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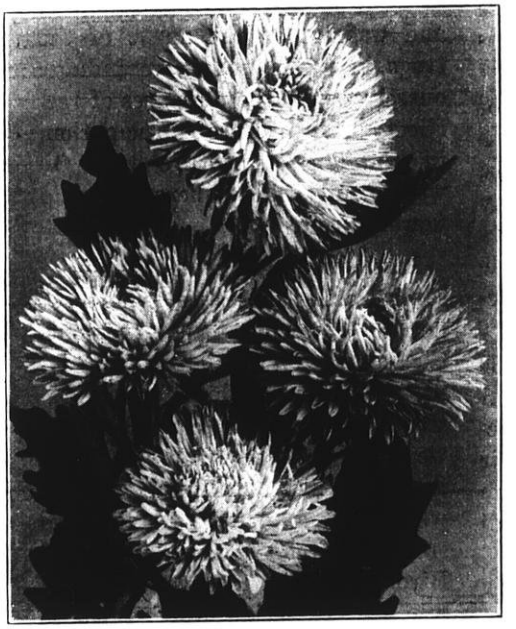

WHERE THE WILD FLOWERS GROW

Wm. Toole, Sr., Baraboo

In the days of "Auld Lang Syne" when it was a pleasure to ride behind a team of horses, or a single rig, without cause for fear of danger on the road, we used to make trips to various places over highways and byways, to enjoy the landscape views, and the native vegetation which gives the finishing touches of beauty to our scenery.

With auto travel, one gets but fleeting views of our wild flowers, unless trips are made for the special purpose of discovering what we may desire of our native flowers, but with a driver who appreciates nature's floral gifts, we have the advantage that we may go farther, when seeking places where may be found the various species which we look for.

One needs to think back not many years to realize that because of the increase of cultivated fields, and intensive pasturing, many kinds of our native wild flowers are disappearing from considerable stretches of our best farming sections.

Ruthless picking of some kinds of flowers, notably the Trailing Arbutus, and Lady Slippers, or Moccassin Flowers, is hastening their disappearance, but the breaking up of their homes is the principal cause of their passing from us.

In our county we fortunately have lands rough, or otherwise unsuitable for cultivation, which cannot well be devoted to pasturing, so we may hope that for some time, if we go far enough, we may be able to find nearly all of the species which we had with us years ago.

Our state has wisely set apart various places for public parks, because of scenic beauty or historic interest. May their numbers be increased and I wish that in each park there might be established all of the various kinds of native plants adapted to their respective locations. For instance, it would not require any great effort to start small colonies of various kinds of plants at Devils Lake Park, which are not now found there, and with the protection given them they would naturally increase when once established.

And there should be more local rural parks, where nature has bestowed beautiful features of interest, and these might also be tree and plant preserves. When the lengthening winter days are cheered by southern breezes, which bring to us the early spring birds, and waft to us the music of the frogs in the marshes, we indulge ourselves with the pleasures of recollection, and joys of anticipation, in thinking of future trips to woods and fields, where the wild flowers grow.

Last spring we made a trip of several miles to secure a plant of double flowering Rue Anemone, the location of which a friend told us. We found three plants instead of one, and learned where we could get some plants of large flower White Trillium. Later, while on a pleasure trip, we stopped to collect some plants of Birds Foot Violet. Over the fence was a rocky ravine, which we were tempted to explore, because down below there seemed to be masses of our favorite Rue Anemone.

Near approach disclosed that the mass of plants was a luxuriant growth of Isopyrum, which very much resembles the Anemonella. Our ravine proved to be a rocky gorge where were sheltered a considerable variety of ferns and early flowering wild plants; Hepatica had been there in abundance, with a plenty of Blood Root and Dutchman's Breeches. The peculiar appearance of some of the Dicentra leaves disclosed that there was included a considerable amount of Squirrel Corn, a variety of plant which I had often sought for without finding.

Another pleasing discovery was the Christmas Fern in plenty, which is rarely found in our section. The two evergreen shield ferns, Aspidium spinulosum and Aspidium marginale, Asplenium acrostochoides, the Bladder fern and others were also there.

While many favorite early spring flowers are found in the woodlands, others, such as the Badger Bloom, Yellow Puccoon, Sun Dial, Shooting Star, Cranesbill, Prairie Phlox, Blazing Star, Orange Milkweed, Compass Plant and many others, are found in the open country which in an early day was called Oak Openings.

Some species show a wide range in choice of location. While I have never found the showy Lady Slipper in swamps or nearby land, I have friends in other parts of the state who think it a mistake to believe that they grew elsewhere than in marshes.

We find the Spiderwort most plentiful in light soils, yet they also grow where it is marshy.

While we find many kinds seeming to make special choice of their habitat, such as the Columbine and Harebell, yet they wonderfully adapt themselves to changed condition, if not crowded with other plants, and under cultivation these plants grow to a size never attained in the wild state.

My greatest surprise in taming

the wildings has been with the Marsh Marigold. The clump of plants, which has been growing in ordinary clay garden soil for several years, was taken dripping wet from a marsh. The plants are somewhat dwarfed, but each spring show a mass of golden yellow blossoms. I find there are many persons who cultivate our native plants to some extent, so that out in the wild is not the only place where the native flowers grow. Ferns with most growers have usually been the nucleus of collections which have been gradually enlarged by the addition of other plants. Some of the early flowering kinds of wild flowering plants ripen their foliage early and in late summer seem to the inexperienced growers to have passed away, while in fact they are only resting, with energy stored up for another season's blooming.

If their roots are not disturbed they greet us again with their flowers the following spring. In this class we may include Blood Root, Dog Tooth Violet, Virginia Cowslip, Shooting Star, Showy Orchid, Spring Beauty, Trilliums and others. Some kinds of our native plants have been added to the general list of plants in the trade, of which we may mention the Woods and the Prairie Phlox, Orange Milkweed, Blazing Star, False Dragon Head, Cardinal Flowers, Turks Cap Lily, New England Aster, and we become accustomed to seeing them growing in general collections of plants.

Most of our own native plants have been collected while in flower, and if carefully taken up with plenty of roots which are not at any time permitted to become dry, they can be successfully transplanted. When on an outing we take a stout trowel for digging, and papers to protect the roots if we desire to collect plants.

The trowel is not always sufficient for digging the plants. For some of the strongest and more deeply rooted kinds a spade is needed, but, whatever the kind, roots must be cared for and if the season's growth has not been finished a fair amount of foliage should be retained.

The best time to move some plants is shortly after they have done flowering. This especially so with the Cypripediums or Lady Slipper.

Ferns and the early flowering woodland plants seem best adapted to a sheltered location with partial shade, but most of our native plants thrive well in the open. While plants are adaptable to various conditions, too much should not be required of them. Plants which are not deeply rooted must not suffer too much from dryness. The same may be said for those which naturally choose a moist situation. Those which seem to choose dry situations should at least be given good drainage.

Some kinds, especially those belonging to the heath family, seem to have a preference for, and a few even require, an acid soil, but there are enough kinds not so capricious to give us a wide range of choice. In a very interesting book, entitled "Taming the Wildlings," the author, Herbert Durand, makes special emphasis of such preferences of some kinds, so if you wish to have success with such kinds as Trailing Arbutus, Blueberries and Huckleberries, you need to provide a naturally acid soil or make it acid for them. According to Mr. Durand, woods earth from under trees which furnish tannic acid, as oaks and hemlocks, is sufficiently acid for most of such plants. He says that the acidity of soil may be increased by sprinkling the soil with a solution of tannic acid, one part of acid to fifty parts of water. Mr. F. V. Colville, Chief Botanist of the United States Department of Agriculture, has obtained very encouraging results from the use of aluminum sulphate as a means of increasing soil acidity. Mr. Colville's method of applying aluminum sulphate is to sprinkle it evenly over the surface of the ground about one-half pound to the square yard. In our wild flowers plantings we should consider harmony of surroundings, and it seems better to group our natives together rather than to mix them indiscriminately with other garden flowers.

I have had good success in raising some kinds of our native plants from seeds, for instance, the woods and prairie phloxes, Columbines, Harebell, Orange Milkweed, New England Aster, Turks Cap Lily, Cardinal Flower, White Snake Root, Black Eyed Susan, Compass plant, and Prairie Dock.

This interesting paper, read at the Summer Meeting, Gays Mills, was written by request of the Editor, who has observed for years Mr. Toole's wonderful success in transplanting from the wild the kinds he has named in this paper and many others. Mr. Toole's complete paper includes lists of native ferns "which are easily grown and not rare." These lists will appear in a later issue, accompanied by further comments by Mr. Toole.—[Editor.]

SAUK COUNTY LEADS

On September 1st Sauk county enrolled its one hundred seventy-fifth member and Secretary Gemmill promises 200 by October 1st. Oshkosh Society has 102 members.

LATHAM VS. REDPATH

This case has been in the courts of horticulture for about three years. For the benefit of those who are not familiar with the situation we give the following facts.

A few years ago the Minnesota Fruit Breeding Farm, established and maintained by the University of Minnesota, sent out, for trial, a red raspberry catalogued as "No. 4" or "Minnesota No. 4," distributed mainly through the Minnesota State Horticultural Society. This proved to be a very fine raspberry, much better in every way than any of the older varieties—vigorous, hardy and productive. It was later named Latham in honor of A. W. Latham, who was then secretary of the Horticultural Society.

Either two or three years ago (the exact date is not at hand), a Minnesota nursery firm introduced and offered for sale the Redpath raspberry, which they claimed excelled the Latham and also claimed that it was a new variety distinct from the Latham.

As it resembled the Latham in many ways, we were led to doubt that it was anything but Latham. The question was raised many times, "is the Redpath a distinct variety or is it Latham introduced under a new name?"

We wouldn't go so far as to say that the Latham-Redpath controversy has been "raging;" nobody has raged over it, but it simply would not settle down and be peaceful.

Nurserymen are always on the lookout for new varieties of merit, whether a fruit or a flowering shrub, and rightfully so. Growers, big and little, welcome new fruits and flowers. The varieties of real merit last, the others disappear. The introducer is happy because he has a little bunch of money. The buyer is not downhearted, even if the much praised novelty proved a failure; he will come back smiling the next time a world beater is introduced and put his money on the high stepping two-year-old.

In the January issue of the Minnesota Horticulturist, Professor W. H. Alderman, chief of the Department of Horticulture at the Minnesota College, and Mr. Chas. Haralson, then superintendent of the Fruit Breeding Farm, reviewed the question and reported as follows:

LATHAM AND REDPATH RASPBERRIES

Professor W. H. Alderman, University Farm, and Chas. Haralson, Superintendent, Excelsior

One of the most valuable productions from the University of Minnesota State Fruit Breeding Farm has been the Latham raspberry (Minn. No. 4). This berry is now being grown quite generally throughout Minnesota and has been reported to succeed very well in a number of eastern states. More recently a similar variety came into some prominence in Minnesota and has been given the name of Redpath in honor of Thomas Redpath, who first called it to the attention of some Minnesota fruit growers. The Redpath is said to be superior to the Latham in vigor, size of plants and size of berry, but closely resembles the Latham in other characteristics. Two years ago this variety, together with several others which the Experiment Station wished to try in various parts of the state, was planted at a number of trial stations covering the state fairly well and was also planted at University Farm, St. Paul, and at the Fruit Breeding Farm. A careful checking up of these tests this year showed that Latham and Redpath were very similar, if not identical, in each place where they were under trial. Both were characterized by the strong growing canes, the large berries, many of them being double in the early part of the season, and comparative freedom from thorns and both ripen at the same time and extend over the same length of season. While it is unquestionably true that there is a difference in vigor of the plants as they have been grown in some locations in the state, it is also equally true that in a number of other locations, notably those referred to above as trial stations, there have been no distinguishing characteristics to separate one variety from the other. It seems clear that a fruit grower will get a very good variety of raspberry under whichever name he buys it. The great similarity in all plant and fruit characters at once raises a question as to the advisability of attempting to maintain the two as separate and distinct varieties, since it is utterly impossible for a nurseryman or fruit grower to distinguish differences in the fruit. Great confusion will inevitably result, as it would never be possible for any one to determine definitely whether any given plantation of raspberries belongs to the one variety or the other.

Similar conditions have occurred in the past, when the Gano and the Black Ben Davis apples were introduced. Apparently they originated separately and in the beginning may have had some small distinguishing characteristics, but they at once became so badly confused among the nurserymen that today it is impossible to say what is a Gano and what is a Black Ben Davis. Similarly the Arkansas and Paragon apples have become so confused that the grower does not know which variety he is growing and, as a general rule, cares less.

Unless further distinguishing characteristics may be discovered which will unquestionably distinguish the Redpath from the Latham and set the two apart as distinct varieties, it would seem unwise to precipitate most certain and inevitable confusion in our horticultural nomenclature by attempting to keep the varieties distinct. One possible solution of the difficulty might lie in the propagation of a Redpath strain of the Latham raspberry, thus retaining the older

and better established name of Latham as the primary varietal name.

We are not informed as to what, if anything, happened in Minnesota between January, 1923, and July, 1924, but it would seem that somebody built a new fire under the Latham-Redpath pot and from merely simmering it has now boiled over. The following is from the Minnesota *Horticulturist* of August, 1924:

"**Latham Raspberry.**—The executive board accepted the report of George M. Darrow, Horticulturist, United States Department of Agriculture, Washington, relative to the identity of Latham (Minn. No. 4) and Redpath raspberries. His report was to the effect that the mosaic disease was undoubtedly causing the difference in vigor of the Redpath as shown in some fields. Specimen plants were sent Mr. Darrow from various places in the state. The important paragraphs in his letter are as follows:

"I recently went over these plants with the following results: All plants of the Redpath and Latham from the Fruit Breeding Farm, and all the Latham from the place of L. F. Shaw, and from Shakopee, showed mosaic disease in its worst form. Of the plants from Webster many of the Latham showed distinct mosaic, and it is probable that all plants of the Latham from his place have mosaic while no plants of the Redpath from his place show it as yet. From the correspondence I have had with you and others, and the notes published concerning these two varieties, it seems to me that there is little doubt but that the two are one variety, but that the stock of Latham distributed at the present time is affected with mosaic diseases, while the plants which Webster secured earlier, and which have been given the name Redpath, are at the present time free from it. This would account for all of the difference in the productiveness and vigor of the plants. It will make your problem of far greater importance than simply a question of the identity of two lots of plants. I need not call your attention to the seriousness of mosaic on the red and black raspberries. Several papers have been published on these diseases of raspberries in the past two years. Without doubt the mosaic is the most serious thing encountered by raspberry growers. In many regions it undoubtedly has been the factor which caused large areas growing raspberries to abandon this crop, and a recent report states that in the whole Hudson River valley raspberry region no plants of one especially desirable variety, of which hundreds and perhaps even a thousand areas are grown, could be found not affected by this disease."

Mr. Winter, of the Minnesota Nursery Inspection Service, reached a similar conclusion after examining many fields of raspberries in the state.

The name Latham should be used hereafter. The next big job will be to rogue out all plants showing evidence of mosaic so that disease-free stock will be available within a few years. Prof. Alderman has found a few isolated patches of Latham plants that came direct from the Fruit Breeding Farm through the premiums distributed by this society many years ago. These plants are to be examined carefully so that a supply of disease-free plants will be available for premiums just as soon as an adequate supply can be obtained."

So there you have the facts up to date. If there are further developments you will be informed.

In matters of this kind the state horticultural society should be the court of final resort. The Minnesota society has now recorded its opinion.

There are two things about which every state horticultural society should be concerned: the cluttering up of catalogs and fruit lists with varieties that are not distinct and to protect its members from fraud.

The writer spent considerable time last August, following the summer meeting in La Crosse, in trying to learn something more about the Redpath than could be learned from seeing plants in a nursery row. The conclusion arrived at then and not changed since was that there was not enough difference between the Latham and the so-called Redpath to warrant listing them as separate varieties. No one could be found who could or would state anything positive about the origin of the Redpath, whether it came from the Minnesota Fruit Breeding Farm, a chance seedling or a result of artificial cross-pollination. When you find a situation of this kind hedged about with secrecy there are just two courses open—employ detective methods or quit. We quit, preferring to let the Minnesota people settle the question.

If the introducers of the Redpath and dealers accept the dictum of the Minnesota society the incident will be wholly closed. If not we will attempt to keep our readers informed of the progress of events in the case of Latham vs. Redpath.

BLIND TULIPS

Question: Is there such a thing as a blind tulip?—L. V. M.

Answer: The Department of Agriculture says that a blind tulip is one which has reached flowering size and does not flower. Blindness in commercial bulbs may be due to various causes, such as too high temperature at the time when the plants are rooting. This sometimes occurs when the plants are forced. Almost without exception, a tulip bulb of proper size and ordinary firmness has a flower in it, and if properly handled will produce that flower.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

HEARD AT THE FAIR

"Sure, I know him; he's been down here two years now with the calf club; he lives in Taylor county; I come with some vegetables; all us kids get acquainted, and we learn a whole lot about everything. Some day us fellows are going to run this fair, and I bet you we do a better job even than this. You see, we'll all know each other and we can talk things over and work together."

Isn't that a fine motto for any fair, county or state—"Talk things over and work together?"

"Will you please tell me how I can get those big, fuzzy lavender flowers? They are Centaureas, but whenever I ask for them I get what I call cornflowers. Oh, is that it! They all belong to the same family, and I must ask for Centaurea Americana. And that lavender mist—they told me it was Statice—but what I bought didn't live over winter. I must ask for Statice Latifolia. And I bought Larkspur seed, it blossomed real pretty, but it didn't live over winter and it wasn't such a beautiful flower. I should have asked for Delphinium. I guess you think I'm asking a lot of foolish questions, but folks who have lived all their life in a flat and played on the street never had much chance to learn about flowers and gardens. But John and I bought a little piece of ground when we were married, and we want our little boy to play in a garden and see flowers grow. I want to have the kind of a garden that stays and we haven't much money, and when you don't know anything about such things it's hard work. I didn't even know the flowers from the weeds at first. Then a lady told me to sow some in a flower pot so I could get acquainted with them; that helped a lot. Now I ask questions here—most everybody is real nice—and I learn all I can. Then I can teach my boy when he gets big enough to run around. He won't have to play in the street."

"Did you see those plants in pots up there in the corner? You would never believe what kind of a plant that lavender mist grows on. Just look at it once; sure, it's a real plant, none of those Japanese wonders. The flowers are grown on real tight."

Twenty-three years of listening to what I at first called "fool remarks and questions" have taught me tolerance, patience, and at last a real sympathy and understanding. These questions are not fool questions. These people are trying their best to learn, and perhaps if I had lived in a flat and played on a crowded city street, instead of in an old-fashioned garden, I, too, might be asking the same sort of questions. Some day that small boy—whose father and mother are planning a garden and a yard for him to play in—will look back with a real appreciation of what his parents did for him.

If money could take memories from me, there wouldn't be enough wealth in the world to buy the memory of my childhood home—the gray cottage on the quiet street; the wide, grassy yard; the Transcendent Crab tree with the seat high up in its branches; the wild plum tree I could just touch from the upstairs window; the row of cherry trees; the currants and raspberries along the fence and the strawberry bed; the grape vines that were trained over the kitchen and pantry windows. There were compensations even for washing dishes—when the grapes were ripe. And then there were the flowers—everywhere — every old-fashioned flower you can think of, from the time when narcissus and tulips blossomed until the first snow in the fall covered the faces of Johnny-jump-ups and pansies, and my mother carefully moved from the little round bed under her bedroom window the tea roses and heliotrope that always grew there. Even in the winter time the yard was a fine place for snow forts; no one spoiled them for you, as they did outside.

As we grow older we forget many things—they aren't so important—but childhood's memories cling. I am glad the little boy is going to have a garden to play in and learn to know and love flowers.

C. E. S.

CANTERBURY BELL FROM SEED

Question: Can I save time by sowing the seed of Canterbury Bells in the fall, or do they need two full seasons for flowering?

Answer: If seeds of Canterbury Bells are sown early enough so that the seeds germinate, and the young plants are carefully protected, most of them will bloom the following season.

DIVIDING PHLOX

Question: How and when should Phlox be divided; must all blooms

be picked before going to seed, to prevent going back to the wild?

Answer: Phlox can be divided in the fall or spring, but fall set plants should be mulched. To divide, dig up the entire plant, shake off the soil from the roots and separate each outside stem and its roots from the large central roots. Replant in deeply spaded, well fertilized soil. Faded blooms should always be removed, as stray seedling plants are liable to spoil a fine bed of Phlox.

TULIPS: CULTURAL DIRECTIONS

By R. B. Griggs, Baraboo

The bulbs may be planted any time in September or October, the earlier the better. They may be planted any time before the ground freezes. Tulips make their root growth in the fall after planting and do better if planted early and deep. October first is a good time to plant. Plant the small bulbs early by themselves. Plant in well drained, good mellow garden soil, if you have it. Sand may be mixed in with very heavy soil. They will do quite well almost anywhere, if the soil is well worked and mellow. Plant deep, at least four or five inches deep. They stand the winter better when planted deep. If you intend to take the bulbs up in June of each year, plant in rows about four inches apart, and set the bulbs about three inches apart in the rows. They show up better when in bloom if planted close together. If the bulbs are to be left in the ground two or three years, then make the rows five inches apart, and set the bulbs four inches apart in the rows. The large Darwin tulips should have more room. A good way to plant is to remove about four inches of the top soil from the ground required, to one side, then dig up and loosen the remaining soil and level with a garden rake. Make the beds about three feet wide with a path between. Then set the bulbs in the ground about the depth of themselves. When the bulbs are set, put back the soil removed to an even depth, and level as before with a garden rake. Raise the beds slightly above the surrounding soil to insure drainage. The beds may be covered with a thin covering of leaves late in the fall, and that covering left on in the spring. If planted deep they will do well without covering. If a heavy covering is put on it should be removed very early in the spring.

Early tulips will usually bloom the fore part of May. Darwin tulips and other late tulips, from the middle to the last of May. Pick the flowers. The bulb will be spoiled if allowed to mature seed. After the tulips are done blooming, the fore part of June, or when the foliage turns brown, and before it is dead, take up the bulbs. The partly green foliage is a string on the bulbs, so that they can be easily found. Many growers take up the bulbs in June of each year and plant them again in well prepared soil in the fall. They are best dug every year and replanted. Others leave them in the ground two or three years at a time, and then take them up. The ground should grow some other crop in the summer. When the bulbs are taken up, remove the foliage, allowing part of the soil to remain on the roots. Place in shallow boxes and store in a dry, airy room or shed, out of the reach of the sun, so that the process of drying may not be unduly hurried. After the bulbs are quite dry, they should be cleaned, the offsets taken away from the large bulbs and all placed in a dry room or cellar, out of reach of mice, to remain until the end of August when they should be sorted.

It is well to make at least three sizes. The largest and finest are to be kept for October planting, and should be planted by themselves. The next largest, all larger than a filbert, should be sorted out and planted in September for growing on, and should make the flowering bulbs the next year. The smaller bulbs will take more time. You can save your own tulip bulbs from year to year, and if the sorting into sizes is properly done, get just as good results as can be obtained from any that come from Holland.

Circular sent to members of the Sauk County Horticultural Society by A. J. Gemmill, Baraboo, Secretary.

WOOD COUNTY GROWERS COOPERATE

"Wood County's Best" is the brand name adopted by the Wood County Fruit Growers Association, under which strawberries produced by members were sold this year. The W. C. F. G. A. was organized in April of this year and is an auxiliary of the State Horticultural Society.

THE WAY TO WEALTH

They tell us of a fruit grower who started poor twenty years ago and has retired with a comfortable fortune of $50,000. This money was acquired through industry, economy, conscientious efforts to raise good fruit, indomitable perseverance, and the death of an uncle, who left the fruit grower $49,-999.50.

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GAYSMILLSWARD

Attendance light; enthusiasm heavy. Program short; interest long. Hills high; gears low. These are four of the outstanding points of the summer meeting at Gays Mills.

There were many other good points, thousands of them; but they were not well taken, so we cannot discuss them here—mosquito points and "chigger" points. Of this, more will be said later.

THE PROGRAM

By way of novelty we print the program after the meeting instead of in advance. (Whenever state printing is done in Wisconsin instead of in Iowa, as now, it may be possible to reverse this order.) Here is the program as distributed on mimeographed sheets at the convention and as carried out without a missing number:

Program, Summer Meeting State Horticultural Society, Gays Mills, August 20th and 21st, 1924.

(1) How Five Acres of Apple Orchard grew to Seven Hundred Acres,
F. Cranefield, Secy.

(2) How We Put the Apples and Cherries on the Trees,
R. L. Marken, Supt., Gays Mills.

(3) An Experience in Making Vinegar,
J. C. Schubert, Madison.

(4) Dehydrating Plants for Fruit and Vegetables,
M. B. Goff, Sturgeon Bay.

Discussions
Question Box

(5) Geology of Southwestern Wisconsin: How These Hills Were Made,
C. E. Brown, Curator, Wisconsin State Historical Society, Madison.

(6) The Izaac Walton League,
M. B. Olbrich, Madison.

(7) Wild Flowers,
W. J. Anderson, Madison.

(8) Where the Wild Flowers Grow,
Wm. Toole, Sr., Baraboo.

Wednesday Evening
?

Thursday, August 21st

Automobile Tour: Leave Gays Mills 8:00 A. M.

(1) Inspection of Orchards.

(2) Drive to Prairie du Chien and Nelson Dewey Park.

Lunch at Prairie du Chien.

Scraps from this feast and some of the side dishes will be offered readers as soon as the stenographic report is available. The real meat is only for those who attended, for neither stenographer or secretary can convey to readers that which is of greatest value, the contact with fellow members, the inspiration that comes from meeting and talking, face to face, with others whose interests are as yours.

The heavy storms of Monday and Tuesday and resultant bad roads kept many away.

Also, the Board of Managers, inadvertently, innocently, carelessly and casually set the meeting too close to State Fair. We have since conferred on this and unanimously agreed to accept only six and one-fourth per cent of the blame. The fair moved a week ahead this year and interfered with our calendar week for summer meeting. They, the State Fair Board, realizing their mistake, moved the fair dates a week later for next year.

THURSDAY

Visitors expressed surprise at the extent of the orchards, altho they saw only one half of the trees. It is exactly four miles from the Summit Orchard, our first stop, to Round Top and Indian Point, but there was no road of any kind through the southern half. The thirty-mile drive, the first five straight up, to Prairie du Chien through southern Crawford county, one of the finest farming sections in the world, was a revelation to Southern Wisconsin people who avoid high places.

Nelson Dewey Park is four miles from Prairie du Chien. It took one hour steady driving to reach it. Only an aviator, a crow or a buzzard could make it in better time. How come? The park skirts the banks of the Wisconsin river just above its junction with the Mississippi, 650 feet above. There is no bridge over the Wisconsin nearer than Bridgeport and no car has yet been made that will climb a perpendicular cliff. Moyle tried it with his Elizabeth and failed.

No description of Nelson Dewey Park will be attempted, none is needed for those who viewed the magnificent panorama from the outermost point of the cliff. The park is still there. In time, no doubt, the state will build roads into the park. When that is done there will be a thousand visitors for every one that now reaches it, at risk of life, limb, temper and his everlasting soul.

CHIGGERS

Pests familiar to gardeners, both flower growers and those who produce small fruit, are the well-known "red spiders," pale little mites which form a web on the undersides of the leaves of raspberry, phlox and many other plants. They are members of one of the twenty-nine families of mites and mites in turn are associated with scorpions, spiders and ticks to form the great class of arachnidae, rather closely related to the other great class we know as insects.

Horticulturists met with several thousand members of another of the families of mites during the meeting at Gays Mills. These were the chiggers, or harvest mites. They are pale little animals, each about one hundredth of an inch long; in the young and troublesome stage bearing three pairs of seven-jointed legs on their tiny, egg-shaped bodies.

The adult mites live on the ground and in crevices, sucking the juices of different species of insects, such as plant lice and grasshoppers. Until two or three years ago it was believed that the young larvae (which normally are found on insects and small mammals, such as mice), would burrow into the skin of such human beings as were unfortunate enough to become infested with them. Careful experiments by a specialist, however, have shown that the irritation is undoubtedly due to their attachment to the skin and the scraping action of their mouth parts. Some fasten themselves to the smooth surface, while others are attached at the base of hairs, the mouth parts in the latter case being thrust into the opening of the hair follicle at the base of the hair.

After crawling on one's person or clothing the little chiggers run about an hour or so and then attach themselves to the skin or hair, resulting in a burning sensation within a few hours after infestation. The most severe itching usually comes at the end of about a day and a half. If they are very numerous, a slight fever and a peculiar nervousness sometimes results.

The itching caused by chiggers may be relieved by bathing the parts affected with soapy water and then sponging with a weak solution of carbolic acid (1 to 30), weak ammonia or alcohol. Salves containing sulphur are also often used. The specialist on mites mentioned above recommends dusting the hosiery and underwear with sulphur when one expects to visit an area infested with chiggers.

Several of the other families of mites are even more distressing than chiggers. One group, for example, is responsible for what is called Norwegian itch and swine mange. Another causes sheep scab, while the work of a third group results in follicular mange or blackheads in swine and other animals. Poultry mites and flour and meal mites, which sometimes cause the irritation known as grocer's itch, are also related.

THE EDITOR'S OPINION

(Here you have the cold dispassionate discourse of a scientist. I beg, here and now, to submit the opinion of a mere layman.)

You may get mosquitoes standing up, bedbugs lying down, but to get chiggers you have to sit down. Fracker says they only crawl *up*. I know better, they crawl *through*. And, what's more, they keep on crawling when they are through crawling through whatever they crawl through, whether you have on much or little.

People who sat on the terrace at Gays Mills the evening of August 20th between the hours of 7:30 p. m. and later, during the progress of the pageant, complained of mosquitoes. If they had sat where I did out in that hay stubble along with Fred Buerki and Brown and Barton and Mrs. Buerki and the dancer, they would have had something to complain about, or scratch about.

The chigger is *not* an insect, it is a child of the Devil. It, or she, has the snout of a mosquito and a tail of woe. You wake up the following night, turn on the light and look for bedbugs. After that you scratch for three nights and days. Common report says that chiggers bore through the skin, there set up housekeeping and rear a numerous family. I believe it. If they would live in peace it wouldn't be so bad. Notice Dr. Fracker says, "if they are very numerous a slight fever and peculiar motions sometimes result." That's the only part of his discourse that I am willing to believe. He has never had chiggers. I have. As I said in the beginning, you have to *sit down* in hay stubble to get them. C.

OLBRICH PLEADS TO SAVE FORESTS

Mr. M. B. Olbrich, of Madison, who earns his daily bread by practicing law but who at heart is a horticulturist who knows flowers and their haunts, who looks into the future as few of us do, who sees in the present rapid advance of land development, not to say land exploitation, in northern Wisconsin the great danger that we are about to deprive future generations of the heritage that is rightfully theirs and which we are squandering for a mere mess of dairy feed, pleaded with us at the summer meeting in Gays Mills to vote for the proposed "forestry amendment" at the November election.

Mr. Olbrich said in part:

Your chairman made a request to the president of the Madison chapter of the Izaac Walton League for a representative to appear and explain to you what the purposes of that organization are. I think the avowed purpose of the organization can be stated in just a sentence, and that is, so far as possible, to bring about the restoration of the outdoor America of our ancestors. From a prospectus widely circulated, I read:

"The movement represents a patriotic and unselfish endeavor to save for our children their great American outdoor heritage that they may have the priceless memories of days spent on windswept, clear and gleaming waters and nights in fragrant, healing forests, and that they may gain the health and happiness that only the outdoors can give them."

The Madison chapter of the organization has stated as its object:

"The object of this chapter shall be to promote by precept and example the highest standards of sportsmanship; to increase good fellowship among sportsmen; to guide and direct the efforts of the members in the endeavor to create public sentiment for the conservation of fish, game and bird life, for the preservation and development of our forests and natural landscapes, and for the protection of our wild flowers, lakes and streams."

The ordinary notion that it is a purely sportsman's organization, with no thought beyond assuring its members of better hunting and better fishing, is therefore a mistaken one. Obviously, there can be no hunting and no fishing for anyone, unless the existing supplies of game and fish are conserved and even multiplied. But the great underlying primary thought is to hold for succeeding generations all that we now possess of wild-wood and water and the plant and animal representatives native to the haunts preserved. It aims at the preservation of the wild flower and the wild animals alike. It asks for greater caution, before the nesting places of wild fowl are completely destroyed by indiscriminate drainage, and it especially pleads for a recognition that natural beauty is a great asset held by one generation in trust for all succeeding generations, and that this age has no right to sacrifice to selfish uses the God-given heritage of forest and stream and all of those things that make for greater sanity in social relations and greater health in public thinking. The outdoors, in a word, is something that must be preserved if we would be measurably true to trust.

I would not feel, however, that I were justified in taking my time or yours to come before you this afternoon to address myself to a mere general program, important as that may be. There is a specific proposition now pending before the people of this state that to my mind anyone who professes to subscribe to any of the principles of the Izaac Walton League must upon every possible occasion give support. One of the purposes of the League is announced to be the broadest and most comprehensive system of Federal control feasible over the forests of the United States and dependencies. If by this is meant that the Federal Government shall have the exclusive charge of the development of the forests of America and that the Federal Government shall exclusively carry on the program of reforestation, then I, for one, differ with the announced program of the League in this respect. I believe in the fullest cooperation between the state and Federal Government in the matter of forestry development.

Believing, as I do, my primary purpose is to call your attention to the fact that there will be submitted to your suffrage at the coming election a proposal to amend the constitution so that "the state may appropriate moneys for the purpose of acquiring, preserving and developing the forests of the state; but there shall not be appropriated under the authority of this section in any one year an amount to exceed two-tenths of one mill of the taxable property of the state as determined by the last preceding state assessments."

To my mind, no more important public question has been sub-

mitted for determination for a generation past than that which is involved in right action upon this proposed constitutional amendment. I do not profess to be deeply versed in the lore of forestry, but when a standard work of reference discloses that at the present rate of consumption the entire available forest area of the United States will absolutely be gone at the end of twenty-five years, and further tells us that 250 individuals own more than one-half of all the forest lands in America, the situation is a serious one; it is one in which this state and the other states have marked time altogether too long. Way back in 1908 a similar constitutional amendment was submitted for action, but some details necessary to a valid passage by two sessions of the legislature were omitted, with the result that the Supreme Court of this state in 1915 declared the amendment nonexistent. This has made necessary the submission of the present amendment. Ten valuable years have already been lost because someone had blundered back in 1908. Too often constitutional amendments are not clearly understood and are defeated upon the general principle that all change is necessarily bad. The thing that I am especially anxious to accomplish this afternoon is to direct your attention to the fact that this particular amendment is pending, and that there is no public project before the people of this state that can mean so much to succeeding generations as this. It is my thought that each of you constitute himself a committee of one to carry back to the community in which you reside the fact that a vote this fall may be decisive upon what is going to be done for another ten years.

Wisconsin, very fortunately, already has the nucleus of an adequate forest preserve. According to the article noted in the Brittanica, Wisconsin apparently stands third in the extent of state-owned forest lands. As I recall, the figure in that work is approximately 380,000 acres. Mr. Harrington, of the Conservation Commission, puts the state ownership at about 338,000 acres. Pennsylvania and New York alone exceed Wisconsin in the extent of publicly-owned forest areas. As Mr. Harrington states, notwithstanding this fact, Wisconsin has passed from a lumber exporting state into a lumber importing state. There are in this state at least three million acres of land which, because of comparative low fertility, are better suited for forest than farm production. Timber cutting in this state is now going on at such a rate that, so far as Wisconsin is concerned, in twenty years all the remaining timber land in the state will have been logged.

This is not a problem for consideration at some far-off future date. Twenty years in the life of a state is a relatively short time. There are approximately 11,000,000 acres of cut-over land which, if protected, would produce new forest growth. This is not a problem that can be left to the tender mercy of a haphazard, private selfishness. As things exist today, every incentive is given to the owner of timber lands to destroy them. If he is called upon to respond in taxation from year to year upon the value of a forest area that becomes available only through its destruction as a forest, there is very slender chance that the private owner will consult anything more than the immediate call of his own pocketbook. Wise, vigorous, extensive state action must be the program underlying any sane and wholesome public policy. The time calls for action—for action now—and each one of us must contribute to the result by seeing to it that, so far as in our power lies, public attention is called to the pending amendment and the imperative necessity of its adoption emphasized.

Your Secretary feels that there is none but will agree with Mr. Olbrich, and urges every member who has a vote to go to the polls if for no other reason than to vote for this amendment. It will be plainly marked on the ballot so the voter need not confuse it with other amendments.

This amendment has twice passed the legislature and twice received executive approval. The only requirement now is approval by the voters. The amendment proposes that "the state may appropriate moneys for the purpose of acquiring, preserving and developing the forests of the state; but there shall not be appropriated under the authority of this section in any one year an amount to exceed two-tenths of one mill of the taxable property of the state as determined by the last preceding state assessment."

Wisconsin has lacked a rational forestry policy. This has not been because of the laxity of public officials but wholly through the indifference of the voters.

Article VIII of the Constitution

(Continued on page 14)

THE FLORISTS PAGE

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

UNDER THE MAPLE LEAF

It is a far cry indeed from the antedeluvian florists who dwelt under the fig leaf to the present representatives here in Montreal. The Fourth of July has come and gone and here we are up in Canada, under the British flag, finding florists making a winning battle against a wintry country of ice and snow. But they have been at it seventy-five years. American tourists envying the velvety English lawns were told the secret of acquiring such lawns—patience, time and work. That goes double for the McKenna florists. We chose their business to represent the only one we will write about in Canada, and it is undoubtedly the largest.

James McKenna, the father, is 73, and bright as a dollar. He is active, full of jokes and still president of the company. All the rest of the associates are his sons. Frank McKenna is the retail manager of the two Montreal stores, at St. Catherine and Guy streets and at 232 Laurier avenue, West. Harry W. McKenna is the retail manager and proprietor of their Quebec store 180 miles from here; Leo McKenna is the manager of the greenhouses, and Phillip is the youngest son, who has been studying forestry and landscape gardening in New York, but is now back at the local greenhouses.

Their greenhouses here are only ten minutes from their St. Catherine street store, nestled in between two mountains, Mount Royal and Cote des Neiges (Mountain of Snow). Here they struggle to produce enough flowers to meet demands during a winter when it regularly stands 10 degrees below zero and once in a while reaches 32 below for luck. Under such conditions, amid four foot of snow, there is regularly ice half an inch thick on the glass inside from the middle of December to the middle of February. Roses are grown, but not in paying quantities. They are using Miller boilers with overhead

One of the McKenna Montreal Stores

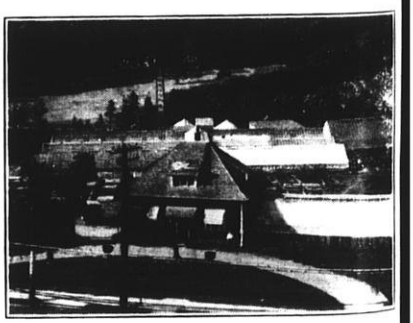
mains and electric force heating drafts, and with 250 tons of anthracite coal during a winter, yet these unusual conditions obtain. On the other hand, the summers here are very hot, due to the humidity of the air near the St. Lawrence river.

Besides the usual run of greenhouse stock, the outdoor perennials do very finely at Montreal. Cold weather forces root growth, so that when the hot weather comes, perennials rapidly blaze into color. It is well known that wild flowers display their greatest abundance of bloom and color just next to a glacier field on the high mountains, and their perennials partake of these characteristics.

The McKenna tribe use fourteen men at their greenhouses and twenty-five in the spring while practicing landscape gardening. They use a similar number in their two stores. Many customers are French, with their own ideas of aesthetic beauty, so all their assistants in the store speak French. Their manager in the St. Catherine store, Marcel Le Mat, was born in Paris, but came to New York when 13 years old, was naturalized and learned the florist business there. One sees some daring color combinations and observes that the French customers like a concrete demonstration before making a purchase. Monsieur Le Mat is an adept at that, though, as well as affluent in English.

The McKenna store is the exemplification of what the F. T. D. does for a florist. So many ships go down to the sea from here that bon voyage bouquets are telegraphed in from everywhere. Only yesterday a flock of Los Angeles people took a boat to England, and of the 125 bon voyage bouquets delivered by McKenna, 123 were orders by telegraph.

A feature our United States florists could not supply is their standing offer to supply *any kind* of bev-



Section of the McKenna Greenhouses, Montreal

erage along with the flowers. Another large feature of their business is their funeral design work, which averages thirty designs a day.

At the greenhouse, all bedding plants are grown in pots in the spring, and since some $15,000 worth are sold, it will be seen that there is some business being done. In fact, the McKennas sell something over half a million dollars worth every year. Not only is it representative of Canada, but it is the largest establishment of its kind in Canada.

THE PAGEANT

Where the question mark appears in the program for Wednesday evening supply "The Pageant of the Kickapoo." It was purely an amateur production, not so elaborate, we imagine, as the Bayfield pageant, but nevertheless a success. There had been but two rehearsals, one on the Sunday morning preceding, back of the Washburn Observatory in Madison, and the other just before its presentation. In the meantime everything had happened that could happen to spoil our plans; an almost complete change of cast, lack of equipment, all except the determination of Frederick Buerki, a University of Wisconsin student, that the signal fire should blaze on the cliff three hundred feet above the dark valley below where we sat on the terraced lawn of the church yard.

All went well and the three stages of development of the Kickapoo from the day of the miner prospecting for land, the pioneer farmer, followed by the fruit grower were pictured with such faithfulness to detail as is rarely accomplished by amateurs.

The lines were written by Mr. Buerki, who also staged the masque with the help of his mother, Mrs. Buerki, C. E. Brown, A. O. Barton, Joe Miller, Leslie White, and Miss Wilhelmina Haak, all of Madison. The secretary was impressed into service at the last minute. No one received pay for services, they served for our pleasure. The prologue and the epilogue follow. The meter is readily recognized as that of Longfellow's Hiawatha.

PROLOGUE

The last Kickapoo Chief seated in the valley watching the camp fire of oncoming miners.

"By the puffs of smoke now arising
From the signal fires yonder,
I can see my brave would tell me
Of the coming of strange people,
Of the white man of the sunrise.
He is coming from the Eastland
He will drive us from this valley
From the hunt grounds of our fathers.
For a string of beads in payment
He will rend this country from us.
All its beauty he'll strip from it
With his ax, and plow, and blasting.
For the minerals in this region
He will scar and tear the hillside.
And to raise his fruits and harvests,
We will hear his ax resounding
As he cuts away the forests,
The forests of my people.

EPILOGUE

Thus we show civilization
Has advanced to claim this valley,
But in conquest has not changed it.
All its beauty still is left us
As it was when from the Red Men
Our hardy fathers took it.
For it still is blessed with grandeur
And so blessed it always will be.
This proud valley, dear to nature,
The valley of the Kickapoo.

RECORD CHERRY CROP IN DOOR COUNTY

The cherry crop of 1924 broke all previous records in both quantity and quality, notwithstanding the backward season.

The canning factory finished its run on August 27th after being in operation thirty-two days.

