop—The U. S. Bureau of Agricultural Economics reports that all indications point to one of the lightest apple crops in years. Generally the condition reported is lower than any June report in seventeen years, except in 1921. The uniformly heavy crop of last season resulted in a light bloom on some varieties which tend to bear in alternate years and, in many states, the crop was further reduced by late frosts. In Virginia, West Virginia and the South Atlantic States generally, only about one-third of last year's apple crop is now expected. In Arkansas and the other South Central states prospects are equally unpromising. The Western States report prospects for less than three-fourths of last season's apple crop. In the North Atlantic and North Central States prospects are still uncertain, but only about 60% of the 1926 production seems probable.

The 1926 crop has cleaned up better than expected. June 1 cold storage holdings amounted to only 227,000 barrels, 724,000 boxes, and 200,000 bushel baskets. Holdings in barrels were only slightly above those of a year ago and but little above average. Cold storage stocks in boxes were about one-third less than last season and slightly below the five-year average for this month. Baskets still were 60% more plentiful than in 1926.

Peaches—It is reported by the U. S. Bureau of Agricultural

Economics that the total production of peaches may be about one-third lighter than last year's heavy crop and 16% less than the five-year average compared with a normal crop, the combined condition of peaches throughout the United States was estimated at 52% while the ten-year average for June 1 has been 65%. Production is now forecast at slightly over 45,000,000 bushels, or 23,000,000 less than last year. Of this total, about 20,000,000 bushels, or nearly half, are estimated for California, where a large part of the crop is canned or dried. Georgia may have 5,655,000 bushels, compared with 9,400,000 in 1926, and a five-year average of 7,000,000. The crop forecast is much below last season's production in all the important states, and very light production is indicated for the Virginia, West Virginia, Maryland belt. North Carolina may have only one-half of the crop of 1926, or about a million bushels. New Jersey expects fairly heavy production of 2,500,000 bushels while Pennsylvania, New York, Ohio, Illinois, and Arkansas anticipate 1,000,000 or 1,500,000 bushels each. The condition of the peach crop was especially low in Michigan, Indiana, and Missouri and from South Carolina westward to Oklahoma and Texas, though Oklahoma may have more than last year. Colorado and Utah expect crops of average size, but Washington may have only one-eighth of the peaches harvested there in 1926.

During the middle of June, Georgia's movement was slowly increasing, as early varieties were nearly cleaned up. According to latest reports it begins to look as though the total output this season of Georgia's peaches may not reach the original estimate of 15,000 cars. Dry weather resulted in much small sized fruit among the earlier varieties. Recent rains, however, will tend to improve the later pickings.

(Continued from page 181)

The use of sodium hydroxide has resulted in more or less injury to the storage quality of the fruit.

The efficiency of solvents is affected by several factors, chief among which are: (1) the length of the treatment, (2) the concentration of the solution, (3) the temperature of the solution, (4) the maturity of the fruit, (5) the amount of agitation given, and (6) the spray program that has been followed.

The use of oil sprays along with the arsenate of lead apparently retards the action of the solvents, but does not make cleaning by this method impossible, provided a sufficient amount of time elapses between the date of application of the oil and the date of treatment.

The use of "spreaders" or "deflocculants" apparently does not interfere materially with the action of the solvents.

It appears that any brand of arsenate of lead used as a spray can be effectively removed by the hydrochloric acid treatment.

The possibility of using a disinfectant along with the solvents is being investigated by the Oregon Experiment Station.

Fruit packed at various stages of wetness following the washing treatment has given varying results. A small amount of moisture appeared to do no harm in cases where the fruit to begin with was comparatively free from contamination and decay.

Hydrochloric Acid

Of the many compounds tested, none has proved to be superior to hydrochloric acid for the removal of arsenic. When used at concentrations varying between one-fourth and two percent (actual acid), this compound has been found to be very effective in the removal of arsenical residue from both apples and pears. From 89 to 99 percent of the arsenic was removed by the hydrochloric acid treatment. This experience has not been confined to laboratory tests alone, but has been duplicated by practical experience on a fairly large scale. Indications are that this acid will prove even more efficient when adequate washing devices are perfected.

Removal of lead. From a limited number of analyses, it appears that hydrochloric acid removes not only the arsenic from the fruit, but is also effective in the removal of the lead, even when a considerable amount of lead was present before treatment, the amount remaining after treatment was so small that it could not be accurately weighed. The only instance where the lead content was fairly high after treatment was in the case of Delicious apples which had received excessive amounts of spray and which had developed a large amount of wax before treatment, the wax undoubtedly retarding the action of the acid. Even in this case, however, approximately 71 percent of the lead was removed by the treatment.

From these tests it appears that hydrochloric acid removes arsenic and lead in about equal proportion. In other words, when 95 percent of the arsenic is removed by hydrochloric acid, it can be assumed for practical purposes that 95 percent of the lead is also removed.

Removal of copper and lime. Experiments with hydrochloric acid have shown that this compound is very efficient in removing copper and lime such as may remain on the fruit from applications of bordeaux during the season. The data show that this acid removed all traces of copper and lime, even when these materials were on the fruit in fairly large amounts.

Effects of hydrochloric acid on the fruit. Aside from the matter of efficiency in the removal of spray residue, hydrochloric acid has proved to be practically non-injurious to the fruit when properly used. In all cases the treated fruit presented a clean, attractive appearance.

It must be borne in mind, however, that any solvent of sufficient strength to dissolve spray residue is apt to cause injury to the fruit if used at excessive concentrations, at too high temperatures, or for too long a time. In the case of hydrochloric acid, however, the margin of safety is sufficient to insure good results when the necessary precautions are taken. If the recommendations given in Table XV, regarding the amounts of acid to use, are adhered to, no injury should result from the hydrochloric acid treatment.

No neutralizing bath is necessary unless efficient rinsing cannot be done following the use of the acid. Where plenty of water is available, the neutralizing bath should not be necessary.

Aside from those already considered, hydrochloric acid has other desirable characteristics that should be mentioned. First, it is a comparatively cheap chemical and can be obtained in large quantities. Second, it is effective at low temperatures, a factor of no mean importance in deciduous fruit regions. Third, it is a non-oxidizing compound, and therefore is not apt to cause discoloration, especially to injured tissue in stem punctures or like abraisions. Fourth, it is a volatile substance and disappears of its own accord in cases where rinsing has not been thoroughly done. This being true, there is practically no chance that in case of improper washing the acid would reach the consumer. Fifth, it is readily removed from the fruit following treatment. Sixth, it is not a disagreeable material with which to work.

The commercial hydrochloric acid available for the treatment of fruit may be obtained from any wholesale dealer in heavy chemicals. The commercial product is usually called Muriatic acid and is shipped in standard-sized 12 gallon carboys. These should be labeled or marked 20° Baume, indicating about 32 per cent actual acid. To make a one-percent solution, therefore, it is necessary to use approximately 3 gallons of the commercial product to 100 gallons of water. Table XV. shows the gallons of commercial acid that may be used per 100 gallons of water, depending upon the time and temperature factors. Commercial hydrochloric acid is usually brownish in color and contains certain impurities among which is a trace of arsenic acid. This is so small, however, that it need not be considered. The high grade hydrochloric acid generally referred to as "C. P." or chemically pure contains about 37 percent actual acid. This is also available in 12-gallon carboys but is much higher in price. It is not necessary to use this grade of acid.

Since only a very small amount of the acid actually reacts with the residue, the hydrochloric acid bath loses but little of its efficiency with repeated use.

Tests over a 16 hour period, where about 1000 boxes of apples were put through the same bath, showed practically no decrease in the concentration of the acid when the above additions were made as required.

Keep the garden cultivated throughout the summer.

TABLE XV. AMOUNTS OF HYDROCHLORIC ACID THAT MAY BE USED WITH SAFETY AT VARIOUS TEMPERATURES AND FOR VARIOUS PERIODS OF TIME.

Length of immersion (minutes)	Temperature of solution (F.)	Acid concentration (approximate percentage).	Gallons of commercial hydrochloric acid per 100 gallons of water
10	50	.37	1.1
5	50	1.0	3.1
1	50	2.3	7.1
½	50	2.7	8.1

PROTECTING HOLLYHOCKS FROM RUST

It is not too late to set out Hollyhock plants, and good results are obtained if young plants are used. The new Allegheny Hollyhocks are particularly satisfactory, having very large flowers with loosely arranged and fringed petals. Hollyhocks should always be given a sunny situation and reasonably rich soil which is not very heavy. The main difficulty in growing Hollyhocks in recent years has been found in the presence of rust, which often spreads over entire plants, quickly killing them. Frequent applications of bordeaux mixture will be helpful, but cannot be depended upon for complete immunity. It is very important to examine the plants often when they are young, and to immediately remove any foliage on which the rust-pustules appear. It is necessary to look on the under side of the leaves, where the first evidence will be found. Not only the leaf itself but the leaf stem too should be carefully removed and burned. The plants may look ragged as a result of this treatment, but in no other way can the trouble be kept from spreading. After the season becomes well advanced, there will be but little trouble, provided that early precautions have been taken.

To control maggots on radishes, cabbage, and cauliflower use corrosive sublimate in the proportion of one part in 1000 parts of water or an ounce in eight gallons. Apply it about the base of the plants with a sprinkling can which has had the rose removed.

For best results use an inch cube of ivory soap with each gallon of nicotine spray for aphids on rose bushes, cabbage plants, etc.

LIBRARY PAGE

GOVERNMENT PUBLICATIONS

DISEASES AND PESTS OF FRUITS AND VEGETABLES.
Pp. 150, il. *(Yearbook Separate No. 929).* Price 25 cents.

The illustrated text of the 1925 Agriculture Yearbook on the subject of the diseases and pests of fruits and vegetables has been reprinted as a separate, with the thought that this information should have a wider distribution than could be given by the distribution of the entire Yearbook. This separate constitutes a textbook and handbook on the diseases and the latest methods devised for the control of them. The subject matter is considered under several headings: (1) Fruit diseases and their relation to the fruit industry, (2) fruit insects and their economic importance, (3) diseases of vegetable crops, (4) the insect enemies of vegetables, (5) the relation of nematodes to the fruit and vegetable industries, (6) the birds, mammals, and other animals in relation to fruit and vegetable production. The control of diseases as now practiced involves many different methods. Some diseases are controlled by a single method, but usually a combination of two or more methods is required for best results. The separate discusses spraying or dusting with fungicides, disinfection with germicides and fungicides, eradication, quarantine, breeding and selecting resistant or immune varieties, and cultural handling and storage. (The edition for free distribution is limited; free copies may be obtained as long as the supply lasts, by request to the Department of Agriculture, Washington. When the free supply is gone copies can be obtained only by purchase.)

CRANBERRY DISEASE INVESTIGATIONS ON THE PACIFIC COAST. By Henry F. Bain, assistant pathologist, office of fruit diseases, Bureau of Plant Industry. Pp. 29. November, 1926. *(Department Bulletin 1434D.)*

Reports the first extended studies of the diseases of cranberries in Oregon and Washington. Includes a detailed summary of field and storage experiments made from 1922 to 1925. The various diseases of cranberries found on Pacific coast bogs are described and their relative importance noted. Control measures are given when known. Since it furnishes material for the first careful comparison of cranberry disease conditions on the Pacific coast and other cranberry-growing regions, the bulletin is of especial importance to students of cranberry problems and those interested in the distribution of plant diseases. The material is handled in semitechnical manner. The bulletin is of interest to cranberry growers in all parts of the country, although its practical use is limited to the Pacific coast.

FISH OIL, AN EFFICIENT ADHESIVE IN ARSENATE OF LEAD SPRAYS. By Clifford E. Hood, assistant entomologist, gipsy moth and brown-tail moth investigations, Bureau of Entomology. Pp. 22, figs. 16. November, 1926. *(Department Bulletin 1439D.)*

This bulletin, semitechnical, gives the results of a series of experiments conducted with various substances, to find one which would prove to be an efficient adhesive for arsenate of lead sprays. Fish oil was found to be the best, considering its efficiency and cost, of any of the substances tried. It should be added as an adhesive to arsenate of lead sprays for the control of leaf-feeding insects on woodland, shade or other trees.

DISEASES OF CABBAGE AND RELATED PLANTS. By J. C. Walker, pathologist, office of vegetable and forage diseases, Bureau of Plant Industry. Pp. 30, figs. 14. February, 1927. *(Farmers' Bulletin 1439F.)*

This bulletin, nontechnical, discusses the diseases of cabbage. It was written primarily for the use of growers, canners, county agents, and teachers. Reference is made to cases where specific diseases also occur on other plants closely related to cabbage. Each disease is treated separately as to symptoms, cause, and control. There is a general discussion of how the diseases are disseminated, and recommendations are made for modifying of farm practice to reduce losses from disease. A descriptive list of the yellows-resistant varieties of cabbage in commercial use is included.

Seeds and Plants Imported by the Office of Foreign Plant Introduction, Bureau of Plant Industry, During the Period from October 1 to December 31, 1924. (S. P. I. Nos. 61738 to 62230.) Pp. 30 April, 1927. *(Inventory 81.)* Price 5 cents.

TREE FAMILY GROWING; FIND 573 NEW ONES

It's a surprising number even to those who know that America has 10 or 15 times as many different kinds of trees as Europe.

Well, here's the answer. There are 1,177 kinds of trees in the forests of the United States. This amazing number of species is contained in the check list of forest trees just issued by the United States forest service.

Upholding the reputation of the country for constantly creating new things, our forests in the last 30 years have on the face of the returns, produced 573 new kinds of trees, the total given in the forest service check list of 1898 being only 604 tree forms.

Five hundred and seventy-three new varieties of trees have been added to the record of our forests, but one has been lost. That is the Franklinia, beautiful flowering tree named for Benjamin Franklin. Foresters scouring the country for new tree varieties have failed to find any trace of the famous "lost tree." The Franklinia, discovered in Georgia in 1765 and not seen there since 1790, seems to have completely disappeared and today exists only in a few places under domestication. Many of the original trees were dug up by nurserymen and it is now generally believed that the tree disappeared from the wild forests through transplantation.

Among the 573 additional tree varieties discovered in the last 30 years, on the other hand, are a number of newcomers which have gone wild. They are foreign trees which have escaped from cultivation and established themselves without the aid of man. A number of them are aggressive and persistent growers. Particularly so are the paper mulberry, pear, apple, peach, cherry and European white poplar. Many of the alien trees have found suitable soil and climatic conditions within our borders and are becoming very much Americanized.

The multiplicity of names of trees is doubtless due to their intimate association with our daily lives through their products. There are almost as many specific uses of wood as there are tree names and more are being discovered almost daily.

Ten years ago the Forest Service found that wood was used for 2,000 purposes. A survey recently made by the National Lumber Manufacturers' Assn. shows that today there are 4,600 uses.—Milwaukee Leader.

Flowers improve the appearance of the farmstead.

THE FLORIST'S PAGE

Edited by Huron H. Smith, Curator of Botany
Public Museum, Milwaukee, Wis.

MILWAUKEE IRIS SHOW

It was with considerable pride that the Milwaukee County Horticultural Society was able to announce their Second Annual Iris and Spring Flower Show in the Museum Annex Sunday to Tuesday, June 12th to 14th. Some kinds of iris parade under the name "Flags", and June 14th was our national Flag Day. With the increasing membership, there were more exhibitors than at the first show. Then, there were six and this time twenty-five, as will be seen in the appended list of exhibitors.

Iris was easily the main attraction of the show, but some early peonies found their way to the show, and there were sufficient entries of oriental poppies to merit the awarding of stock prizes in those two groups. Some 6000 people viewed the show Sunday afternoon, but no record was kept of the visitors Monday and Tuesday. At the close of the show, the exhibits were turned over to the Milwaukee plant, flower and fruit guild, who opened their year in the Plankington Arcade Wednesday. Their function is to make up bouquets for the shut-ins, hospitals and poor people of the city and distribute them, so our show did double service.

Prize winners were: Mrs. C. Pohlmann, 4810 Wells St.; E. J. Schulte, West Allis; Miss Martha Krienitz, West Allis; and an unknown exhibitor. In addition Mr. Burmeister is making a special medal award for the best exhibit of iris in variety, which will be the first medal of the society and it was won by Miss Martha Krienitz, our capable secretary. Besides the regular exhibits, there were quite a number of other spring flowers shown, lilies of the valley, pansies, coral bells, collections of rock plants, columbines galore, dianthus, forget-me-nots, pyrethrums, Lotus corniculatus, Siberian wallflower, Iceland poppies, quantities of sweet rocket or Dame's Violet, bridal wreath, weigelas, verbascum or mullein, garden valerian, Shasta daisies, Linaria, Lemon lilies, lupines, bleeding heart, saponaria, Hansa rose, Centaurea montana, annual centaureas, buttercups, other lilies, blue salvia, ribbon grass, candytuft, and Cerastium tomentosum. Several mixed bouquets and tiny corsages were shown. James MacGregor, of Forest Home Cemetery, sent in the most perfect Gloxinia plant we have ever seen, with nearly three dozen gorgeous blooms.

The reaction of the public was quite as marked at this show as at last year's. All the extra scratch paper left down there was used and the botanical staff was kept busy interpreting the numbers of the exhibitors cards, to anxious fanciers who wanted to get a start of some variety that took their eye. Of course, it attracted several new members to the society, which now crowd the hundred mark.

At the last meeting on May 25th, the society voted to increase the annual dues to a dollar a year, fifty cents to be spent in a club membership in the Wisconsin State Horticultural Society. The subject of the meeting was peonies. Five members were on the program. Miss Celia Dix gave the nature poem; Frank Giloth gave the history of the peony; Louis R. Potter discussed the varieties of peonies; Louis A. Burmeister, Jr., gave the culture of the peony; and Huron H. Smith substituted for Mrs. M. Kranzchak upon the diseases of peonies. A bulb show was held by the society on Sunday, May 15th to 17th. According to the rules of exhibition, no prize is awarded unless there are six entries in a class. Although it was a good sized show, Mr. Burmeister was the only prize winner, with his early tulips. Prizes in competition are $3.00, $2.00, and $1.00 for 1st, 2nd and 3rd, and where awards are made on meritorius exhibits not in the prize money, these prizes are orders for stock from two $25.00 donations by W. A. Toole, of Baraboo, and N. A. Rasmussen, of Oshkosh. Some such winners were awarded prizes during the iris show.

A pilgrimage to the Cooper Peony farms near Kenosha is scheduled for Sunday afternoon, June 19th. June 26th, a peony show will be held, as many members report that this date will suit them. The purchasing committee has been quite busy buying pooled orders for stock for the members. This consists of L. R. Potter, F. Giloth, and Mrs. C. E. Strong. The treasurer reported an accumulation of over $68.00 above expenses at the last meeting, most of which will be used for prize money during the coming shows. The June meeting is scheduled for 4 P. M. June the 26th, during the peony show, and E. L. Chambers, Secretary of the Wisconsin State Horticultural Society will speak on diseases of garden flowers.

EXHIBITORS AT IRIS & SPRING FLOWER SHOW, 6-12 '27

1. Unknown, Irises, 2 varieties, Oriental poppies.
2. John Cargill, S. Milwaukee, 6 varieties iris.
3. I. J. Schulte, West Allis, 3 varieties iris, 1 Oriental poppy, Anemone canadensis.
4. Forest Home Cemetery, Gloxinia.
5. Mabel Thoms, Lillies of the valley and pansies.
6. A. S. Hill, Wauwatosa, Mixed iris, Siberian Iris, Heuchera Rock plants, Columbine.
7. Mrs. Pauline Meyer, 1130 44th St., Dianthus and forgets.
8. Dr. H. Nolte, 167 Ring St., Oriental poppies, peony, and columbine.
9. Miss Celia Dix, 215 Graham St., German iris.

10. Mrs. E. Paak, 1174-28th St., Pyrethrum and Lotus corniculatus.
11. Mrs. Arthur Jaeger, 1240 26th St., Caprice iris, wallflower and columbine.
12. Wm. H. Timm, 898 15th St., Vase mixed iris.
13. Mrs. John Arend, R. 4, Box 573, West Allis, Iris, Iceland poppy, pyrethrum, columbine, pansies and bridal wreath.
14. Mrs. C. Pholmann, 4810 Wells St., Iris, Verbascum, Columbine, lilies.
15. Wm. Arend, 615 Woodlawn Ave., Sweet Rockets, white and purple.
16. Mrs. Wm. Weck, 8005 National Ave., Shastas, Columbine, Valerian, Rockets, Linaria, pyrethrum, forgets, cornflowers, pansies, iris, and Oriental poppies.

4. Some Prize Winning Iris at the Milwaukee Show.

17. Mrs. R. Malisch, Hales Corners, Lemon lily, lupine, forgets, saponaria, sweet rockets.
18. Mrs. J. H. Paul, Hales Corners, Iris, Oriental poppies.
19. E. J. Schulte, R. 4, West Allis, Pansies, Oriental poppies, Pyrethrums.
20. Miss Martha Krienitz, West Allis, 37 varieties of iris.
21. W. P. Arbuckle, 1377 Prospect Ave., Oriental poppies, peony, Rockets, corsages.
22. Mrs. I. Krainik, 624 Homer St., Lemon lily, Hansa Rose.
23. Mrs. C. E. Strong, West Allis, Vase iris, Centaurea montana, annual Centaurea, Siberian Wallflower, Rock plants, buttercup, lily, Salvia, Shastas, Forgets, Coral Bells, rockets, Ribbon Grass, columbines, candytuft, pyrethrum.
24. Mrs. C. E. Wheeler, 714 Stowell Ave., Mixed iris, Cerastium and Columbine.
25. Miss D. Rostad, 902 Superior St., Siberian iris, iris, mixed bouquet, mixed rock garden plants, Oriental poppy.

THINNING PLUMS

Thinning plums is a practice comparatively new, according to Prof. W. T. Macoun in Canadian Department of Agriculture Bulletin Number 45. Plum orchards have increased so much, however, in size and number that the competition has been keener and prices lower, and in consequence the most advanced growers are now thinning their fruit, and find it profitable to do so, since the prices obtained for the larger fruit more than compensate for the labor required in thinning. Furthermore, if part of the fruit is picked when green, it does not have to be picked when ripe, so there is little extra handling.

Some varieties of Plum trees bear very heavily, and this is particularly true of the *Americana* varieties. In consequence, the fruit when thinned is much smaller than it would be if there were less of it, and the drain upon the vitality of the tree from the production of so much seed shows itself before long,

and it frequently happens, especially in poorly-tilled and poorly-fertilized orchards, that trees literally bear themselves to death.