The records of the Fruit Growers Union shows that there were 638,538 cases of cherries handled by that concern, of which 299,726 were Richmonds and 338,812 were Montmorencies.

The total receipts of the company were 14,380,984 pounds.

Of the northern growers, Sister Bay leads in number of cases sent to the factory with 820,443 pounds; Fish Creek is second with 718,118; Egg Harbor third with 686,140, and Ephraim fourth with 269,606. This amounts to 99,772 cases.

There were 122 carloads of fruit shipped to the fresh fruit markets, of which 52 were Richmonds, 48 Montmorencies and 22 carloads were sent out by express. In addition to this, there were 20 carloads of packed fruit shipped by the Martin Orchards and several carloads by parcel post.

The factory put up 1,848,444 small cans of cherries, and 212,969 large cans.

The output this year was 400,361 cases more than that of 1923, and 425,517 greater than the record crop of 1921.

The immense crop was handled in fine shape, both in the factory and to the fresh fruit. H. W. Ullsperger, the general manager, and Charles Augustine, superintendent of the factory, kept things moving smoothly and efficiently, with the crew working at top speed and the factory running without interruptions. — *News,* Sturgeon Bay.

OLBRICH PLEADS TO SAVE FORESTS

(Continued from page 11)

of the State of Wisconsin, as originally adopted, provides that: "The state shall never contract any debt for works of internal improvement." This has been amended to provide that money may be appropriated for public highways. That certainly was worth while. Is it not also worth while to preserve our remaining wild life shelters, to save from destruction, for private gain, the little, pitiable little bit of virgin forest now remaining?

Too often we "pass up" amendments to the Constitution when presented to us for approval at the polls either by failure to vote or voting "no." I served as an election official for seventeen consecutive years. Only a few, probably one in ten, voted the amendment ballots. Many times voters would remark: "No, we've too many laws now," or "I don't know what these [amendments] mean." As the poor amendments were not running for office there were no boosters for them at the pools nor a friend to speak for them. It is quite possible, as Mr. Olbrich stated at the summer meeting, that success or failure of this amendment might depend upon the voters there and then present at Gays Mills.

We have nearly 2,200 members. If 1,000 of them by any chance happen to read this and of that number 500 go to the polls and vote "yes" it may carry the amendment through. If each of the 2,200, or each of 2,000 members, allowing 200 as minors, should vote "yes" there would be no doubt whatever about its passage. If this seems too big to swallow moisten the tongue with this: Of the important amendments to the Constitution few have passed by a margin of more than 1,200 votes, with less then 15 per cent of the voters casting their votes for political officers, voting.

Shall the horticulturists of Wisconsin carry this amendment? Let's do it. Come on, let's go!

F. C.

PLANTING NARCISSUS BULBS

Some of the spring blooming bulbs seem to bloom quite as satisfactorily when planted late as when they are put into the ground early in autumn. Narcissi, however, should be planted in the month of September if possible. Doubtless this is because they make heavy growth early in the spring. Narcissi are cheap now, but conditions will change very quickly, as the Federal Horticultural Board at Washington has given notice that an embargo will be placed on these bulbs after next year. For that reason the wise gardener will plant rather more heavily than usual this season. The various forms of the Narcissus offer wide variety, and by putting in early, medium and late blooming species and varieties, a long season of blooms may be enjoyed.

There are no bulbs which can be naturalized more satisfactorily. The Poet's Narcissus in particular is at its best when used in large masses along the side of a wood or along a fence or in a meadow. It increases more rapidly and gives more flowers than any other species and lasts for many years without attention. Narcissus poetas is a new race made by crossing Narcissus poeticus and the Polyanthus Narcissus. They are hardy, and make very large and wonderfully beautiful flowers. Elvira, Klondike, Triumph, Ideal, Irene and Profusion are good varieties.

Among the early Yellow Trumpet Daffodils, Emperor, Golden Spur, Henry Irving, Spurius, Maximus, P. R. Barr, and Glory of Leiden are both cheap and good. Empress, Victoria, Portia and Grandee are among the inexpensive but showy bi-color Trumpet Daffodils. Among the sulphur and white Trumpets, Mme. de Graf, Mrs. Thompson, and W. P. Milner are unexcelled.

Other Narcissi worth planting are Amabilis, Mrs. Langtry, Duchess of Brabant, Gen. Murray, Barrii, Conspicuous, and Leedsii. The kinds mentioned cover the whole season.

Narcissus bulbs do not care for very rich soil, but the ground should be spaded to a depth of fourteen or fifteen inches, and bigger flowers will result if a little well rotted cow manure or pulverized sheep manure is well mixed with the earth. If the soil is at all heavy a little sand should be run under each bulb.

Narcissus bulbs should stand about five inches apart, and be planted four or five inches deep. Planting can be done quickly by the use of a dibber with a line painted five inches from the end so that the planting will be uniform. It is always best to keep the different species and varieties separate, and to plant in irregular groups rather than in formal beds. —From *Horticulture*, published by the Massachusetts Horticultural Society.

Divide and transplant iris now. Iris may be planted in spring, also, but fall planting, especially division of old clumps, may be done in September and October.

A STEP IN ADVANCE

Members of the Wood County Fruit Growers Association are enthusiastic over the results attained in their first venture into cooperative marketing, according to County Agent R. A. Peterson, who cooperated with the strawberry growers in perfecting their organization.

Since the opening of the strawberry season the association has grown so that it now includes growers in Arpin, Pittsville and Dexterville, as well as those in the vicinity of Wisconsin Rapids, Port Edwards and Nekoosa that comprised the original membership. In addition to supplying the local markets, the association has found a good demand for its berries in other Wisconsin cities. Shipments have been made to Marshfield, Rhinelander, Green Bay, Tomahawk, Merrill and Mosinee. A single shipment that went out recently to Rhinelander comprised 150 cases.

Insistence upon uniformity and quality in the berries is one of the most important factors in the success of the association, in the opinion of Mr. Peterson, who is hopeful next year of perfecting a similar organization for the sale of cantaloupes grown in this section.

SHRUBS THAT ATTRACT BIRDS

Here is a list of shrubs that attract birds, prepared by Joseph H. Dodson of Kankakee, Ill., president of the American Audubon Association, taken from Mr. Dodson's catalogue on bird houses.

Amelanchier—June Berry, American.
Berberis—Barberry, European.
Berberis—Barberry, Japanese.
Berberis—Barberry, Purple Leaved.
Cornus—Dogwood, Siberian.
Eleagnus—Oleaster or Wild Olive.
Euonymus—Strawberry Tree, American.
Euonymus—Strawberry Tree, Japanese Winged.
Ribes—Currant, Golden Flowering.
Ribes—Currant, Gordan's Red Flowering.
Ribes—Currant, Wild Black.
Rosa rugosa—Japanese Rose.
Sambucus—Elder, Cut Leaved.
Sambucus—Elder, Golden.
Symphoricarpos—Coralberry.
Symphoricarpos—Snowberry.
Symphoricarpos—Wolfberry.
Virburnum—Arrow-Wood.
Viburnum—High Bush Cranberry.
Viburnum—Nannyberry.
Virburnum—Wayfaring Tree.
Viburnum—Glossy.
Ligustrum—Privet, Amur.
Ligustrum—Privet, Ibota.
Ligustrum—Privet, Prostrate.
Lonicera—Honeysuckle, Bella.
Lonicera—Honeysuckle, Morrow's.
Lonicera—Honeysuckle, Tartarian.
Lycium—Matrimony Vine.
Rhamnus—Buckthorn, Black.
Rhamnus—Buckthorn, Adler.
Rhus—Sumach, Smooth.
Rhus—Sumach, Staghorn.
Hippophae rhamnoides—Sea Buck thorn.
Shepherdia canadensis — Buffalo Berry.
Prunus pumila—Sand Cherry.

These plants are all hardy, and more beautiful than many other shrubs, for the reason that they have both flowers and ornamental fruits.

CLEMATIS PANICULATA

Seeds of Clematis paniculata are best sown at this season in boxes and wintered in a cold frame. They will then come up in spring, rather sparingly at first, and not to any extent until July. Clematis paniculata is a strong-growing species, easily climbing fifteen to twenty feet. If allowed to have its way there will always be a space of several feet near the ground barely covered, and with very few flowering branches, with something like congestion at the tops. As the shoots, to a greater or less degree, are killed each winter, probably because they are not sufficiently matured in autumn, it is advisable to wait until the buds commence to show life in the spring, then to select enough of the best growth and to cut it back to within six feet of the ground. The result will be healthy growth, well down.—Clipped from *Horticulture*, published by the Massachusetts Horticultural Society.

Lift and divide old clumps of peonies in September and October.

Buy peonies *now*, not next spring. Plant peonies *now*, not next spring.

Plant tulip, daffodil, hyacinth, crocus, and other spring flowering bulbs in September, October and November.

Write for WISCONSIN HORTICULTURE, your own paper. Anyway, ask questions.

ANNUAL CONVENTION
Madison
January 14-15-16, 1925

SHADE TREES

A Brooklyn woman went before the supreme court for an order that would permit her to cut down twenty great trees on one of the streets in order that she might move a house from one location to another at less expense. It required the active work of a park commissioner to keep her from getting the order. An Ohio paper tells of a road contractor who cut down great rows of magnificent old maples in order to facilitate his construction of a suburban paved road, and in many towns and small cities, beautifully shaded, hundreds of thousands of trees have been deformed or destroyed in order to make room for huge telephone poles and the wires strung upon them.

All these things have been done on the theory that the public welfare has been increased by them. That was not true. Good roads are a necessity. Telephone lines are a modern necessity. But roads may be built, telephone cables installed, for the public use, without injury to trees. A fine tree represents from twenty to fifty years of growth. Only time can replace it. In residential districts the injury or destruction of a tree is an offense which robs not only a neighborhood, but a community.—W. G. Sibley in *Chicago Journal of Commerce.*

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METHODS OF GROWING RARE PEONIES

By W. A. Sisson

(Clipped from Milwaukee Sunday Telegram, September 28, 1924.)

In the following article W. A. Sisson of Rosendale, Wis., one of the foremost growers of rare peonies, tells how to achieve success with this flower. With Mr. Sisson peonies are both a hobby and a business. His description of the culture of new varieties and inside information on the fabulous prices brought by single bulbs will prove astonishing to the average reader.—The Editor.

"As I sit in my office today and look back to 1915, when I put in my first order for peonies, the time seems short to have worked up as much stock as I now have and with the means to do it.

"Each year I added the standard varieties of peonies to my list and soon began on the expensive and rare sorts. I had nothing but a back-yard garden at that time. Each year I invited the town people to view my peonies at blooming time and some came from outside towns. I brought my peonies to Rosendale and then began to build up Sisson's peonies in earnest. Every year I have bought all the new seedlings regardless of price until today there is no garden in this country or abroad that has the rare stock that the Sisson gardens contain. There are many much larger gardens, but they contain largely the standard sorts. My garden is not much over an acre all told, and yet I received today a good order from a man who has a garden of thirty acres in peonies alone.

"Each year more people have been visiting us until this year there were as many as one thousand in one day. No person can pass a peony field in bloom without stopping to look.

"While I am a peony man, first and last, I grow other flowers to interest the caller. I also like the peony plant out of bloom. In fact, I believe I like it better out of bloom, as at this time I am more alone and can have endless visits with the peony family. They are like people to me, each has a name and are staked out with name plates. As I work around the plants I note the names of those I am working over. I know this name, know why it was so named, who introduced the variety and the date and all about the flower, color, etc.

"For my king of flowers—the peony—I will try to give the readers of The Sunday Sentinel and Milwaukee Telegram exact directions on planting and care, such methods as are approved of by the leading growers.

TYPE OF SOIL

"Select ground free from shade and well away from trees. See that it is able to drain itself and that no water can stand on it. Peonies will not do well on low ground and the plants must never stand in water. Good garden soil will grow good peonies. When necessary to fertilize, use well-rotted manure between the rows, being careful to see that manure of any kind does not touch the plant or root. If you have any flowers at all from plants in such a position, you will be amazed at results you will get from these same plants when placed in open beds or gardens. Wood ashes are good for any flowers, used between the plants and rows. Well-rotted leaf mulch is the best of all fertilizer. I use nothing else.

"On receipt of roots do not allow them to be exposed to the air. Keep them under cover or turn them under the dirt until ready to plant. If you receive them in boxes shipped to you, do not open until ready to plant. They will keep for weeks. It should be understood that there is but one time to plant and that is from September 1st until freeze up. At this time the roots lie dormant and can be easily handled. They can not be moved in the spring without serious damage and setback.

"Take good time to get your beds in condition. They should be planted in rows four feet apart and the plants in each row should be three feet apart. When you plant a peony root it must not be disturbed as long as it does well, and this may be for ten or fifteen years. It takes from three to five years to arrive at their best. Prepare the grounds with deep spading, which will help to drain the soil. Dig a hole deep and wide enough to receive the root. On top of the roots you will notice what we call eyes or buds. These will grow into stalks for the next year. See that these eyes are planted just a trifle below the level of the ground, pack the dirt firmly about the roots and each little rootlet. Then heap up the dirt over the top of the roots so that no water will stand over the plant.

"There are various opinions as to best size to plant and discussions are even now going on among some of the growers. Let us use our common sense. We want a fresh, young, but strong, root that has at least two strong eyes. One strong eye is enough, but we give two for good measure. A root like this can be planted perfectly with the dirt packed tight about every little root and it will respond with quick growth.

CARE OF PLANTS

"Assuming that you have, before planting, prepared the ground with deep spading, proper fertilization and cultivation so that the dirt is rich and loose to the touch, then keep it so. Do not allow the dirt

to pack above the roots but be careful not to disturb the root or touch with hoe or cultivator. Cultivate and hoe after every rain and always keep the dirt loose. Ridge up your rows of peonies. When the plants are through blossoming they begin at once to make their growth for the next year, putting forth shoots which we call eyes, just below the dirt level. Do not cut down the blossom stalks. When freezing begins, they fall down and give the plants all the protection they need during the winter. In the spring clear away and begin cultivation as before.

"You need not expect much the first year. What is a double flower, may come single, and it may not come double and show true color for two or three years. There are other varieties that will throw almost perfect blooms the first year.

QUESTIONS USUALLY ASKED

The usual questions asked by visitors are as follows:

"My peonies are covered with ants; why is this?

"It is because the peonies have not been planted in the open, three feet apart and under good cultivation. Ants will not stay or work in anything but still dirt, so keep your dirt jumping.

"What is the reason that my peonies do not bloom?

"There are various reasons for this. If you have planted in open well-cultvated beds, away from trees and buildings, then the trouble is with the roots. In September dig up the root. If large, separate it with your hands and knife. Leave three or more eyes on each root separation.

"Do the varieties mix?

"They do not. After the plants have bloomed you should snip off the end of the flowering stalk and burn, as some varieties throw seeds and if left on the field they might come up, and if they do they would, in time, show another variety.

"How are peonies named?

"They are grown from seed. People that have time and inclination for this work and who are probably making the peony a study, save the seed from choice varieties and good, strong growers. They plant this seed. It will probably come up in a year. In four or five years you can expect a bloom. Out of thousands of plants you may find two or three that seem to be worth while. These you grow for about five years to see if they bloom true from year to year, then if you approve of them you give them a name and register this name with the secretary of the American Peony society.

"Such varieties are called your seedlings and the names you give them will perhaps be names from your family or some noted person, as for instance, the latest great peony launched by Mr. Lemoine of France, is named Alice Harding, wife of our lamented former president.

PRICE IS INCONSEQUENTIAL

"'What are the prices of roots,' is a common question and a timely one. One would at first think that perhaps an expensive root must have a more beautiful flower. Such might be the case, but price does not make beauty. Oftentimes a very moderate priced variety will seem to be as pretty as anything, regardless of price. The supply and demand make prices what they are from year to year. A variety that has long been under cultivation has probably multiplied to such an extent that nearly all dealers have it for sale. This would tend to make the price lower and probably very low. If the variety has just been introduced, it will hold a top price for some time.

"I will try to illustrate in this way: I have offered a prize of $200 for a new pink peony seedling to be named for my mother, Mrs. Pamelia Whitcomb Sisson, 1833-1920. The peony society is handling this competition and when the directors or committee award the prize, we shall have a variety priced at $200 per root. This will probably start out with no more than a half-dozen available roots. We will say that these are passed out on sale. They will at least double every year and with care will do far better. You can not or must not divide roots oftener than two years and it is far better not to divide under three years. If this rule is not adhered to you will lose the vitality in the plant and it will not do so well. It will be quite safe to say that this variety introduced at $200 will retain that price for, say five years. Then it may be cut from time to time as the variety increases.

"New varieties are introduced at various prices, but mostly between $5 and $50. Sometimes after a given variety has been introduced at a certain price, if it is a particulary good one, the demand may be so great that many will pay any price to secure a root. They don't wish to wait. This will jump the price, of course."

ANNUAL CONVENTION

This is to remind you that the annual convention, Fruit, Flower and Vegetable Show will be held in Madison January 14, 15, 16, 1925. If you have suggestions for the program offer them now.

If you want to "tell the world" that you grow real apples or vegetables save the show specimens now.

PEAR STOCKS

Can pears be grafted or budded on apple roots? Can pears be budded on Paradise stocks to dwarf them or must some other variety of apple, such as the Siberian crab, be placed between (double grafting) to make them hardy? This question, asked by a member, was referred to Mr. W. J. Moyle, who is an authority on pear growing.

A Horticultural Burbank friend of ours had a very interesting pear orchard, the trees of which were all grafted on the wild thorn apple, and while this union was not ideal or perfect it had its advantages that were of decided merit as far as producing the pears was concerned.

The thorn apple, being a slow-growing and early-maturing stock, invariably brought the pear trees grafted on it into an early fruiting condition. In fact, as soon, if not sooner than when they were worked on the quince which produces the so-called Dwarf Pear that often does so well when grown in the garden in protected locations. But as the pear tree top was inclined to outgrow the thorn apple stock, often in high winds the trees would break off at the union. To prevent this, stakes were set near each tree to which they were stayed during the summer or fruiting season. These trees grew and fruited abundantly for many years. They were also much less inclined to blight than standard grown trees that were years later coming into fruiting. In fact, the only time that the blight would catch them was when we had a season that was blight-conducive just at blossoming time when they would become infected by the insects sucking honey through the open flowers.

It is also quite a common practice to root-graft the pear on apple

NATIONAL CONFERENCE
on the
MARKETING, DISTRIBUTION, AND INCREASED CONSUMPTION OF FRUITS
ATLANTIC CITY, N. J.
NOVEMBER 11, 12, 13 and 14, 1924

The Program in Brief

Under Auspices of American Pomological Society

Tuesday, November 11, Morning Session

1. *Survey of Marketing Conditions.*

What conditions confront fruit growers in important producing centers? The object of this session is to bring to attention the problems which are common everywhere. Reports will be presented by representatives from the Far West, the Central West, the East, the South and New England.

THE EXPORT MARKET and its possibilities will be discussed by an authority on the exporting of fruits.

Afternoon Session

1. *Cooperative Marketing.*

Cooperation has smoothed the way for many fruit growers. This discussion by national authorities will include the most successful methods of organization and the multitude of difficult problems peculiar to cooperative marketing, with suggestions from experience.

2. *Developing the Local Market.*

If every fruit grower who has a nearby market should develop that market to the limit, the great consuming centers would seldom be glutted with fruit. This discussion will be led by men from the East, West, North and South, who have found relief and prosperity in local trade.

Tuesday Night, November 11

Banquet, followed by a discussion and outline of plans on "Increasing the Consumption of Fruits."

Wednesday, November 12, Morning Session

1. *Business Session.*

The following discussions will be conducted in a joint meeting with New Jersey Horticultural Society.

2. *Developing Roadside Markets.*

An increasing number of fruit growers in eastern and mid-western states are finding satisfactory outlets for a part or all of their fruit at the roadside. How can this market be further developed? To what extent will it relieve the great marketing centers in time of overproduction? How can abuses be eradicated and the confidence of the consumer strengthened in the roadside market?

3. *The Utilization of Poor Grades as By-Products.*

To what extent may a further development of the by-products industry relieve the market of low-grade fruit? How may the expansion of this industry be encouraged? Results of past experience and plans for future.

Afternoon Session

Joint meeting with the New Jersey Horticultural Society.

1. *Varieties of Fruits.*

a. Committee Reports on Varieties.

b. The Problem of Varieties as it Affects Increased Consumption and the Marketing of Fruits.

We have reduced rapidly our list of commercial varieties. Is there danger of going too far? How should a grower determine the varieties which he should grow? A national authority will lead the discussion.

Thursday, November 13, Morning Session

Joint meeting with the New Jersey Horticultural Society.

1. *Spraying.*
   a. Lead Injury to Fruit Trees.
   b. The Control of Fungus Diseases.
   c. The Oriental Peach Moth and the Japanese Beetle.
   d. Other Spraying Problems.

Afternoon Session

1. *Imitation and Synthetic Fruit Drinks.*

Is this a problem upon which some action should be taken? If so, what can be done about it? Let's have a frank discussion of the situation which should result in definite action by the fruit industry.

2. *New Information on the Pollination of Fruits.*

Is it true that many common varieties of fruits are self-sterile? Is the set of fruit often limited by conditions affecting pollination? This discussion will include the suggestions of experts who have gone deeply into the problem.

Evening Session

Joint meeting with the New Jersey Horticultural Society.

1. *Address* .....Pres. N. J. Horticultural Society.
2. *The Taxation of Orchard Lands.*

This is a problem of vital interest to fruit growers in many states. The discussion will bring out conditions in the chief fruit-producing states and should be full of valuable information of national scope for those who plan to drive for the reduction of unjust taxes on orchard properties.

Friday, November 14, Morning Session

1. *Committee Reports.*
2. *General Business.*

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r crabapple seedlings, but in these ases, as a rule, the apple root only cts as a nurse for the pear cion hich in time throws out its own oots from the cion and thus beomes established independent of he seedling root. We have topworked the pear on the hardy crabs ith only moderate degree of sucess; the union is never perfect and enerally decidedly d e f e c t i v e, reaking off in high winds.

All along the shore of Lake Michgan up to Door county pears can e planted and grown with a comarative degree of success. Also in avored localities in the southern alf of the state.

Pear trees vary as to degrees of ardiness as much or more so than pples. Bartlett, Seckel and Clairgeau, three of the finest, are so the three most susceptible to inter killing; while Keiffer, Howell, Clapp's Favorite, Flemish Beauty, Sheldon, Tyson, Anjou, Lawrence and Duchess will stand much colder weather.

From an experience extending over 40 years in Racine county at this time, I would advise the planting of Dwarf trees in protected localities, such as the east or south slope of a hill or in the garden protected by buildings.

The quince root on which they are grown must be protected over winter by mulching with old hay, straw, or other litter. These trees begin to bear in three or four years, are low down, from 6 to 8 feet, where you can get at them to spray and cut out the blight without much trouble.

Don't plant pears in Wisconsin for profit, but plant them for pleasure, although individual growers in Kenosha and Racine counties have made money on such varieties as Keiffer, Anjou, F. Beauty and Sheldon and yesterday we picked ten bushels of Howells from a standard tree thirty feet high. Our records show that this tree has averaged six bushels for the past ten years, or sixty bushels, which have netted us $2.00 a bushel, or $120.00. This tree was never struck with the blight or a tornado or gnawed with the mice but was born lucky.—Walter Moyle.

CHERRIES

Harvesting the 1924 cherry crop was completed on August 26th. Picking started on July 18th, but on account of considerable rain the actual picking time was thirty days.

According to figures given out by the Door County Fruit Growers' officials, the crop was the largest in the history of Door county, amounting to 638,538 cases, which represents 10,216,508 quarts. Of the total crop 299,726 cases of Richmonds were harvested and 338,812 Montmorency. The Fruit Growers' Canning Company received 14,380,984 pounds of cherries at the factory, the receipts from different points on the peninsula by boat being as follows: Egg Harbor, 696,140 pounds; Fish Creek, 718,118 pounds; Ephraim, 296,606 pounds; Sister Bay, 820,443 pounds. Total shipments from Northern peninsula reduced to cases amounted to 99,772.

The fresh fruit shipments consisted of 52 cars of Richmonds and 48 cars of Montmorency, in addition to which there were 22 carloads shipped out by express. Several carloads were also shipped by parcel post. The pack at the canning factory was divided into number 2 and number 10 cans. Of the number 2, 1,848,444 cans were put

(Continued on page 25)

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

ONE ENTHUSIASTIC AMATEUR GARDENER

If there is anyone who gets more pleasure out of life than an amateur gardener, it must be another amateur gardener. They are always happy when passing along to other gardens something of special merit from their own. They are not thinking so much of the money value as they do of the real pleasure or benefit these fruits and flowers will give to others. They try out all the novelties, getting nothing but the experience a good many times, but if they didn't try out new things "just think how many nice things we would miss." So said Miss Emma Goelzer, of Oakwood, when the West-Allis Garden Club went out to the Goelzer farm for their annual September visit. We try to get there when the rows and rows of gladioli are in full bloom, for Miss Goelzer's seedling gladioli are worth going many miles to see. For many years the sisters —there are four enthusiastic gardeners here—have purchased the finest bulbs from the leading gladiolus growers from Maine to California, also seed; during this time they have also ruthlessly weeded out, both from the purchased bulbs and from seedlings raised, all small blooming sorts and also those with weak stems, retaining only those bulbs whose strong growth with size and showiness of bloom stood out beyond all others.

They have also paid considerable attention to the stalk of bloom having six or eight or more blossoms open at once and to their lasting qualities when cut. Naturally all the blossoms are fine, but one block of especially large and unusually fine coloring was noticeable. "These were raised from seed I raised myself and are finer than anything I have bought." Then showing us another group she said: "And those are what I got when I crossed with Primulinus, absolutely no good at all, every blossom small, the coloring is fairly good but not one is worth while." To anyone who is not a gladiolus fan, these seedlings were very attractive with their vivid markings on pale yellow. In another place were thousands of tiny bulblets, more seedlings, giving promise of more beauty within a few years.

One hundred and fifty California seedling Dahlias, whose immense size and wonderful coloring almost made you doubt your ability to see aright, was another attraction in this garden. The seed had been sown early in March in boxes in the house, later transplanted to the cold frames and from there to the garden. If you have plenty of room, raising Dahlias from seed is lots of fun, says Miss Emma. "But do not follow the advice of the writer in a popular garden magazine and invest in a ten-cent package of seed. You don't get something for nothing is very true, especially when buying Dahlia seed."

I am quite sure this garden would appeal to the secretary of the S. H. S., for every annual you can think of is growing here in a riot of gorgeous color. But the perennials are beginning to find a place, as well as many beautiful shrubs and climbing vines.

When the nurseryman makes a mistake, as nurserymen are apt to do at times, and fruit trees prove untrue to name, sometimes a variety practically worthless, these trees are not allowed to cumber up the ground. They are generally grafted to something worth while. This work is done by the four Goelzer sisters, as the men folks of the family are farmers, not fruit growers. (They are good farmers though so that helps excuse them.) Sometimes a nurseryman's mistake is a blessing, as was the case with the grapevine which did not prove true to name, most fortunately, but proved to be a hardy, free-bearing variety, whose great bunches of red grapes are sweet and delicious long before they are fully ripe. Not having been able to as yet find a name for this grape Miss Goelzer decided last fall to try and raise some more like it, so she filled a large pail with rotted sawdust from the ice house and in this placed about thirty cuttings. The sawdust was kept moist and in a cool place all winter. This spring the pail was set out doors every warm day, being careful to keep the sawdust moist. When the freezing weather had passed the contents of the pail were dumped out and thirty nicely rooted grapevines were all ready to plant in a row where they have grown thriftily all summer. Next spring they will be ready to transplant to their permanent places. Being real amateur gardeners not all of these grape vines will be planted on the Goelzer place—other gardeners will be the richer.

Several years ago a plum tree grew in the corner where plum pits were thrown when canning. It was given a chance to see what it would do. This year we were invited to

sample the large greenish-yellow fruit that hung thickly on its branches. When asked how they tasted we, as with one voice, said, "like more." The man of the party decided the flavor was about equal to Imperial Gage.

Remembering Mr. N. W. K. and his question about the Sunberry, we talked about it just a little. Miss Goelzer said, "Sure, you can eat them, but *why*, when there is plenty of good fruit?" The writer of this agrees with her, for if her memory serves her rightly (it's some years since I grew them), the flavor in no way resembled that of the huckleberry, but was a combination of skunk cabbage and ground cherries. I *have* met people who said they made good pies, but have felt their taste was totally depraved. There may be places where it would be well to grow them, but not in Wisconsin. I could go on and fill pages of *Wisconsin Horticulture* and still not say all of the things that would no doubt be interesting to the readers. So I am going to let Miss Emma Goelzer tell some of the interesting things she has done in this garden of theirs in some future issue. She was rather reluctant at first, but has finally promised, "after the garden work is finished."

The members of the Garden Club assured their hostesses when they bade them goodbye that they were coming again and oftener. We miss seeing and knowing of too many interesting things when we only come once a year. C. E. S.

TWENTY YEARS' PROFIT FROM A NEW YORK APPLE ORCHARD

In spite of the high cost of labor, materials and all other essentials entering into the growing of apples in western New York, apple orchards have paid a good return on the investment during the past twenty years, according to evidence presented by Dr. U. P. Hedrick, horticulturist at the experiment station, in a publication just issued by the station entitled, "Twenty Years' Profits from an Apple Orchard."

The average net dividend for the past two decades in a typical Baldwin apple orchard just west of Rochester, where the station fruit men have been conducting investigations on apple growing for a long period of years, was 26.3 per cent on land valuation of $500 per acre, says Dr. Hedrick. This represents an average net return of $120.71 per acre for the same period.

The orchard selected for experimental work was typical of the great apple belt of western New York, says Dr. Hedrick. The trees are Baldwins, twenty-seven years old at the beginning of the experiment, forty-seven now. The accounts tell what each of the orchard operations has cost, the number of bushels of fruit produced, and the selling price in its fourth and fifth decades, the prime of life of an orchard.

Dr. Hedrick took into account interest on investment with the orchard valued at $500 per acre, taxes, depreciation, tillage, pruning, spraying, superintendence, harvesting, etc. Knowing the yield and selling price of the fruit for each year of the twenty-year period it was an easy matter to calculate the net return.

The yearly average net profit on a barrel of apples, graded and ungraded, for a period running from 1903 to 1913 was $1.31 per barrel; for the second period, $2.12 per barrel; average for the two periods, $1.71.

The average per acre for the first period, $95.60; for the second period, $145.83; for the two decades, $120.71. Calculating the interest on the investment for the first decade with the land valued at $500 per acre we have a trifle over 24 per cent as the annual ten-year dividend for this orchard. For the second net decade the annual dividend was 28.5 per cent, an average for the two decades of 26.8 per cent.

It is extremely unfortunate that we didn't start that sort of an experiment in Wisconsin with an orchard of Wealthy or Snow. We could easily have given New York a handicap of seventeen years on age of trees and won by 10 to 20 per cent.

CROOKED APPLES

Gnarly or "knurly" apples, apples with bumps and humps, holes and hollows are curculio stung apples. Dr. S. B. Fracker, State Entomologist, has this to say about curculio control:

"The methods of controlling the Plum Curculio are, to a large extent, hygienic, associated with the usual codling moth sprays. In orchards in which the full program of four codling and apple scab sprays is used the curculio gives little trouble. Where the orchard is in sod, however, and there are good hibernating places for the curculio, more damage may be done.

"I would suggest that if you are not giving the full program of sprays at the present time or if you are using the sod mulch system in your apple orchard that you can reduce plum curculio infestation by clean cultivation and increasing the number of sprays."

MINNESOTA MEET

Annual Convention Minnesota State Horticultural Society, November 18-21, St. Paul.

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GRAPES FOR THE UPPER MISSISSIPPI VALLEY

The cultivation of grapes on a market scale in the upper Mississippi valley section, including Minnesota, Wisconsin and the Dakotas, is somewhat uncertain and year in year out unprofitable.

We are on the wrong side of Lake Michigan. Some may protest loudly that this is a gross misstatement of facts but with the exception of certain rather favored locations along the Mississippi river bluffs in southwestern Wisconsin and Northeastern Iowa fifty years' experience will prove that it hits not wide of the mark. In fact, in the northern rim of this territory it is useless to attempt to grow grapes except for a vine or two in the back yard and these should be Janesville, a Wisconsin riparia-labrusca cross or Beta, a Minnesota seedling of similar parentage, for no matter how well protected in winter nor how carefully tended in summer, the fruit fails to ripen before frost. Even the Concord is not sufficiently early to escape.

In the southern part of this territory the Concord, Moore's Early, Worden, Delaware and Diamond may be grown with fair success and through a period of, say 20 years, the grower may be reasonably sure of about 15 crops if in that period he escapes one of the "test" winters when the thermometer drops to 25 or even 35 degrees below zero, in which case the ratio will be much reduced on account of the killing outright, root and cane, of his entire plantation. Not even a high hill will save him then.

This need not deter the amateur from planting grapes, for most of the time he will get a satisfactory crop and the occasional loss of his vines, if he is a true amateur, is only an incentive to try again. Grapes of as high quality may be grown in this section as elsewhere.

It is this uncertainty which places grapes as a market crop in this section among the doubtful crops along with Japanese and European plums. This refers only to growing for market. The amateur, except "far north" may derive much satisfaction from growing grapes.

The methods of planting and cultivation are not different from those followed in more favored localities except that the high renewal system needs to be modified somewhat to allow covering the canes in winter. Until some one produces varieties worth growing that are hardier than the Concord it is advisable to lay down and cover the vines after pruning in the fall. This is crop insurance. It is the "open" winter and a belated spring that is to be feared rather than steady cold. It is not impossible to lay down and cover grape vines with earth, nor even difficult. A little tipping at the base with a spading fork will obviate breaking and there is always plenty of covering material at hand. The only danger lies in delaying too long in uncovering the vines in spring. This should be done before the buds have begun to swell, for if left until growth of leaf and flower buds are advanced even a light frost will undo all our efforts at protection. If uncovered in the spring as soon as the soil covering is dry, the buds will be retarded until the spring frost period has passed.

The amateur in grape growing should follow the rules laid down by the professional if he wishes to succeed. If the soil is very rich crowd the vines a little, setting only 6 feet apart in the row and the rows 6 to 8 feet apart. If given too much room the vines will grow at the expense of fruit production. On lighter soils the plants may be set 8x8 feet which allows ample room for cultivation.

For the first two years after planting, pruning and training are not important; after that there are just a few things that must be learned, but only a few. The pruning of grapes is far simpler than the pruning of tree fruits.

F. C

EXIT REDPATH

Considerable space was devoted to the Latham-Redpath controversy in the September paper and closed with a promise to keep our readers informed of further developments.

The following is from a letter written to the editor by Prof. R. S. Mackintosh, secretary of the Minnesota State Horticultural Society, dated September 13, 1924:

"We wish we could tell you the origin of the Redpath raspberry. Our executive board in July voted to call all of the raspberries resembling the Latham the Latham. We hope this settles the matter." It does.

MRS. FRANKLIN JOHNSON

Mary Caroline Clark was born at Fayettville, Indiana, February 11, 1845, and died at Baraboo, Wisconsin, September 9, 1924, in the eightieth year of her age. Her father's brother, Alvan Clark, was the head of the well known firm of telescope makers, Alvan Clark & Sons, the makers of the largest refracting telescopes in the world.

Miss Clark was a graduate of the normal school at Westfield, Massachusetts, and for many years she was a most successful teacher. On October 9, 1870, she was married at Milwaukee, Wisconsin, to Franklin Johnson. For a time they lived at North Greenfield, Wisconsin, now West Allis. In 1881 they moved to Baraboo, to the farm north of the city where they lived for forty years. For the past four years they have made their home in the city.—*Baraboo Republic.*

Mrs. Johnson was for two years, 1900-1902, editor of the *Wisconsin Horticulturist,* a monthly magazine published by the society, 1896-1903.

ABOUT APPLE APHIS

"I am up against it to fight the green aphides on apples. They are worse than ever before this year. Raspberry picking stopped our spraying before we were through with the spray two weeks after the petal fall. Seeing no scab, we omitted lime sulphur and were using only nicotine sulphate and soap in proper proportions. Before that we had put the nicotine sulphate with lime sulphur.

"The demand now seems to be for a spray that can knock the aphides dormant with the oyster shell scale. Incomplete success is reported from the Faribault (Minn.) nursery by the use of lime sulphur 1 to 9 in April. But the man from there who told me said he had never seen the lice so bad as on my trees. They are on the fruits and stunting growth of same. Whitney, Wealthy, Delicious and Transcendent have the most. Cultivation encourages them, no doubt, but my trees are young and need it. I always quit in July and sow soy beans for October discing."

Answer by Dr. S. B. Fracker, State Entomologist:

We have had a number of complaints this year about inadequate control of the plant lice by Black Leaf "40" and soap, and several have either had to spray twice or use a stronger solution. This is probably due to the fact that the lice were present in such large numbers and were developing so rapidly during the spraying season that the ordinary methods of control were not entirely effective. The death of only a certain per cent can be expected as a result of any one application, and this year the aphides were so numerous that the survivors and their multitude of descendants did more damage than is usually to be expected.

A slight increase in the usual strength and an increase in the usual number of applications seemed to remedy these conditions wherever tried.

The use of lime sulphur and other materials for the control of aphides in the egg stage has never proven entirely satisfactory. Some years it seems to be effective and at others it comes at just the right time to hit not half the insects. Including a contact insecticide in the first spray (pre pink or pink bud) is the most effective means of control now known.

ABOUT RASPBERRIES, BLACKBERRIES AND SWEET CORN

"Should raspberry and blackberry canes be cut to the ground after fruiting?" Yes. Raspberry and blackberry canes grow one year, fruit the next year and die. These dead canes should be cut out, removed from the field and burned so that insect and disease pests may be reduced thereby.

"How late should cultivation of sweet corn be kept up?" Nothing is gained and much may be lost by cultivating corn after the tassels appear.

"Same question about cultivating raspberries." No time or season limit on cultivating cane fruits except that late cultivation of black raspberries will disturb or even prevent "tipping" of the canes for the purpose of getting new plants. Late in the season, September and October, the new canes of black caps curve downward and touch the ground. If the tips at this time are covered with soil, roots will form and we have new plants.

CHERRIES

(Continued from page 21)

up, representing 77,018 cases of 24 cans each. Of the number 10 pack there were 1,212,969 cans, representing 202,161 cases of six cans each. Compared with the 1923 crop, this season's harvest exceeded that of a year ago by 400,361 cases. The 1922 crop, which was a record-breaker up to that year, consisted of 425,517 cases, which was 213,021 less than the 1924 crop which had just been harvested.—*Market News Letter.*

HORTICULTURAL TROUBLES

Edited by F. L. Chambers, Assistant State Entomologist

WHY QUARANTINE?

During the past half century the United States has been invaded by so many extremely serious insect and disease pests that have given such a stubborn fight that the situation appears desperate at times to the horticulturist. He seems only to get accustomed to the necessary methods of warfare of one pest and find a way to profitably continue business when another enemy even more dangerous than the last is at his throat. These "Big Ten" shown in the picture, together with a host of others, have been introduced constantly since the beginning of plant importation into America.

The importers of novelties and propagating stock have kept a constant stream of insect pests and diseases flowing into our country. Just as immigration laws had to be established to stem the tide of the undesirable classes of the people of Europe, so was it necessary to fix quarantines to put a stop to using America as a dumping ground for shippers of insect-infested and disease-infected plant material. After the legislatures of our state and federal governments began to sense the cries of horticulturists and farmers for financial assistance in stamping out the menace of their industries, they set their machinery to work solving the problem.

On August 20, 1912, Congress passed a law creating the Federal Horticultural Board, which was authorized to make regulations relative to the importation of plant products from foreign countries and to administer foreign and domestic quarantines as a protection from injurious insect pests and plant diseases. The board requires the inspection and certification of all living plants before importation to this country, and by a system of permits and notifications respecting the movement of such stock, it is possible for the state inspectors to inspect at destination. The work

of this board now involves the administration and enforcement of some twenty-two foreign and thirteen domestic quarantines.

Under what is termed "Quarantine 37" which became effective June 1, 1919, the bringing into the United States of ordinary ornamental shrubs and fruit trees is discontinued, but a permit may be secured from the Federal Horticultural Board at Washington in the same manner as heretofore for the entry of fruit and rose stocks, certain bulbs, etc. Surely no one can object to having their stock enter with the assurance of freedom from pests.

Simply because ordinary stock can be purchased in some instances cheaper in Europe than it can be grown in this country, does not warrant its being dumped into this country. Perhaps when some of the present mess is cleaned up a larger inspection staff can be provided to inspect such shipments in greater detail. It must, however, be borne in mind that the causative organisms of some of these diseases are invisible and the symptoms that characterize them do not show up for a period of a year or two after the infection occurs and might easily be overlooked. Besides, there is always a chance of an occasional pest being overlooked by the best of inspectors and it doesn't take them long to get a start.

Of the ten insects pictured on this page none has ever been found in Wisconsin. In fact, although we think we have a lot of bug troubles in this state, the truth of the matter is we are very fortunate in having comparatively few pests to deal with in comparison with our neighbor states.

Horticulturists have gotten so used to the expenditure of large amounts of time and money applying insecticides to prevent severe crop losses from such introduced pests as the imported cabbage butterfly, imported grain weevils, imported asparagus beetles, imported poplar borers, imported currant worms, imported cabbage maggots, and dozens of others, that they do not stop to realize that a quarantine in force years ago might have saved their efforts and religion. Sometimes we wonder whether the introduction of any ornamental shrub, or, for that matter, all of the shrubs and trees introduced into this country during the past half century (when the majority of these pests entered), compensated for the damage done by the pests they brought with them. Think of the damage done to our native plants, such as the complete destruction of all our chestnut trees in the eastern part of our country by the chestnut blight introduced from abroad, and the white pine blister rust, which is being prevented from wiping out tens of thousands of acres of our fine stands of white pine only by the expenditure of large sums for the eradication of its alternate host plants, the gooseberry and currant bushes. Think what the citrus canker has cost in Florida, the potato wart disease in Pennsylvania, etc.

Approximately sixteen million dollars have been expended by known agencies in the state of Massachusetts alone on just two members of this "Big Ten," namely, the Gypsy and Brown-tail moths. These two pests have caused the state of Maine to expend $700,000 since 1905.

The little state of New Jersey, only one-seventh as large as Wisconsin, was visited by the Gypsy moth in 1920 and last year its legislature was compelled to appropriate the sum of $125,000 toward stamping it out and was aided by the federal government by even a greater sum. In fact, the federal government appropriated $400,000 toward controlling the Gypsy moth in the East last year.

In 1916 the Japanese beetle became established in this country, and last year the state of New Jersey appropriated $10,000 toward the control of this pest and the federal government $100,000 more.