The time to thin is after the fruit is well set and when it is fairly certain what the crop is going to be. There is always a dropping of Plums during the month of June, caused principally by improper pollination, natural thinning, and injury from curculio; and as soon as possible after these have thinned the crop, hand thinning should be done. The *Americana* Plums fruit so heavily, that, in an experiment conducted at the Wisconsin Experiment Station, it was found that nearly four-fifths of the crop should be removed in order to get really satisfactory results. When *Americana* Plums were thinned as heavily as this, the fruit was left about two inches apart, which was found a good distance in the experiment, but a greater distance was suggested. Experiments in thinning *Americana* Plums at the Central Experimental Farm resulted in the thinned fruit when ripe being considerably larger than that unthinned.

Some varieties of European and Japanese Plums are left as much as six inches apart by fruit growers, and at this distance profitable crops are said to be obtained of fruit of the best quality. From one-fourth to one-half the crop should be removed in thinning. The most profitable distance apart to leave the Plums will be largely governed by the variety. Some varieties will not need thinning at all, and even where trees are bearing heavily, the scarcity and cost of labor may prevent the profitable thinning of the fruit.

—*The Flower Grower.*

Choose vegetable varieties that will give fresh food over as great a part of the growing season as possible.

DEMOCRAT PRINTING COMPANY
MADISON, WISCONSIN

WISCONSIN HORTICULTURE

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DUNN COUNTY COOPERATIVE FRUIT GROWERS' ASSOCIATION

By D. P. HUGHES

The Dunn County Cooperative Fruit Growers' association was organized in 1926 and secured its Articles of Incorporation in April of that year. Prior to the forming of the present association, there was a small number of growers in Menomonie who had a local shipping association for selling the surplus strawberries. Mrs. Tarance Fuller was secretary of this association.

The purpose of the Dunn County Cooperative Fruit Growers Association is to aid its members in marketing fruit and in buying the supplies used in marketing.

The organization is made up of local groups. One of these is at Colfax, one at Downing and the other at Menomonie. Each local association has two representatives on the executive board.

In 1926 there were seventy-four members in the association. These were mainly interested in strawberries and cantaloupe. Most of the members had less than an acre of strawberries; but a few had from two to four acres.

During the strawberry season and the melon marketing period, a manager was hired to handle all sales of the association as well as to purchase supplies.

In 1926, at Menomonie, the local organization cooperated with the retail stores and sold all berries directly to the retailers. The surplus was shipped to northern Minnesota each day. During this first year there were 1000 crates sold at an average price of $2.60. A fee of ten cents per crate was deducted for operating expenses. All the berries were sold by the manager at the office. Any merchant wishing berries would call the office and get his required amount for the day. If there were any left over, they were shipped to Duluth or some other city.

One hundred and fifty acres of the Milwaukee Market Musk Melons were planted in Dunn County in 1926. Before planting the melons, many of the growers applied a 3–8–6 fertilizer. The melons were almost a total failure due to the weather conditions as the wet, cold fall prevented ripening. On many fields there was a good stand of melons, but they did not mature. Many of the melon seeds failed to germinate because of the heavy rains and cool weather after planting. The cut worms did considerable damage also.

The members of the Dunn County Cooperative Fruit Growers Association were well pleased with the marketing of the strawberry crop. Prices at Menomonie were from fifty cents to one dollar a crate higher than in adjoining towns. As a result, several of the outside growers came to Menomonie to sell berries. The retail stores, with few exceptions, however, remained loyal to the association and bought but little from outside growers.

During the 1927 season, the strawberry crop was larger than in 1926, and as a consequence, the marketing problem was more difficult. The local market was flooded with outside berries of inferior quality. These were sold to the retail stores at a much lower price than the price set by the association. As a result, the Dunn County Cooperative Fruit Growers Association had to ship nearly all of the berries. These sold at an average price of $1.94 per crate. The volume of business was larger in 1927. In 1926 the association handled 1000 crates and in 1927 there were 3000 crates sold.

Strawberries would have sold at prices ranging from one dollar to fifty cents per crate less if there had been no cooperative shipping association. Supplies were purchased in carload lots, thus saving the members some money in that direction.

The greatest need of the organization is a larger acreage. At present there are about thirty acres of bearing berries. The members are increasing the size of their plots and it is hoped that there will be more than fifty acres grown within the next three years.

From far away Australia come some interesting sidelights on advertising with reference to the fruit trade. We are quoting in full the following short article from "The Fruit World of Australasia."

WHAT ADVERTISING HAS DONE FOR THE FRUIT TRADE

An advertising outlay of £40,000 resulted in an increased expenditure of two million pounds on fruit last year according to official figures supplied by the Board of Trade to the Fruit Trades' Federation.

During the year the public spent £34,789,219 on fresh fruits—almost exactly £2,000,000 more than in 1925, and nearly £3,000,000 more than in 1924. The heaviest increase, both in consumption and expenditure, was in Apples, the import value of this fruit being £9,561,921 in 1926 and £7,541,961 in 1925. Thus the increase in expenditure for the year was £2,019,960. The increase in consumption was 2,294,830 cwt. There was a falling off in the popularity of Nuts, Plums, Strawberries and other small fruits.

According to the Federation the average consumption of the various fruits was as follows:—

	1926	1925	1924
Apples	93	84	85
Oranges	67	66	53
Bananas	52	45	42
Lemons	15	14	12

"I do not think the commercial world can show any finer example of the enormous power of advertising than this," said Mr. Charles Wray, President-elect of the National Federation, in an interview with a press representative. "It cost the Federation £40,000 to say "Eat more fruit" last year, but the returns show that the expenditure was justified a hundredfold. The industrial condition of the country during the past three years would have been calamitous to the fruit trade without steady and consistent advertising. In a word, advertising has saved the day."

THE HIGH-BUSH CRANBERRY

By Fannie M. Heath

At last this good shrub is coming into its own, and the mystery that has surrounded it has been cleared away. The puzzling question of why some High-Bush Cranberries were very good for the making of jams and jellies and others were not, was found to be owing to whether we had the American or the European variety. Just why these shrubs which are identical in every other respect should be, oh! so bitter on the European side of the Atlantic, and only slightly so on the American side is a puzzle that I am going to leave for the scientists to solve. But to prove the certainty or accuracy of this assertion one has only to taste the two fruits to be instantly convinced. Since earliest childhood I have known the American variety of this fruit and my parents and their parents before them made delicious jams and jellies from them, and for years we have been raising and selling the berries here in our local market, so it was very hard for me to believe that they were unfit for use.

To Dr. George Darrow, of Washington, D. C., I believe belongs the credit of discovering the exact cause. Another surprising fact is that most of these bushes that have been sent out by our American nurserymen were the European variety and thus they have been scattered to all parts of our country where nursery stock is grown, and even though one may have dug their plants from the wild, they may still have the European variety for birds carry the seeds a considerable distance and wild bushes spring up and flourish and produce their kind.

Yet the American is native to a large part of our country and is found wild in most of the states along our northern border from the Rocky Mountains to the Atlantic; and its fruits have long been in use as a substitute for the Swamp Cranberry (Vaccinium macrocarpon) though the latter is a dwarf little plant growing only a few inches high. The fruit is superior in every way to that of the High-Bush Cranberry for some do not like the flavor or odor of the latter. I have found that by using the fruit before it starts to get soft that it will jell much more quickly; make more and better jelly; and be comparatively free from the strong Viburnum odor that some object to.

The berries may be used at varying stages of ripeness and each stage will give its own particular shade and flavor of jelly. Or the juice may be used in combination with other fruit juices and give excellent results. When used half and half with Rhubarb juice (which will not jell alone) a clear firm jelly of delicious flavor will be the result.

The berries are about the size of red currants and run from five (5) to sixty (60) in a cluster.

If one wishes the bushes for ornamental purposes only, then it is immaterial which variety one gets for both are exactly alike in appearance and it is impossible to tell one from the other except by the taste of the fruit.

If I could have but one shrub I would choose the American High-Bush Cranberry as it possesses more points of merit than any other shrub with which I am acquainted. In congenial quarters it will grow into immense clumps eight or ten feet high and as many across; or it may be kept pruned into a regular little tree or low shrub as it seems not to mind pruning in the least. Its light gray bark makes it a clean, neat-looking shrub in winter. It is very handsome in late May or early June when robed in its mantle of snowy whiteness. Each little twig is tipped with a flat cyme or cluster of tiny white blossoms edged with a row of large sterile ones that are exactly like a Snowball blossom. The center blossoms are much like the Cornus or Dogwood blossoms, only the Cornus have four points and the Cranberry five to each tiny flower. The berries are rather pretty in all stages of development as they turn from a rather light green to many shades of yellow and scarlet; and lastly a rich, glowing ruby-red.

If allowed to do so, the berries will remain on the bushes throughout most of the winter thus adding a very pleasing touch of color to the winter landscape. Ours are never permitted to do this for they are either made into jelly or eaten by the birds before winter arrives.

They will grow in most any reasonable soil or location, but to do their best should have an abundance of water especially in the early part of summer; and are ideal for planting in that low, wet corner that has been such an irritation. I would advise all to plant our own Viburnum americanum for they are in every way the equal of the European variety, besides having the added value of the edible fruit; and even though one does not care personally for the berries for culinary purposes, the very fact that they may be used, adds greatly to the value of any planting. Our own little patch of one-thirteenth of an acre, yields us an average of about twenty-five dollars clear profit yearly from the sale of the berries alone. This would mean an average of three hundred and twenty-five dollars per acre.

Our patch receives almost no attention other than the picking of the berries, as the ground is so shaded by the bushes that very few weeds can grow beneath them. The bushes are much improved by having the old bushes cut out occasionally. Where this is done, new, vigorous, bushes very quickly take

(Continued on page 207)

DAHLIAS

There is located in Rock County, a well known grower of dahlias, J. T. Fitchett, Janesville, who has gained state-wide prominence by his ability to grow quality dahlia stock. A printer by trade, and a man very interested in civic affairs, dahlia growing has been a side-line with him, but a side-line carried on actively for twenty-seven years is quite apt to develop into a rather flourishing business, and the Fitchett Dahlia Gardens in "blossom-time" are worth going miles to see.

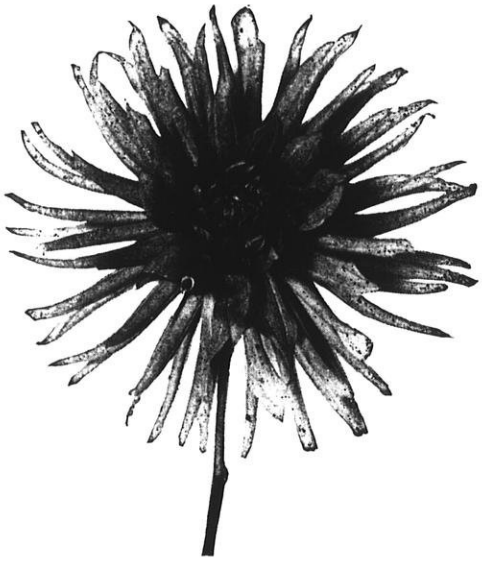
PEONY TYPE DAHLIA

Perhaps there is no other flower with the gorgeous and remarkable variations in shape and size and shade and color that the dahlia has. The Dahlia is a native of Mexico and South America, and in its wild state is a single flower of red, yellow or purple, small but brilliant. From this little daisylike flower, cultivation of which was first started in the 17th century, a magnificent group of flowers, including about 6000 named varieties, has been produced. The dahlia varies in size from an inch to a foot in diameter and takes on more forms than any other flower, resembling the cosmos, daisy, poinsettia, clematis, zinnia, aster, cactus, peony and several others. The outstanding types perhaps are the peony, cactus, and show type, illustrations of which are shown on this page.

Mr. Fitchett has tried out between 75 and 100 new registered varieties annually and developed many seedlings, but he has never attempted to introduce a new variety of his own production since he feels that there are already enough varieties on the market, many of them so similar that it is difficult even for the expert to differentiate between them.

During a recent visit at the nursery in Janesville the writer was shown a full row of choice plants in bloom, exhibiting a wide variation in color and shade, all grown from the seed of the same blossom.

The writer also saw, in the course of a visit last November, growing in flats in the greenhouse, some 2500 cuttings which



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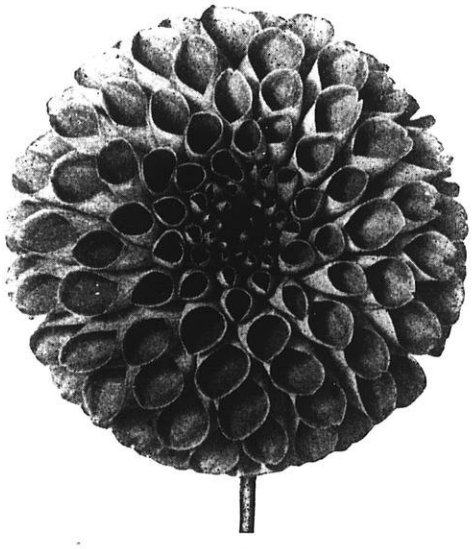


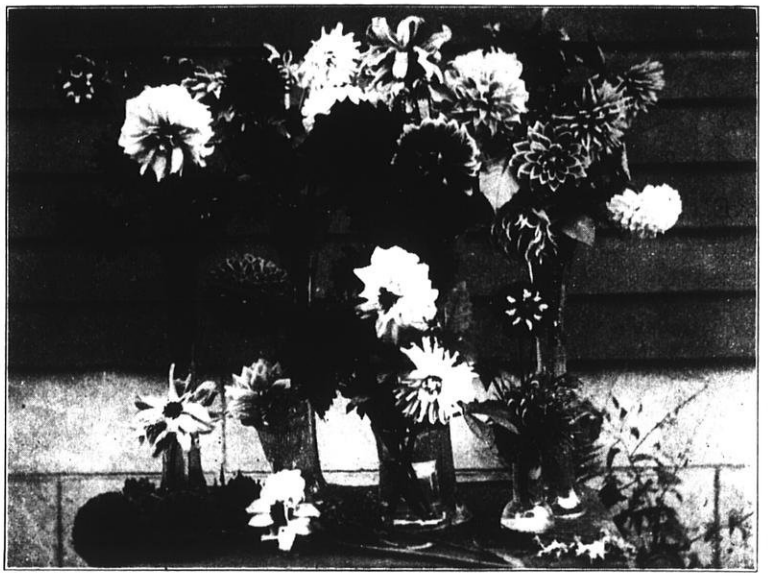
SHOW TYPE

were secured after the frost in early October, shoots that sprouted following a severe frost earlier in the fall. On this last visit of a few days ago I was shown some enormous, stocky plants, fine specimen plants in the height of their bloom, grown from these same cuttings seen last fall. Upon inquiry, I was informed that Mr. Fitchett's method of procedure consisted in forcing these cuttings with bottom heat until about the middle of January, then allowing them to dry off and storing them in a frost-proof cellar until planting time this spring.

Propagating dahlias from cuttings has many advantages, chief among which are probably that offspring can be developed that are identical with the parent and a process of multiplication of a new variety from a few tubers can be enormously speeded up. Other advantages not to be overlooked are that the grower can utilize these cuttings for his own plantings and thus release a greater number of his tubers to the trade. Where dahlias are troubled with such root troubles as the nemetode this trouble can be entirely avoided by the use of cuttings in sterile sand planted on new soil the following spring.

Many people find dahlia growing difficult, and even an experienced grower has his troubles sometimes. One of Mr. Fitchett's chief "pest" trouble is with the common stalk borer, which enters and kills out the leader if not found in time. He handles this situation where his choice plants are affected by watching for the characteristic borings around the plant, running a fine piece of piano wire down the stalk, and pulling out the borer without injury to the plant.

Another pest he has to contend with is the potato leaf hopper which causes the well known hopperburn on dahlias. This he has been able to control with bordeaux mixture (4–4–50) applied thoroughly on the under side of the foliage. This treatment serves as a repellant rather than as a contact spray.



GROUP OF DAHLIAS

"SMALL CHERRY" TROUBLE MAY BE DUE TO SPRAY

The condition commonly called "small cherry" by growers, in which the fruit is dwarfed and may shrivel up and drop from the tree, is not due to disease but is the result of too heavy application of acid lead arsenate in the regular spray mixtures; according to the opinion of W. O. Gloyer, plant disease specialist at the New York Experimental Station, at Geneva, N. Y. Mr. Gloyer has made a special study of this trouble in English Morello cherries, which seem especially susceptible to this form of injury and a report of his experiments, telling how "small cherry" may be avoided, may be had free of charge upon request to the station.

Bird baths serve a dual purpose, they are ornamental and attract the birds, always welcome in a flower garden for their aid in keeping down insect pests.

NO MORE PYROTOL AFTER THIS YEAR

The Bureau of Public Roads has entered upon its seventh year, and probably its last year, in the distribution of war-surplus explosives to farmers for agricultural work. More than 55,000,000 pounds have so far been distributed, with the cooperation of the agricultural colleges and other State organizations. State allotments for the fiscal year 1928 have been made. It is planned to close out the remaining agricultural pyrotol by April 1 of next year. Persons interested in taking advantage of this last opportunity to obtain a supply of good stumping explosive should communicate with their county agricultural agent or with the extension service of the agricultural college of their State.

Absolutely inert sand, requiring from eight to ten years to be modified to a point where even grass will grow, covers several miles of the finest and best developed farming land of the Mississippi delta, and is one of the tragic results of the devastating Mississippi valley flood.

THE FLORIST'S PAGE

Edited by Huron H. Smith, Curator of Botany
Public Museum, Milwaukee, Wis.

AXEL JOHNSON, LAKE GENEVA

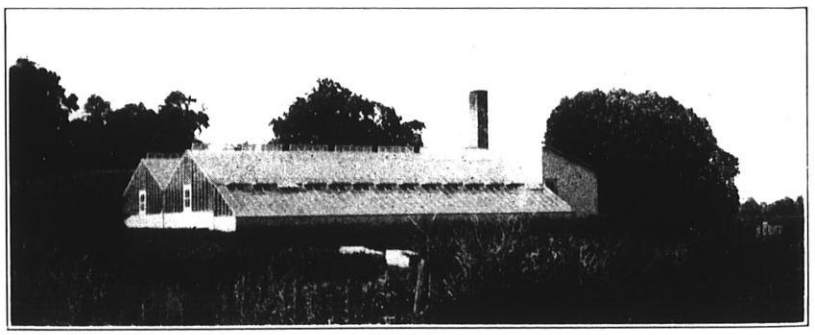
Emerson said that "Skill to do comes from doing", and certainly Axel Johnson, of Lake Geneva, Wisconsin is a good example of that axiom. Mr. Johnson is noted for his Geneva Pink Snapdragon, and before he is through as a plant breeder, the florist's world is going to know a lot more of his products. He is herewith shown with one of his hybrid begonias, a cross between a tuberous rooted begonia and a weeping type. The name Dolorosa cardinalis (red weeper) was suggested for it, but it has not been named and is not ready for dissemination as yet. The Geneva Pink Snapdragon is the largest and finest colored that the market affords. Eight years ago he produced the hybrid and six years ago put it on the market. The flowering stalks can be cut seven feet long, but five feet is the average size, and under that condition it will have an eighteen to twenty inch flowering spike. It is most valuable as a winter flowering snapdragon, although it can be grown outdoors too. It is a clean grower, without suckers, and the side growth on the stem is very short. The stem is solid, stiff, wiry, not overly thick, and not sappy. For winter use, he sows seed not later than June 15th, and it is planted into the benches the first week in August. The first cutting will then be October first and they will be shipped for two months.

Axel Johnson was born February 6, 1867, in Skane, South Sweden, and learned horticulture at the Alnarp Horticultural School near there, graduating in 1889. The school is near Malmo, Sweden. From there he went to London, England, and spent a year with Thomas Ware, Upper Tottenham, and Beckwith & Son, Lower Tottenham, London. He came to America, landing March 1st, 1891, and proceeded to Marion, Indiana, staying there but a short time and coming to Lake Geneva, Wisconsin, to enter the employ of Richard T. Crane, of Chicago, on his summer estate on the north shore of Lake Geneva. Everything was wild around the lake in those days. After working two and a half years for Mr. Crane, he quit and rented a place of his own in 1893, when he married a farmer girl by the same name as his own at Williams Bay, Lake Geneva. In 1895 he went back to manage the gardening of the Crane estate, and has been there ever since, thirty-two years. He has seen three generations of the Crane children playing on the lawns of their estate of 87 acres. On the Crane estate, he has four large greenhouses with an area of 16,000 feet of glass. The three divisions of the grapery house shelter besides the grapes, nectarines and peaches in tubs, figs, and melons. The divisions of the grapery house are early January 15th, medium, February 15th and late, and the varieties grown are: Black Hamburg, Muscat of Alexandria, and Gros Coleman. In the other houses cukes, melons, tomatoes, and flowers are grown. He has many experiments upon varieties of begonias, Achymenes, and other rare flowers in varieties. He will always be with Crane's, and is much sought as a judge at State Flower Shows. But his sons and daughter are another matter.

Axel Johnson, Lake Geneva, and one of his hybrid begonias.

When Frank, the younger son, was still in High School in 1923, he started the Lakeview Gardens on the marsh at the end of Williams Bay, growing vegetables for the summer and winter residents. It got too much for him and dad came to his rescue financially and his brother Oscar, an experienced nurseryman, also came to help. The business is known as Axel Johnson & Sons, and besides disseminating the Geneva Pink Snapdragon, the sons have begun to work on the other novelties produced by their father, and on their twenty-two acres, have brought eight under cultivation with a fine perennial garden. They have

(Continued on page 203)



LAKEVIEW GARDENS, WILLIAMS BAY, WISCONSIN.

THE UNIVERSITY PAGE

POISON IVY, WHAT IT IS AND HOW TO DESTROY IT

A. L. STONE

Range—The Poison Ivy (Rhus radicans) is found on the North American continent from Novia Scotia to British Columbia in the North to Florida, Arkansas and Utah in the South.

The Poison Oak (Rhus Taxicodenron) has a more southern range extending from New Jersey in the east to Texas in the west. In so far as the poison effects are concerned the two are synonymous and interchangeable.

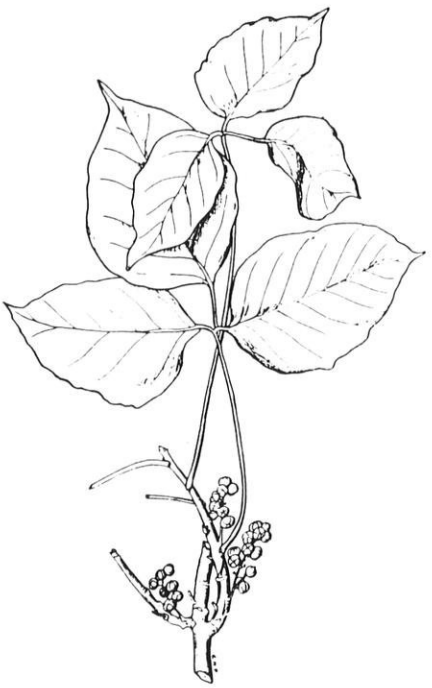
Habital— These poisonous plants seldom cause any trouble in cultivated fields but are common in groves, along roadsides and in parks and cemeteries. In the latter two locations they are sources of severe poisoning to hundreds of people annually.