The European corn borer, which got its foothold in Massachusetts in 1917, appeared in a large area around Albany, N. Y., in 1919 and then got a foothold around Buffalo the following year. In 1921 it spread along both shores of Lake Erie, infesting all of the counties of Pennsylvania bordering on the lake and several counties in Ohio on its border, as well as all of the bordering area of Ontario. The following year it had extended entirely across the lake bordering counties of Ohio and gotten a foothold in some of the townships in Michigan bordering on the lake. Last year Ohio had nearly 100 townships infested with the borer. This summer it has spread by the natural flight of the moths until this number has just been doubled and Michigan has 52 newly-infested townships. The federal government has maintained a guard on all of the main roads leading out of these infested areas to enforce the state and federal quarantine and thus prevent the spread of the borer through transportation of green corn and other materials likely to be infested. Otherwise, it might have been in Wisconsin by this time.

Suppose that a half dozen new plant diseases or insect pests, such

(Continued on page 31)

THE FLORISTS PAGE

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

STRAW FLOWERS

Just before the Fourth of July the writer paid a long-hoped-for visit to the straw flower farm on the outskirts of Bayfield, Wisconsin, belonging to John F. Hauser. John is a canny farmer spending the winters in La Crosse, and choosing this summer resort for his work. We heard several people give an estimate of his character at Bayfield, where all think he is very level-headed and a leading citizen of the city. And his farm is one of the attractions of the place. All tourists are advised to go up and see it.

Go up, is the proper term, for in a short two-mile drive you climb 650 feet above Chequamegon Bay of Lake Superior and if your car will do it in high you have some car. Fords won't. But like all mountain top views, the climb is worth it, and one can admire the Apostle Islands, Ashland, Washburn and the bay from his front piazza. People from thirty-six states have admired it. And, by the way, he has a new front piazza, for he was just finishing a fancy bungalow, when the writer arrived. As if this front view was not enough, he took us to the back of the farm and let us see an even more beautiful valley view, Pike's Creek Valley, down which meanders Pike's Creek to feed the largest fish hatchery in Wisconsin, at Salmo.

On his 80-acre farm he has wrested many acres from the wild, and has 500 bearing Montmorency cherry trees, a few hundred young bearing apple trees, and a flock of small fruits. But the thing that interests the tourist most is his eight-acres of perennials and straw flowers. It takes several workmen to keep the weeds down and tend to the flower gardens. Mr. Hauser is a buyer of weight from the continental seed houses and searches the world for suitable seed. He sells perennials all over the United States, and had a large amount of chives maturing for a buyer in New Orleans when we visited the place. The chives, by the way, were as pretty as most straw flowers, but not so attractive to the nose.

The straw flower business was a new one with them, and Mother Hauser described the early makeshifts in curing them over the steam of a teakettle on the kitchen stove. Now they have a huge drying and stock shed, commensurate with the business they have builded. While we were there, there were really few straw flowers in bloom, but perennials no end. At that, they say that three weeks' time would witness a better showing. That is unfortunate (?) for then Bayfield will be deluged with tourists, possibly to the rate of 10,000 a day, to see the first annual Apostle Islands Indian pageant August 1st to 21st. Mr. Hauser and I drove out to the pageant grounds, about seven miles north over two and a half miles of new road built through the virgin forest, and were amazed to see the huge scale of operations. The barracks for the white actors alone covered a space of 36 by 200 feet, with a wing 100 by 36 feet. And the Indians were to live in hundreds of bark wigwams. The pageant ground was a huge affair with plans for seating 20,000 people at one time to see the pageant, which is to take three days to give, and will be repeated seven times. We understand there will be over a thousand actors in the pageant.

Right here we want to praise the spirit of John Hauser in displaying his flowers at various exhibits. We know that he always brings the best exhibit and usually the only exhibit of such flowers to the annual meeting of the Wisconsin Horticultural Society at Madison in January, often at a great expense to himself. He is an enthusiastic member of the society. Three years ago he started bringing exhibits to to State Fair at West Allis, without hope of getting any premium to pay expenses. Last year they offered a premium and of course he took it. He has been very generous with his flowers to the Public Museum exhibits in Milwaukee, too.

We wish it were possible to enumerate some of the perennials he grows, but space forbids. We took 48 pictures of his choice stock in bloom and wished we could follow the seasons to get all of the beautiful things that are to come. Strange as it may seem, Bayfield is frost proof. We hardly look for such a thing so far north, but when they have winter up there, it's the real thing and when summer comes it is in no half-hearted way. That explains why he can raise so much fruit, with never a set-back to the trees. Take it all in all, we both had a very enjoyable day.

HURON H. SMITH.

GRUB WORMS AND GRUB WORMS

A member who had suffered loss of strawberry plants by grubs eating the roots asked if there was any practical method of destroying the grub worms in manure before ap-

plying it to land to be planted to strawberries. He had used grub-infested manure. Dr. Fracker says, "Don't worry."

"The grub worms which are found in barnyard manure belong in the same family as those which attack the roots of plants, *but are of an entirely different species.* There is no authentic case in which we are sure that eggs laid in manure have hatched into grubs which will attack strawberry and other plants. What probably happened last year is that you put the manure on sod land, and that the grub worms which later destroyed your strawberries were already on the land, infesting the grass roots."

PEONIES

BY THE LATE PROF. LEROY CADY, UNIVERSITY FARM, ST. PAUL, MINNESOTA.

The peony is the most satisfactory among the perennial flowers for home use because of its ease of culture, adaptability to all sorts of conditions, and hardiness. Peonies, once planted in the right kind of soil, do not require replanting or attention other than ordinary cultural methods, for many years. They will, of course, respond to careful attention and division every few years. At a recent Canadian flower show flowers were exhibited from a plant over 100 years old. They were excellent flowers for that particular variety.

The blooming season of the peony in this latitude is June. The plants are ornamental from the time the stalks begin to come out of the ground until frost kills them in the autumn. In fact, peony plants are frequently used as hedge to mark the boundary line of a lawn or roadways or walks and are especially ornamental when in bloom.

In order to get good strong plants and good flowers particular attention should be given to the soil and location of the plants. They should be in the open, in well-prepared, deep, rich soil. It pays to give the soil good preparation before planting because peonies do not need to be moved for many years after planted.

They should not be planted near a building or near trees or shrubbery. It is well to figure that a tree or shrub will take the nourishment and especially the moisture out of the soil for an area around at least as far as its branches go. Peonies grown on heavy soil usually give brighter colored flowers than those on light, sandy soils. The lighter soils, however, build up a better marketable root than the heavy soils. Good drainage is necessary in any soil. The peony will not thrive in wet land, although it will stand a great deal of drouth.

Ordinarily the latter part of September and early October is the best time to set new plants. This is at the end of the growing season and before spring growth starts. They should be set as early in September as the old plants can be divided. Spring planted peonies, if set before any growth starts, will give good results, but the average amateur is unable to judge this at the time and will consequently have much better results with autumn-set plants.

The peony resents deep planting. The buds should not be set deeper than two inches from the top of the ground. Many times thrifty, vigorous peony bushes never produce any flowers and when they are examined closely we find that the plant has been set four or five inches under the ground and for this reason no flower stalks are sent up, although vigorous foilage may result.

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JUSTUS SAYS:

Most of us are more or less proud of the fact that we are citizens of the U. S. Are we also proud of the way we uphold the law, or do we think it smart to evade the law? Are we helping to make our country worthy of the place she holds in the world family of nations?

Take the "Eighteenth Amendment." What have we done to help enforce it? How much booze has been drunk on the sly, or perhaps, by some legal technicality, you may be in position to have it, without being criminally liable.

How many have quit drinking for the sake of good citizenship?

We are in duty, and honor, bound to uphold all of the constitution. Therefore we are under equal obligations to do all we can to stop making any part of that constitution the butt for bar-room jokes.

As good citizens we are bound to uphold and enforce the law, both for national honor and for personal honor.

It is not good citizenship to arrest and punish one man for getting drunk and then go to your own basement and get a drink. The real citizen will not tolerate booze, even if by some chance he might "legally" do so.

If we who claim to be honest people would just get busy as good citizens should, and really live the law, there would soon be a revolution in the attitude of those who have the legal end of the matter in hand. Let us all get busy. Throw out your own supply and live the law.

The world is watching us. Let them see something that will do them good.

Yours for good citizenship.

PEONIES

(Continued from page 29)

Some planters prefer to trench well before planting. A ditch two feet deep is often dug, thoroly rotted manure to the depth of five or six inches placed in this, and rich soil filled in. This is a desirable method, although it requires more work than the methods usually followed where the soil is rich and in good condition. It is important that a large enough hole be dug to take the root of a plant easily without crowding. Be sure that all roots are spread out to their full length, cover with fine, rich soil, then firm by treading or other means.

It is important that the root be set firmly into the soil. Care, of course, must be taken not to damage the buds in this firming process. If the soil is dry, as is likely to be the case in September, it is well to punch a hole and fill it with water perhaps twenty-four hours before setting the plants, long enough ahead that the soil is not sticky but friable. No fresh manure of any sort should come in contact with the roots at any time, as this is very likely to cause decay.

Three to five-budded plants of desired varieties are best to use. The commercial growers in many cases are selling one-eye roots. They are doing this, however, under protest and I think all the better growers are inclined to discourage this method of propagation as the plants are not as satisfactory for the amateur as the stronger, more vigorous plants. It is quite likely that this single-bud method will tend to produce weaker plants of the variety. Named varieties should be selected, not necessarily high priced, but of good quality.

Sometimes roots received from the nurseryman are shriveled or somewhat dry because they have been delayed in transit. They would be benefited by soaking in water for six or eight hours. This will firm the dry roots and if they are cut back and all bruised parts cut away new growth will start rapidly. It is always well to prune the roots slightly before planting. There is no advantage in planting an especially long root. One six to seven inches long is long enough to take care of the plant and will soon force out small feeding roots which are necessary for the plant's development.

As soon as the plants are set, they should either be labeled with permanent stakes or the ground charted so that the varieties may be known when they come into bloom. One of the pleasures of growing peonies, iris, and similar plants is to be able to call them by their proper names. The day of the "white peony" or "red peonies" has passed, and the individual interested in flowers demands to know the name of the variety as well as the color.

MULCH WITH STRAW

Newly set beds of peonies may be mulched with strawy litter. If this litter contains manure, it should not come in contact with the plants. A light mulch the first season tends to prevent the ground from freezing and thawing or becoming dry during the winter. It will also aid in holding snow over the plants. In the latter years of growth, mulching is sometimes resorted to to hold back the blooming of the plants. Several inches of straw or hay may be put over them as soon as the ground is deeply frozen and will tend to hold back the blooming. This should be removed from directly around the plant as soon as growth starts in the spring. Repeated heavy mulching is said to have a tendency to lessen the vitality of the plant.

Probably nothing is gained by cutting off part of the tops in the summer as is sometimes recommended. However, it is well to remove the tops from the plants after they are frosted in the fall as in doing this disease and some insects may be removed as well. They, of course, should be burned as soon as taken off.

Peonies require a great deal of water when they are forming buds and flowers. Consequently it is well to see that they have plenty of water during May and early June and again at the end of the flowering season when the plants are forming buds for next season. Many times water is of more value in the growing of large flowers than fertilizer.

HOW TO APPLY FERTILIZER

If peonies are grown in rich soil, it will not be necessary to apply much fertilizer. In fact, fertilization may easily be overdone. Thoroughly rotted barnyard manure may be worked in around the plants so long as it does not come in contact with them too much. Bonemeal may be worked in between the rows or at a short distance from the plants with good results. Wood ashes are also desirable. Nitrate of soda, applied in small quantities at the rate of one-fourth pound to a square rod, may be used. This should not come in contact with the plants. Potash, applied in liquid form once or twice the season, is also beneficial under some conditions.

CUT EARLY FOR SHOWS

Peonies grown on a heavy soil will give deeper coloring than on a

light soil. Climatic conditions also often have an effect on the color. Varieties of very delicate colors may be cut while the buds are still small and placed in a cool, dark room to open. Other colors, if kept in a subdued light, will be much better than those opening in bright sunshine. Peonies may be cut and shipped over a long distance or kept some time in cool storage. At the 1923 Flower Show peonies were shipped from Massachusetts and arrived in good condition; in fact, were in good condition over the three days of the show in spite of poor conditions for holding flowers.

In order to hold them, they should be cut when the buds are quite small and allowed to to expand under cool, dark conditions. Usually peonies shipped into the north on Memorial Day do not stand up long, possibly because they have been cut a considerable time before, but usually because they have not been carefully handled from the time they are cut until put on the market. At best they do not have the qualities that a peony cut and used in this region has. For exhibition purposes peonies may be kept for several weeks in cold storage.

DON'T PAY HIGH PRICES

It is not necessary to purchase high-priced varieties unless one has plenty of money and is interested in trying new things. Some of the medium priced sorts are as satisfactory for the amateur as the more expensive ones and many more, of course, of the medium priced can be purchased. A very excellent list of medium priced varieties is recommended by A. M. Brand, Steele Co., Minn., who has spent a lifetime in the development of peony varieties. I have selected a few of the different colors from the list which he recommends. Many more could be added to this.

White: Grandiflora Nivea Plena, Festiva Maxima, Avalanche, Baroness Schroeder, Mme. Emile Lemoine, Couronne d'Or, Marie Lemoine.

Light Pink: Asa Gray, Eugenie Verdier, Mme. Emile Galle, Venus.

Deep Pink: Claire Dubois, Edulis Superba, Mons. Jules Elie, Reine Hortense.

Red: Karl Rosenfield, Adolph Rosseau, Eugene Bigot, Felix Crouse, Rubra Superba (Richardson).

It is well to start with a few varieties and add to these as one visits flower shows, nurseries, and neighbors' gardens because these are the best places to study varieties and colors.—*Minnesota Horticulturist, September, 1924.*

WHY QUARANTINE?

(Continued from page 27)

as are represented by the "Big Ten," were to appear in Wisconsin within the next two years. We would have neither a sufficient force of experienced leaders nor the financial appropriation necessary for control purposes. Let's profit by the experience of other states and keep these "Big Ten" off of our pay roll and if we *must* have them let's take them one at a time. This can only be done by strict enforcement of our quarantine laws. E. L. CHAMBERS.

PEONY TALK

If we seem to be a little topheavy on peonies this month it is because we want to emphasize the fact that the peony is one plant that cannot be successfully divided or planted in the spring. The best success is always had with autumn planting. We reprint two excellent articles on peony culture, both well worth reading.

WINTER PROTECTION FOR ROSES

The burning question, or strictly speaking, the freezing question, just now is winter protection of roses. Advice of a sort has been given in this paper each year for many, many years. Some have followed it, some have not.

Do not depend on staking, wrapping and tying; bend the plants to the ground, tie the branches snugly and peg them down. It can be done no matter how large the bushes may be. Push them over by crowding against the crown and roots with a spading fork. After the ground is frozen cover with carpet, burlap or similar material, securely fastened, especially at the base of the bush. The stems should be *dry*. Leaves, manure, earth or ashes keep the stems *wet*, which is not so good.

Building paper is an ideal material for cover. Use lots of brickbats, stones, twine and pegs to hold whatever covering is used in place.

WISCONSIN HORTICULTURE

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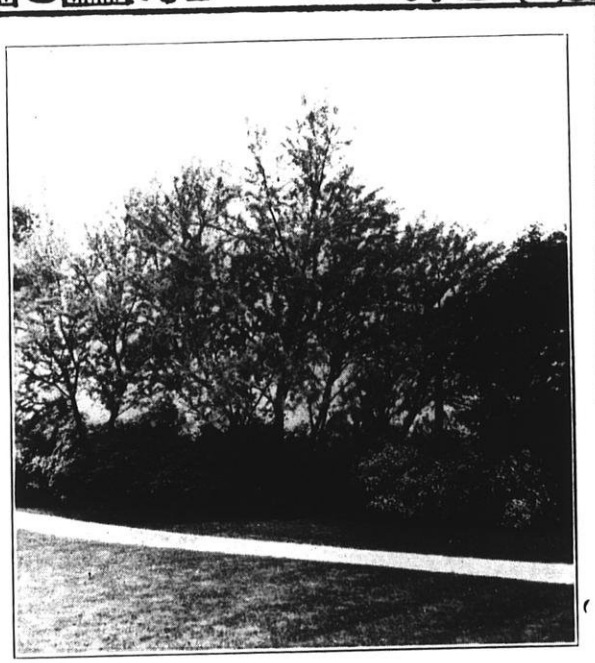

MORE TROUBLE FOR THE ELM

For some years elm trees of southern Wisconsin have been succumbing in increasing numbers to the elm canker, a disease related to New York apple canker. As if this were not enough, a serious scale insect has recently become established, and in Madison at least the trees on several properties are being severely damaged.

The European elm scale, Gossyparia spuria *(Modeer)*, as the pest is known, has long been known in Europe and the eastern United States as a serious enemy of the elm. It is becoming of considerable importance as a shade tree pest, owing to its distribution and to its particularly aggressive habits in newly infested localities.

The following paragraphs are from the United States Department of Agriculture Bulletin 1223, which has just been published:

"The elm is probably the most popular shade tree in America. It attains good size, produces a luxurious amount of green foliage, and is planted throughout the United States and elsewhere in dooryards, along streets, and in parks for shade and ornament. In the East the native elm also produces wood which is particularly valuable in the making of vehicles, basket cratings, etc.

"The European elm scale infests all species of elm, having become such a very disagreeable and harmful pest that in many eastern localities these trees are no longer recommended for planting. In the West the scale insect is not so widely distributed, nor are many of its eastern associates present, so that, in spite of the elm scale, the tree is still recognized as one of the best for shade.

"Fortunately, the scale in America infests only elms and is not a pest on fruit or other shade trees, as are many of the aggressive scale insects.

"The elm scale was, in all probability, brought to America from Europe on young elm trees. The shipment of elm stock from infested nurseries to various parts of the United States has also been the cause of its being scattered over such a wide territory.

"In these infested localities the scale has spread from tree to tree by several agencies. Birds, such as English sparrows, which are to be found in large numbers in the shade trees of almost any town, probably carry the young crawling scales for considerable distances on their feet. During the fall, infested leaves drop to the ground and are blown for some distance by the wind. A certain percentage of these larvae happen to find themselves at the base of an elm tree and crawl up to start a new infestation. The European elm scale has been seen spreading in this manner by both Professor Doten and the writer. The Argentine *(Iridomyrmex humilis Mayr)* and other ants are known to transport scale insects from one tree to another in order to increase their food supply, and this method of transportation probably applies to this species as well as to others, since it is usually attended by a great many ants. Elms are nearly always planted so close that some of their branches interlace, enabling the larvae to crawl at will from one tree to another. Thus, it is not long before the European elm scale has thoroughly established itself upon most of the elms in a locality.

"Thousands of these scale insects sucking the plant juices from the leaves, twigs, and branches cause considerable injury to elm trees. Their effect upon the elm is shown by yellowing and premature dropping of the leaves, stunting of growth, and dying twigs, branches, and entire trees. Their injury is most apparent on young trees, which occasionally they kill. Mature trees are seldom killed.

"Trees which have been attacked for a number of years by this insect, if they do not die, finally seem to develop a certain amount of resistance to its injury. The history of this scale insect throughout North America has been much the same. It causes much concern to the owners of shade trees for a number of years after making its first appearance, and then seems slowly to lose its grip upon the trees until it causes a much smaller amount of damage. This is especially true in sections of the eastern states and Canada, where less attention than formerly is now paid to this once dreaded insect.

"Either of two materials is recommended for the control of this insect—a solid stream of water or a miscible oil spray. The garden hose and nozzle may be used to good advantage where a few small trees need to be rid of this pest. The ordinary pressure of water from the hydrant will remove the insects at a distance of ten to twelve feet. Each limb and twig must be hit with a solid stream of water from at least two directions. The use of a fire engine and equipment is quite satisfactory on trees over twenty feet high. It probably does not produce as good results as when a high-capacity spray outfit is used, but when the former is available and the latter is not, it is recommended for large trees. It is cheaper than spraying and can not damage the elms.

"All washing should be done in the spring just before the leaves appear on the trees, usually about the middle of April.

"A more satisfactory method of control is the use of miscible oil containing 23° to 28° Baume oil, which can be obtained from dealers under various trade names. This should be used in the following proportions:

Miscible oil (23° to 28° Baume) ..... 1 gallon or 16 gallons
Water 12 gallons or 184 gallons

This may then be applied with any sort of spray outfit, providing the apparatus has power enough to send a spray to the tree tops."

SOME PESTIFEROUS NOTES

The Oriental fruit moth *(Laspeyresia molesta)* was introduced

into the United States about 1916 and is causing concern in Virginia, Pennsylvania and New York. Peaches are the leading victims, though apples and other fruits are also attacked. California is sufficiently alarmed to be taking steps to prevent its introduction.

Grasshoppers, aphids, cutworms and army worms were Wisconsin's leading injurious insects in June and July. Potato beetles and leafhoppers are less numerous than usual in most localities. Grasshoppers were worst in Door and Marinette counties, and army worms in Grant and Rock.

Mr. L. P. Whitehead, a deputy state entomologist, is beginning a survey of the rural districts of Racine county for San Jose scale. Several cities and villages of the county are known to be infested and spraying campaigns have already been undertaken in Union Grove, Rochester, and Racine.

The state entomologist's staff is covering the farms at the various state institutions, hospitals and prisons to assist the board of control in reducing insect and plant disease losses.

BULLETINS OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

Washington, D. C., April 15, 1924. Pamphlets of the United States Depart of Agriculture listed below are of interest to those who live in cities and towns, as well as to those who live on a farm. They are for free distribution as long as the supply lasts. Application should be made direct to your Senator or Representative. **Be sure to sign your name and address plainly and to order by number.**

L. J. HAYNES,
In Charge, Office of Publication.

HOUSEHOLD PESTS

BEES

GARDENING

FRUIT RAISING

FLOWERS

MISCELLANEOUS

The above is only a small part of the printed list received at this office. We have found their bulletins interesting and valuable. A request to the "U. S. Department of Agriculture, Washington, D. C." is sufficient. Your senator (U. S.) or Congressman will also be pleased, much pleased, to send them to you.—Editor.

KEEP POTTED BULBS COOL

The ordinary furnace-heated basement is no place for potted bulbs. If there is no cool corner keep the bulb pans and pots outdoors. Cover with leaves or straw and over this heap sand or coal ashes sufficient to keep out early frosts. As a matter of fact, it will not injure the bulbs in the least for blooming indoors if frozen solid after root growth has taken place, but it is inconvenient to salvage potted bulbs from a solidly frozen mass of soil or ashes. Leave them outdoors until common sense tells you that the basement is better and then find the very coolest place for them.

Plant crocus on the lawn. Cut out four-inch squares of sod, plant six bulbs in each and cover with mellow soil. A little grass seed next spring will mend the lawn. The crocus will keep on forever, almost.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

PERSISTENCY

"If your are interested enough and persistent enough, after a while the things you set out to do are done." Mrs. Kroening, of the Milwaukee Garden Commission, has proven the truth of this old saying. Slowly but surely the people of Milwaukee county are beginning to appreciate the work she has been doing so persistently and unselfishly for many years. In the early days of the Garden Commission, when others were discouraged over the meager results and quit, saying, "What's the use of working, it will never amount to anything," Mrs. Kroening had faith and vision and persistency.

Some of the results were shown in the E. M. B. A. Hall, Public Service Building, on September 20 and 21, 1924. The individual exhibits of vegetables and flowers have greatly improved during the last few years. Some of the exhibits of seedling dahlias would have been a credit to any professional flower show. There were many exhibits from both the city and country schools. Each school held an exhibit the day before and only the prize winning entries were sent to the central exhibit and arranged carefully in the hope of winning the sweepstakes banner, the most coveted of all prizes. Small boys and girls, as well as some of the older ones, followed Prof. J. G. Moore, the judge listening intently to his words of praise or disparagement. One small boy, exhibiting for the first time, bravely asked Mr. Moore, "What's the matter with *those* beets?" "Too big, stock feed," said the judge. "Gee," said the youngster disgustedly, "that means they are only good to feed pigs and cows, and I picked them out because they were big. Next time I'll know better."

One of the features of the exhibit was the boys' and girls' demonstration teams, who step by step showed the visitors how to sow the seeds, care for the plants, prepare vegetables for market and for exhibit; also how to care for, when to cut, and how to arrange flowers artistically, both for the home and for exhibit. These demonstrating teams are sure to prove of prime importance in garden work, just as they have in the canning, sewing and live stock clubs.

The exhibits were fine and Mrs. Kroening had every reason to be proud, but the exhibit is but a small part of her work; months before all this work must be planned, seeds are bought in large quantities and sold for a small sum, new beginners in garden work must have help and encouragement at the right time. Last spring many fine lily bulbs, as well as a number of fine varieties of rose bushes, were sold very cheaply to those who would call at Mrs. Kroening's office in the city hall. She is working for permanent gardens. Every real garden lover knows that when you have planted trees, shrubs and perennial plants, a bit of yourself has been planted with them and the roots go deeper and deeper; it hurts to pull them up. There is a growing tendency, so the real estate men say, to own your own home in Milwaukee. I am sure the planting of gardens has had much to do with this desire.

I am sure every horticulturist in Wisconsin is proud of the work Mrs. Kroening has done and will join with me in wishing her many happy years in her garden work. For we may be sure the past years have been happy ones in spite of hard

A Delightful Playground

work and discouragements. No one could be very unhappy while beautifying the waste places and teaching children the mystic lure of a garden.

To the Milwaukee county members I would add, and urge, wishing is not enough, take an active interest in this work, encourage the children in your neighborhood school, and help them and other children with your presence and your praise at the central exhibit. Mrs. Kroening could use many helpers in staging and classifying the exhibit. C. E. S.

A SLOGAN

Bite off more than you can chew,
Then chew it.
Plan for more than you can do,
Then Do it.
Hitch your wagon to a star,
Keep your seat, and there you are!

ROSA HUGONIS BEARS GOOD RECORD

Flashing through a town in northern Illinois a few years ago the writer saw a beautiful yellow flowered shrub at a time when there should be no yellow flowered shrubs, early in June. It was altogether too late for Forsythia, and besides from an automobile moving a mile or two better than the local speed regulations prescribed, was altogether more beautiful than Forsythia. It had stiff, vertical branches as well as curved branches, and each was covered with yellow flowers.

This shrub haunted me for two years or more and until I met, face to face, its mate. Closer acquaintance showed it to be a rose. But what rose? Nobody seemed to know; it was an old timer; had been there for ever so many years. A shoot scarce a foot in length bearing at least a dozen creamy yellow blossoms, each two inches across; a key to rare species and the mystery was solved. It was Rosa Hugonis. The next question, is it hardy in Wisconsin, has been answered fully. Four replies to the query in the August Wisconsin Horticulture have arrived and are as follows:

"Yes my Hugonis rose weathered 22 below last winter with very little protection. It's growing, as the ladies say, just lovely. —Max B. Brucius, Milwaukee."

"I have a Rosa Hugonis and think it must be hardy—plus, considering the vicissitudes of this specimen. It doesn't seem to resent anything. I have had it three years and moved it three times at seasons when it shouldn't be moved. It bloomed beautifully this spring. I have given it no protection in winters."—E. G., Waukesha County.

"Noticed in the August number of HORTICULTURE an inquiry regarding the hardiness of Rosa Hugonis. I can state from experience that it is exceptionally hardy and also a good thrifty grower in the vicinity of Milwaukee and this over a period of six or seven years."—E. J. Schulte.

Now that we are reasonably sure of its hardiness readers will want to know more about it.

Rosa Hugonis is a strong grower of the same type as the Rugosa and its hybrids. Its place is in the shrub border rather than in the rose garden.

Mr. E. H. Wilson of the Arnold Arboretum, describing "Some New Roses Introduced by the Arnold Arborteum During the Past Decade" in the American Rose Annual for 1916, says:

"This beautiful rose came to us from the Royal Gardens, Kew, where it was raised from seeds received from north-central China in 1899. It is an up-right-growing shrub, 6 to 8 feet tall and more in diameter, with slender and spreading branches. The fragrant flowers, each about 2½ inches across, are produced all along the branches, and so freely are they borne that the branches become yard long sprays of soft yellow. The leaves are small and of a pale green hue, but the foliage is ample, and as I write in mid-November is still on the shrub, and has assumed a dark purple tint."

We do not find Hugonis listed in any catalog issued by Wisconsin nurseries or in fact by any middle west nursery. We find it at rose specialists at 75 cents to $1.50, according to size of plants, the higher price being for two-year-old field grown plants. No doubt our Wisconsin nurseries could supply customers on request.

We do not recommend this plant unreservedly, but suggest that it be tried. Van Houten's Spirea or Bridal Wreath is a wonderful shrub, but sometimes we have a feeling that we have almost, if not quite, enough of it. The same is true of Rugosa roses and the Hydrangeas, paniculata and Arborescens, all hardy, beautiful and will grow anywhere, but if we can add variety by way of a yellow flowering shrub let's do so, or at least try to do it.

The first edition of *Native Plants of Wisconsin* by William Toole, Sr., is exhausted. A revised edition will be issued early next year.

THE FLORISTS PAGE

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

IN DUTCH

At last, my desire to see the Holland bulb and flower fields and nurseries has been fulfilled. It is not difficult to get through Holland. On a fast train, two hours will carry you from one border to the other. But the canals and windmills and the general foreign look will invite one to tarry, and the Hollanders are nothing loath. In fact, they will visa your passport free, while other countries charge you ten dollars for signing their name to your passport.

To meet the Dutch is to understand how they can produce bulbs and plant stock so cheaply and so good. In everything they do, they are thrifty and cleanly. It is curious to describe a town as painfully clean, but no other term would fit some of their little cities. Although I was in the Hague, Rotterdam, Amsterdam, Utrecht, Haarlem, Gouda, Leiden and some of the larger cities, I made my main objective the small villages we never hear about, such towns as Hazerswoude and Zeist. No tourist book mentions these towns, hence they rarely see tourists. The residents of Zeist told me that I was the first real American they had ever seen, because they are off of the beaten path. In talking with the Hollanders, I had to use German, since I could not understand Dutch.

The Hollanders live well, even if they do work hard and long. Things were cheaper in Holland than in any other country. Their unit of money is the florin and a hundred Dutch cents make a florin. But it takes two and a half florin to make an American dollar, so that in terms of our money things seem quite cheap. The finest cigars cost from four to ten cents Holland money, or from one to four cents American money. Their dress is no different from ours. The day of the wooden shoe is past, and you rarely see any unless you get out on the farm. Their clothes are the same as ours. Only on holidays or Sundays can one see the quaint costumes that adorn the post cards one sends back home.

The thing that strikes the tourist most is their continual industry. If there are any unions in town or country, it has not affected hours of labor much, which are from daylight till dark. I even saw a farmer unloading hay into the barn by electric light, long after dark.

One gets the idea in reading that Holland is all canals and windmills, and that the most of the traffic is via the wet way. Not quite,—there are good roads connecting the whole of the country, paved or graveled, and plenty of autos and autobusses running on them, the Ford being in the majority. But it is also feasible to go by canal to any place in the country. Long canals parallel the roads and railroads, and are fed by laterals that divide the fields of each farm in long, narrow hundred foot strips. These canals are not narrower than five feet and are six feet deep. When the water rises too high in these laterals, it is drawn off by windmill power and put into a high line. In the rich, peaty soil the farmers are forever cleaning out these laterals with long handled rakes and depositing the muck in a heap as fertilizer or scattering it over the land for crops. The narrow canal boats have quite a large capacity, and as the motive power is usually one or two men, the expense of moving stock and produce is not large. These canal boats can be brought right alongside the foreign steamer and the loading for overseas is done by hoists on the steamer. Naturally, with the minimum of handling, and the all-water haulage, the New York price is far below any price we could make in the United States on native-grown stock. We are going to realize this keenly in the next few years in our prices for bulb and nursery stock.

The Hollanders who labor don't quite understand why our markets are being closed to them, as we have always been one of their best customers. England still buys most of her stock in Holland and probably always will, but the loss of the United States market has been a hard blow to them.

Not only do they have great bulb stocks, but also great fields of other things. Begonias, pansies, dahlias, chrysanthemums, all sorts of shrubs and even trees are to be seen in quantity. One of the best of the nursery stock people was Karl Wezelenburg and Coy of Hazerswoude. This was in the neighborhood of Boskoop, the center of the bulb industry. It is difficult to find principals, for every dealer you see over there will claim all the land in sight, and show you a long area of fields, which he claims are his. Mr. J. H. Bridgeford, manager of the Watkins-Simpson Seed Co., of London, told me this, and I furnished the glaring example myself. I told him of a fine catalogue I had from Telfair of Boskoop, showing his fields and strains of novelties. Mr.

Bridgeford assured me that the man in question had no ground at all, further than his garden patch, and was merely a commission man. Very few growers there have any large amount of land, but are quite ready to claim everything in sight to make an impression on their prospective customer and complete a sale. They can fill the order, too, but buy the stock from their neighbors to do it.

From Leiden to Hazerswoude is 13 kilometers and from there to Boskoop about eight more. Auto busses run from Leiden, making about fifteen round trips a day. All of the road is paved or graveled, and most of the graveled road has a narrow strip of brick paving running down the center. I judge that all the towns are clean from those I saw. In even as small a town as Zeist, they had their annual Dahlia show, and the other annual flower shows, with engraved invitations necessary for admittance. I happened into Zeist on the day of their annual dahlia show and received an invitation. The dahlias were at their best, and I saw a large cart full being sold from door to door by a street vender. A big bouquet of a dozen were only 25 cents or 10 cents in our money. The vender had but two general types, the ordinary and the cactus type, but there were many types at the show. Visiting a baker there, Mr. George Van Loghem, I was shown the town of Zeist and also his premises. Although he had a narrow backyard, he had a big overhead wire arch on which he trained his pears, apples and grapes. All were trained in a vertical plane of one layer but were yielding profusely. His pears, trained flat against the barn, were of a large growing variety, weighing three to four pounds each at maturity.

There were two city parks in Zeist that were lovely. If I could only transfer that little park, as it is, to Milwaukee, it would be considered the finest thing in the state. Their city streets were copiously shaded. One avenue of a half mile was lined with old beeches, from 16 to 32 inches in diameter and 30 feet to the first limb. The trunks were green with lichens, the gray showing through in but a few patches where the bark was uncovered, and their tops interlaced overhead.

After a visit with several of the Hollanders such as the Director of the Hortus Botanicus or Botanical Garden, and the people at the Industrial Museum or Kolonial Institut, along with the men on the street, the guard on the train, and the many people that I met, I have a much better opinion of the Dutch than I did before. Their young men are just as keen as our own, and if there is any stolid peasant class, I failed to see them.

HURON H. SMITH.

THE BLUE SPIRAEA

The so-called blue Spiraea (Caryopteris Mastacanthis) has long been in cultivation, yet rarely found in gardens. It is a smooth, branchy little shrub, having much the habit of Callicarpa, to which family it is allied. C. Mastacanthis does not appear to be truly hardy in this latitude, but it blossoms so late and so profusely, and is altogether so attractive, that it is well worth the trouble to lift it in autumn and place it in a pit or cold frame, and to replant it again in the spring.

The flowers, which are individually small, are borne in clusters in the axils of the opposite leaves and on all the branches. Blossoming begins in September, and as the twigs continue to grow, new flower buds are produced with each new pair of leaves, until further growth is checked by cold weather and frosts. The blossoms are of a rich violet or lavender-blue color, and have a slight aromatic fragrance. The foliage, green above, is soft, downy and hoary white beneath, and when bruised it gives out a very powerful, pungent, aromatic odor, strongly suggestive of some plants of the Mint family.

(The Blue Spiraea is not at all hardy in Wisconsin; it kills, root and branches, even in a mild winter, but may be easily carried over and is well worth the trouble. The writer grew it for years by this method and its wealth of bloom amply repaid all trouble.)

F. C.

SEEDLING APPLES BEAR IF NOT GRAFTED

Many people entertain the idea that apple trees grown from seed will never bear fruit, that it is necessary to graft a twig of the seedling on another tree. Just a little observation ought to show how much nonsense there is in such an idea. Non-sense is a good word. It is safe to say that seedling apple trees will always bear fruit, if given time enough.

Cut this out and paste it in your hat. "Leave for Madison Tuesday afternoon, January 13th to attend Horticultural Society Convention." "Also tell wife to be ready to go."

The necessity of circumstances proves friends and detects enemies.—Epictetus.

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HANG TOGETHER OR HANG SEPARATELY

Waupaca county folks have been raising strawberries for forty years or more, but all they have learned in that time is how to raise berries. They haven't yet learned how to sell berries. Read this from one of the veterans: "I raised more strawberries per acre this year than ever before, so many it was a question how to get rid of them. People came from all directions and took them, without money and without price. I got all the way form 75 cents for a 16-quart case up. A very few of the first at 25 cents a quart.

"We trucked some to Oshkosh but toward the last of the season it did not pay to make the trip for what we got for them."

Quite so, and more than likely the Waupaca truck on its way to Oshkosh met Oshkosh trucks loaded with Oshkosh berries seeking outside markets, possibly including Waupaca.

Being in a sarcastic mood we answered the Waupaca man as follows:

Just a word in reply to your interesting letter of October 7th. You can raise mighty good strawberries around Waupaca and lots of them, but the more you raise the worse you will be off unless you growers get together and pool your crops so as to ship in carload lots. It is dead easy to glut the Waupaca market, in fact about two acres would do that, but there are several million people living along the railroad track which leads out of Waupaca that will buy your berries if they get a chance. Whenever you fellows get tired of the game you are in now let us know and we will help you. Wisconsin Rapids growers learned a little last year, but they still have a long way to go.

And that's the truth. Strawberry growers at Sparta learned twenty-five years ago that it was to their best interests to hang together, to own and control an organization for selling their berries. Bayfield fell into line next, then Sturgeon Bay, then Warrens and Wisconsin Rapids. It's Waupaca's turn next. There are other localities that could to advantage wake up long enough to take advantage of what their neighbors are doing. This society stands ready to help growers to find markets. If we cannot do it ourselves we can set in motion machinery that will do what peddling cannot do, but the call must come from the growers themselves. We learned long ago the futility of *organizing* the people of a community, whether into local societies or for any other purposes. "There is a lot of horticultural interest around B——; let's go up there and *organize* them." Such efforts have always, or nearly always, proved failures. People of any walk in life resent being "reformed" and rightly so. On the other hand, we rarely repel education or an opportunity to learn. Sow the seed and after it has grown a bit somebody will sit up and take notice. When growers begin to holler for help is the time to get busy and help them, not before.

SUNBERRY, WONDERBERRY AND OTHER WONDERS

One of our members is enthusiastic over Burbank's Sunberry and sent us a liberal sample for testing. A gardener near Madison this year sold quantities of the Wonderberry to stores and the storekeepers actually sold them for as much as 18 cents a quart.

Neither fruit is fit to eat uncooked, the Wonderberry being nauseous unless it be to an educated appetite. One grower was overheard advising the use of vinegar to Wonderberry in making pies. We are of the opinion that a little limburger cheese added would give just the right pep to the pie without in any way affecting the flavor of the Wonderberry.

These solanumus (probably) improved (?) varieties of plants native to the desert regions of Arizona and Mexico will grow anywhere as the introducer claims, but why grow them at all? The pioneers used native fruits, elderberry, high bush cranberry, etc., disguising the jams and jellies made from them with the wild crab. We have better fruits now. A thrifty currant bush or two at most will yield all the

pie and jelly material needed for a family and no nostrums need to be added to deceive our palates.

BOYHOOD MEMORIES

First comes the men's clothing store, then the candy shop, the dry goods store and then the flower store snug between dry goods and drugs. I am sure I should like this particular florist, altho I have never seen him, because he is generous. He gives all of us so much. It's true you may feast on the beauties of roses, lilies and perhaps orchids in any florist's shop if you enter, but the flowers are all in georgeous iceboxes, vases and jars, crowded together, but in the show window only strawflowers, baskets and other imperishable wares.

My florist is different; when he unpacks those long, flat boxes of Ophelia he gives us hungry passers by at least one, sometimes half a dozen; not of course to everyone of us, but puts them in the window and that's almost as good as having them. So each morning we are sure of a treat, something that helps start the day right; that is, all who care to look.

Yesterday morning, right close to the glass, a bowl of common garden flowers, Calendula, Cosmos and Baby's Breath. Why I have all those in my garden but never realized their beauty until I saw them in this shallow bowl, each stem nodding to me, gracefully, and scarcely touching its neighbor.

But this morning what I saw gave me a little start; my heart beat a little faster as I looked, and there came memories of other days that has made me a little sad and I have not since done so well the things I am supposed to do. Through the routine of office work there run strange lines and through the throb of street life come alien notes, summoning throngs of memories and pictures that have no place in the day's work, for in the window stood a great vase of Turk's Cap lilies!

And these are the memories: First the boy, scarcely five, skirting the edge of the grain field to reach the little meadow beyond, where wild flowers always grew in abundance. That was a long journey then and permission to go was granted by mother only because there was no pasture to cross and mainly because all of the little meadow was within plain view of the kitchen window. That's where mother spent all her time, in the kitchen. I was the youngest and there were no other children nearer than a mile, so the flowers and the birds came to be my friends.

It was down in the little meadow that I first saw the Turk's Cap lily. The stalks were too big and stout for me to break so I plucked the flowers and great was my delight at the nice brown "paint" that served so well to decorate hands and face "injun" style.

Memory plays such strange tricks, plays on our heartstrings melodies sometime soothing and again saddening.

It's true I was glad to see my childhood friend again, even among strangers, but these memory pictures would not fade; the meadow where this youngster went from year to year to gather flowers where the bobolinks and blackbirds, quail and meadowlarks greeted him noisily, petulantly, "go away," "go away;" "not there," "not there;" "Oh will you go," would not fade nor those other times and other days; Sundays in spring when violets and blue flags were to be found in this same childhood's meadow; Sundays in wood and fields where the anemone, trillium, columbine and moccasion flower grew; Sundays in autumn when, by going farther, the fringed gentian might be found and everywhere aster and goldenrod. The autumn Sunday afternoons I think were best of all, for then one could climb the point, go out to the very edge, lie in the sun and scan the long valley below. The birds were quieter then, getting ready to slip away from us, except only the blue jay and the crow and even their voices were subdued as fitted this dreamy time.

Today or tomorrow my lady will go in and buy my childhood friends. They will be delivered in a pasteboard box and later placed with much care in just the right spot in hall or living room. Yes, my dear lady, you bought lilies, but there was something else you couldn't buy—the song of the bobolink and the quail, the swish of tall grasses, the scent of violets nestling at grass roots and the picture of mother standing in the kitchen door. Yes, lady, you have lilies, but nothing more. I have memories, the like of which I fear you have never known, priceless memories. I wish this florist had kept these Turk's Caps in his icebox. Or do I?

F. C.

YES, TASTES DIFFER

One thing that gets me sore is a picture of a boy hugging a calf. There is only one thing worse and that's the picture of a girl doing the same thing. If it was a peck of apples or a bunch of roses,—but tastes differ, I suppose. C.

The convention program is about made. Last call for suggestions.

HORTICULTURAL TROUBLES

Edited by E. L. Chambers, Assistant State Entomologist

DUSTING AND SPRAYING DEMONSTRATIONS

By E. L. Chambers

During the summers of 1922 and 1923 the State Department of Agculture, cooperating with the Experiment station, began a series of spraying demonstrations to promote the use of Bordeaux sprays and to study upon a commercial basis some of the factors responsible for the variable results reported by the growers who were following this spraying program.

Hopperburn, characterized by the drying up of the tops in midsummer, formerly thought to be due to hot weather and therefore not preventible, has been brought under control by the use of Bordeaux 4-4-50 properly applied to the underside of the leaves in the form of a fog mist.

As a result of the success of these demonstrations Bordeaux mixture has been coming rapidly into general use throughout the potato growing sections.

The increased yields in the demonstration plots in 1922 were from 17 to 100 bushels per acre, depending upon the variety, or an average of 56 bushels per acre in the five plots located in Waupaca, Vilas and Marinette counties. With a much lighter leafhopper infestation in 1923, the increased yields ranged from 4 bushels per acre in case of Rurals to 60 bushels per acre in case of Green Mountains. The average increase that year for the five plots located in Waupaca, Portage, Forest and Oneida counties was 35 bushels per acre. This improvement is especially valuable in the certified-seed potato growing sections where the prices are not affected so much as in the sections where low market prices have been prevalent the past three years for table stock. The grower in Oneida county stated that if he had sprayed his entire 25 acres with Bordeaux instead of only with an arsenical his income would have been increased $2,000.00 He has since built a boom of the type employed in the demonstration (Fig. 2) and used it the past year himself.

With the development of Bordeaux dusts to a promising degree for potato dusting it was thought best in 1924 to add to the spraying demonstration a plot treated in this manner in contrast to plots where the Bordeaux was applied with water and the check plot on which only an arsenical was used. Since an attempt was made to get into a different locality each year, during the past season plots were used for this demonstration by the department at three points in Oneida, Barron and Price counties. The results of these plots in yield per acre are shown in the following table:

County	Locality	Variety	Dstd.	Spr.	Ch'k
Barron	Brill	Rural	359	327	285
Price	Prentice	Rural	253	240	194
Oneida	Rhinelander	Green Mount'n	172	156	132

Owing to the absence of leafhoppers this season the difference in these yields is due largely to early and late blight control and to the stimulation of the plots by Bordeaux. All of these plots were picked up by the regular crew of pickers and all potatoes not complying with U. S. Grade No. 1 were left on the ground. There were many more small ones in the check plots than in the sprayed or dusted ones. The dust plot at Rhinelander received a fourth application, while the sprayed plot had but the usual three, due to the fact that the sprayer could not be obtained at the time the first application of dust was made.

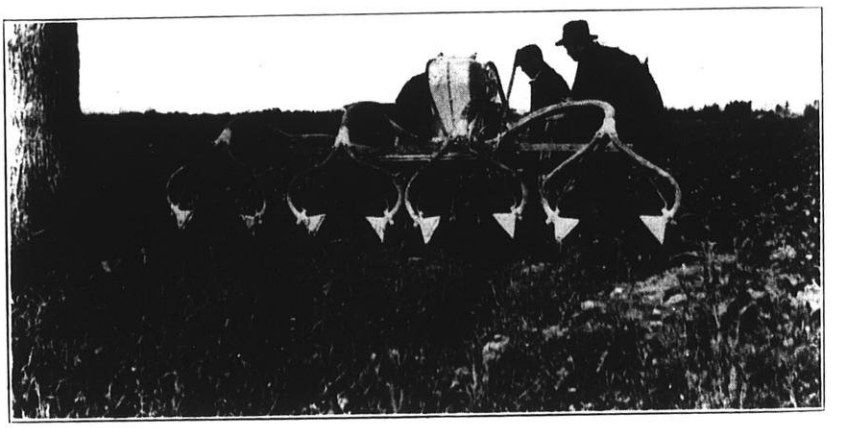

Fig. 1

The same flexible spray boom shown in Fig. 2 was used for all these spray plots during the past three seasons. It was so constructed that it would get the spray well beneath the foliage and flexible

enough to permit adjustments to accommodate various widths of rows and fold into a small bundle to facilitate carrying it from one place to another. The boom sprayed four rows, using three nozzles per row. While it could be attached to any of the standard makes of sprayers the Yellow Jacket traction sprayer (Fig. 2) was employed in all cases. One nozzle was set from 12 to 14 inches immediately over the center of the row and a drop with a "Y" furnished with an angle nozzle was carried midway between the rows at a point just high enough to clear the ground.

A pressure of 150 to 200 pounds was maintained and from 75 to 90 gallons of 4-4-50 Bordeaux was applied per acre at ten-day intervals for three applications. A fourth application was made at Prentice on account of the prevalence of late blight in that vicinity. The plots in each case were one acre each for dust and spray and one-fourth to one-half acre for check. Only calcium arsenate was applied on the checks for the control of the potato beetle.

"D18," a copper lime dust manufactured by the Niagara Sprayer Company, was applied on the dust plots with a modern traction duster (Fig. 1), made by the same firm. The first application in each case consisted of 20 pounds per acre, the second of 25 and the third of 30 pounds. The dust at the Brill plot was applied with a hand duster made by the above company, and a fourth application of 30 pounds per acre was made at the time of the fourth spray.

Fig. 2

PROTECT PLANTS

Winter is here, or will be here, by the time this is printed. Perennials, peonies, phlox, delphinium, and all the others will usually live through winter anywhere in Wisconsin without protection, but will come out in much better shape if covered lightly. Coarse manure, straw, cornstalks, hay, even dahlia tops may serve the purpose. Anything that will prevent alternate freezing and thawing and resultant breaking of the roots and injury to the crowns. Cover strawberry plants now, a light covering only.

WANTS TO KNOW ABOUT ROSES

"I want to grow a few roses next year, and am writing to ask if you will be kind enough to give me a list of, say, a half dozen, three hybrid perpetuals and three hybrid teas which can be grown in this locality.

"I have a sunny place for these and am interested enough so that I will take the time to give them the proper care.

"I should like to have a bush rose which will fill a corner of this sunny spot, one that will grow to a height of about four feet. In front of this I could arrange the other roses which do not grow so tall.

"I much prefer the ever-blooming roses, although I am aware that the hybrid teas are not recommended by the Horticultural Society."

And so it goes, the desire for roses increasing every day. Peonies, iris and gladiolus, all splendid flowers and each has a host of enthusiastic followers, but none so many as the rose. The great popularity of peonies and the others named is due largely to the fact that they are easily grown. You can't very well go wrong with any of them nor is any subject to serious insect or disease pests. For these reasons and the certainty of bloom these flowers will always be popular, and deservedly so. The rose would be more widely planted than any or all of them if people would only get rid of the idea that some sort of magic or at least extraordinary skill is required to grow roses. If the few and simple requirements could be understood by everyone then everyone who has a foot of ground would have a rose bush.

For one who has only a passing acquaintance with roses, it is a heartbreaking task to name *three* hybrid perpetuals and *three* hybrid teas. If it had been three times three or even three dozen the job would have been more satisfactory. There is no list of three on which any two rose growers will agree and the following will probably excite scorn if not indignation on the part of experienced growers. I hope so. I hope it will excite them enough so that they will write us about it. Paul Neyron; J. B. Clark and Druschki hybrid pertetuals. Neyron, pink; Clark, dark red and Druschki, pure white. Clark and Neyron are strong growers and as hardy as any; Druschki less vgiorous and perhaps more apt to winterkill, but worth fussing over.

We recommend this rose convert to plant that grand climber, Paul's Scarlet, to fill the corner, not close to a wall but two feet away, Neyron and Clark in front, eighteen inches to two feet distant and Druschki in front.

If there is another sunny corner by all means plant three hybrid teas. Buy dormant field-grown plants, not three little puny pot-grown, half-portion plants, and give them good summer and winter care. Try these three out of three hundred equally as good: Columbia, pink; Crusader, crimson, and Red Radiance. There is simply no place to stop when writing about roses.

Hydrangea paniculata, one of our finest shrubs, not particular as to soil or location it grows and grows. The hydrangeas both paniculata and arborescens were particularly fine the past season.

HENRY S. COOPER

Henry S. Cooper, of Kenosha, died at his country estate, "Dunmovin," Saturday morning, October 25th. Mr. Cooper was 66 years old. Mr. Cooper was a peony enthusiast and his love for this flower prompted him to grow acres of peonies that he might have flowers to give away. Last spring he sent peonies to all former service men in government hospitals. Local papers estimated the expense of this gift at $10,000.

"The great business of life is to be, to do, to do without, and to depart."

NOW THEY BOX THEM AT STURGEON BAY

Door county's mammoth fall fruit harvest has been under way now commercially since September 8, quietly and without the spectacular nature of the cherry harvest so that people on the peninsula could scarcely realize that the Door County Fruit Growers Union had already shipped 42 carloads of apples, four carloads of plums, and one carload of apple cider up till yesterday and that it is employing regularly, in this work of marketing the fruit receipts, nearly sixty persons. Forty more are employed labeling the thousands of cherry cans of the past summer.

The principal brand of apples marketed so far has been the Wealthy, which has been receiving the bulk of attention, and will continue to do so until the McIntosh variety starts in heavily the latter part of this week. Duchess apples have also been shipped in large quantities.

USE EXPERT PACKERS

Two women from Yakima, Washington, a great Western Apple Producing center, have been secured by the fruit growers here to superintend all of the packing of western type boxes of Wealthies, McIntoshes, Snows and Delicious apples. They are Mrs. Grace Flickinger and Miss Vera Klingele.

Working ten hours a day at home with the Western apples, the girls say they can pack from 190 to 200 boxes. Here, the Wealthy apples, being very small this year on account of their terminal growth principally, allow them to pack an average of only 100 boxes a 9-hour day, but the later varieties will equal the Western ones in size, and record packs are looked for.

At the present, the two experts are packing all the fancy apples which emerge from the machine grader. When the heavy late seasons opens next week, local women are expected to be employed and do packing under the tutorage of the Westerners.

CANNING PLUMS

A new experiment in canning plums in glass jars ready for household use has been taking place at the canning factory this season very successfully. Already a large number of fancy Burbank, Lombard, and blue plums have been put up in both tin and glass cans, using the same process as for cherries. The plum season, which is the largest ever seen in Door county, ends this week, with a total of nearly ten carloads harvested for canning and also shipping fresh.

In cider making, the Union has shipped one carload so far and is still making 1,000 gallons a day from culls. Five are kept busy at the machine constantly. The liquid is put up in 14-gallon kegs and will be put up soon also in gallon glass jugs.

The first car of 215 kegs went to Duluth and another to the same place may be sent soon. Stevens Point also has an order for a carload.—Advocate, Sturgeon Bay, October 4th.

GRACIOUS GOODNESS, LOOK HERE!

Just recently the letter carrier brought in a post card with this name in capital letters across the top: MEZHDUNARODNAYA KNIGA. Pronounce it at your own risk. Below was an address; Kuznetski Most 12, Moscow, Russia. Heavens, the Reds are after us! But only for copies of our report and magazine. Why not? For five thousand years the white race has dominated the world. Greeks, Romans, Northmen (Nordics) each in turn, next, and last, the Slavs. Why not?

SAVING OLD APPLE TREES

"I have a few apple trees. Some of them have so much rot in the trunk that only about one-half inch of shell is left. Would it be advisable to clean out these cavities and fill with cement in the same manner that shade trees are doctered? If a tree is filled with cement would it bear fruit? The trees in question are about twenty years old."

So young and yet so old! Neglect from infancy must have been the lot of these trees, sheer neglect.

The half inch of shell left is the important part of the trunks and the only part of any importance since apples are wanted rather than timber. The only purpose "heart wood" fills is support of the top; all growth takes place in a shallow layer just beneath the bark. A column of cement will answer the same purpose and will in no wise interfere with the bearing of fruit. It requires considerable skill to fill tree cavities so that the filling will serve the purpose intended and so finished on the outside that wood layers will form over the cement. It might be cheaper in the end to plant two-year-old trees next spring.

Each succeeding year more and more people realize that our annual convention is worth more to them much more than the expense involved in attending. Begin considering it now.

JUSTUS SAYS:

PUBLIC BUSINESS

We refer with pride, and justly so, to our neighbor's success as a business man; or possibly it may be our own success in that line. How about the public business at Madison? Are you proud of that? Are you proud of the way the business of the great State of Wisconsin is conducted at Madison? You are not. Where is the trouble?

Not long ago an article appeared in a magazine describing the very careful way in which Mr. Penny, of the Penny chain stores, selects his managers. They start as clerks, and are promoted after they have proven themselves fit. In time, they are allowed to buy a share in, and manage a store.

How are our Madison men chosen to go and spend millions of our money? Do we try them out first? No. Do we make any special inquiry into their business ability? No. Are they asked to come before a board of examiners to determine their qualifications for the place? No. What then is done in that line? Nothing, by any authorized committee or board. If any man, who is a citizen of the state, wishes to be governor or legislator and can, by any hook or crook, often the latter, get the nomination and election, he is *it*. Fine, isn't it, so easy, no bother or worry about any examination or useless fuss about fitness. He wants the job, and that ought to be enough for any reasonable man.

Now, as to clerks, typists, etc. These are very important and must be chosen with great care. An incompetent typist might misspell a word,—*terrible*. Some poor stupid might even put a postage stamp on bottom upwards—perfectly shocking. We must advertise a public examination to be sure they are all competent. What a grand and glorious feeling to have good clerks! Why not apply the examination plan to all public officials, elective and appointive?

JUSTUS.

TAMARIX

The Tamarix or Tamarisk is quite generally sidetracked by nurserymen because the top kills back more or less even in mild winters. The Tamarix is a very vigorous grower and makes a splendid showing, even if cut to the ground every year. Its feathery foliage and panicles of pink flowers would place it in the front rank as an ornamental shrub if it would only "stand up" a little better. Nurserymen know that it is satisfactory even if cut back, but it is difficult to convince the average customer of this, hence we rarely see specimens except in parks or extensive plantings.

TAMARIX AMURENSE

Tamarix pentandra, from which our horticultural variety, Amurensis, is derived, is a native of central Asia and inhabits rocky hillsides and dry plains. From this we might infer that it would thrive best under similar conditions here, but to show how little we know about any plant we offer here a photograph of a specimen growing close to the kitchen steps of a Madison cottage. This specimen never kills back, even in the severest winter, and blossoms profusely. Why is this particular Tamarix a thing of beauty while nearby specimens are not? Because it has all the water it can use from the ice box drip. Constantly the soil about its roots is saturated and as a result this particular Tamarix is *hardy*. What constitutes hardiness in a plant?

A LITTLE TRUTH, MUCH ERROR

"I have three red cherry trees which are between ten and twelve years old. With the exception of a handful one or two seasons they have never borne fruit. I can not say whether these trees came from a nursery or from seed or sprouts. I know apples cannot bear true fruit from seed but I am ignorant as to other fruits. Was wondering if the trees might be bark bound.

"I have one plum tree which, when fruit is forming, will bear several puffy plums which turn yellow and drop off within a week or two. Other fruit on this tree is never clean, the fruit being ticked with deep black woody spots. What causes this?" A. B.

The question about the cherry trees is a tough one. Sprouts coming from below the bud, Mahaleb or possibly Mazzard, rarely make *trees*, usually only a scrubby growth, and the foliage and fruit is so different from our cultivated cherries as to attract the attention of even a novice. These are more likely to be seedlings of some

standard variety that have conceived their duty to lie in producing cherry wood instead of cherries.

We are particularly grateful to this correspondent for lugging in this old superstition about "bark bound" trees. There ain't no such animal. What do people mean when they use this term? That the bark is rigid and preventing the inner layers, the wood, from expanding? Before saying more we must be excused a moment to pray a little for patience.

Most trees and plants (the exception need not be given here) grow from the *outside*, a thin layer (of active tissue) is laid down each year, adding to the circumference of the twig or trunk. Most of this layer consists of what we call "wood," but a protective layer, lesser in amount, is deposited on the *outside* merely as a protective covering to the wood layers beneath. This outer layer is "bark." This bark is never rigid and unyielding, but is constantly sloughing off. In the case of young trees is shed in thin layers; in trees like the oaks in rough, knobby lumps. Never does the bark of a tree "bind" anything.

The plum trouble mentioned is a common one on native plums and may be found in almost any grove of wild plums. It is a fungous disease sometimes called "bladder plum," or more often "plum pockets." Plant pathologists have named it Exoascus pruni. The spores appear to live within the tissues of the twigs and the disease appears from year to year in the affected tree, but the disease rarely spreads to other trees. The remedy lies in cutting out the tree.

IF NOT TOO LATE

A La Crosse county member asks: "What is the best way to protect a Crimson Rambler or any other climbing rose during winter and early spring with the least work? Have had some experience but more failures than success. Sometimes a branch would be fresh and green to the tip but brown near the bottom or middle and still have the same amount of protection its whole length. The branches we did save did not produce more than five or six clusters. The side shoots from the one-year-old branches did not produce blossoms. Would like some information."

The portions of the branches which turned brown were not properly covered, any statement to the contrary notwithstanding. Either they were insufficiently covered so that the sun warmed the bark in midday or else some wet and soggy material was used for covering. In either case the result would be the same.

The reason the uninjured branches did not bloom is because the covering was left on too late in the spring. Covered roses must be watched carefully in late March and April. Lift the covering frequently and when there is the slightest evidence of swelling buds remove all of the covering. Subsequent freezing weather or snow or

ice will serve to retard growth, without injury, until real spring comes. If the covering is left on until yellow shoots have pushed out, even one cold night will kill the blossom buds which are wrapped up within these shoots.

WINTERING DAHLIAS

As every Dahlia grower knows, some varieties can be carried through the winter with much less loss than others. Indeed, a few kinds, of which the well known Geisha is an example, are very hard to winter. The newer President Wilson is another variety that causes trouble in this respect. For the most part, however, Dahlia tubers can be carried through the winter with reasonable success by adhering to a few simple rules. The tubers should be dug soon after the tops have been blighted by the frost. They should be allowed to dry off, but should not be left exposed to the air for more than a few hours.

Then they should be placed in boxes in a corner of the cellar where the temperature can be kept as near as possible to forty-eight degrees. It is not advisable to cover them with sand or earth, but one or two layers of burlap may be placed over them. They will need examination from time to time during the winter. If found to be shrivelling, they should be moistened by means of the watering pot. If, on the other hand, they are found to be sweating, less covering should be given them.

Commercial growers often begin cutting up the clumps at once. Of course the tubers can be kept in a much smaller space after they have been divided, but they remain in better condition in the ordinary cellar when the clumps are left undisturbed. This is not an arbitrary rule, however. Some Dahlias make very large clumps and it may be advisable to cut them through once or twice. Of course, it is most important in all the work of digging and storing Dahlias, to remember that the necks of the tubers must not be broken.—Horticulture, October.

The testimony of a good conscience is the glory of a good man. —a Kempis.

WISCONSIN HORTICULTURE

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A TROPICAL BEAUTY, VANDA TRICOLOR

ANNUAL CONVENTION

THE IZAAK WALTON LEAGUE OF AMERICA

"We pledge ourselves to
do our best to restore
for posterity the Outdoor
America for our ancestors."

Pledge of the Izaak Walton League of America.

The Izaak Walton League of America is a National Organization of fishermen and hunters *and outdoor lovers*, dedicated to the restoration of sports afield and astream in the United States and Canada, *and to the restoration as far as can be of the outdoor America of our ancestors.* It is a National Organization, having no commercial or personal gain or aggrandizement under it; neither has it political nor religious interests.

It is undoubtedly the most comprehensive conservation program ever undertaken in America. Though less than three years old, it has local chapters from one end of the country to the other, and it has awakened thousands and thousands of principled sportsmen *and outdoor lovers* to the realization of the perils that are threatening our precious woods and streams and wild life.

The movement represents a patriotic and unselfish endeavor to save for our children their great American outdoor heritage that they may have the priceless memories of days spent on windswept, clear and gleaming waters and nights in fragrant, healing forests, and that they may gain the health and happiness that only the outdoors can give them. Many of the names back of this Save-Outdoor-America crusade are nationally known and insure the integrity and high standing of the League. None of the officers or directors receive salaries.

For the purpose of spreading far its message, the League publishes a monthly magazine, "Outdoor America," to which the greatest outdoor writers in American contribute without pay, out of sheer love and appreciation of the righteousness of the cause. The ideals and purposes of the League are embodied in its platform, which follows:

1. The practice of true sportsmanship in hunting and fishing, and strenuous and unremitting opposition to illegal, destructive and unfair methods.

2. An aggressive program, calling for National and State legislation to eradicate pollution from coastal and inland waters.

3. The broadest and most comprehensive system of Federal control feasible over the forests of the United States and dependencies, this system to embrace the best features of the forestry policies of Europe so far as applicable to our conditions.

4. Due consideration of the disastrous results of indiscriminate drainage projects and the obstruction of natural water courses.

5. That adequate public shooting and fishing grounds and game refuges be established by the State and National Governments.

6. Sufficient fish hatcheries and game farms for the increased propagation and wider distribution of fish and game.

7. Prohibition of interstate shipment for sale of game or game fishes.

8. Scientific regulation of the taking of salt water game fishes.

9. The strictest enforcement of the migratory bird law.

10. To endorse the recommendations of zoologists who recognize the critical need of building a sufficient number of biological experiment stations by the Federal Government and by the several States, trained men may always be available to pass upon the natural conditions of waters and the proper species of fishes to be planted therein.

11. The united support of those public officials, regardless of their party affiliations, who show themselves to be in sympathy with the principles of true conservation.

12. The fullest measure of cooperation between all organizations devoted to the interests of the outdoorsmen of America.

13. An unceasing, aggressive, educational campaign to the end that the objects of the Izaak Walton League of America may be attained.

NATIONAL OFFICERS

Dr. James A. Henshall, Cincinnati, honorary president; Will H. Dilg, Chicago, president; Thomas Ambrose, Chicago, first vice president; Dr. Henry Van Dyke, New Jersey, second vice president; James O. Heyworth, Chicago, third vice president; Dr. David Starr Jordan, California, fourth vice vice president; Charles W. Folds, Chicago, treasurer; Fred N. Peet, Chicago, secretary.

For further information write M. S. Heiss, executive secretary, 536 Lake Shore Drive, Chicago Ill.

STATE CAPITOL, MADISON

PARASITES BECOME LARGE FACTOR IN INSECT CONTROL

A well-known scientist once expressed the opinion that were it not for the tendency of insects to prey upon each other, thus holding down their numbers, life on this globe would be made impossible for the vertebrates, including man. Entomologists have been taking advantage of this warfare to help in keeping down the numbers of certain insect enemies of crops, introducing parasites from various parts of the world. In a number of instances very injurious insect pests have been in a great measure controlled by these introduced parasites.

The alfalfa weevil has caused great damage to this crop in certain regions and continues to spread, but an imported parasite is now spreading at about the same rate and is keeping the damage within bounds in certain places. This parasite was introduced into Colorado in 1918 and into Nevada in 1921, and is known to have become well established in these states.

The gipsy moth, which has done great damage in New England and adjoining states since its introduction, is being fought with various means, but parasites introduced from Europe are said to have become a considerable factor in this control work. In the generally infested territory inspectors report that the pest is less abundant than for many years, and entomologists of the department believe the parasites deserve most of the credit, particularly in the wooded areas in the country districts.

In the last few years scientists have spent much time in Japan searching for parasites of the Japanese beetle, now a bad pest in sections of New Jersey, Pennsylvania, and Delaware, and some of these have been found to survive in this region where they are now increasing. Not only are insect parasites being used but also fungous and bacterial diseases of the pest which have been found in the beetle's native habitat.

From southern Europe the department has been introducing parasites of the European corn borer, an insect which has now spread from the East to the eastern edge of the Corn Belt. One of these parasites has been found hardy enough to endure two New England winters, one of them unusually severe, and is thought to have become firmly established. During the summer just past colonies of it were started in western New York and in Ohio. The department has established an insect-parasite laboratory at Hyeres, France, where additional parasites are constantly being found and studied.

WANTS TO KNOW ABOUT TULIPS AND ASPARAGUS

(1) "Does it injure tulip bulbs or affect the blossoming the following season to cut off the foliage before it dies down? We want tulips as an early spring border yet naturally want to plant other flowers as later bloomers."

It does injure tulip bulbs to remove the tops immediately after blossoming. It is only through the leaves that the bulb can store up food and form a flower bud for the coming year. Plants for summer bloom may be set between the tulip plants if care is taken not to cut or bruise the tulip bulbs, but it is a ticklish job. A better plan is to wait until the tulip leaves begin to turn yellow then dig the bulbs and after they have dried off remove the tops and store the bulbs until planting season the following autumn.

If this seems to delay planting too long, dig the bulbs after the blossoming period and replant them at once in a spot not used for other plants. Any location or soil whatsoever will answer. Here they will ripen then follow the same treatment followed as given above.

(2) "What do you consider the best commercial fertilizer for Asparagus?" For "first aid" in the spring when the steady removal of shoots is drawing heavily on the roots apply sodium nitrate, a light aplication only, a tablespoonful for example, to each plant. In June a heavy coat of stable manure between the plants and dig it in. In case this is not available and usually it isn't, no doubt any of the mixtures of mineral salt offered for sale would be helpful.

Following the questions in the letter there was a delightful postscript as follows: "Please find enclosed check for two dollars, to extend my membership two years. We certainly enjoy the little paper."

BEG PARDON, DR. FRACKER

The article, "More Trouble for the Elm," in the November number was prepared by Dr. S. B. Fracker and should have been so credited.

JANUARY 14, 15, 16, 1925

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

ARE WE SELFISH?

When we organized our Garden Club about ten years ago, we decided to limit the membership. We were fourteen women who had been visiting each other's gardens and exchanging seeds, plants and bulbs. We believed that regular meetings with definite programs, along with informal discussions, would help us and prove very interesting. It has. Our discussions, our studies, the trying out of, to us, new seeds and plants, the sharing with each other, even the friendly rivalry, has given us much more beautiful and interesting gardens than we would have had otherwise.

We believe the work we have done in this club has helped to make West Allis a more beautiful city for we have given Flower Shows, labeling each variety. This alone has helped many people in choosing just what kind of flowers they wanted to grow in their gardens. We also furnished the Public Library with fresh flowers every week during the blooming season, also labeling them, familiarizing the children with the flowers and teaching them their proper names. We have tried to be very generous with the surplus of our gardens and with the knowledge we had gained, to every new beginner. And yet, many times, we have been called selfish because of the limited membership. It has been said that we were not fair in keeping out of our club many people who would be benefited; that the knowledge we were so selfishly acquiring would make the way much easier for many other gardeners.

We have urged the forming of other small clubs, insisting that others could do as we have done. Of course, I will admit that some of us did have a considerable knowledge of gardening to start with, but so have others. We have insisted that in a larger club there is more than likely to be friction and after ten years of club work we fourteen women are still close friends. In a large club the dividing of seeds and plants would not be feasible, there wouldn't be enough to go around and someone would have their feelings hurt. As it is if there isn't enough someone waits a year or two unless they decide to buy or grow them themselves and everything is serene.

Is the reader wondering why I am writing this? Just because every once in a while someone says wistfully: "How nice to be able to meet and talk over your garden problems with others who are interested, to hear about and see new plants and flowers; it must be a great pleasure." It is; then I wonder—are we selfish, after all?

Won't some of the members of the state society write and tell me what they think?

C. E. S.

A DELIGHTFUL CHARACTER SKETCH ENTITLED, "IF THE CHIGGER WERE BIGGER"

An unofficial and wholly unscientific discourse on the Gays Mills chigger in the September number evoked the following by "E. G.:"

And, Chiggers! Yes! I've had 'em! So has a certain Kansas poet—Eugene Ware, if I remember—who sang of them thus:

"If the chiggers were bigger,
As big as a cow—
If his digger went deeper
(You see *he* didn't say 'she!')
Like a subsoiler plow,
If the chigger were bigger,
As big as a cow,
Where, oh where would
Poor mortals be now!"

They were part of the discipline, in the dawn of your world, that has enabled you to "endure hardness as a good soldier." You would go out with joy, onto the prairie, to gather armfuls of wild flowers—the tall wild larkspur, sort of oyster white with a taupe fluff in the center and the wild foxglove with as many brown freckles as you had yourself and the fragrant pink, flossy balls of the sensitive plant that you found in the railroad cut, and the tall pink cone-flower that the children called "Niggerheads." And the lovely silky blooms of the Prickley Pear Cactus that you had to carry in your little apron—and then you had the tiresome job of hunting all the stray prickles out of said apron before you might give it to smiling, toothless, black "Aunt Easter" to wash.

Then you would come home, your joy a wee bit clouded, bringing

FRUIT, FLOWER AND VEGETABLE SHOW

your chiggers with you. I think the well-regulated chigger of those remote years *did* crawl *up*. If you happened to be wearing little strap slippers that strap was the first camp site on the upward way. Vast hordes, however, went on *up* to your little garter lines and pitched camp there, but there were still multitudes of bold adventurers who pushed on up into the wilds of your petticoat band and camped there. There were others scattered about but they were negligible. There you had the five great circles of the earth in bright vermilion. The equator under your little petticoat band was unquestionably a torrid region and the tropics under your garters were quite tropical enough and your slipper straps arctic only by comparison. Your mother said: "Don't scratch." And you tried not to scratch. And you held your little fists *hard* to keep from scratching. And you forgot. And you scratched. And your mother looked you over with a sharp eye and with the point of a needle excommunicated what little sinners you *hadn't* scratched. And all the open doors in your world at early bed time gave forth a dismal and discouraged wailing from victims too young to be stoic. And all the mothers bathed patiently with salt water, soda water or ammonia water to lullaby tunes. And the next day you did it all again!

A SICK BEGONIA, VERY SICK

A member from Oshkosh sent a begonia leaf—spotted, folded wrinkled and dried when it arrived—expecting a careful diagnosis and a remedy for whatever ailed the plant. This sort of thing can't be done. We had in mind sending this leaf to a plant pathologist, knowing that a letter would come back that a microscopical examination showed that the spores of dioceus dioscorea batulus seemed to be present and if the correspondent would submit the entire plant, the side of the house where it grew and a section of her grandmother's nightcap, a further examination would be made and results reported. That's all he could say. It's quite as impossible to judge of what's ailing a plant from examination of a single leaf as for a doctor to prescribe for a sick person by seeing a lock of his hair.

A happy thought occurred to us; send this to Jim Livingstone, the best plantsman in the state. We thought we knew what he would say, but never guessed the way he would say it. Here is Dr. Jim's diagnosis, just a trifle censored.

SICK BEGONIA

A doctor for human beings has an easy time compared to a plant doctor. The former can get his patient to stick out his tongue at him and tell him how he feels, but the latter, in a case like this that you have appointed me doctor for, has nothing to go by. I can't even see the patient and I must give a long-distance guess what the trouble is. It might be a case of exposure to the wrong kind of atmospheric conditions, wet feet or gas, not on the stomach, but in the air, and the poor leaf you send me has no tongue to tell me what was really the matter with its parent plant. This is a sad case, and I would advise the owner of the plant to call in a local professor so that he might see the plant face to face, and he might be able to give some reliable advice how to treat this sick plant.

The leaf enclosed in your letter is so dried up that it is almost impossible to prove that it is a begonia leaf—it looks more like a piece of dried tobacco leaf. I have looked at it through my glasses (I have to wear them now) and a microscope at the same time and I can't tell what could be the matter. This is a Rex Begonia leaf (wise doctor to know so much) and they have a habit of dropping their leaves (at least some of them) if the plant is confined in too small a pot; this will happen in the fall and winter and in my own case when it does happen I don't let it bother me, because sometimes the plants get growing out of bounds, that is, the root stems grow over the sides of the pot. The best thing to do in this case is to cut them back to within a couple of inches of the top of the soil, shake all the old soil off and repot in fresh, rich, light soil and start them over again. They will usually make quite a number of breaks, and make nice large plants. The tips of the stems that were cut off root very easily if stuck in small pots of light sandy soil.

It is pretty hard to tell just what can be the matter in this case. Perhaps the plant is getting too much water or it might be standing in a saucer of water that causes the roots to rot off. If it is insects spray with nicotine solution, or if it is a fungus, dust with dry bordeaux mixture powder.

THE FLORISTS PAGE

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

AN ENGLISH SEED HOUSE

The two most creditable exhibits in the horticultural section of the British Empire Exhibition at Wembley, London, England, were those of Dobbie, of Edinburgh, Scotland and Watkins and Simpson, of 27-29 Drury Lane, Covent Garden, W. 1, London. Their outdoor stock, blooming at the great fair, was composed largely of dwarf novelties and was always kept in trim and in bloom. The cut sweet pea exhibit of Dobbie was especially fine when one considers that they were grown outdoors. They were fully as large and fine as our greenhouse varieties and one could count plenty of stalks bearing four to six blooms.

At our request, an appointment was made to see the Watkins-Simpson seed test grounds at Twickenhan and Feltham. Three of us showed up at Twickenham at ten o'clock in the worning, the writer, Mr. J. H. Nimmo, a large grower of garden peas in Dunedin, New Zealand, and his London agent, Mr. E. R. Fison, who, by the way, is also agent for our friends, the John H. Allen Co., of Sheboygan, Wisconsin. It was Mr. Fison who introduced us to the English buttonhole flower container. He was wearing a fine bouquet of Van Wivern White Sweet Peas, which miracuously stayed fresh all day. Then we discovered that it was due to their being in water, in a tiny nickle tube, having an inner tube to grip and hold the flower in position. While it is an old thing of some fifty years' use in England, and to be found in every retail florists' shop at eight pence to a shilling, the writer had never seen it in America. It also evoked the wonder of flower venders in Holland, Belgium, France and Germany, when worn by the writer, for they had never seen the like before and were enthusiastic in commending it as "sehr practisch." The writer ferreted out the manufacturers in Covent Garden and had them send samples and prices to Bunde and Upmeyer in Milwaukee.

But how we wander from the subject. Manager J. M. Bridgeford, of the Watkins-Simpson Co., brought us out to see their testing grounds, and we surely did enjoy the whole day at these grounds. Both the other guests loved flowers as well as the writer and Manager Bridgeford displayed a pardonable pride in his lovely charges. The main Feltham testing ground is of 78 acres, while there are six to eight plots scattered from Feltham to Twickenham. Some of their ground is devoted to the raising of novelties by selection, but mostly it is for testing their own seed, as well as the seeds of their competitors. Any new thing that is put on the market is tested by Watkins and Simpson for their own satisfaction. Oftentimes, they discover that new names mask old varieties and are appended for commercial reasons.

The main bulk of the plantings are from their seed stocks, which they buy from regular seed growers all over the world. They test every bag of seed before it is sent out to buyers, by planting several samples in the field and keeping close tab on the germinating power, and the true to type characters of the resultant plants. There were 6,500 tests under way at the time we were there. None of these tests were to yield cut flowers or plants, but were only to yield information upon the character of the seed. Not only flowers were tested but all kinds of vegetables and field seeds. Their needs were very definite and their growers know what they want. For instance, the English do not like the huge cabbage heads which we find so succulent in sauer kraut. They grow a cabbage for the young, miniature central leaves, and when this embryo head is not much over an inch thick, the head is cut for the market. "Greens" on the bill of fare in England invariably mean these fingerling heads boiled. Personally, we can't say that we favor it so much. Give us rather a good, old, solid, Danish Ballhead and pigsknuckles, any time. Their ideas also vary somewhat on radishes, beets, carrots and potatoes.

The experimental grounds were a revelation to us, and we took some thirty photographs of the various things. We were surprised at the fertility of this ordinary looking ground. One plot was carrying a rotation crop of wheat, which headed very heavily. It would yield 60 bushels to the acre. The plot was dotted with marquisette screens over some plants or groups of plants. Every radish bed was completely covered.

Their outdoor sweet peas were especially robust and the writer, after some study, made out a list of the best for Alfred Locker in Wauwatosa. One of the most fragrant and prolific flowering of the radish group was the Golden Cheiranthus (C. allionii), which we saw growing this spring in August Kellner's outdoor plot in Mil-

waukee. A field of it at Watkins-Simpson proved its heavy flowering. Their outdoor pansies were especially hardy, and they had one variety, "Ne Plus Ultra," that survives the rigor of the North Scotland climate. A very beautiful plant, though a sparse seeder, was Lisianthus russellianus. Other things which we remember as especially good were the Maximum type of Chrysanthemum, the delicate lavender shades of Scabiosa columbaria, the specially dwarfed Lobelia tenior with such a wealth of blue flowers as to hide the leaves, the Orange Prince Marigold (not Calendula), the curled pansies, the Coltness Hybrid dwarf dahlias, the "Bouquet" dwarf asters, the Lilac Queen candytuft, and the Flamingo Calliopsis. We feel quite sure that all of them would take the fancy of the Milwaukee market. There were many other good things to be seen in the line of perennials and strawflowers, but we had already seen them doing quite as well, if not better, at John F. Hauser's Superior View farm at Bayfield, Wisconsin.

The Watkins-Simpson Co. are very conservative in making any statement in their catalogue, until it is pretty thoroughly proved to their satisfaction, and several times they have discovered that some highly touted novelty offered in America and elsewhere is one of their old standard varieties. We saw several such tests, where similarity was suspected, and a close inspection failed to reveal any differences between their old variety and the much heralded new one. Last, but not least, we had a very pleasant visit with Mr. Watkins, who, though 81, still takes an active interest in the company. He had many comments to make upon the Americans who come to see them when in London, and is an admirer of the business methods and enterprise of his American customers. He concedes them the superiority as growers of market stock, and only regrets that he is too old to undertake a visit here. Mr. Bridgeford paid us a visit in 1913 and is chuck full of reminiscences of the hospitality of the American florists. He hopes to come again in a year or two.

Their seed store in Covent Garden is a huge building entirely devoted to the seed business. Several times it was the business of the writer to go there to have films and specimens packed to send back to Milwaukee, and he was well pleased with the careful manner everything is packed and prepared for overseas. Not only was the preliminary packing well done, but the whole parcel was hermetically sealed in tin. Most of their help come up through the store from boyhood and have had experience on the testing grounds, so are all familiar with every phase of the business. Their order clerks are the only ones permitted behind the counters, and it is an offense for discharge if any other employee is caught behind the counter. They take no chance of getting the seed mixed, and we saw their order clerk going over batches of seed looking for adulterations. It was told that once an employee was discharged in Mr. Watkins' office and as he went out down stairs he slipped behind the counters and mixed up some of the seed. Since then when Mr. Watkins has to discharge an employee he personally escorts him to the front door; and forbids him the premises in the future. As far as it is humanly possible, Watkins-Simpson see to it that the customer gets what he orders, and we do not hesitate to say that it is probably the most reliable seed house in England.

HURON H. SMITH.

WINTER PROTECTION OF ROSES AND OTHER MATTERS

"How shall I winter-protect roses as, Gruss on Teplitz and Gen. Jack.

"When should I remove and how should I keep over winter, cuttings that I rooted in hot beds this summer.

"How shall the amateur, without hot house, propagate such roses as Gruss on Teplitz, Gen. Jack and Frau Karl Dunschki."

(1) Winter protection of roses was discussed briefly in the October number of this paper. The remarks apply to cuttings rooted last summer as well as to older plants. It is unnecessary to dig and store the rooted cuttings; cover them where they now are standing.

(2) Several of our members have recently given freely of their experience and success in these columns in rooting rose cuttings in the open ground. The kinds mentioned should prove no exception.

"I have some young trees, 1 to 3 feet high, in a location where snow drifts will break them. Shall I dig them up and heel them in?"

By all means, dig the trees and heel in. Next time plant them in a safe place. Trees that have to be taken in and put to bed every year are too much bother to grow.

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FREDERIC CRANEFIELD, Editor
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Associate Editors—Mrs. C. E. Strong, E. L. Chambers, Huron H. Smith.

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THE CONVENTION PROGRAM

The program for our annual convention is included in this, December, number either in the regular columns or as a supplement. It has cost much time and effort to prepare this program and to carry it out will consume much of our funds. It is up to the members whether or not they get their share. If you are growing fruits, flowers, or vegetables for a livelihood, in whole or in part, please consider that you are not wasting money by attending the convention, you are *investing* money. *Your* interests are represented somewhere in this program and at the convention you will meet others in your line.

(Continued on page 57)

PROGRAM ANNUAL CONVENTION
STATE HORTICULTURAL SOCIETY

STATE CAPITOL, MADISON

JANUARY 14, 15, 16, 1925

Loraine Hotel, Headquarters for Members, Delegates and Guests

WEDNESDAY FORENOON

9:30 O'clock

(1) Greetings—Our Governor.

(2) Introduction of Delegates from Illinois, Northern Illinois, and Minnesota Societies.

(3) Grape Growing in Wisconsin—Virgil Fieldhouse.
Mr. Fieldhouse knows grapes and how to grow them both amateur and professional style.

(4) The Root Stock Problem in Relation to Profitable Orcharding—C. E. Durst, Editor American Fruit Grower Magazine.
Much depends on the selection of root stocks. Mr. Durst, formerly connected with the Illinois Agricultural Experiment Station, has studied this problem and will translate his findings for us.

(5) How Apple Trees Bear Fruit, a Discussion—Prof. R. H. Roberts

WEDNESDAY AFTERNOON

1:30 O'clock

1:30 to 2:00 o'clock Question and Answer hour.

MARKETING SESSIONS

(1) Marketing Small Fruits—F. Kern.

(2) How the State Departments of Markets Can Help—W. P. Jones.

(3) The Michigan Way—G. E. Prater, Grand Rapids, Michigan. Manager Wolverine Fruit and Produce Exchange.

DISCUSSION

(4) Marketing Vegetables—Frank Gerten, South St. Paul, Minnesota.

(5) A Glimpse of the Chicago Wholesale Produce Markets—H. W. Day, Secretary Illinois Horticultural Society.
This is bound to be the liveliest session of the week. There is a prospect of federating all the cooperative fruit selling associations in the state. There will be a great gathering of the clans on Wednesday. We are likely to learn something, particularly about organizing local shipping associations so as to avoid flooding markets. If you are in the berry game, big or little, be on hand and listen in.

WEDNESDAY EVENING

8:00 O'clock

8:00 to 9:30—Program by Women's Auxiliary, Mrs. W. A. Toole, President.
This session needs no advertising; it is always good and this year will prove no exception.

Illustrated Lecture—Shakespeare's Garden, Huron H. Smith.
"A rare treat," is a hackneyed phrase but expressive. Mr. Smith visited Shakespeare's garden last summer, with his camera.

THURSDAY FORENOON

9:00 O'clock

(1) Business Session 9:00 to 10:30 o'clock.
President's Address—Report of Secretary.
Report—Trial Orchard Committee.

(2) The Secrets of Apple Growing in Door County—D. E. Bingham.
If we can only learn how it is done; three successive crops of Fameuse, trees bending to the ground. And other secrets (!)

(3) Address—Prof. J. G. Moore.
Professor Moore had not decided what he would tell us when we had to go to press, but we all know it will be worth while. J. G. has the gift of plain speech. If we need a "bawling out," we get it—and appreciate it.

(4) Running Around the State—C. L. Kuehner.
Mr. Kuehner spends all his time running around the state, giving spraying and pruning demonstrations, organizing spray rings and other little jobs of that nature. He sees the best and the worst.