Character of poison, and remedies—Both plants are very poisonous to many people. The toxic element is contained in all parts of the plant but is most abundant in the leaves. It consists of a nonvolatile oil on which water has no effect.

The oil can be removed from the skin by the use of alcohol and if this is done soon it will prevent the spreading which is almost sure to take place if the oil is not removed.

Where it is impossible to apply the alcohol in time, a quantity of sugar of lead may be dissolved in alcohol and the cream-like paste applied to the affected part. This will prevent further spreading and relieve the irritation. If remedies are not readily available the poison penetrates the skin and causes great swelling and extreme pain. The application of powdered aristol freely to the affected parts has been found extremely effective in reducing the swelling and relieving the pain.

Description—For all practical purposes the poison ivy and the poison oak are identical. While the poison oak does not have the trailing or climbing characteristics and is usually more hairy, its effects are the same.



The leaves of both are three parted, those of the poison ivy being less cut or indented on the edges. Many people are needlessly poisoned by it because they confuse it with the harmless Virginia Creeper. There is no need for this confusion because the Virginia Creeper leaf is five instead of three parted and the fruits blue instead of white. The flowers of the plant are green and inconspicuous, borne near the tops of the stems in the angles between the leaves and the stem. Later small whitish colored fruits about one-fourth inch in diameter appear which often remain on the stems until well into the winter. The fruits are eaten by birds and carried from place to place in this manner, which explains the prevailence of the plant along fences, the edges of groves and around shrubbery in parks and cemeteries. It is perennial and spreads by root stocks as well as by seed.

The plant varies greatly in its appearance. Sometimes it takes the form of an erect shrub from a foot to two and one-half feet in height. At other times it has a vine-like appearance trailing over the ground or other shrubbery. Again, it may climb to the tops of tall trees by means of small aerial rootlets by which it attaches itself to the tree's branches.

In private grounds, parks and cemeteries it almost always takes one of the first two forms which makes it feasible to get at it in order to destroy it.

Methods of Eradication—These must be adapted to the circumstances depending on the size of the area infested, its relation to other vegetation which might also be destroyed, and other similar factors: to eradicate this plant requires not only the destruction of the green portions above the ground but the running underground parts by which it spreads and propagates. The work of destruction can be done safely only by a person who is immune to poisoning by the plant.

Small patches may be killed by cutting the ivy close to the ground with a hoe or scythe and covering the infested area with heavy tar paper. The strips of paper must lap at least six inches and extend for three feet beyond the edges of the patch. Place two by fours, planks, fence posts or other similar weights on the paper to keep it from blowing up and to hold the paper close to the ground so no light can get to the ivy. Where the ivy is growing along fences or among shrubbery this method can not be used.

A second method is to dig up

the plants being careful to get all the underground parts. Keep close watch of the patch and dig up any new plants which start from small pieces of the root left in the soil. This method is practicable only with small areas but can often be used where smothering with paper is impossible or impracticable.

A third method consists in spraying the plants with chemical solutions or with oil. Effective chemical solutions are arsenate of soda, one pound to five gallons of water; sulphate of iron, two pounds to one gallon of water; sulphuric acid, one pound to five quarts of water and a solution made of one pound of white arsenic and two pounds of sal soda in five gallons of water. Sulphuric acid is very corrosive and will injure clothing or flesh so must be handled with great care. Iron sulphate will discolor clothing, fence posts, cement or stone walks and drives.

Kerosene or gasoline sprayed over the vines are also very effective killing agents and though more costly are more conveniently obtained and more safely handled than some of the chemical solutions. They should be applied at the rate of one gallon to the square rod where the ivy is thick. If the plants are scattered each plant should be well covered with the solution or oil as the case may be.

Three or more applications of any of the sprays will be needed during the season in order to completely destroy the ivy.

An orchid farm in Panama, containing 7,000 species, was recently presented to the Missouri Botanical Garden.

Another use has been found for the aeroplane. In Hawaii it is being used for sowing seeds on forest reserve lands which have been devastated by fire.

THE APPLE INDUSTRY

Observation and Experiments

An interesting bulletin is at hand from the State College of Washington Agricultural Experiment Station. It describes the experiments by S. R. Niller and F. L. Overley, which aimed at fixing standards which would help to decide when apples should be harvested in order to have the best market quality after a period of cool storage of 20 weeks.

NO SIMPLE TEST OF MATURITY

has yet been formulated. The color of the apple, the color of the seed, the fragrance, the hardness are not sufficient. Some of the changes are so slow that the orchardist cannot detect them. Some growers, by long experience become skilled in selecting the time of average maturity, but they are unable to express their ideas in words for the guidance of others. We all know that there is a stage of maturity that enables the apple to pass safely through a long period of cool storage, but it is difficult to decide it with certainty.

These experiments are a genuine attempt to solve the problem or at least to gain further knowledge of what constitutes maturity—or rather that stage of maturity which is the best for marketing purposes.

THE TESTS

The apples were obtained from a commercial orchard. They were harvested from three to four weeks before and after the date on which the growers harvested the bulk of their crops. Enough trees were reserved so that each of the weekly harvestings was from trees that had not been previously harvested.

Delicious and Jonathan apples were used. One hundred apples were tagged and measured each week to find the increase in size. Immediately after picking they were tested for hardness, and chemical tests were carried out to determine the sugar, starch, and acid contents of the apples.

Similar physical and chemical tests were made at the end of 20 weeks cool storage.

THE BEST PERIOD

These tables show that there was a steady decrease in the amount of starch in the Delicious, and of acid in the Jonathan, while both varieties showed a steady increase in sugar content, in size, color, and hardness up to the date of the harvesting, which turned out the best. This was found to be a fortnight later than was the usual custom among the growers.

The best color and flavor were found to agree with the lowest starch content in the Delicious, and with a low acid content in the Jonathan, while in both cases, the apples at this stage approached their maximum hardness.

Now the determination of acid and starch can be made simple enough to allow their use in field tests, and there may here be a method of determining maturity with fair accuracy.

It was notable that apples ripened in cool storage as they did on the trees, and the final chemical constituents of the immature apple approximated to that of the riper ones—but of course there was no increase in color or size, and there was a definite loss of fragrance.

LOSSES FROM WINDFALLS

Another matter studied was the loss from windfalls. In the case of Delicious the increased value of the fruit left on the trees for another fortnight was offset by the losses due to dropping—but with the Jonathan this was not so. Here there was a profit by delay. Growers, however, have to risk losses from storms, or almost total loss from hail, and climatic conditions have to be taken into consideration. It was thought that a study of the causes of the fall of apples might effect a reduction of this loss, and we await further information under this heading with interest. N. Y. Fruit Grower.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

THE HAPPINESS FLOWER

Did you ever find the Happiness Flower?
It isn't so hard to find;
It opens wide at the morning hour
In the meadows of cheerful mind.

But it sometimes grows in the sandy dust
That fills the desert of care,
And down in the fields of perfect trust
You can always find it there.

It's sweet as honey, the Happiness Flower,
Winter and summer the same—
On the difficult hills by troublous tower,
It shines like a rosy flame.

If ever you find the Happiness Flower,
And it isn't so hard to find
By the rainbow's end in an April shower
Where the tears and smiles are twined.

May it flourish fair in your garden ground,
Aglisten with Joy's bright dew;
May the sunshine of love the whole year round
Lie warm on your flower and you.

Author Unknown.

PLANT COMBINATIONS TAKEN FROM MY "GARDEN BOOK"

Some of these suggestions have been tried out in my own garden. Others have been jotted down after "garden visits".

Double pink and white Tulips, double white Narcissus, Cheiranthus allioni, Siberian Wallflower against a background of Peony plants.

A mass of Oriental Poppies between two large bushes of Harrison's yellow roses. "Oh! how gorgeous." As an early spring combination it surely is.

Clematis Recta, Lemon lilies, and a large flowered, tall growing, deep blue Columbine.

A background of Dorothy Perkins and Excelsa Roses, then a generous planting of Regal Lilies, gypsophila, and Henchera or Coral Bells.

A little old lady stood with clasped hands before this latter group. After a long silence she said in a slow voice. "I just feel as though I ought to say a prayer."

"Truly, we are nearer God's heart in a garden, than anywhere else on earth."

Spirea, "Bridal Wreath", Iris Gertrude, a beautiful blue variety, interspersed with a clear yellow columbine, and bordered with the early daisies.

Regal Lilies springing up from a mass of the low growing Chinese Delphinium.

Regal Lilies planted in front of a mass of pink Valerian.

I am glad to see the Regal lily growing in so many gardens. It is a really satisfactory garden lily, hardy and sure to bloom.

A mass of the light colored Sweet Rocket as a background for the old fashioned "Bleeding Heart", and Mertensia virginica.

Double blue Centaurea, Bachelor's Buttons, with the perennial Coreopsis used as a cover when the Iris are through blooming.

Tall blue and white Delphiniums with the old fashioned scarlet Lychnis. It is usually in bloom July 4th, so that part of the garden "Says it with flowers."

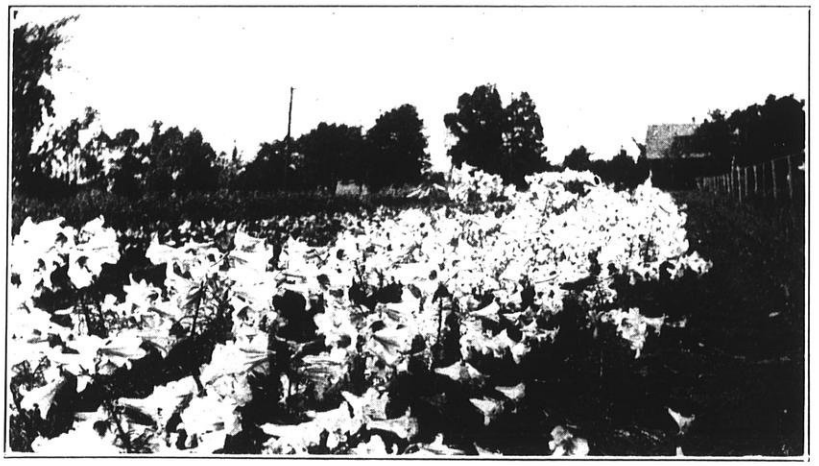
GARDEN MEMORIES

A group of women were visiting a garden and, as one after another spoke of some childhood favorite, one of the women exclaimed, "I feel as though I had been cheated. I never had a garden to play in nor any chance to become friends with flowers. Apartments may be very nice and convenient for grown ups, but they are prisons for children."

Nearly every women smiled at the Mallows. "What wonderful 'dolls' parasols' they made." They plucked a daisy and solemnly chanted, "He loves me, he loves me not." They tried their almost forgotten skill of blowing up balloons with "Live forever" leaves. They bowed low before a bush of "Old Man" six times while they made a fervent wish. Fairies always hid there you know and sometimes, your wishes were granted.