(5) You Tell Us—Twenty Minutes for a Discussion of Society Affairs A Time for Suggestions: Everybody Talks.
The President talks, the Secretary talks, the committees talk, each in their turn, so it is only fair that the rank and file have a chance. This is a chance for *everybody* to talk. Good suggestions, criticisms, if constructive. You tell us.

THURSDAY AFTERNOON

2:00 O'clock

1:30-2:00 o'clock—Questions and Answers.

(1) Why Say It With Flowers—C. C. Pollworth, President Society American Florists.
The exceedingly popular slogan, "Say It With Flowers," adopted by florists has a deeper meaning even than the words imply. Mr. Pollworth will tell us about it.

(2) Color in the Native Landscape—Wm. Toole, Sr.
Color in the landscape; not only the color of flowers, but of trees, rocks and hillsides.

A ROSE SESSION

(3) A Couple of Dozen (or more) Roses Worth Growing—W. J. Moyle.
We will surely have one or more rose growers of national reputation, but cannot name them now. Anyway, we need not depend on them, we have a mine of information of our own if we can uncover it.

(4) Roses, Hardy and Otherwise—Paper by Louis Boeglin, Minneapolis.
Mr. Boeglin, who has charge of the rose garden in Minneapolis, cannot be present, but sends his paper.

Roses in Wisconsin, a Symposium. One Hour.
No one but knows *something* about roses so we will have an informal talk; no speeches.

Roses—Prof. A. C. Hottes, Ohio State University.

THURSDAY EVENING

Always has been a pleasant time, will be this year. What will it be. Who knows? Guess.

FRIDAY FORENOON

9:00 O'clock

(1) Horticultural Trends as Revealed by Nursery Inspection—Dr. S. B. Fracker, State Entomologist.
Like Mr. Kuehner, Dr. Fracker runs all over the state and has other men running for him, but the problems are different, diseases, insects, pests. Dr. Fracker is State Horticultural Health Officer.

(2) Evergreens—E. M. Sherman, Charles City, Iowa.
Mr. Sherman grows evergreens, millions of them; loves evergreens. You will know it when you hear him talk about his favorite tree.

(3) Apple Orcharding in Illinois—John A. Garner, Illinois.
We take the liberty of telling you what a friend says about him: "Mr. Garner was a retail grocer until 1916, when he bought an old orchard. He applied business methods and common sense and has made a wonderful success. He is now looked upon as one of the very best commercial growers in Illinois and he has made a real financial success." That's enough. It's the successful men we want.

(4) Controlling Pests of Greenhouse and Ornamental Plants—E. L. Chambers, Assistant State Entomologist.
Mr. Chambers has spent much time studying the pests of house plants. Bring along your favorite bug. Mr. Chambers will tell you what is good for it.

(Continued on page 59)

(Continued from page 56)

Men in other lines of business know the value of getting together and not infrequently spend a week and hundreds of dollars in attending a convention.

The numbers on the program furnish the inspiration; the informal gatherings in corridor and hotel lobby afford opportunity for interchange of ideas that are so valuable to every participant and that can be had at no other time or place.

The program is not wholly commercial, we never lose sight of the amateur and his problems. If ever we do neglect the amateur our usefulness as a society will be well nigh at an end. There is something for everybody. We hope everybody will come.

EXHIBITS

In addition to the premium exhibits of apples there will be two exhibits staged by the society entirely different from any previous exhibits. Come and see them.

The floral exhibit this year should excel any previous effort. The State Florists Association and the Milwaukee Florists Club are out this year to show us a real exhibit. It will be worth seeing.

County exhibits will be a feature this year. Five county agents have each agreed to set up an exhibit. Just local pride, you see. Well worth while, we say. All they will get will be a ribbon, but the winners will be satisfied. Brubaker, Hales, Spreiter, Coyner, Glassco, all good sports. Others to hear from yet, Door county, for instance.

Well, the table is set, better come and stay through the meal. There are new faces in the convention hall each year. Bring yours along this year.

HORTICULTURAL TROUBLES

Edited by E. L. Chambers, Assistant State Entomologist

CROWN GALL

Crown gall is a disease that has been known to our nurserymen for at least a half century under such terms as crown-knot, hairy root, wooly knot, root gall, etc. It is an infectious disease produced by a specific organism, a baccillus, known as Bacterium tumefaciens. This disease attacks practically all of the stone, pome and bush fruits as well as walnuts, chestnuts, poplar, willow, hickory, the rose, daisy, etc. Although these are all quite common hosts of crown gall in Wisconsin the greatest menace to the nursery business is in its heavy toll to apple stock.

It has been shown that whether the disease does or does not seriously injure the tree depends both on the variety and the resistance of this variety, the location of the gall on the root and the form in which the disease manifests itself, namely, whether as hairy root, hard or soft galls. The locality, the kind of soil, the climatic and cultural conditions to which the tree is subjected also have a bearing on the injury resulting from the disease.

Among the more susceptible varieties of apples are the Ben Davis, Early Harvest, Yellow Transparent, Wealthy, Grimes, Northern Spy, Duchess, Wolf River, Red June, Gano, Rome Beauty and Bayfield. Where heavy infection occurs in the nursery stock it is due to the way in which the stock is handled. Often stock that is subject to crown gall is planted on ground that has been previously set with a susceptible and infected host. The chief source of infection seems, however, to take place at the time of grafting the scions to the pieces of root.

In the case of the apple the disease produces a swelling or gall, quite small at first, which frequently reaches the size of from one to several inches in diameter. These galls appear just below the ground line near the crown and at or near the juncture of the stock and scion. These swellings may form either hard or soft galls. The former are smooth, soft, spongy, white to flesh colored outgrowths which may reach a very appreciable size during one season and then they may be entirely decomposed and practically disappear by the following spring. The latter, however, increase in size more slowly, persist year after year, harden and become rough and warty on the surface with age. Frequently the disease assumes a form known as "hairy root," characterized by the presence of branches of tufts of closely mottled rootlets with enlargements at their bases. As the galls enlarge, the function of the adjacent conducting tissue is interfered with and the circulation is impaired, as is shown by the poor growth and dwarfed appearance of the trees. In the case of the hairy root development, sprouts persist in developing from the crown.

CROWN GALL ON APPLE

The method of infection and spread of this disease is not yet well understood. It seems probable that infections take place through wounds induced by poor grafting practices, careless cultivation, and by borers, nematodes, etc. It is quite evident that the organism may live over in the soil and produce an infection through wounds, thus the importance of sanitation and rotation of stock is obvious for the growing of clean trees. In the process of grafting the grafts should be protected at the points of union by using a root and scion of approximately the same size and

wrapping them carefully, as well as preventing infection by sterilizing the instruments used in the process.

In the past, the losses suffered by Wisconsin nurseries from crown gall have been from 30 to 50 per cent, making the growing of apple stock unprofitable in the state. The nurseries have consequently been relying upon the nurseries of Iowa and other states for all or part of their apple stock. These trees are inspected during the sorting process and any tree that shows enough crown gall to lessen its orchard value is thrown out. Such trees are not suitable for planting and should be rejected by the purchaser. Reputable nurseries do not send out such stock and the seemingly high cost of apple trees is better appreciated when one considers the heavy losses sustained in their production.

A year or two ago a shipment of 4,000 Wealthy trees, shipped to a Wisconsin nursery from outside the state, was inspected and 1,500 were condemned, which shows that the business isn't all profit. Where the gall appears only on lateral roots which can be removed the tree is not condemned, but where an attempt has been made to pare off the gall on the crown they are not accepted.

An appropriation has been set aside by the Crop Protection Institute and nurserymen of the country to provide for further studies of this disease. It is hoped that this research work may lead to the solution of the crown gall problem. One of our pathologists at the University has been assigned to this task and is hard at it.

E. L. CHAMBERS.

PROGRAM ANNUAL CONVENTION

(Continued from page 57)

FRIDAY AFTERNOON

2:00 O'clock

1:30 to 2:00 o'clock—Question and Answer Hour.

(1) Problem of the Small Commercial Orchardist—R. A. Green, Secretary Northern Illinois Society.

Mr. Green comes from a region of small commercial (not farm) orchards, and knows the troubles of the little fellow. We have some little ones.

(2) Blackberry, How did You Get that Way?—Albert M. Fuller, Assistant Curator, Milwaukee Public Museum.

Mr. Fuller, who is a botanist, has been browsing among the brambles and has discovered something interesting about the blackberry.

(3) Illustrated Lecture—Huron H. Smith.

Mr. Smith spent the summer in Europe and returned with several thousand pictures, every one full of interest. This will be another "rare treat."

PREMIUM LIST—FLOWERS

Annual Convention State Horticultural Society, Madison, January 14-15-16, 1925
Exhibits must be ready for judges by 2:00 p. m., Wednesday, January 14th.

	1st	2nd	3rd
1. Best 25 Light Pink Carnations	$3.00	$2.00	$1.00
2. Best 25 Dark Pink Carnations	3.00	2.00	1.00
3. Best 25 Red Carnations	3.00	2.00	1.00
4. Best 25 Columbia Roses	6.00	4.00	2.00
5. Best 25 Premier Roses	6.00	4.00	2.00
6. Best 25 Butterfly Roses	6.00	4.00	2.00
7. Best 50 Sweet Peas	2.00	1.50	1.00
8. Best 25 Calendula	2.00	1.50	1.00
9. Best 50 Violets, Single	2.00	1.50	1.00
10. Best 3 Cyclamen Plants	5.00	4.00	3.00
11. Best 3 Primula Plants	3.00	2.00	1.00
12. Best Corsage Bouquet	5.00	3.00	2.00
13. Best Basket of Cut Flowers	8.00	6.00	4.00
14. Best Specimen Boston Fern	4.00	3.00	2.00
15. Best Display Greenhouse Plants	8.00	6.00	4.00
16. Best Display Everlastings (Straw flowers)	5.00	3.00	2.00

THE APPLE MARKET

Under date of October 28th the Market News Service, U. S. D. A., gives a review of apple shipments, including export trade, that should be of interest to Wisconsin growers, even though Wisconsin apples are now largely sold, and consumed. An active foreign demand and lessened production means higher prices.

Apple Exports Active: American shippers have been taking advantage of the foreign demand for apples. Reports of the International Apple Shippers Association this season to October 18 show a total of 832,811 barrels and 1,128,990 boxes forwarded from United States and Canadian ports. Compared with last year to the corresponding date, this is an increase of 3 per cent for barrels and nearly 30 per cent gain for boxed stock. In leading British markets, best Eastern varieties and grades were selling from 50 cents to $1 per barrel higher than last year, but the proportionate increase for Western boxed apples was not so great. After recent declines the British quotations show no special net premium over domestic prices, and this may tend gradually to decrease the export movement.

Despite the heavier shipments overseas, total seasonal output of Western apples to October 25 was not quite 20,000 cars, compared with 27,300 a year ago. Oregon and Colorado alone appear to be keeping pace with last season. Washington has a deficit to date of 3,500 cars, California 1,600, Idaho 1,400 and New Mexico 500 cars. Shipments of 3,500 cars of Western apples last week were about one-third less than during the same period in 1923. With the exception of 1920, the commercial crop in the Pacific Northwest is lighter than during any of the last five seasons. October estimates indicate only 31,000 carloads available from Washington, Oregon, and Idaho combined, whereas last season these three states marketed 51,000 cars of apples.

Eastern and Midwestern shipping sections are running 13,000 cars behind last fall's record. Virginia and Arkansas report larger totals, but all other important states show lighter shipments than in 1923. Illinois' total to date is only about half of last year's; West Virginia is less than half, and Michigan and Pennsylvania's only one-third as great. Virginia continued in first place, with 1,270 cars last week, and New York shipped 875.

PREMIUM LIST

The following cash premiums are offered for exhibits of fruit and vegetables at the annual convention, Madison, January 14, 15, 16, 1925.

(1) Best 25 plates, 5 plates each, 5 commercial varieties for Wisconsin	$12.50	$7.50	$5.00	$2.50
(2) Best collection of apples, one plate each not to exceed 10 varieties	7.50	5.00	2.50	2.00
(3) Best plate of each of the following varieties: Ben Davis, Delicious, Fameuse, Gano, Golden Russett, Golden Delicious, Jonathan, King David, Malinda, McIntosh, Northern Spy, Northwestern Greening, Patten, Pewaukee, Plumb Cider, Salome, Seek-no-further, Senator, Scott Winter, Tolman, Utter, Wealthy, Windsor, Wolf River.	1.00	.75	.50	.25
(4) Best tray of Delicious, Fameuse, Golden Delicious, McIntosh, Northwestern, Seek-no-further, Tolman, Wealthy Windsor, Wolf River	3.00	2.00	1.25	1.00
(5) Best trays of any of the following 12.50	7.50	5.00	3.50	2.00

Delicious, McIntosh, Northwestern, Wealthy, Tolman, Wolf River, Fameuse, Salome, Windsor.
Trays shall be packed "diagonal pack."

The following score card will be used in judging apples:

Trueness to type	10 points
Size	15 "
Color	20 "
Uniformity	25 "
Freedom from blemish	30 "
Total	100 points

Apples to be exhibited in trays 18 x 11¼ inches and 3 inches deep. Trays and paper for lining will be furnished.

Vegetables

(1) Best collection, not less than 10 entries, 1st, $5.00; 2d, $3.00; 3d, $2.00.

	1st	2d	3d
(2) 6 Blood Turnip Beets	$1.00	$0.75	$0.50
(3) 3 White Turnips	1.00	.75	.50
(4) 3 Rutabagas	1.00	.75	.50
(5) 6 Chantenay Carrots	1.00	.75	.50
(6) 3 Winter Cabbage	1.00	.75	.50
(7) 3 Red Cabbage	1.00	.75	.50
(8) 6 Chicory	1.00	.75	.50
(9) 6 Red Onions	1.00	.75	.50
(10) 6 Yellow Danvers Onions	1.00	.75	.50
(11) 6 White Onions	1.00	.75	.50
(13) 6 Onions, Large Type	1.00	.75	.50
(14) Largest Onion	1.00	.75	.50
(15) 6 Winter Radishes	1.00	.75	.50
(16) 6 Parsnips	1.00	.75	.50
(17) Hubbard Squash	1.00	.75	.50
(18) 3 Table Queen Squash	1.00	.75	.50
(19) 3 Heads Celery	1.00	.75	.50
(20) 3 Chinese Cabbage	1.00	.75	.50
(21) 6 Salsify	1.00	.75	.50

Rules of Entry for All Exhibits

1. Exhibits must be arranged ready for judges by 1:00 P. M., Wednesday, Jan. 14th. This will be strictly enforced.

2. Five apples constitute a plate, no more, no less.

3. Competition open to all residents of Wisconsin, but premiums paid only to members. Premium winners, if not members, must forward fee for membership before receiving check for premium. All final entries must be made on regular entry blanks which will be furnished by the secretary on application but exhibitors are urged to send lists in advance even if not all entries are filled at convention.

F. Cranefield, Secretary W. S. H. S., Madison, Wisconsin.

FIVE, ALL DIFFERENT

(1) "Please tell me through your paper if it is beneficial to cover canterbury bulbs in winter to keep out rain."

Beneficial, no doubt, but scarcely practical if by that is meant keeping the plant *dry* all winter. All herbaceous perennial plants should have a light covering to prevent heaving of the ground by alternate freezing and thawing and, in the case of old clumps, to prevent ice forming in the crowns from melting snow.

(2) "Does onion seed retain its vitality for the second year as well as the first?"

It does not. If old seed is used at all use three to four times the amount ordinarily used. Even then the stand will be uneven. This refers only to the amateur. The market gardener, who must have a full and even stand of plants, would not think of using old seed unless, perchance, a germination test showed more than the usual vitality.

(3) "How about seed corn one year old?"

Much better than onion, but not to be depended upon if growing for market. Apply the germination test; that tells the story.

(4) "How to make a filler to keep rain from a crack in a tree."

Cement.

(5) "Is pulp from a cider press beneficial and practical as a fertilizer?"

Probably contains a small amount of nitrogen and it is conceivable that there might be traces of potash, but why mess up perfectly good garden soil with apple pomace when a few cents worth of nitrate of soda will furnish more nitrogen than a carload of pomace.

NOT SO BAD

"*At least* I'm going to tell you how much I like your paper.

"I read it avidly, though it is a snatched pleasure usually. But such solid comfort to get the light in just the right place and drop down into the Morris chair and read it through. And I always intend to go back over it again and I never have time.

"I am building and planting a home—intended for year-round use, but haven't yet had the privilege of wintering in it and my not being here all the time plays havoc with my planting. I have been so eager to start planting that a good deal of my work has been undone by the builders. I have a Rose Hugonis and think it must be hardy-plus—considering the vicissitudes of this specimen. It doesn't seem to resent anything. I have had it three years and moved it three times at seasons when it shouldn't be moved. It bloomed beautifully this spring. I have given it its final moving, I hope—and it has apparently stood it all right. I have given it no protection in winters.

"My kind and neighborly boss mason brought me four little slips of Crimson Rambler and Dorothy Perkins roses which I stuck in the ground in good soil, inverted quart fruit jars over them and kept them good and wet and they have rooted and are flourishing finely.

"A branch was broken off my spirea—that walnut-looking leaved kind with the fluffy, creamy panicles of bloom—and I stuck it into the ground in a shady corner and it has rooted, too.

"I have been layering the fragrant white honeysuckle by the yard for planting around two sides of a cement platform about 20x24 feet. The ground slopes so that two sides are rather high and I have two-inch pipe railing on those sides and want a honeysuckle wall up to its height.

"I have started a little nut orchard. My hickory, pecan and Japan walnuts have weathered one winter and I have butternut, black walnut, budded and otherwise, and improved European filberts started this spring and looking very promising now. I started an English walnut, but it was finished by the carpenters, not the climate. I mean to try it again. I think, now I have finished with carpenters and masons, when I can get my grounds in shape, they'll stand some chance of staying put. I'm not blaming the workmen. My masons certainly have hearts for plants. They had tenderly moved a hardy aster, a red berried elder, a Rugosa rose and a butterfly weed which were in their way before I knew they were and they suffered nothing from the change. That's a rare thing in my experience with workmen and one I like built into this place.

"My grapes are perfectly green. Will they ripen all right, probably? They're mostly Concords.

"One black walnut tree, bought and set out this spring, threw buds but never leaved out and the buds are still green. Is there a fair chance of it's growing all right next year?

"I planted an Abundance plum and two cherries, a Windsor and a Montmorency, and they didn't even pretend to grow. Why? The other fruit trees have done beautifully. I ordered that plum in the place of the apricot you advised me not to try.

"There's something like mildew on the leaves of two of my tree lilacs. Will it hurt now the leaves are nearly ready to fall? I planted six and they've looked very healthy and nice.

"Yours appreciatively,

"E. G."

(In my tender years my mother called it *E*gregious *G*ump—I think it's deservedly *E*nthusiastic *G*reenhorn, but officially its (—— ——)

SPINSTER.

This friendly letter seemed far too good to file away where only by chance would it ever again see the light of day, so permiss'on was asked, and granted, to print it.

We venture a guess that the black walnut tree planted this spring that now has green buds but no leaves, will grow next spring. A lot of people will ridicule this statement, especially those who know a lot about trees, theoretically, but I have with mine own eyes seen the like.

The cherry trees, unlike the walnut, were no doubt dead before they were planted. That so commonly happens that we who know how these "retail" fruit trees are stored over winter in nurserymens' cellars no longer marvel that some die but that any live. The nurserymen, or at least some of them, are probably doing the best they can, but that best is none too good. Cherry trees (nursery stock) are not grown in Wisconsin.

Winter not only lingered in the lap of spring this year but hung around until September, so that summer had to stay through October. Miss E. G.'s grapes will ripen in October this year instead of August.

Mildew on lilacs is common at this time of year and will not hurt the lilacs.

BUDS AND BUDDING, ALSO HYACINTHS

(1) "I wish to ask a question or two concerning budding: Is it any use for me to try budding as soon as the bark loosens in the early summer, using a bud of the previous season's growth which is kept dormant by low temperature till ready to use?"

"The latter part of this past summer I set into wild blueberry shoots 42 buds of hybrid varieties and only four attached.

U. S. D. A. bulletin No. 334, directions for blueberry culture, instructs to bud as late in the season as the bark can be lifted.

Blueberry plants are very late in storing starch. The buds may have lacked in stored starch, however, I budded as late as I could. The wild plants were in partly shaded locations."

"There may be other reasons than buds lacking starch, however, that is the only one I know, as the buds were well protected to avoid fermentation. It is not practical for me to propogate blueberries by cuttings, tuberings, or the regular stumping. The only method I have is budding or grafting and letting that part grow until late summer and then mounding and leaving for several years to root and then discarding the wild portion.

I have an idea that wrapping the shoot, thereby restricting growth and sap moving at the place wrapped, might hasten the throw of roots above the place wrapped."

(2) "Is the hyacinth regarded as a hardy plant in northern Wisconsin?"

(1) Budding is usually done late in summer, as late as the bark will peel, but the buds of the current season's growth are used and *not* buds held over from the previous season. That, to the writer, is an unheard of procedure. It seems impossible that buds could be kept alive so long. Buds taken in the fall of 1923, for instance, should have been set in the spring of 1924, after the sap flow started.

Grafting, the use of twigs, each with one or more buds, usually several, is the method of propagation commonly employed in the spring and is the simpler process, but if for any reason this is undesirable, there is no reason, theoretically, why budding may not be done instead. Fall budding is not usually very successful in this climate on account of summer drouth and winter cold.

In milder climates budding is the common practice, especially in propagating stone fruits. Peaches and cherries are invariably budded. It would take more space than is desirable to use here to describe the procedure of budding and grafting, the why and wherefore of each, so the uninitiated will be obliged to wait until another time for that.

(2) The hyacinth is hardy anywhere if by hardiness is meant resistance to cold. Bulbs planted this fall or older plantings should be covered with coarse manure before heavy snowfall.

RASPBERRY SETS AND RESETS

"I am contemplating putting out an acre of black raspberries and am writing for your advice on variety and age of plants to use. Do you think the Cumberland the best plant, and would you get one or two-year-old plants? Some nurserymen advise using the two-year-old plants and some the one year, the claim being that the one-year plants are more sure to live than the two-year ones."

In the first place why not plant an acre of *red* raspberries and make some money?

If it must be blacks the Cumberland is probably as good as the Gregg—possibly better.

Strictly speaking, there is no such thing as a one-year black raspberry plant, at least so far as nursery stock is concerned. The tips of the descending branches of fruiting black raspberry plants are covered late in summer or as late as October 1st, and from these covered tips plants grow. Most nurserymen dig and store these plants in the fall for early spring delivery. Some, when trade calls for bigger plants, instead of storing "line-out," these tip plants and grow them one season before offering them for sale. These are "resets" and are, of necessity, much higher in price than the "tip" plants. There is the advantage in using the reset plants that the planter will get a 100 per cent stand and gain time. The experienced planter will depend on tips; the beginners might be ahead by buying resets if the difference in price is not too great.

GROWING LETTUCE IN GREENHOUSES

Crisp, tender lettuce, such as may readily be produced in greenhouses and be placed in the hands of the consumer within a few hours from the time it is harvested, is increasing in popularity. The crop may be grown in simple inexpensive greenhouses, says the United States Department of Agriculture, but correspondingly better results can be had when a large greenhouse is used.

Lettuce growing in greenhouses is the subject of a new bulletin just issued by the United States Department of Agriculture as Farmers' Bulletin 1418.

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HOW TO PRUNE THE YOUNG CHERRY TREE

R. H. ROBERTS
College of Agriculture, University of Wisconsin

Cherry trees need strong trunks. Weak tree heads shorten the life of many trees. Missing trees and low acre-yields take the profits. Profitable orchard production requires a good stand of trees that bear fruit for many seasons. This necessitates having healthy, strong trunks and tree heads.

Proper care, when the orchard is young, can give such trees.

The principal trunk troubles that shorten the life of cherry trees are: Weak centers, splitting down, and "southwest" injury.

PREVENT THAWING AND FREEZING

Thawing and freezing, probably, are not much affected by the way the young tree is headed. The remedy is to shade the trunk of the tree to prevent alternate thawing and rapid freezing in the late winter.

The other two trunk troubles can be greatly reduced by the care used in starting the young tree. The splitting of large branches (Fig. 1) is principally due to the use of narrow-angled branches as main limbs of the tree. If only branches which arise at better (wider) angles are used and these are properly pruned later, splitting can be largely prevented.

Weak centers can likewise be avoided by starting the tree correctly. Dying out of the center and consequent breaking down of the tree is largely due to "girdling" of the center by a whorl of main branches (Fig. 3). If the branches are well spaced and then kept from growing stronger than the central leader, weak centers can be very largely eliminated.

START THE YOUNG TREE RIGHT

How, then, is a strong tree to be produced? Only one-year old trees should be planted. They transplant better and can be developed into better trees. They should be heavily pruned at planting time to reduce the top in proportion to the reduced root surface resulting from digging. The tree is too apt only to "feather out" the first season unless it is cut back heavily.

Heavily pruned trees will be, under Wisconsin conditions, as large or larger when two years planted than unpruned trees. The amount of cutting back depends upon the number and location of living buds at planting time. This depends, in turn, upon the treatment of the trees after digging time.

The planting season is so late in northern Wisconsin that trees held in southern storage have started to bud out before shipping time. These tender buds are mostly knocked off by packing, shipping, unpacking, heeling-in and planting.

To insure thoroughly dormant and well budded trees at planting time, the practice has de-

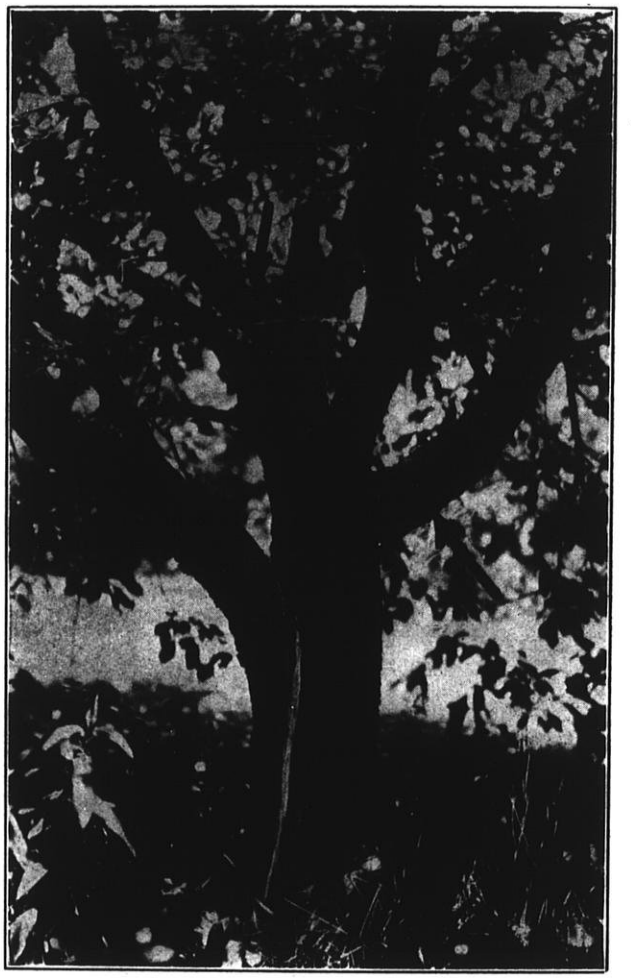

FIG. 1.—NARROW CROTCHES WILL SPLIT EVEN WHEN WIRED
Note how strong a union is secured if the branch arises at a wide angle (arrows). Avoid splitting by not using narrow-angle branches in the head of the tree. The head of this tree is too short. (Montmorency).

veloped of shipping the trees from the southern nurseries in the fall. As fall planting is impracticable the trees are buried in a well drained location until time for spring planting. The following suggestions are for the handling of trees treated in this way.

PRUNE HEAVILY AT PLANTING TIME

Considered from the standpoint of pruning at planting time, there are two classes of yearling trees (Figs. 4 and 5). One is the tree with low branches. Trees of this kind should be trimmed up to a whip and headed so as to leave eight or ten good buds. The advantage of this tree is that the branches arising from the lateral buds have much wider angles than those which grew in the crowded nursery row, (Fig. 9).

It should be remembered that the low branched tree is usually smaller than the higher branched tree. This is no disadvantage unless the smaller size is not due to nursery conditions but to a more dwarfish habit of growth of the stock. If this is the case then the larger tree would be the only practical one to plant. Even though it has the disadvantage of having narrower-crotched, more crooked branches.

The second type of trees has branches at the desired permanent height. It is, therefore, necessary to head back and save some of them. The lowest branch should be high enough to prevent close passage of a disc harrow. About twenty inches is a good height. Remove all narrow-crotched branches. These merely lead to splitting as shown in Fig. 1. This possibility of narrow crotches is the principal objection to the high branched tree.

ENCOURAGE GOOD FRUITING WOOD

Thin out the number of laterals leaving three to five. Cut back to 8 to 10 inches. If the branches are not well spaced further selection and removal should be done the next season. Even when the leader has a good start, it can not long survive if there are a large number of good sized laterals clustered about it. The reasons for leaving several laterals at planting time are because some branches may be lost in the close cultivation given the young tree and as better spacing around the trunk is possible in the second season after new branches have arisen from the leader.

The leader should be left a few inches longer and, so, several inches higher than the lateral branches. This is to insure its getting a good start. There is, however, a tendency among growers to leave the leader too long (Fig. 7). The result is that it soon outgrows the lower branches and if these are weak, poor fruiting wood is produced.

PRUNE CAREFULLY THE FIRST YEAR

If very little growth is made the first season in the orchard, little pruning is needed except to see that no one branch greatly outgrows the others. Cutting off the strongest branch is often times the best way to secure a balanced condition.

The pruning needed the first year is that following a good growth made either by a two-year tree which grew little the first year (Fig. 9) or by a vigorous one-year tree. Unless as much as 20 inches of growth was made no tipping will be necessary. Only thinning and balancing of the branches is needed. From 18 to 22 inches seems the best length at which

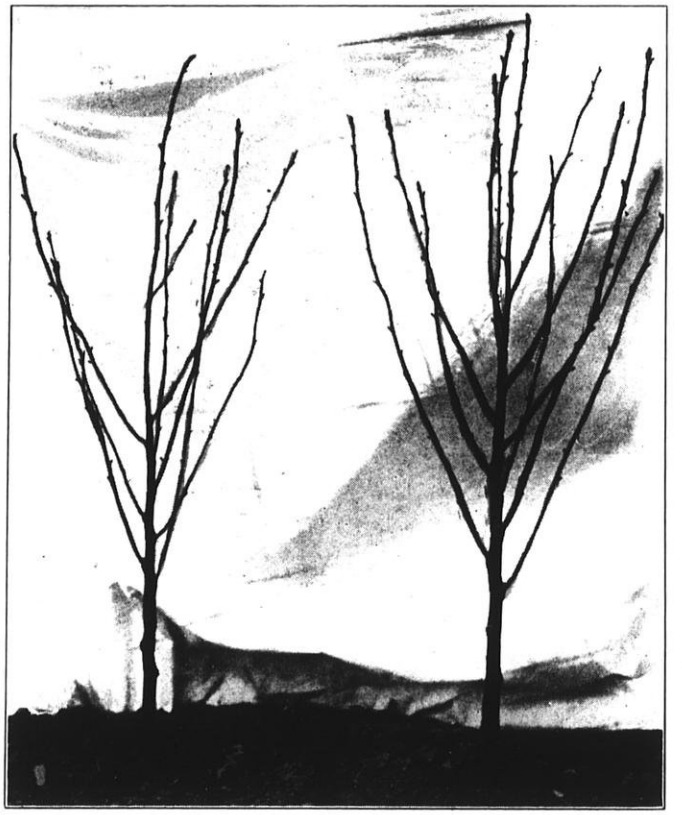

FIG. 3.—PLANT ONE-YEAR-OLD TREES
The lower branched tree at the left gives a better orchard tree. (See Figs. 4, 9.)

to head back to get the best spur development and lateral branch distribution.

The four main points in treating the one and two-year old tree are: avoid weak crotches; space the branches along the head; secure a strong leader; and keep the branches balanced.

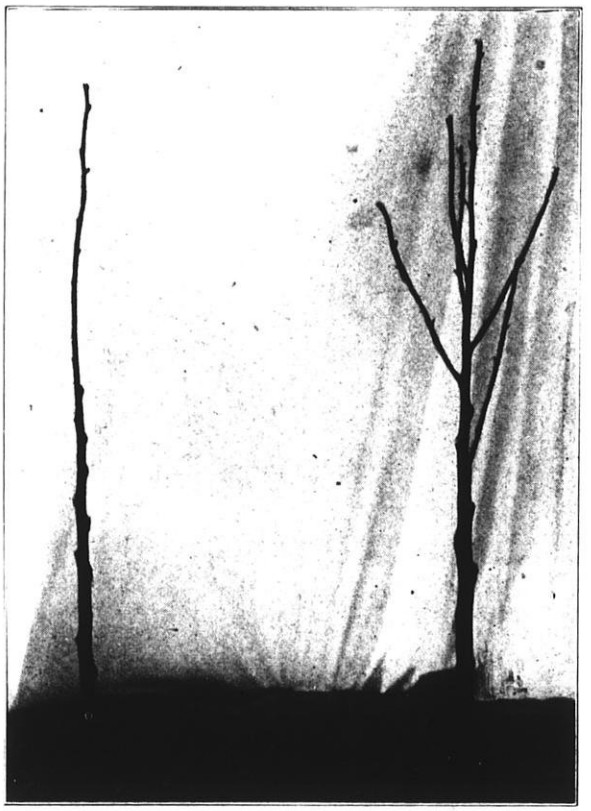

FIG. 4—TREES OF FIGURE 3 AFTER PRUNING
Low branched trees should be "whipped." They start better and have wider angled branches. Cut back heavily at planting time.

DEVELOP LONG HEADED TREE

It is a mistake to try to use narrow crotched branches in forming the tree (Fig. 1). Cut these off and secure other branches from the leader. Naturally, a variety such as Montmorency will have narrower angles than Richmond, but use only relatively wide-angled branches for the variety being pruned.

Likewise, never permit several strong branches to come out at the same height as sooner or in the end these will choke out the center. (Fig. 3). Thin out the branches on the yearling tree and, if possible, leave branches that come out several inches apart. Certainly, never leave more than two close together.

One of the main advantages of a modified leader tree is that main branches can be developed through three to four years and the grower does not have to use all of the first season's' branches as scaffold limbs. Four or five branches are enough to have at the start of the second season.

While well spaced small branches on a young tree may appear unnecessarily far apart they will be all too close when they have come to be several inches in diameter. The main branches should be distributed through a distance of 35 to 40 inches. This not only results in a strong headed tree but also a long-lived tree.

DEVELOP A STRONG LEADER

The fate of the leader depends largely upon the treatment given the one-year orchard tree. Some cherry trees have a natural tendency for the central branch to be weak. This may be due to the habit of producing a whorl of branches that "girdle" the leader, but it also appears that there is a tendency for the lower branches to make a longer growth than the leader To insure the leader keeping ahead of the laterals, leave it a little longer than the laterals, measuring from where the branches arise from the trunk.

As in the case of the branched tree at planting time, there is also a tendency to leave the leader too long. The result is that the lower branches become dwarfed. A good way to judge the balance between the branches is by the amount of terminal growth being made. Branches which make unequal amounts of terminal growth will thicken unequally. Likewise, equal terminal growth is an index of equal thickening and uniformity of branch size.

KEEP THE BRANCHES BALANCED

Fruit production is closely related to the kind of wood produced. Likewise, good yields throughout a tree depend upon having good bearing wood throughout the tree. This means that a uniform kind of wood is needed. Uniform wood can not be produced from ununiform branches as in (Fig. 3). Good crops of cherries depend, then, upon developing uniformly growing branches in the tree. The care given in the second and third season largely governs the uniformity of branch growth. See that the branches have an equal chance when growth begins, in the

spring (Figs. 9, 11). Be sure to check the branches that are beginning to outgrow the others.

WATCH TREE CAREFULLY SECOND YEAR

In the second year the full number of main branches usually can be started. Seven to eight main branches do not appear to be too many. It is much easier to develop uniform sized branches with many-branched trees than with trees having few branches. Also the trees will be lower and more spreading and generally better fruit producing.

Thin out excess and crossing branches.

Again, do tipping only on branches longer than 20 inches unless to check a branch.

"MODIFY" THE LEADER

After the full number of branches is selected the leader can be cut back to the top branch. No definite time or height for this can be given. First, get a long head and a good number of main branches. Usually four to five feet is a good height at which to suppress the leader if the lowest branch is 20 to 24 inches from the ground.

FIG. 5.—THE LOWER BRANCHES TEND TO ROB THE LEADER

Branch "C" is the central one in this tree. It is now nearly dead as "A" and "B" have practically girdled it. This condition leads to that in Fig. 2. Space the main branches well and also keep the lower branches from outgrowing the central one. (See Fig. 9).

THIN OUT NEGLECTED YOUNG TREES

Do not hesitate to thin out the branches on a two to three-year-old tree which was not thinned enough earlier (Fig. 12). There is some loss by heavily pruning the older trees, but not nearly the loss that results if the branches are left too close together. (Figs. 2 and 3).

It seems advisable to delay pruning of the young trees until late winter. If winterkilling increased the size of the wound, serious effects might follow with the young tree. Late fall pruning of the older tree is good orchard practice. If practicable, prune the young trees in the late winter or early spring. However, do not fail to prune them even if it is necessary to do it in the fall. Be sure to get a well branched, well spaced, long tree head.

RIGHT METHOD OF USING POMACE. PAGE THE COW!

To the Editor of WISCONSIN HORTICULTURE: I note in the last number of the Wisconsin Horticulturist an inquiry as to the use of apple pomace as a fertilizer. Why not apply this material (internally) to the horse, or the cow, or the pig, or the chickens? It will be highly appreciated by these worthies, and its fertilizing value will be in no wise impaired. Pomace is, I believe, an excellent food for cows; I have read somewhere that in certain localities farmers make a practice of regularly ensiling the pomace for winter feed for cows.

MEMBER.

THE FLORIST'S PAGE

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

1924 FALL FLOWER SHOW.

Everyone agreed that the Fall Flower Show of the Public Museum this year was the best that had ever been exhibited there. This was principally because enough space was available to allow the public to see everything without crowding. The rotunda was used as of yore, but the chief exhibits were in the newly decorated Museum Annex, which was as formerly the Calumet Club.

The Moorish window was the chief feature of the rotunda and was a rainbow of colors with the pompon chrysanthemums shown. All of the flowers kept better this year than at any former show, and this despite the fact that it was a four day show from November 6th to Sunday night November 9th. The usual side tables were filled with growing and cut flowers, and sweet peas filled an entire table. The center of the rotunda was decorated with a large wicker basket with a winter bouquet. The orchids in the rotunda were suspended from the arch. One of the interesting features of the rotunda was a Spider Lily or Sea-Daffodil, (Hymenocallis americanum).

The annual meeting of the Wisconsin State Florists was held on November 6th and 7th, and thus visiting florists had a fine chance to see the exhibits. They were much interested in the large display of chrysanthemums that were sent up by Hans Jepsen, of Maywood, Ills. The second day of the convention was marred by the auto accident on Third Street, where it was thought that Secord Wahlen, of Chicago, and Hugo Rudolph, of Manitowoc, were so severely injured that they would die. John Stroer, of Manitowoc, was more fortunate, as his worst injury was a broken knee. This writing however, finds them all on the road to recover. Walter Hamilton, of Manitowoc, was chosen president, R. A. Miller, of Racine, vice-president, Alfred Locker, Wauwatosa, secretary, Eugene Oestreicher, Wauwatosa, treasurer, and Louis Turner, of Kenosha a director. The annual banquet at the Hotel Wisconsin, was the largest ever held.

Six separate rooms were used in the new annex for exhibit purposes, and they were so arranged that one must walk past every exhibit in order to reach the exit on 9th street. From the rotunda to the annex, a row of 40 varieties of straw flowers lined the aisles. These many varieties were quite an education to the public, who thought that straw flowers were limited to three or four kinds. They were shipped to the show from the Superior View Farm of John H. Hauser, Bayfield, Wisconsin.

Roses, carnations and chrysanthemums furnished the bulk of the show, but the Trostel orchids were there in variety and were much admired. The future children's room of the museum was the finest room in the show. There four dining tables were exhibited on the street side, with choice silver and glass service. One bridal table at the opposite side of the room was accorded a great deal of attention. The large banquet table that was so successful at the Spring Show, was again better equipped for the fall show. An attendant from the Jewelers Association gave much sought advice on how to set the tables. One of the finest pieces at the show was the distinctive garland of fruits and flowers, supported on a fine lace table cloth by two porcelain parrots. Most of the visitors had never before seen such a work of art.

The Wisconsin Teachers Association was in session during the show and many of them attended the and many of them attended. The attendance this fall was much less than at the Spring Show, and may prove that the Spring Show is the most popular. The total for this show was 55,499. The class of visitors was much better at this show, than at any previous show. This fact was noted by the Jewelers Association representative, and the florists who took part. There was an increase of exhibitors, 62 exhibiting this fall as against 59 in the spring. The city furnished five policemen to handle the traffic of the show and they were surely needed on Sunday afternoon.

The list of exhibitors is so long that we must content ourselves with merely printing it here:

EXHIBITORS FALL 1924.

1. Frank Dilger, Milwaukee, 1 bunch pompons.
2. Roscoe Godfrey, Milwaukee, 2 bunches pompons.
3. Messmer, Inc. Milwaukee, 1 bowl strawflowers.
4. Riebs Bros., Milwaukee, 6 bunches pompons, 4 bunches snapdragons, 4 vases sweet peas.
5. Wm. Raynor & Sons, Oconomowoc, white Chieftain Mums, 8 pink mums.
6. Heitman & Oestreicher, Milwaukee, 3 Daisy plants, 2 bunches pompons.
7. L'nor Floral Co., Milwaukee, 1 Colonial bouquet.
8. Norman Schmidt, Milwaukee, 12 Chadwick mums, 1 primrose plant.
9. Greenwood Carnation Co., Milwaukee, 25 White Wonder Carnations, 25 Red Matchless, 25 Matchless, 25 No. 60 seedling carnations, 25 Enchantress, 25 Nebraska, 25 Thomas Joy, 25 Edna, 12 mums, 2 bunches pompons, 2 bunches bush mums.
10. R. A. Brux, Racine, Wis., 75 sweet peas, 12 snapdragons.
11. Zachariason, Milwaukee, 2 bunches pompons, 2 bunches Calendula, 200 sweet peas.
12. Mueller Flower Shop, Milwaukee, 1 basket of flowers.
13. Thos. Griebler & Sons, Milwaukee, 6 bunches pompons, 2 bunches pansies, 6 calla plants.
14. A. Brueggeman, Milwaukee, 25 Ward Carnations, 25 Herold carnations, 25 pink carnations.
15. Sunny Point Floral Co., Milwaukee.
16. A. Reinhardt Milwaukee, 6 Gloria mums, 6 W. S. Wait mums, 10 Bonifon, 6 Chieftain, 4 bunches pompons, 25 Enchantress, 25 Matchless, 25 Ward, 12 Eckhurst, 25 White Enchantress carnations.
17. Grunwald Bros., Milwaukee, 25 Enchantress, 25 Matchless, 25 Edna Carnations.