The garden was gorgeous with bloom as a man and his wife walked through admiring and intensely interested in the newer varieties. Suddenly the

(Continued on page 203)



A SIGHT THAT MAKES YOU WANT TO GROW MORE LILIES.

Wisconsin Horticulture

Published Monthly by the

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ERNEST L. CHAMBERS, Editor
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COVER PAGE

"The Seven Pines"

Virgin white pine near Lewis, Wisconsin.

OUR SUMMER MEETING

The Florists' and Nurserymens' Association and the Kenosha Commerce Association will assist the local horticultural society of that city in entertaining our state horticultural society at their summer convention to be held at Kenosha, on August 19 and 20.

Headquarters for the convention will be at the Hotel Dayton and the business sessions and program will be held at the Kenosha County courthouse on the 19th. The business session will start at 10 A. M. and the program at 1:30 in the afternoon.

Another feature of the convention and congruent with it will be a huge local flower show which the Kenosha Florists' and Nurserymens' Association is sponsoring for the amateur flower growers.

A very interesting program has been arranged, a detailed copy of which appears on another page of this issue.

Plan to be with us and benefit thereby by taking advantage of this opportunity to find a solution for some of the problems which have been puzzling you. We have ten live speakers on our program who are going to discuss briefly and interestingly ten live subjects in fifteen minute talks and five or ten minutes will be devoted to discussion after each talk. All speakers will appear at the Friday P. M. session. The following day will be devoted entirely to a tour of points of horticultural interest in Racine and Kenosha counties. There will be some interesting entertainment Friday evening, two picnics with lots of lemonade and everything that goes to make a good time.

Come, bring your family and enjoy a treat of your life time; good speakers, good eats, good roads, good people, a good program, in a good section of our state, and a good recreation for the whole family. Make your reservations now and plan to be with us on August 19 and 20.

It was recently brought to our attention that a so-called tree surgeon was condemning Yellow Transparent Apple Trees, which on account of their susceptibility to fireblight were badly affected by this disease, on the grounds that they were responsible for the death or serious injury to elm trees which were being attacked by the well known elm canker. This is another point in favor of a state law requiring the licensing of tree surgeons in Wisconsin.

IN THIS ISSUE

In apple pollination tests in Sonoma county, add, California, a Gravenstein and a Delicious tree enclosed under a tent with a hive of bees produced 1237 apples. A Delicious enclosed alone with bees set 31.

Some garden makers in this country are adopting the plan, common in England, of carpeting their rose beds, bulb beds, iris and peony beds, with low-growing plants such as the pansy, viola, and creeping blue phlox.

FLORISTS' SUMMER MEETING

Ideal weather and the delightful scenic resources of Wisconsin were incentives in attracting the florists of neighboring states to the Tenth Annual Summer Convention of the Wisconsin and Upper Michigan Florists' Association, held at Eau Claire, on July 19 and 20. Particularly prominent was the large group of florists from Minnesota, which descended upon the town in a bus load of 29 and in a squadron of automobiles.

President "Ed" Matthewson expressed pleasure at the response attending florists were giving the splendidly arranged program when he called the first session to order at 2:15 P. M., July 19, after a morning spent receiving and registering guests and visiting greenhouses.

Anton F. T. Lauritzen, a well known Eau Claire florist, was then requested to call the names of local florists as a means of introducing them to the convention, and he called on the following, making a few remarks about each of them: "Jim" Rooney, Chippewa Falls; "Jake" Christensen, Chippewa Falls; John Maves, Eau Claire; Ernest Bluedorn, Eau Claire; Walter H. Demmler, Eau Claire. Mayor Barren of Eau Claire, was then called upon and he extended the welcome of the city to the visiting florists.

After a short business meeting Prof. H. B. Dorner, University of Illinois, addressed the convention on the subject of "Improved Growing Methods." S. D. Dysinger, a member of the firm of Holm & Olson, Inc., florists, St. Paul, followed him with "The Salesman" as his subject. He prefaced his discussion with the remark that it was essential to know how to sell goods as well as how to grow them. Mr. M. Kelly, advertising manager of the Eau Claire Press Co., was next introduced and spoke on "Florists' Advertising Problems."

The convention adjourned at 5 P. M. Tuesday afternoon, to be directly followed by the meeting of the two Wisconsin F. T. D. districts, called to order by Richard Haentze, chairman of district two. A banquet at the Elks club Tuesday evening completed the program for the first day.

Wednesday morning demonstrations were held in the convention room of the Eau Claire hotel. Miss Edna Tomberg, of Miss Beth's Flower Shop, Minneapolis; "Jimmy" Dale, Jr., James H. Dale, Hancock, Michigan; and J. E. Stapleton, Stapleton the Florist, Duluth, Minn.; were on the program to demonstrate baskets, bouquets, bridal bouquets and designs and sprays. The florists lunched in various groups at noon, and immediately afterwards they started to leave for home, some remaining in town the larger part of the day.

Officers of the Wisconsin and Upper Michigan Florists' Association in effect from November, 1926 to November, 1927, are as follows: "Ed" Matthewson, Sheboygan, president; Anton F. T. Lauritzen, Eau Claire, vice president; Alfred Locker, Wauwatosa, secretary; Eugene Oestreicher, Milwaukee, treasurer, with the following as directors: Henry Benz, Racine, J. H. Dale, Hancock; R. E. Miller, Racine.

A grower should know which trees are really paying, and which trees are merely profitless cumberers of the soil. The average fruitgrower is accustomed to thinking of profits and of losses in terms of acres, regardless of the fact that, while the acre may return a profit, individual trees may represent a loss, and that the return from the acre could be increased if such trees were replaced. A change from the acre-unit as the basis of profit and loss calculations is both desirable and necessary.

"HORT" STUDENTS TRAVEL

One of the most unusual undertakings ever reported by an educational institution is a "horticultural course on wheels" planned by Professor F. G. Charles of the horticultural department of Ohio State university and reported to us by W. Paddock of the same department. On June 14 a party of 16 students and one instructor set forth in five automobiles on a tour which will take them a majority of the states west of Missouri, which was to be visited first.

Traveling through Texas, New Mexico and Arizona, the students on this tour will visit California and the major fruit sections of Oregon, Washington and Idaho. They will visit the agricultural colleges in the various states and inspect orchards, packing plants, canneries and places of horticultural interest. The tour will cover about 10,000 miles and will last fully three months.

Plan to exhibit at the Wisconsin State Fair held at Milwaukee. Write to the Fair Secretary, Wisconsin Department of Agriculture, for a premium list.

The roots of the common barberry, now known as a spreader of black stem rust to grain fields, were once valued because of their medicinal uses.

COUNCIL VOTES FLORISTS MUST PAY $100 FEE

(Chicago Tribune—July 26)

The city council yesterday passed an ordinance providing for a $100 a year license fee from retail florists. The ordinance was sponsored by large flower concerns of the city who do not deny that it was aimed at the vendors of blossoms on street corners and at elevated stations. Only one vote was cast against it, that of Ald. Wiley W. Mills (37th) who said it would create a monopoly.

HORTICULTURAL TROUBLES

Edited by the State Entomologist

THE EUROPEAN CORN BORER IN THE UNITED STATES

Hardly a day goes by that we do not read something about the European Corn Borer when we pick up the newspaper. The average reader naturally wonders what it is all about. He concludes that either this borer has a mighty efficient publicity agent or else, that those familiar with it must fully realize that it is as described, the "Greatest Menace to American agriculture." Never in the history of our country has any pest enjoyed the publicity that this one has and there is plenty of reason for it.

The European Corn Borer is an insect that derives its name from the larval or worm stage which bores into the stalks of corn and thick stemmed weeds. Like many other insects the corn borer passes through four distinct stages—namely, the egg, the larva, the pupa and the adult stage. The adult is a moth which emerges during the latter part of June and the most of July and lays hundreds of eggs. These hatch into larvae which tunnel the stalks and spend the winter as full grown larvae in the stubble.

This pest came into this country about 17 years ago in a shipment of broom corn from southern Europe, Italy and Hungary, some of which landed near Boston. It was introduced before any law on the subject or any power to guard against such a pest had been provided. As a matter of fact very little was known in this country about the corn borer in Europe since it had been only a minor pest there, kept in control by its parasites, and little mention of it was made in European literature. This period, 1909–10, when the broom corn came over was a period when we had a very short crop in this country and there was an unusually large importation during that time, about 10,000 tons of broom corn being brought in from abroad.

The broom corn was distributed at many different points in the United States and Canada. An infestation of the borer occurred at Boston where it was first recognized in 1916. The corn borers which are now causing the most serious trouble however are believed to have come across Lake Erie and Lake St. Clair from Canada where they are thought to have become established in 1910.

Stalk showing entrance holes of the borer

Those who have visited the badly infested counties of Ontario, Canada, are convinced of the seriousness of the insect as it occurs there. In 1925 practically all of the corn in Kent and Essex counties in Ontario showed a commercial loss of 50 to 100 per cent. As a result these counties, which were notably corn and hog farming areas, in 1926 reduced their corn acreage to 10 per cent of the normal acreage and the corn-fed hog in these counties is a thing of the past. Most of the corn, about 8,000 acres out of the normal acreage of 100,000 acres in Essex county, was a total loss in 1926. Large fields, which produced 50 to 100 bushels of corn per acre in 1925 and which were just outside of the heavily infested region, were total losses in 1926.

The corn belt farmers and leaders in agriculture are greatly alarmed about the things the corn borer is doing to the corn fields of southern Ontario and which it seems to be starting to do in Ohio and Michigan. Being a native of Ohio and returning each fall to spend my vacation, I have been following the corn borer situation there very closely. Until the last year or two there was not sufficient damage in Ohio to have any effect on the total crop production of the state but during the past season fields went down in Lucas and Ottawa counties just as badly as some of the worst Canadian fields.

The borer's injury to the corn results from the burrowing of the larva in some part of the plant above ground, any part of which may be attacked. The very young larva may feed on the surface of the leaf for a while and then it may infest the midrib. The corn stalk, cob, or ear shank or even the developing kernels may be infested at any stage in the growth of the larva.

One of the earliest indications of the presence of the borer is the breaking over of the tassels caused by the tunneling out of the tassel stalk. As the borers become moderately abundant the weakening of the stalk and injury to developing grains become more pronounced. Probably the greatest commercial damage is to the ear shank which is weakened even if only slightly infested. This causes the ear to drop over prematurely

PROGRAM

Friday, August 19

10:00 A. M. Business Session

1:30 P. M. Program

Address of Welcome - - -	Kenosha City Manager
Diseases of Ornamental Plants	R. E. Vaughn
Beautifying Home Grounds -	City Forester, Kenosha
Spray Rings - - - - - -	C. E. Kuehner
Dahlias - - - - - - - -	J. T. Fitchett
That Apple Drop - - -	R. H. Roberts
Cabbage Diseases - - - -	J. C. Walker
European Corn Borer - -	John S. Bordner
Apples for Health - - -	Paul Stark
Cabbage and Onion Facts -	County Agent, Kenosha County

Saturday, August 20

Tour of points of horticultural interest in Kenosha and Racine Counties.

and fail to completely fill out and it often rots. As the borers increase in numbers, as in the heavily infested area of Canada and some sections of Ohio, they so completely riddle the stalks that there is scarcely anything left except the shell and that naturally breaks over with the first storm, giving the appearance of a field tramped down by cattle. The greatest commercial injury to show upon a heavily infested area is to sweet corn which is more susceptible to the borer's attack and where even a single larva in the ear makes it unsalable.

We are often asked if the corn borer will reach the corn belt. Any insect with the ability to fly that the adult moth of this borer has will continue to invade and establish itself deeper into the corn belt if not completely checked in its present habitation as long as the invaded territory affords suitable environment for reproduction and increase. It has been observed that the moth is able to fly distances of twenty to forty miles with the wind and that it can fly down even on a body of water and rest awhile and then continue its flight. Every fall we find large numbers of a certain cotton moth throughout Wisconsin, much the same size as the moth of the corn borer, that have flown from the cotton fields of the south. This gives some idea of the ability of such moths to fly. It is known that larvae in corn stalks may survive submergence in water for a period of 40 days and this would enable the borers to spread great distances into the southern portion of the corn belt down the Ohio and Wabash Rivers. It is therefore evident that the more completely the pest is controlled in the present infested region the less likelihood there is of spread into new territory.

Feeling that there was at least a good possibility of delaying the further spread of the corn borer and that each year of delay meant a saving of hundreds of thousands, if not millions of dollars, Congress decided to

spend ten million dollars as an experiment to see what could be accomplished toward saving our corn crop, valued at two billions. The campaign of the Federal Government and the States of Pennsylvania, New York, Ohio, Michigan and Indiana to stem the tide was a battle of the first order. All of the resources of the entire department were utilized in this fight and corn-borer business was given the right of way over everything else; since the federal appropriation had not been passed until late in the winter and its application hinged upon certain regulatory legislation by the various states affected, and the clean up work to be efficient had to be all completed before June 1.

The general plan of procedure in this campaign of eradication consisted of a clean up by the farmers to be followed by federal clean up where the farmers' work either was not done at all or not properly done.

Considerable educational work had been going on all winter prior to the enforced clean up. Demonstrations were held whenever the weather permitted where the proper adjustments of plows were shown to enable the farmers to get the most out of their own equipment.

A few of the larger items used by the government in the work are listed below:

440 John Deere 15–27 tractors.
440 International Harvestor Co. 15–30 tractors.
360 Fordson Tractors.
800 International Harvestor Co. stubble beaters.
324 3–16" bottom gang plows from the Vulcan Plow Co.
450 18" single bottom tractor plows from the Oliver Chilled Plow Works.
68 Burning Machines.

The stubble beaters used in the clean up work consist of an unhoused high speed rotor similar to a hammer mill, with two sections about two feet wide spaced so as to cover two corn rows; driven by a power take-off from a tractor. They are recommended for use on corn stubbles where the stubs were not over 16 inches long, and work most efficiently with stubs not over 6 or 8 inches.

The burning machines consist of a large truck, on which is mounted a 2 cylinder pump directly back of the cab, with a large fuel tank back of the pump. The burning unit itself is a light pipe frame carriage mounted on two high wheels, about 15 feet long and 10 to 12 feet wide at the rear. The burning unit is drawn over the field by 2 men, and is connected to the truck, which is left stationary, by 1000 feet or more of hose. Four or five men are required to handle the hose. The burner proper consists of a header pipe back of a heavy sheet steel shield to protect the men who are drawing the machine. In this header pipe are inserted several nozzles from 15–18 inches apart through which the oil is sprayed down onto the ground. The temperature is reported to be around 1400 degrees and some excess oil is sprayed out so that the burning continues for a considerable distance back of the burner proper.

CROSS SECTION OF AN INFESTED EAR

The cost of operation, together with the initial cost of $9000 for each machine, is the serious disadvantage of the burner, although it is reported to be 90-

94 100% effective in destroying the corn borers.

The present legislature a short time ago appropriated $15,000 to be available for immediate use by the State Department of Agriculture in scouting and determining whether the corn borer is present in Wisconsin and taking the necessary steps to stamp it out should it be found in limited numbers. A further appropriation of $100,000 was also made for the Department's use in case the corn borer makes its appearance in Wisconsin, to be available in paying the farmers for their extra labor and in carrying out the necessary control measures.

The University of Wisconsin has also secured an appropriation of $5000 to make a study of parasites of the native borers and what experimental work can be done before the corn borer arrives. No active experimental work can be done until the borer arrives because there are no European corn borers in the state to work on.

The Wisconsin Department of Agriculture has already begun action by placing 16 corn borer scouts in the southern part of the state to make a careful survey with the purpose of determining the presence or absence of the corn borer. Eight University of Wisconsin students were selected for this work and sent to Ohio for a few days of intensive training prior to being assigned to territory. The other eight men are experienced scouts furnished by the Federal Government, who also provide transportation facilities for all the men.

European Corn Borer work, however, is not new in Wisconsin, as the State Department of Agriculture has been working on the problem since 1919, at which time a survey of all broom corn factories and corn canneries in the state was made. Since then through fair exhibits and publicity the Department has been doing all it could to educate the public without "scaring" them. Several state fair exhibits recently have featured the corn borer. A survey was made four years ago, in connection with the crop statistics division of the department, to find out what the treatment of corn stubble was in Wisconsin, how many fields had standing corn, how much was put into the silo, etc. The Wisconsin Department of Agriculture also has put into effect several quarantines to protect the state from the introduction of any possible infestation on broom corn and similar products. The shipment of ear corn, uninspected shelled corn, broom corn, sorghums, or sudan grass which has been grown or stored in the infested corn borer areas is prohibited under penalty. Any products or material imported into the state in violation of these regulations is subject to destruction or return to the point of origin at the discretion of the State Department of Agriculture.

(Continued from page 194)

110 varieties of perennials, making a specialty of phlox and delphiniums. They have thirty-eight varieties of phlox and nine varieties of delphiniums, including the famous Wrexham strain. They have only 1800 of the Wrexham strain as their sales have been heavy on this. When we visited their houses, they had cut delphiniums, Campanulas, Achillea Perry's White, and Oenotheras for shipment to the Chicago Cut Flower Growers Association. The local demand is large, but their shipping business is larger. They ship to Ohio, New York, Illinois, Michigan, and Minnesota. They are enlarging their place this summer by building thirty foot additions on the ends of their present houses, thus giving them the equivalent of an extra house.

Perennials are the framework on which to build a flower garden.

(Continued from page 197)

man stopped before a scented leaved plant called 'Sweet Mary'. "Why, I haven't seen any 'Boy's Love' in years." With a very boyish grin he plucked a leaf and partially concealing it in his hand held out his hand to his wife. Their glance of affection as her hand clasped his, showed neither had forgotten the bashful boy's way of ascertaining whether his sweetheart loved him, even though he was hopelessly tongue tied in her presence. With a laugh and a becoming blush, the woman completed the rite by slipping the leaf next her heart saying, "Aren't we foolish?" Well maybe they were, but they looked very happy.

One of my neighbors has a "Sentimental Garden". Every plant in it is a favorite with someone that he knows and likes. Many were given to him. "I don't see just the flowers when I walk or work in my garden. I see my friends. I think of them. I am happier because of both friends and flowers."

HOUSE PLANTS IN SUMMER

Many house plants are benefited by being placed out of doors at this season. They may be set under trees and left until cool weather comes in the Fall. It is better, however, to plunge them to the rim of the pot in earth, for when this is done, the soil dries out less rapidly and less artificial watering is required.

The well planned garden will have a succession of bloom from early spring until freezing weather.

The leaves on a Delicious apple tree are smaller than the leaves of most of the other varieties.

THE MARKET PAGE

Edited by William Kirsch, State Department of Markets.

POTATOES

The expected gap between mid-summer potatoes and first shipments from the Northern tier of states may not materialize, after all. With exceptionally heavy yields on the Eastern Shore and good crops promised for New Jersey, Long Island and other mid-season sections, it now looks as if the flow of potatoes to market will keep up at a steady pace until digging of the main crop begins, and then, of course, shipments are at their height. The New Jersey crop suffered somewhat from unfavorable weather conditions but there probably are plenty of good potatoes left. First carload shipments have already been reported from Long Island and Minnesota.

Present indications point to a heavy crop throughout the North, from Maine across to Washington. The 19 surplus producing states expect at least 278,000,000 bushels, which would be just about average for this crop, but 26,000,000 more than last year. The 16 deficient late-potato states may produce 83,000,000 bushels. This would be an increase of 8,500,000 over 1926, but still 3,500,000 below the five-year average. There probably will be an active movement of potatoes to those sections which do not produce enough for local needs. Plantings in Canada have been increased 3% over last year to a total of 560,000 acres, but that is only 16% of the potato acreage in the United States.

WATERMELONS

Carlots of watermelons can be had in the principal cities at a rate of 30¢ or 40¢ per melon, which means a relatively moderate retail price. Shipments reached highest point of the season, with more than 6,000 cars moving during the week of July 25. About 3,400 of these came from Georgia, 1,200 from South Carolina and 600 from Texas. An average of 1,000 cars of melons each week-day means one car every minute and a half, day and night. Supplies were heavy in most markets.

Tom Watsons, weighing 24 to 30 pounds, were selling F. O. B. cash track at Central Georgia points around $75.00 to $175.00 per carload. There was a wide range in quality and condition. Slightly larger sizes ruled 65¢ to 90¢ per 100 pounds in Texas producing sections. These ranges were about one-fourth lower than the preceding week. Estimated watermelon plantings in 13 late states total 31,700 acres, which is 10,000 to 18,000 less than in any of the last three years. Missouri growers have less than half of last season's acreage. When the heavy mid-season crop is out of the way, markets may strengthen.

CANTALOUPES

Production of intermediate cantaloupes in 10 states is figured at 6,080,000 crates, a net increase of 8% over last year. Most of the gain is in Arizona, Indiana, the Carolinas and Delaware. In this intermediate group, Arizona leads, with nearly 2 million crates. Shipments from that state show a proportionate increase, totaling 4,200 cars to date, and with the daily movement last week still averaging 125. Arkansas' output for the seven-day period increased to 300 cars, North Carolina to 275 and Central California to 225 cars, while Imperial Valley dropped to 150. The Valley probably will reach a season total of 15,500, or 4,000 cars more than in 1926. Among the late states Colorado has 14,300 acres of cantaloupes, compared with 11,700 last year.

Markets were in firm position for good stock. A general advance brought up the city jobbing price to a range of $2.50 to $4.00 per standard crate of 45 melons. New York reported heavy arrivals of 720 cars, and sales there were mostly at $2.50 to $3.00 for California stock and 50¢ more on Arizonas. Standard crates of Honey Dews ruled $1.00 to $1.50 in New York, with Honey Balls melons bringing $2.00 to $3.00. North Carolina Green Meats cantaloupes sold at $1.25 to $1.50. The cash track market in Arizona closed higher at $1.35 to $1.50 per standard crate of Salmon Tints. The cantaloupe situation is just the reverse of a year ago, as current shipments are about one-third heavier and prices are better.

PEACHES

With Georgia peaches done, North Carolina was meeting little competition in the East except from South Carolina. Arkansas and Tennessee were largely supplying Mid-Western cities. Arkansas' output dropped to less than half the preceding week's movement and totaled only 500 cars. North Carolina increased rapidly to 800 cars, while South Carolina forwarded 275 and Tennessee 175. Maryland, Delaware and New Jersey began during the week. Because of the early closing of Georgia's season and the greatly delayed movement of California and Texas peaches, combined shipments from all sections were only one-third those of a year ago. This accounts chiefly for jobbing price ranges 50% higher than last July. Southeastern Elbertas were bringing $2.50 to $3.50 per crate or bushel basket, while North Carolina Belles ranged

(Continued on page 207)

LIBRARY PAGE

BOOKS THAT WILL INTEREST HORTICULTURAL READERS

The Magic of Herbs, by Mrs. C. F. Leyel, (Harcourt, Brace & Co.)