18. Ernst Praefke, Milwaukee, 4 primrose plants.

19. Arthur Arndt, Milwaukee, 2 bunches pompons, 12 Bonifon mums.

20. Herman Schwan, Milwaukee, 125 sweet peas.

21. Fox Point Floral Co., Milwaukee, 7 bunches pompons.

22. H. Locker & Sons, Wauwatosa, Wis., 4 bunches pompons, 12 white mums, 25 C. W. Ward carnations, 100 sweet peas, 2 primrose plants.

23. F. Cutermuth, Milwaukee, 4 pompon plants, 1 basket flowers, 1 basket primroses.

24. Wauwatosa Floral Co., Wauwatosa, 3 bunches pompons, 12 Roman Gold mums, 25 Edna carnations.

25. Gust. Pohl, Milwaukee, 1 bunch Morning Glow carnations, 1 bunch snapdragons.

26. John F. Rosso, Milwaukee, 1 bunch violets.

27. Mary J. Skinner, Milwaukee, 1 basket flowers.

28. Henry Welke Co., Milwaukee, 1 vase pompons.

29. Patterson Floral Co., Milwaukee, 1 vase mums.

30. Fred Bliese, Waukesha Floral Co., 12 primrose plants. (don't give away.)

31. Borns Flower Shop, Milwaukee, 1 basket flowers.

32. Otto Sylvester, Oconomowoc, 2 vases pompons, 1 vase Orange Queen mums.

33. Chas. Menger & Son, Milwaukee, 1 box begonia, 1 basket begonia, 5 Coleus plant.

34. Bell Flower Shop, Milwaukee, 1 basket mum plant.

35. Currie Bros. Co., Milwaukee, 1 basket flowers.

36. Estella Gumz, Milwaukee, table decoration.

37. Gustave Holtz, Milwaukee, basket of flowers.

38. Edlefson Floral Co., Milwaukee, table decoration.

39. Fox's Inc., Milwaukee, table decoration.

40. Holton & Hunkel, Milwaukee, 12 cyclamen, 25 mum plants, 6 primrose, 2 orange plants, 2 Scotch heather, 1 blue.

12 D. P. Roy mum, 12 Thanksgiving Pink mums, 12 White Chieftain, 12 Pink Chieftain mums, 25 Sensation roses, 25 Columbia, 25 Premier, 50 Lilies of the Valley.

41. Schroeder Floral Co., Milwaukee, 1 bunch pompons.

42. Wm. Zimmerman, Milwaukee, Table decoration.

43. Herman Staeps, Elm Grove, Wis., 3 varieties of pompons, 12 Richmond Mums.

44. Pollworth, Milwaukee, Pompons: Golden Climax, Pink Mensa, Izola, Seedling Golden West, Delphine Deutsch, Maple Leaf. Carnations: Laddie, Surprise, White Delight, Matchless, Edna, Supersupreme C. W. Ward. Roses: Premier, Columbia, America, Butterfly. Large Mums: Yellow Turner, White Turner, Imp. Pink Chieftain, Mankato, Orange Queen, Elberon, Richmond. Pompons: Pomana, Bronze Climax.

45. Rudolph Preuss & Sons, Milwaukee, 1 vase Orange King Calendula, 1 vase containing roses, mums and pompons.

46. East Side Floral Co., Milwaukee, One basket Chieftain mums.

55. North Side Floral Co., Milwaukee, Basket of flowers.

56. Table Decoration.

57. Haman Florists, Two Rivers, Wis., 6 large white mums.

58. Baumgarten, Inc. Milwaukee, One table decoration.

59. Hans Jepsen, Maywood, Illinois. Large Mums: Bronze Seedling No. 48, Citronella Yellow, Titantic White,

FIG. 11.—TOO MANY BRANCHES

A nicely balanced tree but the lower branches are too thick. Treat as Figure 12.

47. Emily's Flower Shop, Milwaukee, One potted pompon.

48. John M. Dunlap, Milwaukee, One bunch violets.

49. Gust. Rusch Co., Milwaukee, Roses: Golden Ophelia, Premier, Columbia, Butterfly.

50. Livingstone, Milwaukee, 3 large potted Cypripedium insigne, 4 large potted Begonia.

51. Semler–Leidiger, Milwaukee, 1 large centerpiece basket.

52. Gimbel Bros., Milwaukee, One table decoration.

53. Aug. F. Kellner Co., Milwaukee, Two cement vases evergreens outside door.

54. Fischer Floral Co., Milwaukee, Basket of flowers.

Yellow Turner, Pink Turner or Mrs. Lady Davis, White Wm. Turner, Mrs. Nettie L. Parker, Yellow Pocket, Golden Champion, Honey Dew, Mrs. Kirshaw, Richmond. Pompons: Red Seedling, New York, Mrs. Chester Robinson, Capt. Cook, Bronze Queen, Francis Huckvale, Varsity, Fire Bird, Maple Leaf, Mrs. C. J. Wolf, Imp. Buckingham, Mrs. Stewart, Jr., Izola, Zelia, Rena, Lizzie Adcock, Flora, Mrs. Wickersham, Mary Pickford, Iva, Red Dotty, Concerto, Chestnut, Buttercup, Bronze Dotty.

60. Mrs. A. Trostel, Milwaukee, 6 potted orchids.

61. Mrs. Wm. B. Goldie, Milwaukee, Spider Lily or Sea–Daffodil.

62. Frank Edwards, Milwaukee, 2 Spruce Trees. Outside.

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CHANGE CAUSES CONFUSION

For several years past WISCONSIN HORTICULTURE has been printed outside the state, (state printing, of which this paper is a part, is let to the lowest bidder) but beginning with this number it is to be printed in Madison.

Owing to the change there has been some delay and some change in arrangement of departments, etc. The editor has hopes that the February number may be better. For this month readers will please consider the editorial page as omitted. Your consideration for other deficiencies is requested.

F. C.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

A WOMAN IN AN ORCHARD

One of the visitors at the Illinois State Horticultural Society Convention, jokingly remarked that, "Wisconsin's commercial orchards do not amount to much, they are so small the women run them."

To date I haven't heard of any Wisconsin women who really manage commercial orchards even though they may be pretty good working partners. If there are any, we would certainly be proud of them. However I met an Illinois woman who has been owner and manager of one hundred acres of apple and peach orchard for three years; because I was interested, she told me some things about her work that may be of interest to Wisconsin women.

"Although my father was enthusiastic over the orchards he had planted and cared for I knew little or nothing about them. I liked my work as a stenographer and did not expect to change. But when my mother died I came home to keep house for my father, who was not very well, he only lived about a year and then everything seemed to happen at once. There didn't seem to be any time even to grieve for him, he was buried on Monday and on Wednesday there would be a shipment of peaches. During his illness nothing had beeen attended to, there were no baskets, even the man on the place had never been responsible for any of this work and I who had never bought a basket, graded or packed a peach or an apple, must take this responsibility now for my father had given the orchard to me. How I ever got through with those peaches, I never really remembered, they were picked, packed, sold someway and then came the apples. Everybody began telling me I couldn't possibly take care of this orchard it was not a womans work. I must sell it, even my fathers lawyer urged me to sell at once he had a man who would take over the place and relieve me of all responsibility, adding sharply when I hesitated, "Don't be a fool, you will lose everything you have if you try to run this place. You stick to your office work, it's a man's job to run an orchard like this." If he hadn't said "Don't be a fool," I might have agreed with him; as it was the streak of stubborness latent in most people came to the surface and I refused to sell, saying that my father evidently did not consider me a fool or he would not have given me the orchards, I was going to stick to the job if I lost it why then I could always go back to an office job. He was furious, evidently I was upsetting some plans but I went back to the apples. It did look like a never ending task to a green hand. There were seventy-five acres of fifteen year old apple trees well loaded with fruit. Would I ever get them picked, packed and sold before freezing weather? I managed it however with a fair profit. "And then your troubles were over" I said. "No" she said with a rueful smile, "they had just started, those one hundred acres of trees had to be pruned and sprayed, fertilized and cultivated, and I knew nothing just absolutely nothing about that sort of work. But if even a woman studied and

hunted up reliable sources of information that winter I was that woman. I went to the State University for help. They taught me many things it was necessary for me to know for while I could not prune or spray I must know if someone else was doing the work properly. If I were going to run the orchard at a profit I must see that time was not wasted, that the men who were getting big wages for pruning were working. I saw that the spray materials were mixed properly and that the trees were all sprayed. That was one of the things that was impressed upon my mind. I must see that the work was done not leave it to some one else, and I found it to be a very wise thing for spraying is a monotonous job, it's easy to only spray one side of the row or skip the end trees entirely. Then just before packing time the man on the place decided to leave, evidently I wasn't getting discouraged fast enough. I heard of a man who had a very good reputation for honesty and good work in this capacity and I wrote to him following up the letter with a visit. He came looked over the place and he decided to work for me through that season and if we were both satisfied we would enter into a contract. He was a very good man and the work went on in much better shape. We talked things over and finally drew up and signed the contract papers. I tell you I thought and prayed both over those papers before I signed them, but I believe I did the very best thing that I could have done, he has a share in the crop and the bigger and better it is the more he gets out of it. "Did you sell your fruit through your local association?" I asked. "No most of those who were selling that way complained of high freights and storage charges so I decided I would try my luck alone, and I needed luck and courage both, also I needed to think quickly; for instance, I had sold a car of my very finest apples at an agreed price, when the car arrived at its destination I received a telegram "Apples do not come up to agreement, will give you half." And there I was five hundred miles from my car of apples and a deal he was going to put over a shrewd buyer chuckling over the "fool woman." I really did not know what I could do so I sent in a long distance call to my former employer whose businesss ability I never doubted. I told my troubles as quickly and clearly as possible. Hegave methe names of two apple buyers in the city where my car of apples stood and told me to send them each a telegram stating quality and price of apples also mentioning his name. When the original would be purchaser saw two other buyers investigating the car, he promptly claimed and paid

FIG. 12.—AFTER PRUNING FIGURE 11

This pruning should have been a year earlier. The leader can be suppressed next season at "A" or above the seventh or eighth branch. The growth is not long enough to require tipping. Cherries branch well without it.

(Continued on page 75)

HORTICULTURAL TROUBLES

Edited by E. L. Chambers, Assistant State Entomologist

WHAT HAPPENED TO OUR BIRCH.

Without a doubt the birch tree is one of the most beautiful and most graceful of our ornamental trees, and until recently was being extensively used in our parks and home landscape work. Unfortunately, just when the landscape gardener began depending upon it to fill an important spot in his design, the bronze birch borer, (Agrilus anxius), its greatest and most

FIG. 1. BRONZE BIRCH BEETLE.

destructive enemy, made its appearance and proved to be a controlling factor in its growth under cultivated conditions. As a result of the ravages of this insect the nurseries of our state suffered such heavy losses they were compelled to give up the growing of the large blocks of this tree which was growing more and more popular each year, and today one seldom sees any birch tree stock growing in a nursery. Under more natural conditions, such as in the forests and cut over lands of our state the pest does not occur and the lovers of nature wonder after admiring beautiful stands of birch in such spots why we can't grow them at home like we used to.

It was as early as 1908 that such general destruction of the various species of birch in ornamental plantings occurred as to attract considerable attention throughout southern Wisconsin. Several theories were advanced for the gradual dying off of the birch in that vicinity but it was soon learned that the real cause was the bronze colored insect that belonged to the family of beetles known as the Buprestidae. The adult (Fig. 1) is about one-half inch in length and, as the cut shows, is very slender. It does not itself cause any injury as far as is known except that it feeds sparingly on the leaves. It emerges during the latter part of May and the female lays her eggs in June upon or in the bark.

The pest usually gets a foothold before its presence is discovered and is well entrenched. The small larva on hatching begins tunneling at once through the bark and sapwood where it forms a cell and remains quiescent during the winter months. The following spring the burrowing operations are continued and the tunnels of the different larvae at work become a tangled network (Fig. 2) as they eat their way irregularly around the trunk and limbs through the sap bearing layers.

The full grown larva (Fig. 3) is about three-fourths of an inch long, creamy white with dark retracted mouth parts, and while at rest its head and thorax is bent back on its body as shown in the figure.

The insects begin their destructive work at the top of the tree and work downward, killing the upper branches first, giving these the stag head appearance. At first, rusty reddish-brown patches appear on the white bark of the trunk and this, together with a swelling, indicates the presence of the deadly borer beneath. The beetle then attacks the trunk and larger branches and through its characteristic larval tunnels causes a net work of girdling that results in cutting off the flow of the sap and naturally causes the death of that portion of the branch or limb above.

Since the larvae are down below the surface bark beyond the reach of a contact insecticide it is quite evident that spraying would be of no avail as a means of control. The only method that can be safely relied upon for effective control, when it is discovered in time, is to cut out and burn all infested parts before the emergence of the adult in May, thus preventing further spread.

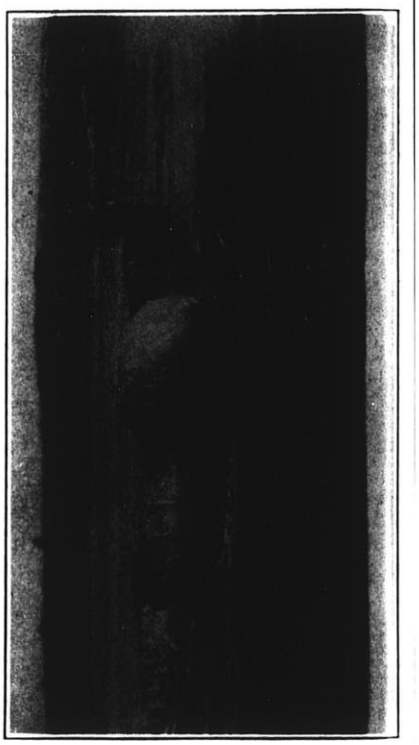

FIG. 2. FULL GROWN LARVAE OF BRONZE BIRCH BEETLE.

The cutting out of the dead top only of a badly affected tree is a mistake, for not only is the uncut remainder of no value from the esthetic standpoint but when the infection is sufficiently severe to cause the death of the top, the remainder of the tree usually will be so badly infested that it will merely serve as a breeding place for new infection.

If the birches are kept in a healthy condition, free from injury, abnormal growths, loose bark, etc., it has been found to very materially assist in resisting the attack of

FIG. 3. CHARACTERISTIC TUNNELS OF BIRCH BARK LARVAE.

this enemy. It is unwise, however, to attempt to grow a birch in regions where there is such a menace until the pests have been starved out.

E. L. CHAMBERS.

FIG. 7.—TOO LONG A LEADER

Long leaders outgrow and dwarf the lower branches. (See Fig. 8). Also there are too many branches.

WOMAN IN AN ORCHARD

(Continued from page 73)

the price agreed on with out further quibbling. I wasn't a fool woman after all.

I have gone through three packing seasons and I am still on top, but I've been on the job every minute. I have never been afraid to ask for information from the successful grower and I am as ready to pay for this advice as I would be that of a lawyer, their knowledge is worth money to me. I have learned quite a few things from experience too, first that the average commission man will surely talk sweetly and smoothly and cheat the eye teeth out of a fruit grower if he possibly can, second that salesmen are paid to *sell* machines and you are not sure until you see an actual demonstration that a spraying outfit that works finely on level land, will not turn turtle on the hills and smash things up generally just when every hour counts. That you must keep your eyes upon your orchard for there are 157 varieties of pests that invade orchards and as some of them are always headed your way you must be prepared for them.

Running a commercial orchard is a great game, it's a man's game all right but it is not barred to a woman. I proved that when I asked and got top market price for fifteen carloads of apples this fall''

NEWLY ELECTED OFFICERS AND EXECUTIVE COMMITTEE, AMERICAN POMOLOGICAL SOCIETY

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STORAGE OF GRAFTS.

In regard to the storage of grafts from time made until planting time, our plan is to store them in a well ventilated cellar where we keep nothing but grafts in boxes stacked with divisions between the boxes to give free circulation of air. We keep the grafts as cold as possible without severe freezing. We open the windows at times and have some frost in the cellar. The grafts are packed solid in shavings and are not injured.

For our own planting we do not tie them in bunches but pack in layers with tops up. The boxes are about 12 inches deep and we put only one layer of grafts. In this way the tops of the scions are exposed more or less to the air. It is very important to have a good circulation of air through the boxes. We sometimes re-stack the boxes, putting on top of those that were at the bottom. If grafts are wanted callused before planting time, we can callus them pretty quickly by keeping the cellar closed and letting it warm up a little.

When grafts are tied in bunches of 100 or less, we repack occasionally through the season taking the bunches out of boxes and letting them air a few hours before putting back in boxes. This is done to keep off injury from fungus and to check the tendency to callus before we are ready.

J. H. SKINNER & Co.,
In American Nurseryman,
Dec., 1924.

Topeka, Kan.

When writing to our advertisers please mention Wisconsin Horticulture.

FIG. 9—PRUNE CAREFULLY THE FIRST YEAR
Check the stronger branches (at arrow) to keep the branches to a uniform size. Thin out to give space (Fig. 12). Note the wide angle of the banrches grown from a tree which was whipped at planting time.

JUSTUS SAYS:

OUR PRESIDENT.

I wonder how many people there are who ever think of the president in any other way than "Our President."

It makes no difference whether you or I voted for him he is "Our" president, and we are in duty bound to support him. He is working for the enforcement of law and for the general good of the country, and cannot do his best without the moral support of the people.

Mr. Coolidge has made some very plain statements as to his policies, good sound business statements.

Let us give every possible aid to the new proposition of putting postmasters and prohibition agents on the civil service list. We will get better men, and they will do better work. It will do away with putting a drunken wife beater, or an ex-whisky lobbyist on as prohibition enforcement agent.

Speed the day when we shall have the system extended as far as possible. When the position is elective, the candidates should be required to show that they are fit for the office desired.

Boost for our president. There are a lot of people who will think good or bad of him just because you do. No use trying to get away from that fact. You are some one's hero. What kind of a hero are you going to be? Will your young followers be loyal to the president, or will they be obstructionists? Will they help or hinder his plans of action?

We cannot all agree on policies or details, but we can be loyal.

One more point—let us try to get rid of the idea of cartooning the president. Such cartoons should make matter unmailable, and the publisher subject to punishment. "Thou shalt not speak evil of a ruler of thy people."

JUSTUS.

Mention Wisconsin Horticulture when writing advertisers.

EVIDENCE ABOUT ASPIRIN

I noticed some time ago in one of the copies of WISCONSIN HORTICULTURE your request for information relative to the use of aspirin in keeping flowers from wilting. During the past summer, we made a number of tests to determine the merits of aspirin in this regard. For the most part, the results were not satisfactory. While it is true that in a few cases the wilting of flowers was delayed by the use of aspirin, we found that frequently merely searing the ends of the stems had a much better effect and in many cases there was no appreciable effect whatever of using the aspirin. We did find that different types of flowers respond differently to the different treatments.

JAMES G. MOORE,
Horticulturist,
University of Wisconsin.

Patronize our Advertisers.

FIG. 10—KEEP THE LEADER STRONG.

The cherry tree tends to produce stronger low branches. Check the laterals as indicated (arrows) to keep from dwarfing the leader. Don't leave more than two or three of these branches close together.

Watch
For 1925 Plant Premium Offer

We recently sent out 385 question sheets to members who took advantage of our 1924 Plant Premium Offer and received over 250 answers. Of these only two were dissatisfied; the others were well pleased.

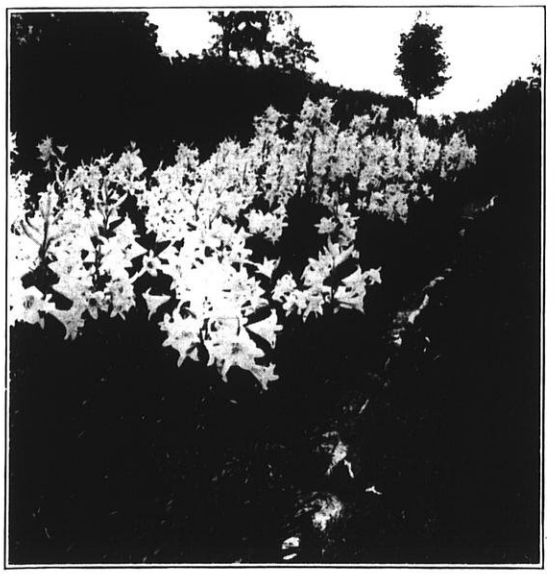
For that reason the Society will continue the offer this year. Many of the 1924 collections will be offered again and many new ones. Don't delay when you receive the new offers as the nurserymen who furnish the plants cannot fill orders much later than April 1st.

We hope to be able to distribute the 1925 Plant Premium Circular by February 25th. Watch for it.

DEMOCRAT PRINTING COMPANY
MADISON, WISCONSIN

WISCONSIN HORTICULTURE

Vol. XV Madison, Wisconsin, February, 1925 No. 6



LILIUM CANDIDUM

LANDSCAPE COLOR

By William Toole, Sr.

Read at Annual Convention, Madison, January 15th, 1925.

As practical people, we strive for wealth in the accumulation of money, or its equivalent in property, which we may have in reserve to promote future happiness, or we may use our earnings to sustain our ideas of present happiness.

Of the pleasurable sensations which we call happiness, none are more gratifying than those of seeing.

Natural inclination or educated tastes, cause varied preferences for sources of happiness. Some delight in ball games and athletic sports, others prefer the movies and various shows.

Fortunate are they, who appreciate the beautiful landscape views, which nature offers us here in Wisconsin. These beautiful scenes ever vary with the changing seasons, and never become monotonous to the real lover of nature. They are free for all, rich and poor alike. Few or many may own the land, but none can hold to themselves possession of the landscape views. A poet has fittingly said:

Oh the privilege and blessing,
Thus to think I ever own,
What the rich ones in possessing,
All imagine theirs alone.
Oh be glory to the Maker,
Who has given such boon to hold,
Who has made me free partaker,
Where the others buy with gold.
For while woods and lofty mountains,
Still stand up where I can see,
While his hand unlocks the fountains,
They all belong to me. Yes, all belong to me.

As I am now writing, the world is white with newly fallen snow. Not all white of course, for here and there, shrubs and stems of perennials are to be seen. The orchards near by with their snow laden branches, add a fantastic labyrinth of network, to that part of the picture.

In the distance the tree clad hills, hazily seen through the diminishing snow storm, seem to blend with the clouds above, showing no distinct separation in the picture. Winding through the farming lands in the valley, a heavy fringe of trees, with here and there a white pine over topping the others, tells us where are the Skillet Falls, and the Peewee Nest. The darkened edges, where lower foot hills nearly meet, indicate a narrow gorge, where the rocks tell of geological changes, and where early wild flowers will in spring follow the retreating snows.

When the storm has cleared away, and the sun shines bright, perhaps tomorrow morning, what a change there will be in the landscape. The wooded hills will stand out clear and bold, seemingly taller and nearer. In the morning if the air is clear and cold, we will look for chimney smokes, to tell us the way of the wind. If very still, the columns darkening as they rise, higher, and higher, before dissipating, tell us where are distant farm homes, some so far away that a second look is needed to locate them. A morning passenger train speeding towards the city, marks its progress with rising, rolling cloudy masses of steam, which quickly advance and slowly rise in the rear till the smoke separating from the condensing steam, is blended with the higher atmosphere. And the farm homes and surroundings, how much color and cheer they give to our landscape pictures. Not only the buildings, but also the ornamental plantings, especially if they include evergreens, add to the charm of the various scenes. Following a cheerful sunrise, how the clustered snowflakes sparkle in the sunlight. Diamonds give no more beautiful effects.

Our landscape embraces so many scenic aspects, we need to change our place to take in the varied beauty, as we may wish to study our picture in detail. Then we will get out Fleet Foot and the cutter, that we may go through the by ways, where autos travel but little in the winter time.

Not many years ago we young people sang

"Over an ocean of sparkling snow, Merrily O, Merrily O,
Swift as a bird in its flight we go,
Merrily, Merrily O."

With closer views of our shrubs and trees which add so much to the beauty of our landscape, we note the contrasting color of the stems of the various dogwoods from rich red, and maroon, to mahogany of the various species, the ragged salmon yellow of the Ninebark, so different from the darkly mottled alder, very dark blue gray of the Water Beech, or the mottled gray of the Witch Hazel.

In the deeper woods, we compare the barks of the Oaks, Maples, Elms and Hickory, with the lighter shades of Poplars, and the Birches, with white, yellow or reddish shades, according to the species. On the north sides of many trees, especially maples, the mosses or lichens hold our admiration. All are gray green in varying shades, and some are tipped with red, like sparks of fire. Our road to the wood lot takes us past a rocky point, which is a notable feature of the landscape. We note that on an elevation of more than 500 feet above the river valley, the formation is of granite like quartzite, much older than the sandstone, which underlies the valley.

We marvel to think of what might have been the scenery ages ago, before the material was worn from the heights above and deposited in the chasm below. The varying shades of pink, to rosy red, and reddish purple of the quartzite exposure, blended with patches of lichen, give a pleasant color effect to this portion of our picture. In other places we are interested in the various shades of yellow, red or dark brown, of sandstone outcrops. and display of color effects, are given to us by our beautiful sunsets; and sunrise too has a

share in the magical illumination of our scenery. If I was capable of describing the varied beauties of different sunsets, space could not be spared in this short paper to do full justice to the subject. Flame color, amber tints, golden, afterglow, luminous, silvery edged, gorgeous, what an array of adjectives would be needed to describe the fair weather sunsets. And how shall we describe the varied beauties of sunrise from the bright rosy morning, or when the sun rises as a great red globe, to the cold, below zero morning, when the sun is guarded by its attendant sun dogs.

None too soon will come the changes heralding the approach of spring, which we are always eager to welcome. The snow drifts which are yet to come, will have nearly disappeared with the bulk of the snow blanket, showing long ridges where the snow drifts had accumulated. With milder weather the late snowfalls will linger over the higher parts of the bluffs, while none is to be seen in the warmer valley lands. Soon we admire the silvery pussy willows by the woodland roadside, followed by the pendant brown catkins of the alders. The red maple with flowers opening before the leaves appear, gives a decided change of color by road and hillside. Following the touch of color given by the flowering of the elms, we realize with the greening of the poplars and maples, that spring is really with us. As the vendure spreads over the wood-clothed hillsides, how we feel the charm of the blending of the many soft shades of green, as contrasted by the variations of the different species of trees.

While Autumn coloring of forest leaves is more vivid and contrasting, it is never more attractive than is the at first delicate and varying, steadily darkening of the foliage colors, of spring time. How refreshing is the contrast of the greens of fields and pasture, the wheat, the rye, the clover, and the blue grass.

Of wild flowers in early spring we do not get much in the way of masses of color, except occasionally colonies of both species of Phlox. As the season moves along, we have the various wild shrubs including the roses. The orchards each season appear in gala dress, giving much of color to our pictures. As the season advances we seem to get more of floral color, where lighter soils abound. Of course there are many sheltered nooks where favorite flowers are to be found, but we cannot claim them for landscape effects.

We have in quantities sufficient to give color to our pictures, the Yellow Puccoon, Birdsfoot Violet, the Monardas, both the Horsemint with its masses of pink flowers, and the mottled or spotted kind, which is distilled for medical purposes. This last always attracts the attention of those who have not been previously acquainted with it. For color in masses we have the Pleurisy Root, Blazing Star, Swamp Milkweed, Turks Cap Lily, Wild Babys Breath, Joe Pyeweed, Golden rods and Asters in great variety. Sometimes the Wild Babys Breath, which is so useful in floral work, whitens a considerable expanse of abandoned fields. Some of the grasses, notably an attractively red panic grass, brightens the outlook.

Perhaps I am making too much of our favorites, our native wild flowers, but they are an important part of our smaller pictures.

As Summer advances the ripple like waving of grain fields, gives a touch of animation to the scene. Sometimes, but rarely, we are interested in seeing rise over the rye field mist like waves of pollen when gently agitated by the wind. The changing hues of ripening grain fields are also interesting for color effects

Soon we have passed the season of ripening grain, and the nearly golden color of the harvested fields.

Through the summer we have visited many places of interest, where are concentrations of natures beauty. We have enjoyed the changing pictures, viewing the distant hills from the valley, or from some outstanding eminence looking down perhaps on the silvery gleam of Lake Wisconsin, or from some other point viewing away below, the distant city and village along the Baraboo Valley. To view this wide range of landscape we have taken several auto rides, and all has been an enjoyable succession of moving pictures. We see many tourists coming to spend their vacation time in Wisconsin. Some seem to appreciate the beautiful scenery but too many of them appear only intent on reaching the next crowded place in the shortest possible time. How much pleasure they lose, by not being capable of appreciating what is so free for their enjoyment. Our summer sunsets give colors still different from those of winter time. When the storm clouds roll towards us from the west with the flashing of lightning we have an awe inspiring picture. Then too we admire the glories of color of the rainbows when the storm has rolled by.

Was it ever your pleasant experience to be in early morning on some high bluff, overlooking the valley, where a sheet of fog made it seem as if the valley was one great lake? And what a change of color when the warmer sunshine caused the mists to settle, or roll away.

Soon comes the time when the frost is on the pumpkin; and the leaf ripening process on the trees and shrubs goes on, till the glow of color spreads over all the woodland. First we have the sumachs on rough pasture land and in places by the roadside. With them or almost as soon, we have the brilliant colors of the maples in the woodlands, blended with the soft yellows of poplars and birches. Later are given to us, the dark purple of the ash, with maroon, and garnet, sometimes almost crimson and scarlet of the oaks. Next comes the russet brown of the oak leaves still retained, and bare branches

of trees which have shed their leaves. We are then thankful to those who have here and there spread some of the native evergreens. During our autumn rides to admire the scenery we have been attracted here and there by the color of native wild fruits.

The climbing bittersweet seems doomed to scarcity because those who admire the fruit, so ruthlessly destroy the branches. The winterberry often makes a fine showing of its bright red berries, but it is safe as it is most plentiful in out of the way places. Sheep berry is in noticable contrast to the preceding. Numerous other shrubs with showy fruit there are, but they are too much out of the way to count as part of our landscape color. One shrub is worthy of more than passing notice because the flowers are the last of the season. The witch hazels with their masses of ringed pale yellow flowers, in some roadside borders are very attractive.

Through these autumn changes, our orchards have held to most of their green foliage, blending with the rich color of the later apples.

We have made the round of the seasons and are ready to enjoy Thanksgiving and Christmas cheer, also to meet each other in convention, to exchange experiences, of the joys of the year gone by.

THE MUNICIPAL ROSE GARDEN

Louis Boeglin

Horticulturist, Board of Park Commissioners, Minneapolis, Minnesota.

Legend

With the ever-increasing demands for reliable information about roses, the Board of Park Commissioners decided in the summer of 1906 to establish a rose garden in one of the city parks.

The dominant object in doing so was to inform and teach the public what kind of roses to plant in our locality, and how to grow and take proper care of them.

Lyndale Park with its favorable location, its varied soil conditions, desirable exposure and its other horticultural features, was the logical place to establish such a rosary. The work on the garden was started in the fall of 1906, and the rose beds were ready in the spring of 1907 to receive the young plants.

The garden covers an area of about one and one-half acres, and harbors about four thousand plants in over two hundred varieties.

During the blooming season, the spacious turf walks between the rose-beds cannot always accommodate the multitude of visitors from far and near, who receive untold pleasure and much valuable information from our rose garden.

The space immediately surrounding the garden is planted with all varieties of our native roses which are hardy without any protection. There are also beds and colonies of Rugosa, Sweet and Austrian Briars. These plantings when in bloom are really a show by themselves and attract very favorable comment.

The garden is now sixteen years old and about half of the varieties originally planted are still with us, without showing any signs of deterioration. Some varieties were discarded as inferior, and new varieties are being tested right along to take the places of discards and to enlarge the number to select from.

A feature which is well-appreciated is our having a competent man in charge who is always ready to serve the public with his advice and experience in rose-growing.

To be successful with roses, you have to love them and know how to treat them properly. I think it is not so much the soil and the climate as the care and skill of the cultivator that wins success.

Roses love a well-drained, deeply-prepared and well-fertilized soil. Hybrid perpetuals and heavy-growing climbers like rather heavy soil, whereas teas, hybrid teas and Bourbons revel in lighter and warmer soil. Budded plants are far superior to own root plants in our locality.

Well-rotted cow manure is the old standby fertilizer of the rose grower. Put in plenty and then some more—roses seldom die of indigestion.

Spring planting is preferable to fall planting in the northwest. Before planting roses, the holes should be dug large enough to accommodate the roots in a natural and uncramped position. Remember to keep the roots covered with a damp burlap and dip the roots into thin mud before planting. Plant the roses firmly—not too deep nor too shallow, just about one inch deeper than they were when standing in the nursery. Water after planting.

Plant hybrid remontant 2½ to 3 feet apart; climbers not less than 6 feet; tea, hybrid teas and Bourbons 18 to 24 inches apart.

When planted, remove all but three or four of the strongest shoots, and trim them to about three to five eyes.

Roses need continuous cultivation during their growing season. Keep the soil loose so that it does not cake, but do not cultivate deeper than two inches, or you will injure the feeding roots of the plants. Water your roses thoroughly when necessary. Do not sprinkle and think you are watering—soak the ground when you do water them and then do not water again until the surface is quite dry.

Protect your plants against diseases and pest by taking proper care of them; remember that a vigorous growth will act as the best protection against insects and diseases. Green Aphis or plant lice can be easily overcome by spraying with a soap or a weak nicotine solution such as "Black leaf 40". The rose caterpillar or leaf roller can be easily destroyed by crushing them between thumb and finger. This crushing process is not an agreeable pastime, but it must be done,

as it is the only solution. Look out for them when the flower buds are forming and begin to show signs of plumpness.

"Black-spot" and mildew are the worst fungi diseases of our garden roses. Both can be prevented to some extent if the plants are regularly dusted with a mixture of nine parts of dusting sulphur to one part of powdered lead arsenate. Repeat the dusting every two weeks during the summer; it will protect your plants against fungus growth and certain insects. The "Black-spot" is a fungoid parasite and lives over winter in dead rose leaves only. For that reason all leaves should be removed from the rose plants in the fall and burned.

Mildew is mostly caused by great and sudden atmospheric changes and by long continued spells of damp and cloudy weather. The best proved remedies are sulphur and soot. One of the two should be applied the moment the disease makes its appearance. The plants should be sprinkled with water so that the substance applied will adhere, or else put it on early in the morning while the dew is still on the plants. Some localities are much more subject to visitation by this disease than others, and in such places care should be taken not to plant varieties that are known to be specially liable to mildew. Bear in mind that prevention is better than cure: keep your roses in healthy condition and watch them closely every day during the growing season.

One of the most important problems confronting us in our rigorous climate is the winter protection of our roses. Special pains should be taken to ripen the wood of our rose plants before the frost comes. Discourage late growth by stopping watering and cultivation in September. Water only once in October, if the soil is too dry to supply the plants with the moisture necessary during the winter.

Before the frost arrives, tie the rose shoots closely together and pile the soil around the plants as high as possible. Let the plants stand in this condition until there is about four or five inches of frost in the ground; then cover hill and plant with dry leaves. Do not pack down the leaves but protect them from wind with chicken wire, if possible, or any other material at hand.

Roses ought to be protected against mice and rabbits in winter. If the hill of soil around the plant is frozen, mice will do hardly any damage, but rabbits will, so a protection with chicken wire will keep the rabbits off.

In protecting roses over the winter, the following three points are of utmost importance:

Cover and protect them from the sunshine, to prevent thawing after frost has set in.

Protect them from the drying effects of our strong winds and also against mice and rabbits.

Do not prevent the free circulation of air about your plants but do protect your covering material against rain with boards or any other water-proof covering.

Do not uncover your plants too early in the spring—better wait until danger of frost is past. The most violent changes in weather occur during the early spring. If the weather is fine by the middle of April, you may uncover them, but keep your covering material close at hand—it may come handy if the weather should change.

The pruning of roses in our climate should not be done before the 15th of April. The tender varieties such as teas and hybrid teas should not be pruned before the sap begins to flow and the buds begin to swell, for at this time dead and weak wood may be more easily distinguished and cut out than earlier in the season. Hybrid remontant and other hardy kinds can be pruned any time the weather permits. Austrian Briar roses and Bourbons need very little pruning. Wichuraianas and multifloras should not be pruned in the spring nor in the fall, but just as soon as they have finished blooming during the summer.

Proper pruning is an art—it improves the productive power and appearance of the plants. It consists of two distinct operations: First, the removal of dead, weak and superfluous wood; second, the shortening of the shoots which are allowed to remain on the plants after the thinning-out process has been completed.

In thinning out, the shoots should be either cut clean away from the base of the plants or from their starting points on the old wood. When the plant has been pruned, it should present a well-balanced appearance on all sides. The rules of pruning are modified somewhat by the character of the plant. The weaker-growing varieties should be cut back farther than the strong-growing kinds. The strong-growing variety, if cut back too heavily, will run to wood and in some cases it will even kill the plant.

The crop of flowers on the rose plants is largely governed by the kind of pruning the plants receive. In fact, other conditions being ideal, the pruning will determine the quantity and quality of the flowers.

The following list of roses are without question the best and most practical varieties to plant in the northwest:

Hybrid Remontants — Captain Hayward, Clio, Frau Karl Druschki, Mrs. John Laing, Ulrich Brunner, Baroness de Rothschild, J. B. Clark, George Arends, Gen. Jacqueminot, Duke of Wellington, Pride of Waltham, Baron de Bonstetten, Magna Charta, Paul Neyron, Hugh Dickson, Prince Camille de Rohan, Anna de Diesbach.

Hybrid Teas—Colonel Leclerc, Gen. Supt. Arnold Jensen, La France, Kaiserin Augusta Victoria, Mary Countess of Ilchester, Red Radiance, Florence Pemberton, Killarney Queen, Duchess of Wellington, Ecarlate, Lady Ashtown, Mrs. Aaron Ward, Radiance, Lady Alice Stanley, Johkheer J. L. Mock, Farbenkoenigin,

(Concluded on page 88)

THE FLORIST'S PAGE

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

LOWE AND SHAWYER

The largest market flower growers in the British Isles are Lowe and Shawyer, of Cowley, Middlesex county, England, situated midway between Cowley and Uxbridge, and only about an hour from London. They have 130 acres and over 65 of it under glass. As will develop further in this article, much of the rest is under cover. To walk around the outside of their property, one will cover more than four miles.

The writer had a letter from the firm asking him to call for the manager, Mr. Thomas Stevenson, who would show him over the plant on Thursday afternoon, August 21st, 1924. It was such a huge proposition that figures into the six columns are necessary to tell about it. After an introduction to the packing rooms, we had come to the inevitable tea-time, which necessitated a walk to Mr. Stevenson's home. This fine brick house had its separate greenhouse where grapes were grown. In the British Isles grapes will not mature outdoors, hence the hothouse grapes which are quite huge and expensive. While at tea, Mr. George Shawyer came in to meet the writer, as he lived next door, and to listen with interest to the way Holton & Hunkel in Milwaukee, have solved their fertilizer problem. The Mrs. Sawyer rose, which the Cudahy Floral Co. grow and market thru the Gust. Rusch Co., was one of their productions named for his wife. Mr. Shawyer was formerly a carpenter-joiner and became the business head of the firm, while Joseph Lowe, his partner, was the expert grower. The red rose, Mrs. Joseph Lowe, was their first commercial success and is still grown commercially. Mr. Joseph Lowe who started the business was a gardener, who bought one acre of ground and grew roses to sell to his employers. Some one suggested that he could sell them in town and the present huge plant was thus built up an acre at a time. The beginning was 60 years ago in 1864. Mr. Shawyer told us that he thought that every good business firm should have two partners,—one who knows the manufacturing end or growing end in this case, and the other who knows the business end. Mr. Lowe is quite elderly now, so leaves most of the growing details to Thos. Stevenson, the manager and a director. There are two other directors or five in all, one in charge of transportation and one in charge of the office. Mr. Shawyer has no sons, and Mr. Lowe but one. Director Stevenson has a son 18 years old who started in business at 12 years of age and who is much interested in growing and understands all kinds of plants. Young Stevenson will doubtless succeed to Mr. Lowe's interest after some study at Cornell University, as we understand that Mr. Lowe's son does not care for this business, and will only inherit a part of Mr. Lowe's share income.

Now as to the physical equipment of their plant. They grow only seven things. The first three are the most important and the rest in the order named. Chrysantheums, roses, carnations, bulbs (tulips and narcissi), gladioli, and sweet peas. They have over six hundred thousand mum plants, nearly all of them partially disbudded, as are, of course, the roses and carnations. It requires a good deal of labor to keep it up. On the day the writer came, there were 640 men, women and girls working, and oftentimes more. There are 59 houses of roses and 22 houses of carnations. The carnation houses were the newest and largest, measuring 40 by 278 feet, with very high ridges,—25 feet. None of their benches were elevated. They are usually only the thickness of a two inch drain tile off of the floor. It looks like a backbreaker for the working men, but they seem to prefer it so. Carnations here are grown quite differently from the American way. The plants are not thrown out till they have flowered them two and one half years. In the one year old stock the height is usually over five feet. They are very particular about the methods and cleanliness of their stock. Mr. Stevenson had occasion to reprimand a workman who was tying young carnation stock with raffia, for tying them too close or tight. He made him go all over the 5000 plants in that house again.

Lowe and Shawyer are trying to get a little more color into their carnations and are now growing: Topsy, Aviator, Mikado, a new Yellow, Apricot, Maine Sunshine and several pink like Laddie, and white ones. Their best carnations are: red—Aviator; pink—May Day; and white—Wivelsfield. These are their best producers and the white is the most prolific of all. The Mikado, with a peculiar dark mauve shade, is a very peculiar actor, throwing few buds sometimes, and plenty at other times. The strict branching and general appearance of the Mikado (which is really an old variety), distinguishes it from all others. Their method of packing carnations is much superior to ours for showing them to advantage in the market. They use small wooden boxes, 12 by 30 by 3 inches and pack 24 blooms in each box so that each bloom is separate. Tubular rolls of newspaper hold the blossoms free from the bottom and top of the box and six blooms are placed in a tier. In this way extra choice stock brings six shillings ($1.50) wholesale, down to one shilling (25c) a box for the white ones. The boxes are returned and used over and over again, each carnation being in perfect condition. We believe this method employed in America

would pay for the extra price it would command. Of course, the carnations are processed in water and are only out of the water 10 to 12 hours before they are sold.

There were 59 houses of roses. They commonly flower their rose stock 15 to 18 years, while we flower them in America from 3 to 7 years. Their freest grower in the roses is Mrs. Herbert Stevens, though of course they have most of our popular varieties such as Premier, Columbia, My Lady, Richmond, Ophelia in variety, and Sensation.