A twentieth century "Book of Secrets" in which the author traces the use of herbs in medicine and magic from legendary to modern times; and deals comprehensively with poisons, perfumes, cosmetics, etc. A partial list of the 400 herbs or simples used by Hippocrates in the 5th century B. C.—half of which are still in use today—in the practice of medicine among the ancient Greeks, is one of the many interesting features found between its covers.

Tree Ancestors, by Edward Wilbur Berry (Williams & Wilkins).

A story of the development of trees through the ages, and an explanation of how they came to be scattered around the world.

The Beginner's Garden, by Mrs. Francis King (Charles Scribner & Son).

A discussion of the small house and garden, with new and practical plans for placing the garden in relationship to the house and garage.

The Principles of Flower Arrangement, by E. A. White (A. T. De La Mare Co.).

A book discussing the most important elements of flower designing, prepared for the use of both amateur flower growers and experienced workers. An especially interesting chapter treats on "Japanese Flower Arrangement and its Relation to American Flower Art," and tells of the centuries of study which the Japanese have given to the perfection of their arrangement of flowers, where line distribution is the basis of composition.

Old Fashioned Gardening, by Grace Tabor (Robert McBride & Co.).

Interesting reading for those interested in gardens made in the old fashioned manner and containing flowers of the earlier period.

Farmers of Forty Centuries, by F. H. King (Harcourt).

A reprint of a work first privately printed by the author, then a professor in the University of Wisconsin. It offers a good exposition of the methods by which the Chinese and Japanese have been able to maintain a high soil fertility over a long period of time.

The Ant People, by Hans Heinz Ewers, a translation from the German (Dodd, Mead & Co).

A readable book, telling a complete story of the "Ant People," and exploding many of our preconceived ideas about ants. The author is well equipped to give first hand information about ants as he is said to have "fought the Fire Ants of Texas, studied the common Red Ants of Georgia, faced the Wandering Ants in Mexico, and been bitten by the Bull Dog Ants of Australia."

Plant Lore, Legends and Lyrics, by Richard Folkard.

A comprehensive treatment of the by-ways of plant folk lore, with a list of six hundred plants and the superstitions attached to them.

American Gardens, by Guy Lowell.

Photographic glimpses of beautiful gardens in eastern United States.

A Treatise on Viticulture, by I. A. Perold (McMillan Co.).

A rather technical but very comprehensive book, written more particularly for Californian, Australian and South African conditions, but of value also to all who are interested in the general subject, since it contains many practical remarks on propagation, manuring and pruning.

Plant Hunting, by Ernest H. Wilson (Stratford Co.).

A complete and authoritative work on the origin of ornamental plants brought from other lands.

The Book of Bulbs, by F. F. Rockwell (MacMillan Co.).

A helpful book for the amateur grower.

Formal Design in Landscape Architecture, by Prof. F. A. Waugh (Orange Judd Publishing Co.).

Of special interest to those planning gardens on a rather extensive scale.

AMERICAN BULBS UNDER GLASS

A United States Department of Agriculture bulletin under the above title, dated December 1926, is to hand, 22 pages and cover, well illustrated. Copies of this bulletin may be had by sending 15c to the Superintendent of Documents, Government Printing Office, Washington, D. C.

BADGER NEWS

From Wisconsin Papers

GOVERNOR SIGNS BILL FOR LOW FOREST TAX

Promotion of reforestation is expected through a bill providing for a severance tax on forest crop lands signed today by Gov. Fred R. Zimmerman.

Under provisions of this bill, land approved as forest crop land by the conservation commission is taxed at the rate of only 10 cents per acre until the timber crop is harvested.

Planting 20,000 young pines on the McCormick estate on Island Lake, is the most extensive reforesting project in Bayfield County, Wisconsin, at the present time. Virgin timber on this estate is also being guarded carefully. There are few tracts of this area in the state.

DEVISE PROCESS TO CULL DEBRIS OF BLUEBERRIES

An aid in the marketing of Wisconsin blueberries is promised in a process for removing maggots, debris and unfit berries developed by two chemists of the United States department of agriculture. The patent has been dedicated to the people of the United States and may be used without payments of royalties.

Only clean, sound berries free from maggots may be canned and sold within the jurisdiction of the federal food and drugs act. The blueberry maggot develops from the egg of a dark fly, somewhat smaller than the house fly.

When it was learned that a portion of the crop of blueberries was infested with maggots it seemed that a large part of the crop would be a loss, since there had been no practical method available for separating the unfit berries. B. J. Howard and C. H. Stephenson, who had been detailed to study the problem, developed the effective process which has been patented. This process was used with great success during the last canning season. By separating out the maggoty and otherwise unfit berries the bulk of the blueberry crop which was sound was saved.

MADISON MAN COLLECTS RARE CACTUS SPECIMENS FROM RATTLESNAKE RETREAT

His legs protected from the fangs of rattlesnakes, Hallet Germond, 2103 Monroe street, an instructor at the university, scaled Rattlesnake bluff, near state trunk highway 113, just across the Wisconsin river from Prairie du Sac, to obtain specimens of cactus which have grown there, unharmed by Wisconsin winters, for at least a century.

Today, ten of the plants—uncommon in the north—are growing in the garden of the Germond home. The plants blossom early in the morning—just as soon as the sun can reach them—and close at the first sign of darkness.

Waxy in appearance, the blossoms are of a delicate yellow and resemble roses which have been preserved by a paraffine process. When open, they are three or four inches in diameter and have four or five rows of petals.

The plants have nettles such as have the cacti of Mexico and resemble them in every particular.

How did the plants come to Wisconsin? That's a mystery. They have grown on Rattlesnake bluff for years. A woman of 65 who has lived at Prairie du Sac all her life told Mr. Germond the cactus and the rattlers have been on the hill ever since her childhood and she knew they had been there longer than anyone then living could recall.

The growth of the plants has been called remarkable by botanists. They withstand the rigorous Wisconsin winters, and flower every year, oblivious to the snow and ice which cover them in winter. — WISCONSIN STATE JOURNAL.

PEA CANNING TO SHOW REDUCTION

Madison—(AP)—Although weather conditions of spring have been decidedly unfavorable to the pea industry, 124 canning companies in Wisconsin are packing the 1927 crop.

Sweet varieties are being canned now in the lakeshore, central and western sections while the northern canneries are now busy with the early pack.

Last year 9,287,000 cases of peas were canned in Wisconsin, approximately half the nation's total. More than 222,000,000 cans in all were packed in this state.

Throughout the United States, according to W. E. Nicholoy of the Wisconsin Canners' Association, the acreage in peas has been reduced 28 per cent and in Wisconsin 33 per cent. If the crop is not harvested in time to get good quality peas, he said, there will be another year of over-production of the worst type—poor quality peas.

Despite the handicaps of the weather, he said, Wisconsin canners are making an effort to keep a good quality pea going into the cans. There can be no estimate as to the amount of the Wisconsin pack until all crops are harvested.

Present indications in the corn canning industry, Mr. Nicholoy said, indicated there will be very little, if any, canning unless the frost holds off until at least Oct. 1. The pack is bound to be less than half of last year's total, he said.

MOSINEE FIRM IS IN WHOLESALE FERN BUSINESS

Unusual Industry Located in Neighboring Community; Sells Many Ferns

An unusual industry located at Mosinee is that of the Badger Wholesale Fern company. This company has hundreds of people picking ferns for them. The ferns are sorted in the warehouse and sold to florists in the larger cities. Lund and Philipps of Wausau both buy ferns from this concern.

The supply of ferns is largely from the northern half of the state and from Michigan, but there are some gathered around here in the spring of the year before they mature. Between thirty-five and forty millions were stored last year. They are tied in bunches of twenty-five and put in the warehouse. The storing starts in August and five or six trucks are kept busy all the time bringing the ferns to the plant.

The building at Mosinee was put up only a year ago. There is a branch office at Lily, which is more in the center of the area from which the ferns are picked, and the summer orders are filled from there.

ROADSIDE STANDS OFFER GOOD OUTLET

Advantages of roadside marketing, particularly from the point of view of the fruit grower, formed the subject of a recent statement by Dr. U. P. Hedrick, horticulturist at the New York Experiment Station at Geneva. "The chief advantages of roadside stands to the fruit grower are that they eliminate the middleman and that all transactions are for cash," says Dr. Hedrick. "The roadside stand also offers an opportunity for the sale of a far greater variety of products than would otherwise be possible, such as fruit by-products and perishable goods that could not be shipped to distant markets.

"Success with these stands depends largely upon the attention given to details which make the stand attractive to the passerby and upon the courtesy and energy of the owner. Special containers adapted to the commodities and quantities sold at the roadside should be provided and should be made as attractive as possible. Of course they need not be as strong as containers used for shipping products to distant markets.

"If he is to develop the possibilities of roadside marketing to the fullest extent, the fruit grower must plan to produce a much larger number of varieties than would be the case if he were marketing in commercial lots. These varieties should provide a succession of the different fruits ripening over the entire season and providing high quality and attractiveness in sorts suitable for eating out of hand and for culinary purposes.

"A well-conducted roadside stand should be a source of a steady income to the fruit grower with a minimum of overhead expense and without the inconvenience and disappointments incident to dealing with a commission house."

—From BETTER FRUIT.

(Continued from page 204)

$2.75 to $3.25 in terminal markets. Similar prices prevailed on Arkansas Elbertas. Shipping point quotations in the Sand Hill Section of North Carolina were 50¢ to $1.00 higher, at $2.50 to $3.00, or more than twice last year's figure.

ONIONS

With early onions moving from Massachusetts, Ohio, and Indiana, dealers will soon be moving attention to the main crop. Heavier shipments from Washington and Iowa accounted largely for the sharp increase to 500 cars for a week. Japanese sets, from the Connecticut Valley of Massachusetts, started at $3.25 per 100 pound sacks in Boston, but later declined to a range of $2.75 to $3.00. The New York market was strong on New Jersey Yellows at $1.75 to $2.00 per bushel hampers, but most sales of Eastern onions ruled $1.00 to $1.75. Egyptian stock brought about 3¢ per pound compared with imported Spanish Valencias at 5¢ a pound. About 60 carloads arrived from Spain.

(Continued from page 191)

their place. These will give much larger fruit clusters, and will be very much less tedious to pick. The berries are also larger and better.

The foliage colors beautifully in the fall, thus making it an all-year, desirable shrub.

—From the Flower Grower.

Fireblight in New Zealand is dreaded as much as the European Corn Borer is in America. In order to avoid any possibility of spreading this disease from one section to another a quarantine was recently established in an infected area in a large tomato growing section prohibiting the movement of tomatoes for fear there might be some insects on them that would carry the disease.

Of the thirty-five known species of hydrangea twenty came from China and Japan.

To calculate and keep a record of the exact number of fruit or the exact weight of fruit from each tree would be impracticable. To the average orchardist an estimate of the crop of each tree would be sufficient, as after a little practice growers would soon become proficient in estimating to a nicety the crop of any given tree. The work can be done expeditiously and accurately enough for all practical purposes. The six great factors which determine production are, inherent quality of tree, cultural operations, location, sanitation and manuring, and pruning.

Delphinium (larkspur) and madonna lilies is a combination worthy of a place in everyone's garden.

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