Their largest line is "mums" and here again we saw some practices that are quite different from American methods. The English market will not pay for large single show type mums, so every plant must yield a large number of blossoms. All are grown as a bush, only partially disbudded. While they do obtain some fair sized blooms, up to six inches in diameter, the blossoms are not full and rounded like our plants where we permit only one blossom to mature. We visited their plant on the 21st of August and some of their mums were coming into full bloom. By a succession of varieties, their season would last from this date to the middle of February. Their best moneymaker was "Candida," a white mum which they introduced, but which other growers produce and send to Covent Garden market under the name "Sanctity,' because only Lowe and Shawyer may rightfully market it under its proper name "Candida". They have a new bronze which they call "Alcalde", which they think is going to prove quite popular. Their mums are brought into flowering earlier than ours. Besides "Candida" or "Sanctity" they had a Chieftain, two bronze and a Yellow Mercedes in flower at this time. They had 20,000 of the Mercedes plants. They use 280,000 twelve inch pots and small ones in proportion. Most of their mum stock is grown in pots.—relatively little in the beds or fields direct. Quite a lot of mums are grown in the fields, which look like a gigantic ginseng plantation. Frames cover the fields, and on a nice day the plants are open to the sun and air. On frosty nights, canvas is spread over the whole field and it becomes a greenhouse again. Sometimes as many as a hundred thousand candles are burned to add a little heat. Their weather is never so cold that this is impractical.

Since Mr. Geo. Shawyer was formerly a carpenter and joiner, one sees some odd ideas worked out as to temporary houses with movable glass top frames and burlap sides. These cover large areas or ranges and steam pipes run the full length and width of the building, making it difficult for the workmen to get through. These houses were for mums but more especially for roses. Of course they simply swallowed the heat. It was almost like trying to heat the whole out of doors. He has seen the advantage of the regular greenhouse now, and is replacing them with the new type of house 40 feet wide by 278 feet long.

When the writer arrived, a shipment of 400 tons of bulbs had just been received from Holland and Belgium. These were tulips and narcissi. They were a very good, firm stock and known as the Lowe and Shawyer grade by the overseas growers. We thought they were rather small, being around 22 to 35 milimeters in diameter, but they assured us that this is just what they want. They force these on their east range of houses and flower them in a fortnight and get them out of the way. Their sweet pea crop is more of a spring and summer outdoor proposition with them, than a greenhouse crop. They grow some very large flowers on very heavy stems. Their gladioli are from bulbs no bigger than your finger nail, but they make a good growth and a stalk three feet high.

Their packing house has just been enlarged till they now have three acres of greenhouse lighted rooms for sorting and packing. They are experimenting for the first time with an ice machine to precool stock. Heretofore they have never used pre-cooling and in fact did not need it this summer. Of course there are several batteries of boilers scattered over the grounds and this is a problem in itself that we haven't space to go into. The immensity of the grounds and only a single afternoon at our disposal made it quite impossible to do it justice in so short a time.

Mr. Stevenson used to lecture a great deal on horticultural subjects throughout England, but the immensity of their present plant has precluded any further work along this line, and the wonder to us is, how he can personally supervise the large force and keep the growing details in his head.

Huron H. Smith.

TESTIMONY CONCERNING TWO BURBANK CREATIONS

"Last summer I planted some Burbank tomatoes and Burbank golden bantam sweet corn. The tomatoes certainly seem to be the "earliest tomatoes in the world" as claimed by Mr. Burbank as we had ripe tomatoes long before most of our neighbors had any while they set plants of early varieties before we did. However as far as flavor goes I think some others have a better flavor."

"The Burbank sweet corn is as good or better than the old golden bantam since it has much bigger ears, is very sweet and about as early as any. Think it can be grown here as well as in California."

N. W. K. (Amateur).

HARDY ROSES

(Continued from page 85)

Gruss an Teplitz, George Dickson, Mme. Caroline Testout, Willowmere, Killarney, Gen. MacArthur, Lady Ursula, Edith Part.

Polyanthas—Mary Pavic, Amy Muller, Abundance, Yvonne Babier, Mrs. W. H. Cutbush, Baby Rambler, Cecil Brunner, Orlean, Baby Tausendshoen, Clothilde Soupert.

Climbers — Crimson Rambler, Hiawatha, Goldfinch.

(Continued on page 95)

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THE CONVENTION

The write-up of the Convention must wait. It may be a little out of date in March or April but the premium offer was not decided until the meeting of the executive committee January 14th and the extraordinary amount of work involved in preparing the lists and the pressing need of getting out the paper and supplement at the earliest possible date precluded any chance of devoting either time or space to the subject in this issue. Some of the papers read at the convention appear herein.

PREMIUM OFFERS

A considerable part of this issue is devoted to the premium offer. Last year we offered a choice of 20 collections of plants and bulbs free to members who renewed or extended their memberships for one year. The plant premium circular was sent to 8000 "prospects", names furnished by members and others gathered from likely sources.

The campaign netted 384 members all but a few new. Encouraging or discouraging just as you view it.

The offer is renewed this year and enlarged to include a smaller premium to members for securing new members. Read carefully the announcement on page 96 of this paper which is intended only for members and then search the supplement for premium offers. These are really remarkable offers and should yield us at least 1000 new members in addition to renewals. If you will spread the news among your neighbors (don't you feel that you will be doing them a service?) we will get many more than one thousand. Will you help?

THE AMERICAN POMOLOGICAL SOCIETY

(Copy of News Letter, Missouri State Horticultural Society. Endorsed in full. F. Cranefield, Sec'y.)

At the opening of a new year it may be well for each of us to get a new point of view and a broad outlook for our individual problems. Therefore, we are calling to the attention of the members of the State Horticultural Society the only horticultural organization which is national in its scope. This association is the American Pomological Society.

At the recent annual meeting of the American Pomological Society held at Atlantic City, November 11–14, 1924, important steps were taken to make the Society of greater benefit to fruit growers of the country. In order that more fruit growers might take part in the activities of this organization and might share in its benefits, the annual dues were reduced from $5.00 per year to $1.00 per year. These annual dues will entitle you not only to membership in the Society, but to a year's subscription to the valuable new fruit publication that the Society is issuing.

This publication will have as its editor, Dr. Liberty Hyde Bailey, America's foremost horticultural authority. In cooperation with Dr. Bailey are thirty-seven of the strongest, most representative fruit authorities from every section of America will act as its official editorial advisers. This publication will be issued monthly.

Members of the State Horticultural Society are strongly urged to become members of the American Pomological Society. You can send your dues direct to Secretary H. C. C. Miles, Milford, Connecticut or if you send them to us we shall be glad to see that they are forwarded and that you receive the membership privileges of the American Pomological Society.

QUESTIONS

We are always ready for questions, send them in any time. There may or may not be a "Question Sheet" such as has been sent in past years but don't wait. We feel that nothing adds more to the value of the paper than questions and answers. We cannot always answer promptly but all questions are eventually answered. We will open by asking one: What did Admiral Dewey say, according to report, to the commander of his squadron at Manila Bay?

PATRONIZE OUR ADVERTISERS

Mention Wisconsin Horticulture when writing to our advertisers. This helps all parties concerned.

ANTHRACNOSE ON RASPBERRIES

Can you tell me how to control anthracnose or scale on black raspberries? Am losing most all of my bushes. R. W. S.

Answer by Dr. S. B. Fracker, state entomologist.

Your request for information on the control of anthracnose on black raspberries has been referred to this office for reply.

For your information a copy of Bulletin 36 is enclosed. Instructions for the spraying of raspberries to control anthracnose are given at the foot of page 8. The methods described and using two sprays have proven satisfactory. The first spray consists of lime sulphur in the proportion of one gallon to ten gallons of water, is put on as the buds are swelling but before the leaves appear. The second, using lime sulphur in the proportions of one gallon to forty gallons of water, is put on when the fruit buds are forming.

In each case the efficiency is increased if gelatin is added at the rate of one ounce to ten or twelve gallons of water.

A copy of the bulletin referred to above may be had on application to this office. (Editor)

STRAWBERRY LEAF SPOT

What spray shall I use on my strawberry plants? They were planted last spring and grew very nicely but we noticed specks on the leaves. O. E.

Answer by Dr. S. B. Fracker, state entomologist.

The editor of Wisconsin Horticulture has referred your letter of June 15 to this office for reply.

Few strawberry growers spray their plants to control the leaf-spot disease which you mention. This spotting usually does not become serious until the second or third year and as it is customary to plow the bed under the second year, the owner suffers little loss from the work of the fungus.

After the first crop has been removed it is a common practice to mow off and rapidly burn over the bed at a time when this can be done without injuring the plants. The leaves bearing the fungus are thus destroyed and new ones are comparatively free from the trouble.

If the presence of leaf rollers or other leaf-eating insects makes it necessary to spray the strawberry bed with arsenate of lead, leaf-spot may be controlled at the same time by adding Bordeaux mixture.

GREENHOUSE LETTUCE

Success in the growing of greenhouse lettuce, says a bulletin issued by the United States Department of Agriculture, depends on the use of a soil well supplied with organic matter and available plant food, the control of disease and insect enemies of the crop, the use of varieties and strains adapted to the needs of the grower and the market to be supplied, and the closest attention to every detail of the management of the crop.

Satisfactory financial returns can be secured only when a well-grown, high-quality crop is packed in an attractive manner in containers of suitable size and placed in the hands of consumers in the shortest practicable time.

Lettuce is not particular as to the type of forcing structure in which it is grown, and it is produced in many kinds of greenhouses, but cucumbers and tomatoes, being very particular as to their growing conditions, require greenhouses of a special type. Owing to the fact that the vegetable-forcing industry usually includes the production of several crops, it is necessary to use structures suited to the requirements of all crops grown. Lettuce, cucumbers, and tomatoes are the crops to which the most attention is devoted, and they comprise a large proportion of the annual value of the vegetable forcing crops grown in the United States. Naturally, the houses must be made to suit these difficult crops, which must have a rather high and very uniform temperature and freedom from drafts, thus necessitating excellent heating equipment. While such houses are not absolutely essential to the successful production of the more hardy types of lettuce, it is unquestionably true that the crop thrives better in good greenhouses than in very simple structures. Those proposing to grow lettuce as their main crop will find it advantageous to build a good type of greenhouse.

A copy of this bulletin may be secured upon request, as long as the supply lasts, from the United States Department of Agriculture, Washington, D. C.

THE FUN OF SPECIALIZING

If one adopts gardening as a hobby, there is a certain satisfaction in taking one kind or class of plants as a specialty. It may be Delphiniums or Peonies or Iris, or it may be some special class as rock or Alpine plants or acquatics, but whatever it is there is an added charm to gardening if one can feel that something special or superior to the common run is being grown. And with the most of us humans, it does not detract from the joy of life to be able to produce something a little finer than friend specialist can show in his garden over on the other side of town.

While I am in favor of adopting some kind or class of plant as a specialty, it has never appealed to me that a true lover of plants could confine all his attention to one class of flower alone. Surely you will want enough variety to keep the garden bright from spring to late fall.

W. A. Toole.

RECIPE FOR GROWING APPLES.

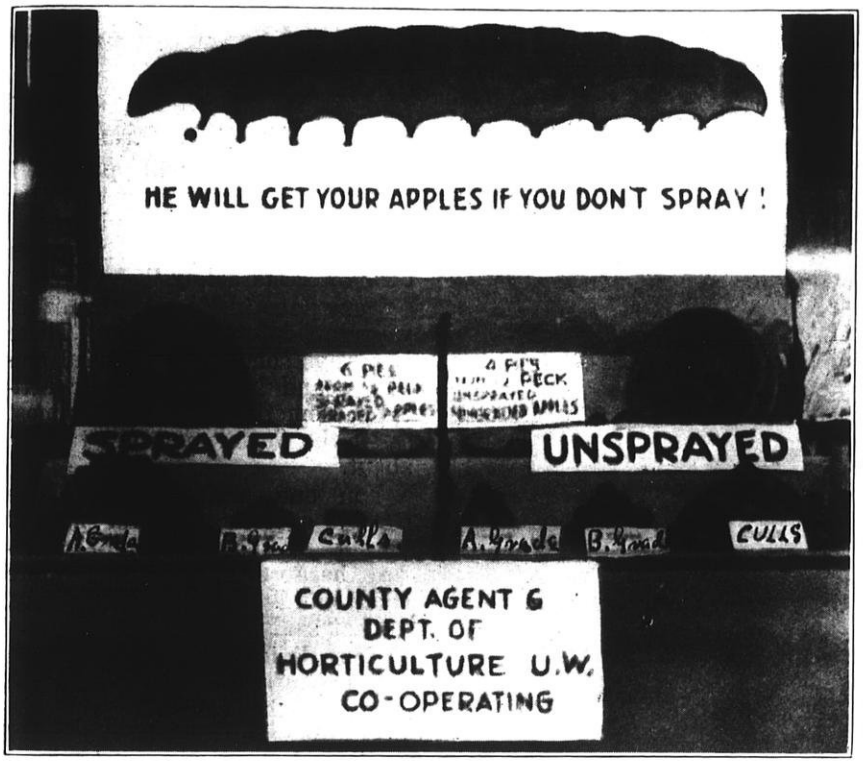
D. E. Bingham.

Read at Annual Convention, Madison, January 15.

Our secretary informed me some time ago that I was expected to come down here and tell you how to grow apples. Now that sounds rather flattering, doesn't it? As I look around I see some who have grown apples longer than I have and perhaps better. I have only been working in apples for thirty-three years and I am beginning to learn a few things about growing and packing of apples. I think in twenty-five or thirty years more I might be able to tell you pretty well some of the essentials of apple growing.

It is not my intention to-day to tell you just how to grow apples but rather to give you some of the things that I feel you will need to do or have done, and have, in order to handle an apple orchard and grow apples economically.

I am going to take 100 acres for an example, because you can easily multiply 100 by 2 or 4 and divide it by 10, 25, 4, or 5 and come somewhere near the acreage you have as commercial growers. Let us assume you are starting with nothing, or 5 or 10 thousand dollars—it doesn't matter much. Good orchard land, in a good orchard section, fully cleared, is worth $150 per acre; if uncleared, it will cost $150 by the time it is cleared and ready. The trees for planting 100 acres will cost $2500 to $3000 and planting another $1000. It will probably cost $500 or so for refilling the next spring, if not more. You have approximately $20,000 invested already and you have no equipment and no labor bills for self or salary for living expenses. When this is made up you have another $10,000 invested—total, $30,000. I am giving only estimates, but there are always incidentals enough to make up for over-estimates. The first two or three years you will want to make expenses ,of course. If you are a good agriculturist you may be able to do this—it's up to



A STORY IN A FEW WORDS

you. The next three or four years is the same story, with a little added expense. There will be spraying and pruning every year, less space to farm and not much fruit. You will want either 2 or 3 teams, discs, harrows, and spray rigs, or 2 tractors and proper tools for them to do your work. You will also need 2 or 3 good men besides yourself to do the work. These men can be secured for $100 to $125 per month and house rent; they usually need and demand their pay every week, so you must be prepared to write a check every Saturday night.

At the age of 5 to 7 years the trees will cover enough space so that you will perhaps conclude that farming the land does not or will not pay, and you will discontinue growing any crops and take care of the apples. If you have other land besides orchards, your tendency in this case will be to neglect orchard work some times, if there is no great revenue in sight. This, if done at a critical time like spraying, will cut down the quality of your fruit and oftentimes will result in a loss equal to or more than is made in the crops you are growing on the balance of the farm; so beware of neglect. Be sure to figure out which is the more important.

The mode of procedure in 100 acres of apples is something like this. About February 15 hire 2 good men, get some pruning saws, go into the orchard with the men yourself, and start pruning. Keep this up for three or four weeks; longer, if you are a little slow. Pruning done, take the team and brush-boat or wagon with flat-rack and begin hauling off brush. Keep at this job until you have finished; usually 1 to 3 weeks, depending on the amount of brush removed. Burn the brush as you haul it off. Don't pile it in fence corners, etc. It won't lower your taxes much to have your farm littered up with brush-piles and they are a harbor for mice.

Now let us see; we had about $30,000 invested at the beginning and if the farming didn't pay all the expenses of upkeep, you will perhaps find that you have, in the 6 or 7 years of care, $15,000 or $20,000 more invested, with a par-

"Made in Milwaukee"! the amber liquid that one-time made Milwaukee famous (or infamous) is now replaced by a redder fluid the Cream City Chemical Company Lime Sulphur. Sift in a little of their arsenate of lead and you have a fine drink, for bugs.

tial offset from revenue from crops. But your first equipment is worn out, and you will need new, if you haven't kept up this end of the game by trading in old equipment for new as you went along. Your spray rigs are pretty well rusted out by now, so a few more thousand has slipped away there. At the end of 10 years you will find the Dr. side showing $50,000 at least. Of course, you will have a few thousand to invest now in trucks to handle your crop, if you have much of a haul to the shipping point. As yet you haven't any building, or wells for water supply. These must be ample and of such construction and arrangement as to facilitate the work of handling the orchard economically. It is important to spray at the proper time and in a thorough manner; for this reason rigs must always be in working order or you must have a reserve rig for emergency. You will find that with constant stirring of the soil, the supply of humus is exhausted and you will need to devise measures to replace it. Legumes may be sown for this purpose; experience will teach you that clovers are best. This gives you a rest for a season on cultivation. The orchard needs to be mowed only twice in a season, but of course you must have a couple of mowers. You may need to grub the sod away from 7000 trees, but that doesn't take more than 2 or 3 weeks with 3 or 4 men. So you see, aside from pruning, spraying, mowing, and grubbing 7000 trees, you will have but little to do. You might begin to figure on your supply of lug-boxes needed to handle the crop. On 100 acres, with a good crop from 10 year trees, you may need 3000 or 4000 lug-boxes, but as they cost only 30 cents apiece, your investment will not be over $1,200. The equipment necessary for harvesting 10,000 bushels of apples is not so great. A good building, 100x40, which can be put up for 4 to 5 thousand dollars, will do fairly well.

I haven't mentioned a good many things that may come up. It may be necessary to apply a few extra applications of spray in rainy seasons. It only takes a few days and a few hundred dollars' worth of material to do a thorough job on 100 acres. Always have plenty of spray material on hand so that no delays on that account will occur.

G. A. Freeman, Linden Vale Farm, Sparta, sprayed only once last year and see what he got!

I have purposely lost track of the total investment up to this time because I don't want to discourage you. It is a good game in Wisconsin with proper soil and climatic conditions. I have also omitted mention of varieties as that is a local problem and everyone has some ideas of his own about varieties for Wisconsin. I have not mentioned fertilization, except through the clovers. I think commercial fertilizer is a great help to apples. I am not enthuiastic about stable manure for apples; would rather use Sweet Clover and nitrates with potash. I am not a soil expert and what I think may be dead wrong. I am only judging from observations in my own orchards.

In conclusion, let me say it's fun to grow apples, and you are welcome to all the leisure you can get and own 100 acres of orchard and make it pay.

JUSTUS SAYS:

To Mrs. C. E. Strong.

If our editor will permit I should like to answer your letter in the December Horticulture.

Selfishness is "Regarding one's own interests solely."

Your page in Horticulture is always an interesting one. There is always something cheerful and bright and helpful in your articles. Sometimes one can almost smell the flowers you are talking about.

You and a few others have started a little club for mutual benefit. The membership is limited because it was thot more good could be done in that way. Is that selfish?

You divide seeds and plants and encourage others to do the same. Is that selfish?

You tell the whole horticultural family what you are doing and how you do it. Is that selfish?

You tell others of the workings of your club and encourage them to form similar clubs. Is that selfish?

You spread the good things of your experience far and wide. Is that selfish?

You are doing all the good you can, the whole season thru. Is that selfish?

You are helping to make us all better and happier and more true and useful day by day. Is that selfish?

If such a work is selfish, let us all hope that this particular brand of selfishness may grow and multiply an hundred fold.

It is such as you that help to keep the world from going backwards. It is rare that one who loves flowers and beautiful surroundings becomes degenerate, or criminal.

Go forward—Be strong and of good courage. The work you are doing will still be going on in the hearts of the generations to come.

Very truly yours,

Justus.

GREENHOUSE TOMATOES

Greenhouse tomatoes ripened on the vine are superior in flavor to those grown outdoors in warm sections, and picked unripe in order to get them to the distant consumer without undue loss, the United States Department of Agriculture finds in its study of Greenhouse Tomatoes, just issued as Farmers' Bulletin 1431. Tomatoes marketed during the winter and early spring months when prices are high are usually served as a salad or as an ingredient of a salad. Thus a comparatively small quantity is enough for several persons, making the tomato as economical to the housewife as other available salad crops.

The greenhouse owner must make a large investment in houses and equipment, and he must be prepared to spend large sums for the maintenance of conditions suitable for this exacting crop, says the department. On the other hand, a grower 2,000 or more miles from the markets must spend large sums for picking, packing, transportation, and handling before his crop can be realized upon. The products of properly located greenhouse ranges where fuel, labor, and other essentials can be obtained economically are usually able to compete successfully with tomatoes grown at distant points out of doors. The vegetable-forcing industry is increasing in importance, and the tomato is receiving its full share of attention.

Copies of the bulletin can be had free, as long as the supply lasts, by writing to the Department of Agriculture, Washington, D. C.

Sunoco is certainly gaining favor as a dormant spray. The miscible oil compounds offered ten years ago were crude and unreliable mixtures. The "world do move" and the Sun Oil Company has evidently moved with it.

THE OLD FASHIONED HARDY GARDEN

There is something about the permanence of the Old Fashioned Hardy Plants that endears them to us. It is like greeting old friends to see the first beautiful reddish sprouts pushing up in the spring, and it is as though one were adding beautiful new friendships to one's circle when a new plant is brought into the garden. As life itself is constantly changing, so does one's Hardy Garden change. A new friend here, there a missing spot, a change of arrangement where there is conflict and of course a few uncongenial weeds to be disposed of from time to time.

All plants have some certain preferences as to soil, shade and drainage when growing wild, but practically all of them do well in our gardens in almost any soil if they have enough fertility and moisture. So, before you plant your garden, be sure the soil is well prepared and that it has been made rich and fertile. An inch or two of black dirt on top of filled in soil from cellar excavation is not enough. Be sure that plenty of well rotted manure is worked into the soil, or if that is not available, make judicious use of commercial fertilizer.

A great many perennials are quite hardy as far as cold is concerned, but do not take kindly to a covering of ice which excludes air during the winter, so when planning and preparing your garden, make provision so that surface water will have a chance to run off. All plants need a little air during the winter, so be careful that your winter protection does not lie too heavily on the plants. Unlesss very coarse litter is used as a covering material a little brush laid over the plants first before covering with leaves or straw or marsh hay will be found good. Do not cover in the fall till severe freezing starts, perhaps after an inch of crust has formed. Do not take the covering off too early in the spring as it is the alternate freez-

ing and thawing in the spring that often causes the most damage.

Keep the soil about your plants cultivated as well as you can as this helps greatly in conserving moisture. If a severe dry spell comes along and artificial water seems needed, do not give the plants a little surface sprinkling every day but soak the ground thoroughly as far as you go and then stir the surface as soon as dry enough. Mere surface watering during a dry time is worse than no watering at all. W. A. Toole.

SEED CATALOGS

"Six dollars down and six dollars a month till paid for." That is the price of the Harvard Classics, special edition in crimson silk binding. Spend fifteen minutes a day reading them and you will be welcomed in any circle as an intelligent conversationalist. That's what the advertisement says, in effect, and I'm going to give them a chance to make good on me. The books look imposing on the shelf, and the contents entice one to go further, but Dr. Elliott missed something needed to complete any live person's education;—a good entertaining seed catalog. I am writing this on a Sunday afternoon, with a stack of the latest Seed Catalogs on one side and a plate of home grown Seek-no-furthers on the other side of me. Any one should be inspired to some degree of eloquence under these circumstances. W. A. Toole.

POLITICIANS

The State Legislature was in process of organization at the time of the Horticultural Convention in Madison. All of the political leaders were out seeking friends before the question of speakership of the assembly came to a vote. Three ladies of the convention wandered into the assembly room and finding it vacant, stopped to rest on one of the seats provided for the hard working legislators. One state official, seeking friends, approached the ladies and remarked with great politeness of manner: "Ah, ladies of the legislature I presume, we must become better acquainted." When assured that trey were merely Horticulturists, his interest and his presence rapidly faded away.

Mrs. W. A. Toole.

The Barrett Bulletins are very fine, contain much reliable information. Put out in attractive, understandable style; evidently written by experts.

(Continued from page 87)

Tausendshoen, Dorothy Perkins, Carmine Pillar, Excelsa, White Dorothy, Dr. H. Van Fleet.

Austrian Briars—Harrison Yellow, Persian Yellow.

To Members of The State Horticultural Society:

In order to secure renewal or extension of your membership we offer Free Plants, Bulbs and Seeds as follows:

Annual Members who make application before April 1st, 1925, and send One Dollar for renewal or extension of membership **and names of three persons** (adults) **who are not now members of this Society** are entitled to select as a premium one collection from Group 1 or two collections from Group 2 as printed in Supplement mailed with this paper. The premiums will be sent free postpaid.

One object of this offer is to secure new members and to do this we must have the names of prospects. To these we will send the Supplement. A Premium will be sent only to members who send names of 3 "prospects."

Life Members and members of local societies may participate in this plan on payment of Fifty Cents.

SPECIAL OFFER

Any member, new or old, life or local, who sends in new members, with one dollar for each, may select **one** collection or number from **Group 2** (**only**) for each new member secured. The new member is entitled to a full premium. This offer stands alone; you need not renew or extend your membership to entitle you to this premium. If you also renew you participate in both offers.

WHAT TO DO

(1) Read the Supplement.

(2) Fill in Coupon.

(3) Enclose One Dollar for renewal or extension of your membership and One Dollar for each new member.

(4) Write your names and addresses plainly.

(5) Select your premium, one collection from Group 1 or two from Group 2, also one premium from Group 2 for each new member.

(6) Order by Number only.

(7) Do this *now*. It must be done before April 1st. WE WILL DO THE REST.

Remit by Money Order, Draft or Check, but *Do Not Send Postage Stamps*, to Secretary, State Horticultural Society, 701 Gay Bldg., Madison, Wis.

The following persons are not now members of the State Horticultural Society:

NAME	ADDRESS

Write Plainly — **More than three names if you like**

SUPPLEMENT
Wisconsin Horticulture

Volume XV | Madison, Wisconsin, February, 1925 | Number 5

Plants, Bulbs, Seeds, Free

To All Who Are Not Now Members of The Wisconsin State Horticultural Society, Greeting:

We need you. We want you to know about this Society and to extend its benefits to you.

Here is our offer:—For One Dollar and names and addresses of three persons not now members of this Society you may have:—

(1) Wisconsin Horticulture, a 16 page monthly magazine one year. (See prospectus of magazine, p. 4. Also send for sample copy.)

(2) Membership in the State Horticultural Society for one year. A privilege and an honor.

(3) A Copy of the Annual Report of this Society, to be issued soon, which will contain lists of fruits and ornamental plants adapted to Wisconsin and 20 excellent papers and discussions presented at the Annual Convention, Jan. 14 to 16, 1925.

To the first 350 applicants in addition, a copy of the 1923 Annual Report. Surplus copies; ready for delivery; just as good as the 1925 Report.

(4) A copy of the "Wisconsin Garden Book" a valuable guide to the amateur gardener, written by experts in simple language, the A. B. C. of gardening. Nine chapters: Getting Ready; Hints; Early Plants; Garden Soils; Sowing Seed; Tillage; Pests; Strawberry and Raspberry Culture; Fruit Tree Culture. 55 pages, 4 x 6 in. Prepared and published by this Society.

(5) **Your choice of the following collections of seeds and plants free, postpaid.**

Just a minute please, before you begin on the premiums; we want to tell you:—

Why We Do It

For two reasons: First, to increase membership in the Society. We have only 2300 members and ought to have ten times that number. Very few people know about the Society, its good work and of the benefits of membership. Second to make flowers grow where none grew before or to make two flowers grow where but one grew before. If you get a rose bush, a grape vine or a dahlia thru this offer and it gives you satisfaction and pleasure we have done what we set out to do, increase the love of gardens.

How We Do It

We are offering over two dollars for one.

The Magazine and other publications cost more than one dollar; the plant premiums if bought at retail would cost from 75c to $1.50 each. These plants and seeds are all furnished by reputable Wisconsin Nurserymen and seedsmen who rely on the advertising value of the offers to reimburse themselves. We pay the dealers 50 cents in Group 1 and 25 cents in Group 2, for these collections. We stand back of these plants and seeds; if not satisfactory when received send them to us and we will refund money.

How You Do It

(1) Send One Dollar and names of 3 "prospects", Money Order or Currency, (dollar bills travel safely) or Check. DO NOT SEND POSTAGE STAMPS.

(2) **Select your premium (s) by number, only.**

(3) Write your Name and Address plainly. You can always read these; sometimes we can't.

(4) Do these two things before April 1st, 1925. WE WILL DO THE REST.

Address letters, plainly, to

Secretary State Horticultural Society
701 Gay Building
Madison, Wis.

Do It **NOW.**

Write here names and addresses of 3 persons who are not now members and enclose with the dollar. **No premium will be sent unless this is done.**

Name	Address
.....	.....
.....	.....
.....	.....

Premium Offer, Group 1

Any person sending One Dollar for annual membership in the State Horticultural Society will receive all the benefits named above and in addition may select ONE of the following premiums which will be sent free, postpaid. Order by number only.

1. 1 Dorothy Perkins rose, climber, clusters of light pink blossoms. No. 1 Grade, extra fine stock.
2. 1 Rose, No. 1 Grade strong well rooted stock as in No. 1. Choice of Anna de Diesbach or Marshall P. Wilder, both red.
3. 1 Paul's Scarlet Climbing Rose, No. 1 Grade, same grade of stock as (1) and (2). This is a wonderful rose. It is not a high climber and may be treated either as a garden rose or for porch or trellis. The most satisfactory of our 1924 rose premiums.
4. 10 Gladiolus bulbs, 2 each Halley, Canary Bird, Empress of India, Herada and Porcupine.
5. 25 Choice mixed Gladiolus bulbs, containing such varieties as Pendleton, Panama, Schwaben, etc.
6. 6 Perennial Phlox, 6 named varieties. These are "Baby Phlox", strong well rooted young plants and with reasonable care will bloom this year.
7. 4 Choice Larkspur (Delphinium). Strong, well rooted plants.
8. 1 Clematis Jackmani, a well known climber, large, purple flowers.
9. 3 1 yr. apple trees, 1 each Duchess, Wealthy and Fameuse.
10. 2 Mock Orange (Philadelphus Grandiflorus), a strong growing flowering shrub, 10 to 12 ft. when mature.
11. 2 Bridal Wreath (Spirea Vanhoutte), a shrub too well known to need description.
12. 2 Snowberry, low growing shrub, 2 to 4 ft., with waxy white berries late in the season.
13. 1 Hydrangea Paniculata, a well known shrub. This is not the summer blooming variety known as "Mountain of Snow" but the late blooming variety. A well known and satisfactory shrub suitable for any location. Nos. 10–11–12 and 13 are stout, well rooted plants, 12 to 24 inches in height, in many cases sold at $1.00 each.
14. 50 Minnehaha strawberry plants. A new variety originated at the Minnesota Plant Breeding Farm. It has a "perfect" flower and will mature fruit if no other variety is planted alongside.
15. 3 Worden Grape Vines, 1 yr. No. 1 Grade and 3 Latham Raspberry No. 1 Grade.
16. 6 Grape Vines, 1 yr., 2 each Red, White and Blue.
17. 20 Everbearing strawberry plants. Strawberries until Nov. 20th last year. A source of never ending joy to the amateur as well as profitable to the market grower.
18. 6 Wilder Currant, 1 yr.
19. 1 plant each of following perennials, all strong, well rooted plants: Achillea; Campanula blue; Gypsophila (perennial Baby's Breath); Lychnis.
20. 1 Dahlia, Frau Geheimrat Scheiff, and 1 Dahlia, Manzanola.
21. 4 Dahlias, our selection.

We expect to fill every order but reserve the right to substitute if any number is exhausted when order is received. Order early.

Premium Offer, Group 2

Select any **two** of these collections. Order by number only.

Seeds of Perennial Flowering Plants

22. 1 packet perennial Gaillardia and 1 packet Sweet William.
23. 1 packet Shasta Daisy and 1 packet Delphinium, blue hybrids.
24. 1 packet Canterbury Bells and 1 packet Delphinium, white hybrids.
25. 1 packet Pyrethrum Hybridum, and 1 packet Pansy, Garry-nee-dule mixture.
26. 1 packet Alyssum Saxatile and 1 packet Yellow Columbine.
27. 1 packet Double mixed hollyhock and 1 packet Oriental Poppy.

Annuals

28. 1 packet Aster, Queen of the Market, early and 1 packet Salvia, Bonfire.
29. 1 packet Aster Branching, late, and 1 packet Helichrysum (Everlasting or Strawflower).
30. 1 packet Annual Chrysanthemum and 1 packet Giant Zinnia.
31. 1 packet Dahlia, mixed.
32. 1 packet Carnation (Marguerite) and 1 packet Baby's Breath (Annual).
33. 1 packet Cornflower and 1 packet Petunia, Rosy Morn.

Vegetable Seeds

35. 1 packet Asparagus, Washington Giant, rust proof and 1 packet Delicious Squash.
36. 1 packet Table Queen Squash and 1 packet Olds Special Earliana Tomato.
37. 1 packet Bonny Best Tomato and 1 packet Winter Watermelon.
38. 1 packet Kleckley's Sweet Watermelon, very early, and 1 packet Victoria Rhubarb.
39. 1 packet Banana Muskmelon and 1 packet Ground Cherry (husk tomato).
40. 1 packet Milwaukee Market Muskmelon and 1 packet True Hubbard Squash.
41. 1 packet Herbs, mixed (Anise, Caraway, Marjoram, Dill), and 1 packet Gourds mixed, 6 or more varieties.

42. 10 Gladiolus Bulbs, choice mixed.
43. 5 Gladiolus Bulbs, 1 each, choice named varieties.
44. 1 Dahlia, Henry Patrick and 1 Dahlia, American Beauty.
45. 6 Pansy Plants (Garry-nee-dule).
46. 3 Perennial phlox, 3 varieties (Baby Phlox).
47. 2 Delphinium, 2 varieties.
48. 1 Plant Anchusa and 1 Veronica, true blue. Strong, well rooted plants.

Prospectus Wisconsin Horticulture

A Wisconsin Magazine published by the **Wisconsin State Horticultural Society** containing each month articles on fruit, flower and vegetable growing written by **Wisconsin** growers for **Wisconsin** conditions.

Wisconsin Horticulture is not published for the purpose of making money but exclusively for the benefit of the **People of Wisconsin.**

It is for that reason in a class by itself as horticultural papers published for profit must cover the whole country, or aim to do so.

It is therefore better—for **Wisconsin** people, than any other horticultural paper published. It tells the best varieties to plant in **Wisconsin,** the best methods of cultivation for **Wisconsin.** It's a paper for the home gardener and fruit grower as well as for the big grower.

"**We Answer Questions**" is the slogan of the Society. Every question answered, first by personal letter and then in the paper.

Every dollar received for fees (subscriptions) and advertising is put into the paper.

Honest nurserymen advertise in Wisconsin **Horticulture** and only that kind. The other kind cannot buy space.

Something About the State Horticultural Society

It is purely an educational institution.

Its purpose the advancement of every branch of horticulture throughout the state.

Aims to accomplish this through publications, individual help and Conventions (two yearly).

Organized in 1865, being the legitimate successor of the Western Fruit Growers' Association which was organized in 1853.

Chartered by the State of Wisconsin in 1871.

Issues an Annual Report, containing articles by experts on orchard culture, small fruit and vegetable gardening and the decoration of home grounds. **Sent free to members.**

Publishes a 16 page monthly magazine devoted exclusively to fruit growing in Wisconsin. **Sent free to members.**

For One Dollar

You secure all the privileges of membership in the **State Horticultural Society** including subscription to **Wisconsin Horticulture,** 2 books and premium.

WISCONSIN HORTICULTURE

Vol. XV Madison, Wisconsin, March, 1925 No. 7

DOG'S TOOTH VIOLET—ADDER'S TONGUE
(Due in April in Wisconsin Woods)

HORTICULTURAL TRENDS AS REVEALED BY NURSERY INSPECTION RECORDS

By S. B. Fracker, State Entomologist

Instead of discussing insect pests which feed on flowers, vegetables and fruit, and plant diseases which cause them to rot and decay, subjects that have received attention on horticultural society programs summer and winter for many years, it occurred to me not long ago that some of the facts revealed by nursery inspection records might be of interest. We will therefore diverge somewhat from the usual subjects of entomologists today and branch into agricultural and horticultural economics.

The nursery business is the foundation of all fruit-growing and landscape architecture. If we add to it the production of flower and vegetable seeds, we may say that it is the foundation of all branches of horticulture. Unless nurseries produce and sell sound, healthy stock of profitable varieties, the orchard owner cannot plant them nor are they available for adorning the premises of home owners and the grounds of public buildings. The development of the nursery business therefore, shows the stage which horticulture has reached at any given time and indicates the direction in which it is moving. Nurseries hold an even more important place than this in their marketing of new varieties and the popularizing of those which have not come into general use. In this respect the nursery owner is a pioneer with his eyes ever on the future, and his search for new trees and shrubs that will prove profitable to him is a search for varieties of fruits and flowers which will prove more palatable and more attractive than anything the public has been using before.

The nurseries of an individual state such as Wisconsin do not, of course, reveal the only source of nursery stock available to Wisconsin growers. In fact, as this is known as one of the smaller nursery states it is probable that the public purchases considerably more than all the nurseries of the state produce each year. The reason the nursery acreage of Wisconsin is not as great in Wisconsin as it is in many other Mississippi Valley states is that young trees and shrubs have a somewhat shorter and cooler growing season than in the latitudes somewhat further south and it is therefore possible for the nurseries in some competing regions to produce larger trees which appear at first glance more vigorous, in a shorter length of time. Neither is Wisconsin quite close enough to the semi-arid regions where nurseries are few and far between, to compete on even terms with those nurseries located closer to the Missouri River.

Nevertheless, there is a good field for the producer of nursery stock and as we shall see in a moment, the acreage in the state has been increasing from year to year. Many purchasers prefer plants grown as far north as possible in order to insure hardiness which will stand the climate. For many reasons it is desirable for customers to purchase stock from nurseries operating in their own state and we doubt whether trees superior to those grown in the better Wisconsin nurseries can be secured anywhere in the country.

The variety of plant products covered in nursery inspection is surprisingly large. Probably to the average person the term "nursery stock" means little more than apple and shade trees and the ordinary ornamental and small fruit shrubs. The bulk of the acreage in most nurseries it is true are devoted to plants of this kind. There are, however, a number of special classes which may be of interest.

Several Wisconsin nurseries confine themselve to evergreens only, one devoting itself entirely to trees for the reforestation of large areas. Such trees are transplanted to the woods while still very small and the nursery therefore with its shaded seed beds of tiny evergreens presents quite a different aspect from the usual one with a line of general stock. Other special forms of nurseries are those devoted entirely to strawberries and raspberries while a number grow only bulbs and perennial plants. Even these are further specialized, there being a number of growers who confine their work to an individual species of plant such as dahlias or gladioli.

One of the most puzzling branches of the nursery business from the inspector's standpoint is that of the man who makes a business of transplanting native forest-grown trees and shrubs. When properly handled and regulated this is a perfectly legitimate line of work and provides for the conservation of a valuable natural resource. The most common way of handling the inspection is for the owner to designate particular plots from which it is expected to gather trees and shrubs and go over these carefully in the field. Another method which is sometimes used is that of inspecting the stock after digging and before it is loaded for shipment. As forest-grown trees and shrubs are as likely to carry insect pests and plant diseases as nursery stock secured from other places, the general, unrestricted transportation of such material is fraught with considerable danger for the areas into which the plants are carried.

A branch of this same line of work is the inspection of individual shipments of nursery stock and forest grown plant material at the Madison office. This inspection is becoming more volumninous each season. It includes in great part bundles of shrubs which home owners in one locality wish to send to friends or relatives in another. Many well-to-do city residents have summer homes in the forested parts of the state and often wish to have their caretakers send down material of this kind for the adornment of their city property. Inspections of individual express shipments are not great in bulk but numbered sixty-five during a three or four weeks' period in the spring and fall of 1924. Tourists are also given the opportunity of shipping their trees to Madison for inspection when the conserva-

tion warden finds them carrying such material but in most cases they seem to set little value on the trees and prefer to destroy them rather than go to that trouble.

Two special lines of work probably not represented at this meeting at all are the inspection of two different types of swamp lands. The first one to which I refer is the cranberry industry. New cranberry bogs are set out by using the cuttings of plants mowed from well-established bogs. Any cranberry producer who is planning to mow part of his acreage during the season is therefore likely to want to sell plants. Several owners specialize in this branch of the work, particularly when they are growing varieties of unusual merit or popularity. The number of applications for inspections of this kind has varied from none to fourteen during the past ten years. The total number of cranberry growers in the state being I believe, about ninety.

Another line of work of unusual interest is that which has been carried on by one young man in Winnebago county: Namely, the production of plants or seeds of wild rice and other swamp plants to attract game birds. The market for this material is among the members of hunting clubs, as well as private individuals who wish to improve the hunting on their own premises. In this case the inspection, which is made from a boat is perhaps less important than the examination of other classes of plants, as neither important insect pests or plant diseases are likely to be carried in the material, but the owner wishes to be covered in order that his shipments may not be delayed enroute in certain states. The business must be sufficiently profitable to attract competitors for we now have a second nursery dealing in the same products.

The first plate shows in graphic form the trend of the nursery business in Wisconsin during the past ten years and most resembles in general appearance a geological diagram of a cross section of the Baraboo bluffs. The mountainous area at the right hand side indicates the great increase which has taken place in the number of nurseries in the past three years.

At the base of the map are shown the number of nurseries limiting their sales to evergreens. Although the future holds out some promise for nurseries of this type it may be noted that there has been little development of the business as yet. Perhaps the leading effect of the federal and many state quarantines which limit the distribution of the most profitable of the evergreens, namely white pine, has had a retarding effect. The presence of white pine blister rust in northern Wisconsin will continue to prevent a large increase in the production of young white pine trees in this state but as the land owners and the state administration become more interested in reforestation, the production and sale of other evergreens will doubtless show a material increase.

The wide belt marked with horizontal lines above the one representing evergreens is that showing the number of nurseries selling general stock. It represents all those handling three or more different classes of plant material. Many of the nurseries included in this group also handle evergreens and practically all of them small fruit and ornamental stock so that the other curves on the diagram represent only the nurseries which specialize in one line.

The feature of interest in this diagram is that the increase in the number of nurseries growing general stock is not marked. There is less than a 50% difference between the number of general stock nurseries in 1916 and those in 1924.

The most consistent, healthy growth of any branch of nursery business is shown in the case of those nurseries specializing in ornamentals. These are located in and adjoining Milwaukee and the other larger cities. In number they have increased from 24 in 1915 to 65 at the present time but the increase has been steady and regular rather than sporadic, as in those producing small fruits. The situation here is an encouraging sign for general horticulture because it means a greater employment of the home owner's funds in the adornment of his property and a greater appreciation of the cultural and esthetic value of shrubbery and flowers.

The belt above the ornamental stock represents the small fruit situation, which is perhaps the most interesting one on the chart. For seven years, from 1915 to 1921 inclusive, the total number of nurseries growing only raspberries and strawberries and related plants varied up and down with a general upward trend. During 1922, 1923 and 1924 however, there has been a boom in this line of endeavor which has included all the leading small fruit growing areas of the state, in particular Bayfield, Monroe and Outagamie counties. Prior to 1919 we never inspected more than six small fruit nurseries in Bayfield county and they reported little business in the sale of plants. In 1921 this had risen to 15; in 1922 and 1923 to 34; and in 1924 to 51. In Monroe county the increase has been from 7 to 33 and in Outagamie county from three to ten. Apparently those who are growing small fruits have taken to heart the pessimistic viewpoint of the State Horticultural Society as expressed from three to six years ago and are doing the best they can to improve the situation by placing plants on the market. We must also assume that they must be finding a good sale for them or the increase would be neither so rapid nor would it have extended over a period of several years.

In the case of most agricultural movements of this kind, the more rapid the increase the more sudden the decline will probably be; whether that will be true of small fruit nurseries remains to be seen.

The few cranberry nurseries and one or two producing wild rice and other swamp plants are shown in the dotted border at the top. As a result primarily of the increase in the number of small

fruit nurseries, the record of the total number of nurseries in the state as indicated by the top line also shows a marked ascent during the last three or four years.

The next chart is somewhat similar except that it shows the acreage instead of the number of nurseries. The same markings are used as were employed in the first chart. The changes from year to year in the different branches of the nursery business are seen to be closely similar to those of the first chart but the widths of the various belts are entirely different. Those representing general stock, cranberries and swamp plants are relatively much wider than the ones showing evergreens only, fruits and ornamentals. This is because the average size of the nursery specializing in ornamentals is only two and one-half acres and that of those growing small fruits only one and one-half acres, while the average size of the ones growing general nursery stock in Wisconsin is between seven and eight acres; that of cranberries, 37 acres and of those producing swamp plants, over one hundred acres.

Of particular interest in this chart is the increased acreage of general nursery stock in 1918. The peak at that point is in itself a lesson in agricultural economics. It in the main represents the organization of a large stock company in the northern part of the state for the production of nursery stock. This company increased its acreage rapidly until it had more nursery stock growing than any other company in the state. Naturally, its means of distribution did not develop so rapidly; the manager found the competition with other nurseries both inside and outside Wisconsin more severe than he had anticipated, and after a re-organization of the company the stock was finally sold out and the entire proposition dissolved. Many companies and individuals have found that in case of any specialized crop or product the market must be gradually developed hand in hand with production or the result will be disastrous.

In working out these two charts it was our intention to see whether an increased price for fruit or an increased crop would result the following year in a larger or a smaller number of applications for nursery inspection; that is, whether either would stimulate or depress the sale of plants. It has often been observed that a long continued movement of this kind resulting either in prosperity or depression will have a corresponding effect upon the demand for plants. This was noted a decade or two ago in the case of the apple business, a series of prosperous years to the apple growers, mostly those in the west, resulting in the sale of hundreds of thousands of additional apple trees. Unfortunately, the statistics bearing on the crops of small fruits are very meager and unsatisfactory. No information on the value of strawberry crops in Wisconsin or that for the United States as a whole seems to be available. Attempts were made to secure data of this kind from the marketing services of both the state and the federal government but without success. Securing the information from season to season would appear not to offer any more difficulties than any other form of agricultural statistics and I would suggest that the officers of the State Horticultural society take up with the Marketing departments the matter of better market information and more accurate records on the prices and production of small fruits than is now obtainable.

In the case of cranberries, a comparison of the curves shown on the chart with the total value of the crop in the state shows the definite relationship which might be expected. That is, when the crop of a particular year is unusually valuable, the demand for plants the following season almost invariably shows an increase while if the crop has not been a profitable one the demand for plants, as indicated by the applications for inspection, is lighter. During the ten year period the most valuable crop was that of 1922 which was worth $550,000, while the one which brought the lowest returns was that of 1915, valued at $229,000. In only one year has the value of the crop failed to affect the number of applications for nursery inspections in that way and in both cases the changes from the previous season were very slight.

The records of another branch of nursery inspection carried on by the federal rather than the state government, may be of interest here as indicating the importance of one unappreciated branch of horticulture. That is the direct importation of plant material from other countries. During the fiscal year ending last June 30, 2,742 cases of bulbs were imported directly into the state of Wisconsin under regular permit. These bulbs were largely tulip, narcissus, hyacinth, crocus, lily of the valley and other lillies, in the order given. Assuming that each case contained 1400 bulbs which is the average for the United States, 3,838,800 bulbs are annually imported direct from foreign countries into Wisconsin. This does not include the number of bulbs purchased by Wisconsin growers from wholesale florists in other states.

In addition to those coming in under regular permit, special permits are required for the introduction of new varieties and necessary propagating stock of those kinds of plant material which are more likely to introduce insect pests or plant diseases. Such new propagating stock consists largely of gladioli, dahlias, iris, peonies and such woody nursery stock as ornamentals, roses, orchids and fruit trees. This material is not allowed to be imported on a commercial scale as it carries considerable risk of bringing infection or infestation. In addition to the special inspections required for it, the purchaser must agree not to permit it to go off his premises for three years after importation and to employ the original plants entirely for propagation rather

than for commercial sale, except when it is imported to meet other technical and educational needs. In spite of these close restrictions, Wisconsin has imported 123,000 plants and bulbs since these limitations went into effect in 1920. Most of these were of course gladioli, dahlias and iris but it is interesting to note that 24,900 ornamental and miscellaneous plants have come in under these restrictions as well as 1014 orchids and 495 roses.

Several recent developments have added to the technical difficulties of nursery inspection some of which may be of interest to the Horticultural Society. The one having the most wide-spread effect comes as a result of recent studies on the mosaic diseases of plants in particular those affecting raspberries. You will recall several newspaper stories of about two years ago based on a warning issued by the U. S. Bureau of Plant Industry as to the damage done black raspberries by a disease called "blue stem". It is not certain whether this disease, as originally described, is present in Wisconsin or not and if so, it is apparently of negligible importance, but a branch of the same investigation resulted in an advance in our knowledge of the diseases of red raspberries which had formerly been called "puckers" and "yellows".

The latter two are now known to be diseases of the mosaic type such as have already been described and studied on potato, tobacco, cucumber and other plants. The two forms, one now known as leaf curl, formerly called puckers, and the other as yellows or simply raspberry mosaic, appear to be two separate diseases, although they are probably transmitted by the same species of insect, *Aphis rubiphila.* Leaf curl is particularly destructive and raspberry growers are all familiar with the dwarfed and gnarled plants resulting from infection with this disease. Yellows is not as conspicuous in its work but is one of the causes of crop failure in plants which are of approximately normal size and vigor except for the yellowish, mottled appearance of the foliage.

Now that we have a fairly definite idea of the symptoms, it is possible to retard the further spread of these diseases by seeing that they are taken out of nurseries growing plants for sale. As they are generally distributed it has not been possible to apply these regulations suddenly. During 1923 and 1924 the method of roguing or pulling out the infected plants has been employed but as the percentage decreases it is expected that in an increasing number of nurseries plantings entirely free from these diseases may be developed. Largely as a result of these raspberry diseases, thirty-five nursery certificates this year were limited to particular varieties of plants. In most cases this limitation was to strawberries in order to provide against the sale of infected raspberry bushes from the same premises. In a number of cases owners had several blocks of plants, one or more of which were being used only for fruiting purposes and had considerable mosaic while others used for the production of plants were free, or nearly so. Thirty-three owners were issued certificates on the signing of special agreements or statements regarding the treatment of the infested fields or the limitation of their sales to certain ones of their plantings.

A second interesting development during the past season in nursery inspection has been the discovery of a comparatively new disease known as Maple wilt, caused by a fungus parasite. This was found in Milwaukee in some trees shipped two or three years ago from Pennsylvania. It is the first time the disease has been discovered in a nursery in the United States, although it is becoming fairly well known and is doing considerable damage on street trees in some sections of the eastern states. All the trees in this one block, that is, all those which came from the Pennsylvania nursery, were destroyed. The only other case of the disease observed in Wisconsin thus far was in a suburb of Madison two years previously.

The symptoms of maple wilt are a sudden wilting of the leaves on either a single branch or the entire top of a young tree. The leaves turn yellow and later brown, but remain on the tree. A maple tree infected with this disease is of striking appearance for most of the tree will have a healthy green appearance while one section of it will show the leaves turned brown as if that branch had been girdled or scorched. By cutting into the branch one can see that the inner bark has a greenish, (later a brownish) water-soaked appearance. The limitation of the work of the fungus in the tree may be determined in a general way by searching for the boundaries of this discolored area and if it has not gone too far, pruning will doubtless prove an effective control.

FERTILIZERS FOR FRUIT TREES

"What do your commercial fruit growers do about fertilizers? Is it a good idea to apply nitrate of soda every year?"

"Our orchard of 20 year old trees is well cared for, cultivated one way, fertilized every other year with barnyard manure until last year when nitrate of soda was used."

This description tells much but omits the essential information on which to base an opinion. Are the trees making a satisfactory growth and forming fruit spurs?

Roberts tells us that an annual growth of 12 to 15 inches seems to be most desirable. Such shoots, if afforded sufficient light by proper pruning, are more apt to produce fruit spurs than the heavier growth which is induced by heavy manuring. "Look at the trees not at the ground" is good advice.

THE FLORIST'S PAGE

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

NATIONAL FLOWER SHOW.

Milwaukee florists had their first taste of entertaining a national flower convention, the latter part of January and they like it. As in everything they do, they likewise put this show over with a bang. Everybody dug for expense money and when the bills were all paid, there was $200 left to return pro rata to the subscribers. The occasion was two annual conventions,—the American Carnation Society and the American Rose Society. Both societies brought exhibits to the show, though the Carnation Society showed by far the most enterprise. There are 368 members of the Carnation Society and over 3000 of the Rose Society. The officers of the Rose Society failed to attend, but our local growers and some of the commercial rose growers over the country shipped good rose exhibits and managed to make a good showing in Juneau Hall of the Auditorium. The Carnation Society comfortably filled Kilbourne Hall, using Walker Hall for their lectures. The most interesting lecture was that one by James Sykora, of Batavia, Ill., a commercial grower and graduate of the floricultural department of the University of Illinois, who told of the fine results attained by use of the activated sludge fertilizer produced by Milwaukee's new sewerage plant.

While the show was no prettier than the Museum flower show, some of the stock shown was finer. This is only natural because reputations as growers rise or fall on the competitive exhibits at these annual shows. The value of stock that will produce an exhibition bloom is much more than the commercial, everyday variety, and a single rose that is good enough to win first prize will be worth $25 or more. Therefore the roses that were shown were much admired by the visiting public because they were the best in the world.

Nic Zweifel, originator of the Edna carnation, that made Milwaukee famous, and secretary of the American Carnation Society had charge of the show and was assisted in his arrangements by the following members of the Milwaukee Florists Club. Wm. A. Kennedy, Jr., and Alfred Locker, in charge of carnation show; Wm. A. Kennedy, Sr., in charge of rose show; Herman V. Hunkel in charge of finances; A. H. MacDonald, A. R. Leidiger, and Henry Welke, in charge of the lobby and FTD booth; C. C. Pollworth, hotel and banquet; Aug. H. Kellner, decorating and entry tags; Huron H. Smith, press; and Mrs. C. C. Pollworth, Mrs. Wm. Zimmerman, and Mrs. Wm. A. Kennedy, Jr., ladies entertainment committee. Admittance was by complimentary card on Jan. 28th and 29th and free to the public on Jan. 30th. Ten thousand of these complimentary tickets were distributed by the florists to their friends.

Out of town members were quite enthusiastic over the arrangements for the show, the auditorium as an exhibit hall, and their local entertainment. C. C. Pollworth, ex-president of the S. A. F. & O. H., gave a complimentary luncheon to attending officers of the S. A. F. & O. H. and exhibiting guests. The annual banquet at the Republican House at $5 a plate was one of the finest social functions and the best decorated that has ever been pulled in Milwaukee. Many Wisconsin State Florists attended. President Ernest Saunders, of Lewiston, Maine, of the American Carnation Society brought 15 members from New England, and the Chicago Florists Club came up on a special train.

Newly elected officers for the Carnation Society are: President, James Wheeler, of Natick, Mass.; Vice-president, W. A. Rowe, of Kirkwood, Mo.; Secretary, O. E. Steinkamp, of Indianapolis, Indiana; Treasurer, S. J. Goddard, of Framingham, Mass.; and Director, Alfred N. Campbell, of Strafford, Pa. Boston, Mass., was chosen as the next convention city.

Milwaukee Carnation growers are elated in winning their share of the prizes. Wm. A. Kennedy, Jr., grower for the C. C. Pollworth Co., won the Silver cup offered for sweepstakes of the best 50 carnations at the show, and won on the best hundred white, with Matchless, best 100 flesh pink with Surprise, best fifty white with White Delight, best fifty Laddie, best fifty of any variety grown in Wisconsin, Laddie barred, on Betty Jane, and a second on exhibitor scoring the highest number of points. Other winners from Milwaukee were: Wm. C. Manke, on Enchantress Supreme, of fifty Matchless, on fifty Enchantress Supreme, of fifty Edna, and on fifty Red Matchless; Grunewaldt Bros. on fifty Matchless; Greenwood Carnation Co., on fifty White Wonder, on fifty Winsome and on fifty Denver; A. R. Brueggemann on fifty Pink Enchantress and first on fifty Mrs. C. W. Ward; Edwin Zacharius first on fifty Belle Washburn and Wm. R. Schroeder on fifty Winsome. The E. Welke Co. won first prize on flower arrangement with carnations predominating. Other prizes went chiefly to the East. Two Milwaukee retailers deserve credit for exhibiting without hope of prizes. These were Fox, Inc., with a futuristic vase of Callas, orchids, snapdragons and greens, and David Marcus with a miniature tea party with dolls as guests. The fifty dollar silver cup guest prize on carnation arrangement went to Semler–Leidiger Co. The award of this prize was made upon a vote of the visitors at the show.

The silver cup offered on rose exhibits was won by Joseph Hill, of Richmond, Ind. They exhibited a new rose, "Gold Mine" for the first time, as well as some fine Templar, Leadeer, Claudius Pernet, Columbia, Premier and America roses.

New Carnations were: Johnson's Crimson, staged by C. B. Johnson, Woburn, Mass.; Happiness by H. W. Buckbee, of Rockford, Ill.; Eldora by Patten & Co., of Tewksbury, Mass.; Spectrum by S. J. Goddard, Framingham, Mass.; North Star and Radiolite, by Bauer & Steinkamp, Indianapolis, Ind.; and Sophelia by C. A. Schaefer, York, Penna. One of the interesting exhibits was a collection of cacti brought and exhibited by W. A. Manda, of South Orange, N. J. This class of material is very popular in Europe, where retail florists windows are full of it. Some of these tiny cacti no larger than a quarter were 17 years old. The beauty of these cacti is that they thrive in the torrid apartment house conditions of dry heat, and little ventilation, liking nothing better than a three months vacation period without water. Mr. Manda was even more interesting than his cacti. He knows plants to the nth degree, probably too well to make a great commercial success. He was in charge of the Gray botanical gardens in Cambridge when Asa Gray was still alive, and had working under him such famous men as Liberty Hyde Bailey and Wm. Trelease. It is a pleasure to meet a commercial grower, who is likewise a good botanist.

The show visitors abundantly OKed the Milwaukee florists and expressed their desire to come back some time to a National Show of the S. A. F. & O. H. at Milwaukee. That, perhaps, is putting it a bit too strong for us, because the florists would require strong financial support from the business men of Milwaukee to put it across. Cleveland and Kansas City raised over $80,000 apiece from outside the florists to stage the last and the coming national shows. There was a strong undercurrent of complaint against the various rulings of the United States Horticultural Board noted at the convention. It is said that the countries that have been prohibited from shipping various kinds of nursery and bulbous stock are indulging in reprisals such as the English ban on American-grown Irish potatoes and the Holland ban on fruit. All agreed that more care should be used by the Board in determining what varieties were free from disease, not disbarring entire genera when only one variety was known to harbour injurious insects or fungous diseases.

Huron H. Smith.

LIMITING FACTORS IN GROWING CURRANTS AND GOOSEBERRIES

There are four factors which limit the growing of currants and gooseberries in the United States. The heat of summer, the lack of moisture, the white-pine blister rust, and the currant maggot. Currants and gooseberries, both wild and cultivated, are responsible for the spread of white-pine blister rust, the disease which threatens to destroy much of the valuable white pine timber of the United States. For this reason the currant and gooseberry industry must be considered in connection with the preservation of the white pine timber supply.

In this connection a new bulletin, treating of the culture of currants and gooseberries and their relation to white-pine blister rust, has been issued by the United States Department of Agriculture, as Farmers' Bulletin 1398. The regions naturally adapted to their culture are stipulated and the regions in which they are prohibited by law are also named, together with the best methods to adopt in growing these fruits wherever possible.

White-pine blister rust on the white pines of our forests is caused by a destructive fungus of foreign origin. It must first grow on the leaves of currant and gooseberry bushes before it can attack and kill pines. The pines in an infected area can be protected from further damage from the rust only by removing all currant and gooseberry bushes from the area. Because of the blister rust, the culture of currants and gooseberries is restricted or prohibited in regions where the eastern and western pines, sugar pines, and other five-needle (white) pines are important.

Cultivated black currants, sometimes called the European or English black currants, are more susceptible to white-pine blister rust than any other type of currant or gooseberry. This species is the most active agent concerned in the long-distance spread and establishment of the disease. The growing of black currants, in home gardens as well as in nurseries and commercial plantings, should be entirely abandoned throughout the United States because of the importance of white pine and the relative small importance of the black currants.

Gardeners and others so situated that they can grow currants and gooseberries will find Farmers' Bulletin 1398 interesting and valuable help in establishing these fruits in the home garden. A copy may be secured as long as the supply lasts, from the United States Department of Agriculture, Washington, D. C.

THOROBRED STRAWBERRY PLANTS

"Are so-called "thorobred" strawberry plants worth more than plants of similar varieties that are not advertised as "thorobred"? Will it pay me to buy 'thorobreds' "?

Not unless the "thorobreds" are superior in root and crown development to other plants and freer from pests, insect and disease. Put this proposition up to the dealer in "thorobreds" and ask him to explain specifically how and why his Dunlap plants, for instance, are superior to others except as to the differences, if such exist, named above.

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THE CONVENTION

In writing up the Convention the editor is confronted each year with the same old difficulty: those whe were in attendance and participated in the program need no telling while to give anything of value to others would require too much space and would then be but the merest skeleton, dry bones without any meat.

There were no missing numbers and some of the papers presented are published in this issue. Others will be given in April and May. Many of the speakers had no papers prepared and readers will have to wait for these until the reporter's transcript is edited.

The attendance was poor, not over fifty outside of Madison registered altho a few may have neglected to register. This is discouraging. Also unprofitable. The attendance has decreased steadily for the past three years and this in spite of our best efforts to present an attractive program. No one finds fault with the program nor asks anything additional or different and yet but few come. It is not from lack of advertising. Our clipping service showed that over one hundred weekly newspapers in the state published advance notices of the Convention while sixteen leading dailies, including the Sentinel, Journal and News in Milwaukee carried special notices and in some cases "front page" news.

Local people must not be blamed too much, altho the editor silently curses at times when Madison people later call, write, or telephone for the very information given at the Convention, for 90 different organizations met in the capitol building in 1924. A really busy person could be excused for missing one of these altho it does seem as if Madison with a population of 45 to 50 thousand and Dane County as many more might reasonably send a couple of dozen.

However, be that as it may, the Executive Committee looks at things as they are, not as they might have been and has set out to improve matters. A committee on policy was appointed at this session and presented a report before the close of the convention which includes among other things of importance a recommendation that the annual convention for 1925 be held at some other place than Madison. The Executive Committee adopted this report and entrusted the Board of Managers with the job of carrying it out. Barring unforseen and unavoidable circumstances the plan will certainly be carried out. The board at this time does not solicit invitations. Other adopted recommendations of the Committee on Policy will be published as soon as the Board of Managers have perfected plans for executing them.

W. A. Toole was reelected President without opposition and J. E. Leverich vice-president. Of the three members of the Executive Committee whose terms expired two, A. K. Bassett and Wm. Longland were re-elected while W. E. Speiter replaces C. I. Brigham.

The apple show was good considering the season. The vegetable exhibit although it covered only two twelve-foot tables was remarkable for quality and as staged was far more attractive than any similar space occupied by fruit. To show that we are not unknown in the Vegetable Kingdom Mr. H. H. Harris of Warrens brought a squash which he found in his field bearing—on the shell—in raised letters, the words "Wisconsin State Horticultural Society." Anyway we have the Lord and Mr. Harris on our side if all others desert us.

Madison florists staged splendid exhibits of greenhouse plants and cut flowers and Wednesday noon, exactly on schedule a bunch of Milwaukee florists headed by Curt Riebs and C. C. Pollworth breezed in followed by a truck load of such roses, carnations, violets and corsage bouquets as we seldom see.

Mr. J. F. Hauser, much to his surprise and we believe regret, was awarded a cash prize for an extensive exhibit of Everlasting or Strawflowers. Mr. Hauser brings these flowers every year purely for the pleasure and satisfaction it gives to others; that we know.

Well, there you have it; the program was good; the exhibits were good, but nobody, hardly, came. Now we are going out to some other community for a year or more. We will see what we will see.

P. S. One important thing has been omitted; the Convention will be held November 17th to 20th.

HIGHLIGHTS ON THE CONVENTION

We intend to publish from time to time bits taken here and there from the 250 pages of transcript and as a starter offer you the following from Prof. Hottes' talk on Roses. Doubtless there were members who, before the Convention, questioned the wisdom, even the sanity of bringing a speaker from Columbus, Ohio to tell Wisconsin folks how to grow roses but the Secretary has known Prof. Hottes for a long time. If there is anyone who heard him who is now in doubt that it was worth while let him speak out. No response. We will then proceed. Prof. Hottes might not qualify as a rosarian in a botanic garden, or he might; he might be thrown out of a nurserymens' convention, probably would, but whenever and wherever he talks to real flower lovers they listen and go away with an increased love and devotion for their favorite flower. Custom and courtesy required that I send Prof. Hottes the transcript of his talk and the accompanying discussions for revision. He returned it with the opinion that it was a hopeless task and so far as his part was concerned not worth while, "just a conversation;" therein lies a difference of opinion. Prof. Hottes had been pleading for a trial of the choicer roses even if such required extra care rather than to take the line of least resistance by planting only the "ironclads."

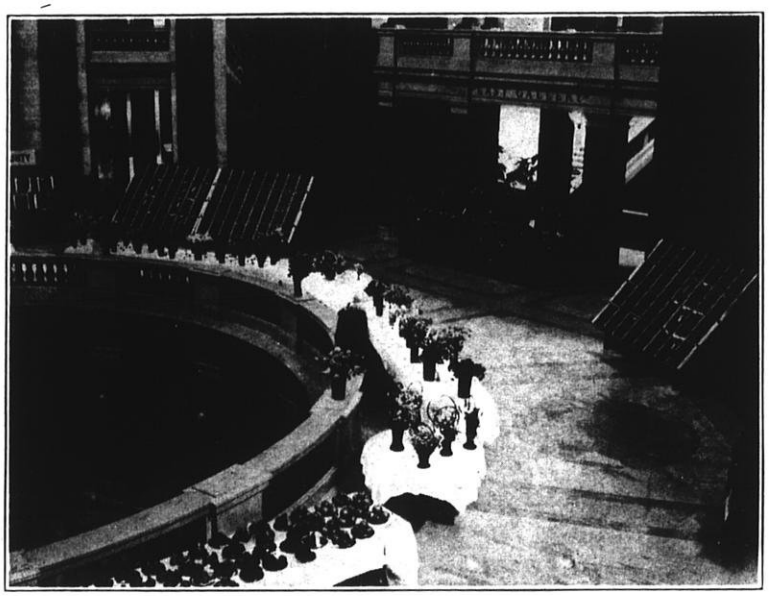


Fig. 1. A Section of the Grand Rotunda State Capitol, Convention week. Photo by H. H. Smith.

This is what then happened.

A member: "In making out my list of roses I was thinking of God's poor people. We can grow other roses, with protection. We can grow lemons and figs by putting them in the cellar and covering them up."

Prof. Hottes: I don't want to talk to God's poor people. You are a nurseryman and should so enthuse those people to love these things that they would not be God's poor people. I would rather see one person such a lover of a rose that he would have one bush that he would watch and worry over than I would that he should go to bed and sleep sound with the "hardy as oaks" varieties. The best is none too good. We want the very best. We like to say, "I've a rose that no one else has, the pinkest rose, the tallest bush, the cleanest foliage."

"People know that I am supposed to be interested in flowers and they come to me and say, "I passionately love flowers," and I know that what they mean is, "won't you give me some flowers because I am just a little bit lazy about growing them myself." "People who love flowers are just like the mothers who love their children and in spite of the fact that they do everything wrong they love them, they do not tell

Fig. 2. Exhibit Greenhouse Plants Annual Convention. Photo by Smith.

everybody "he is perfect," they just love them and care for them. The people who love flowers do not have so much time to gush as the people who don't grow them. People will tell you "it is too shady," "too wet," "too dry," "we haven't any water," right next door to some beautiful garden. They say, "some people can stick anything into the ground and it will grow." The person who buys a rose bush and walks eighteen steps from her back porch and plants it knows it is there. She knows it is not a cat or a dog and won't ask for a drink but she knows when it is dry and she waters it. Some people will say, "my roses are just covered with bugs." The way to kill the bugs is to put both feet on the ground and hit that bug as hard as you can with some insecticide. If no one was around she would pick them off with her fingers and say nothing about fungicides and insecticides.

That is the reason I do not talk to God's poor.

THE WHITESBOG BLUEBERRIES

A member asks,—Would you recommend growing Whitesbog blueberries?

The Whitesbog blueberries are improved strains of the Swamp blueberry, *vaccinium corymbosum* introduced by the Joseph J. White Co. of Whitesbog, New Jersey. It is commonly found on the edges of swamps and grows from two to four feet in height while our native blueberry is found on higher ground and on sandy soil. This tall blueberry is rare in Wisconsin if indeed it occurs at all. The improved Whitesbog strains have been tried out in the cranberry country near Wisconsin Rapids as shown by the following:

Wisconsin Rapids, Wis.—Among cranberry growers here who have been experimenting with the raising of the domesticated New Jersey blueberry, which grows as large as grapes, it is reported that the eastern berry has not proved a success. The plant from New Jersey has not been able to withstand the severe

winters of Wisconsin and a number of the plantings that were made here proved a failure through winter kill.

"The New Jersey blueberry at home does not have to endure the hard winters of Wisconsin because the weather in the East is milder, so that when the domesticated berry is planted here it is often killed during the winter," said E. P. Arpin. "I have not planted any blueberries, but some of our growers have so reported to me. But blueberries and cranberries make a good combination and we have a great deal of land here that is suited for blueberries. We will have to improve our blueberries and do what they did in New Jersey. There the big domesticated berry was produced by careful selection and breeding. It took years of hard work to do it but the same can be done in Wisconsin. We will have to come to it sooner or later.

"Fires are destroying many of our blueberries, now growing wild, just as they did the wild cranberries, and we will soon have to depend on the domesticated berry for our supply. Over in Minnesota they are raising the domesticated blueberry with success, but they had to breed their own variety in order to find a berry that would withstand their winters."

Mr. E. H. Thompson, Co. Agr. Agent, Webster, Wis., who is interested in the project has corresponded with several who have planted the tall blueberry and the answers received were conflicting.

The editor is of the opinion that further trials are needed. The Whitesbog blueberries are remarkable in size and bearing, that is, the genuine Whitesbog strains. Certain enterprising nurserymen in eastern states are offering "improved" varieties of blueberry, just how much improved they do not state. At present the only really improved varieties of the swamp blueberry are those offered by the Whitesbog company.

ABOUT GERMINATING ORIENTAL POPPY SEED

"In the August number, p. 181, Mr. Knight asked about germinating Oriental poppy seed.

Last spring I shook the seed from a pod taken from one of my plants on a bed of fine soil covered with burlap and kept wet with the hose until the little plants started then took the covering off. Last fall I had about a hundred plants 3 inches in height."

C. B. Montello.

SAY IT WITH FLOWERS, A MILLION DOLLARS WORTH

C. C. Pollworth, at Annual Convention

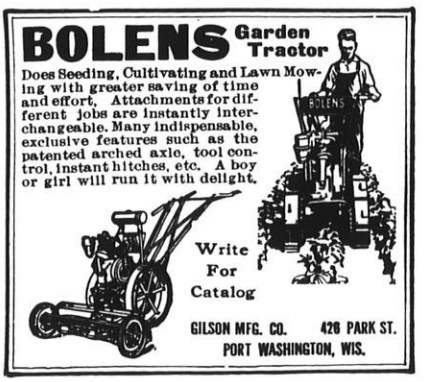
The American Florists' Association is putting on a million dollar campaign to interest the public in the buying of flowers. This million dollars has now been subscribed for and the publicity is beginning, and you, I know will feel the benefit of this publicity. We had a page in the Saturday Evening Post recently that cost seven thousand dollars. That may seem like a lot of money to spend for one page to advertise flowers, but why shouldn't we? The more people we can interest in flowers the better people we can make out of them. People with an article like soap that have a ten cent article to sell, spend three million dollars; chewing gum people spend several millions, so it is not too much for the florists to spend a million dollars.

A FEW QUESTIONS ABOUT FRUIT

"Is there any difference between strawberry plants of the same variety as grown by ——— ——— "thorobred" plants and ordinary plants?" Yes, the price.

"What happened to the famous Fifty Thousand Dollar Strawberry so widely advertised a year or two ago?" Echo answers,—What?

"Have you had any experience with McLean's Winter apple supposed to be similar to the Jonathan but much hardier? Originated in Minnesota." We have no information but will seek it diligently If any reader knows will he please write.



RASPBERRIES FOR HOME USE

"Please tell me what varieties of Raspberry to grow for home use in Red and Black, and which of the Red Currants."

"I live two miles south of the Wisconsin border line and two miles from Lake Michigan."

The Cuthbert is not excelled for quality and is an ideal red raspberry for the home garden. Market growers find Latham more profitable on account of its heavier yield. The Gregg, an old variety, still holds its own as a black for the home garden. The Wilder currant stands all tests.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

THE ANNUAL MEETING

We rally here at Nature's call,
In one united band,
And gladly answer, one and all:
We're here with heart and hand
To plead our common cause again,
To join in work we love.
And here to learn from fellow-men,
How we may still improve.

We ever strive to keep the good,
For progress, too, we stand,
For better,—more abundant food,
To beautify our land,
And bid our neighbor, fellow-man,
Come learn at Nature's shrine
To do the best that each one can,—
Such is my aim and thine.

So may our motto ever be,
As Nature's champions true,
To shield the flower, shrub and tree,
To stimulate anew
The cultivation of the soil,
The love of fields and flowers,
And gladden hearts bowed down by toil
Within this world of ours.

From song of Oshkosh Horticultural Society, written by U. P. Christensen.

I started out bravely, intending to "write up" the winter meeting —and I have filled the waste paper basket. I would need-not-a "page" but the whole issue of Horticulture; and even then I could not give you the personality and enthusiasm of the speakers: the pleasure of meeting and greeting the friends you have met year after year at the convention. Also the pleasure of seeing new faces—some one who brings new ideas—new gifts—for a convention is a place of "giving" and "getting". We "get" the things that will help us —sometimes it is just looking at the fine display of fruit and beautiful flowers—"talking with people you do not see three hundred and sixty-five days in the year." As one member said. And we give—sometimes the work that is an old story to you—is to some one else new—and helpful.

Wednesday evening was given over to the Women's Auxiliary. Mrs. W. A. Toole, presiding. The music by courtesy Wheeler Conservatory of Music, was most delightful. In the "Jam Pot," given by a group of happy children—we were transported to the pantry shelves—there to taste Jellies, Jams and Marmalade.

My Jewels—by Mrs. F. Horstman of Baraboo, was not a description of personal adornments, but a most intimate talk on why she grew and loved Peonies, "they were beautiful—they were hardy —no diseases to speak of—they bloomed freely—were splendid as cut-flowers you could even neglect them and still they would give you blossoms. In "everybody's garden" there should be Peonies."

Mrs. F. F. Bowman of Madison talked on the Arrangement of Flowers for the home. On the tables were baskets vases, bowls, large and small—filled with various blossoms artistically arranged. Mrs. Bowman emphasized the need of having at least a few flowers in our homes every day, for love and appreciation of flowers grow with intimate association.

The Illustrated Lecture on Shakespeare's garden by Huron Smith was different than other illustrated lectures because the pictures shown were taken by Mr. Smith on his recent visit to England, and he talked of the garden and Shakespeare's home in a personal way that was very enjoyable. Every member of the Auxiliary rejoiced over the well filled room. There were no empty chairs.

On Thursday, Mrs. R. H. Roberts assisted by Mrs. J. G. Moore and Mrs. F. Aust, entertained the Womans Auxiliary at a "get-together" luncheon. After the luncheon there was a short business meeting. Mrs. W. A. Toole being reelected as President, Mrs. F. X. Schoen Vice Pres. and Mrs. A. K. Bassett as Sec.-Treas.

DWARF FRUIT TREES FOR SMALL PLACE

"Will you please tell me what you think about planting dwarf fruit trees such as apple and cherry on a one acre tract? Are they profitable? We have built a new home and want some fruit trees.

C. E.

Dwarfed fruit trees are only for the amateur who has time and money to spend on luxuries. The trees are high priced and occasionally come true to description, more often the dwarf develops into a giant.

From a commercial or market standpoint dwarf fruit trees are unprofitable.

Much fruit may be grown on this acre and much profit derived thereby but not by planting it all to dwarf apples or pears. Particulars furnished on request.

P. S. We know of no dwarf cherry trees on the market.

A SNAP SHOT

At Annual Convention.

Member: "How old would an orchard have to be before it would pay overhead? I mean the ordinary standard varieties?"

Mr. Bingham: "It depends on your overhead, on your method, on how capable you are of cutting the corners. On how much work you can accomplish in a day with a crew of men. If you know how pruning is done rapidly and you can prune your orchard and do it pretty thoroughly and remove enough brush in a given length of time, and you know that your men, when you are not with them are accomplishing enough to make it pay or whether your pruning is costing more than you are going to get out of the apple crop in the fall. It is wholly a question of handling your orchard question economically. You can handle most any business extravagantly or economically. How you do a thing means whether you succeed or not."

WHAT IS THE MATTER WITH MY FRUIT TREES?

"What is the matter with my fruit trees that they do not bear, are about 12 years old, apple varieties of Jonathan, Wealthy, Baldwin, Delicious, Banana, N. W. Greening, also Lombard and Abundance in plums, soil clay loam, trees pruned some every year and sprayed, land has been cultivated, fair drainage. They have not yielded a bushel of fruit altogether."

This is a hard nut to crack. A bushel of fruit in 12 years is not enough. This is about what might be expected if the trees were all Baldwin but Wealthy! Can you imagine anything that could keep Wealthy from bearing for 12 years? All we can do in this case is to call for help. Only this guess; the trees on rather low land, abundant moisture, rich soil, pruned and cultivated, have been making wood at the expense of fruit; or else the trees are in a low spot where spring frosts catch the blossoms.

U. W. HONORS 4 FARMERS FOR AGRICULTURAL SERVICE

Madison—Four Wisconsin farmers and one Missourian received the honorary recognition conferred by the University of Wisconsin for signal service to the agriculture of the state at special services for that purpose held here Thursday night in connection with the annual Farmers' and Home Makers' week. The four men are Richard M. Smith, Marinette county; Frederic Cranefield, secretary of the state horticultural society, Dane county; John Davidson Imrie, of Roberts, St. Croix county; Newell Edwin France of Platteville, Grant county; and Nicholas Hocker Gentry of Sedalia, Missouri.—Appleton Crescent, Feb. 7th.

HORTICULTURAL TROUBLES

Edited by E. L. Chambers, Assistant State Entomologist

THE CURRANT WORM

(By E. L. Chambers.)

The chief insect enemy of the currant and the gooseberry bush is the imported currant worm (Pteronidea ribesii Scop). This common injurious saw fly, although a native of Europe, has been established in this country for many years, being introduced about 1858 and it now has become quite generally distributed throughout the United States. The larval stage or "worms" feed on the leaves and when abundant they make short work of the foliage soon after it has developed, and as a result the production of the fruit is greatly checked.

What is more aggravating than to find upon investigating the progress of a promising currant crop that the bushes have been completely defoliated by these worms? It is such sights as this that makes one glad we now have a "Quarantine 37" to stem the tide of such vicious pests into our country.

This pest, however, is easy enough to control when taken into hand before it gets too great a start. Its control consists in spraying the foliage with arsenate of lead at the rate of two or three teaspoonfuls per gallon of water in which an inch cube of soap has been previously dissolved. To be effective this spray should be applied as soon as the leaves have opened or at least as soon as the small worms appear. Usually one treatment will be sufficient but if the first brood has not been effectually controlled and a second brood becomes a severe menace after the fruit has become well formed they can be checked by dusting fresh hellebore over the plants. This should be thoroughly mixed with air slaked lime or gypsum at the rate of one part of the former to five of the latter.

If you are bothered with this pest every year now is the time to get your poison on hand, and do not wait until the worms get half grown before you apply it but have the material applied just as soon as the eggs hatch.

The adult saw fly is about one-third of an inch long with a pale or reddish yellow, rather stout body, with dark spots. It passes the winter in the ground within on oval brown cocoon. In the spring about the time the green tips of the leaves begin to appear from the breaking buds the adult emerges and the female lays her eggs in rows on the leaves, generally on the under side and along the veins. The newly hatched larvae are witish at first but after feeding a while become green with black spots and a black head as shown in the figure. Following a period of a few weeks feeding and completing its growth the larva descends to the ground, if not poisoned where it pupates and an adult emerges later and a second generation is started.

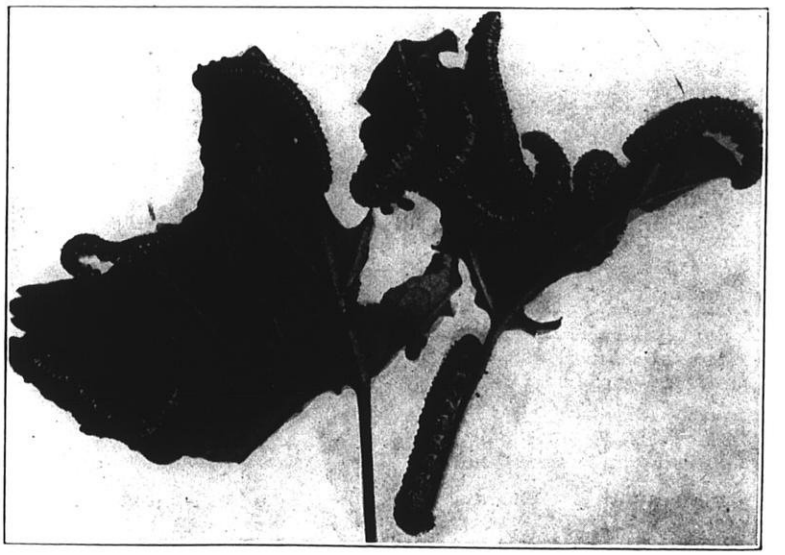
"THE STONE REJECTED BY THE BUILDERS"

Which shall it be, many small orchards or comparatively few large ones? Moore said small ones, Cranefield said large ones. The answer is, Both!

Twenty years ago apple growing in Wisconsin was in a bad way, thousands of neglected farm orchards and mighty few large ones.

In an effort to develop the resources of our state, to make an apple barrel or two grow where only milk cows grew before, the Horticultural Society directed its efforts mainly toward building up fruit centers, large commercial orchards grouped so that there might be enough fruit in one place to at least create a smell and maybe load a car, a real business conducted on business principles. It has happened. In the meantime Prof. J. G. Moore while aiding and abetting or, we should rather say, leading in this movement thru teaching and research, never lost sight of the tens of thousands of farm orchards, ten to fifty years old.

"The trees are here; what are we going to do with them? They are now a liability. Is there no way to make of them an asset? Or words to that effect.



The Common Currant Worm.

"There is place for both small and large orchards but they must be the same kind of orchards, well kept and producing clean marketable fruit." Or words to that effect.

Thru Prof. Moore's efforts we now have spray rings, pruning demonstrations and other helps. It has happened.

At the Convention Prof. Moore arose and spoke substantially as follows:—

"Not long ago I was at a meeting where an Animal Husbandry man was giving a talk on the subject "More Better Live Stock."

I think that is a very good basis on which we might develop a motto "More Better Fruit." The first thing we need in horticulture in Wisconsin is not more fruit but it is that more of the fruit which we produce be good fruit. The question is, how are we going to get it? At present we are getting some good fruit from our commercial orchards but Wisconsin has comparatively few commercial orchards and the extent to which the commercial industry can be developed by the men now in it is relatively limited. If we expect Wisconsin to develop in the future into a recognized fruit producing state, it is my judgment that we will have to look to that development largely through the medium of the home orchardists. This can only come about by interesting the home orchardist in the growing of fruit to the extent that he will take care of his orchard so as to produce fruit of a character which will find a ready market in case he has more than he needs in his home. If he does this, the cash coming in from the sale of this surplus fruit will readily convince him that an increase in the size of the home orchard into a commercial orchard offers him a method of increasing the income from the farm, a thing in which every farmer is more interested at the present time than ever before. I do not mean that the present home orchardist is to become merely a commercial or-

chardist giving all his time to the care of the orchard, but that he will carry the orchard along parallel to other phases of farming, making it one of the primary interests of the farm rather than a side line which is given no attention, as is too frequntly the case at the present time. I can see no other way for a marked development in commercial orcharding in Wisconsin than through this source. This type of orchardist in the main would not be one who would be concerned in supplying the distant markets. He would not be sending his fruit to Chicago or Kansas City or somewhere else to compete with the present commercial growers. His fruit would go to supply his local market and the neighboring farmers who do not produce sufficient fruit for their homes, thus giving them a much more convenient source of good fruit than is now possible.

I believe that there is room for this kind of an orchardist in many parts of Wisconsin. We are, and have been for some time, encouraging this development through our orchard extension work and we are more convinced than ever that work with the individual home orchardist gradually leads to an increase in the number of commercial orchardists supplying the home markets. From this number who have their interest first aroused through supplying the home market, there will come from time to time those who will develop orcharding to the point of producing fruit for the distant market. Thus will commercial orcharding develop in Wisconsin until she too will be recognized as one of the great fruit states of the union.

APPLE ORCHARDING IN ILLINOIS

"Calhoun County (Illinois) in 1923 shipped out more than 500,000 barrels. The street leading to the landing at Hamburg, the principal shipping point, was closed to traffic that year and the street completely filled with barrels piled quite high awaiting shipment by boat. This fruit quite largely went to St. Louis by boat for sale or storage or to Alton, where it was loaded in cars for shipment to other markets. Apples are the principal crop of Calhoun County."

J. A. Garnier at Convention.

Altho some distance apart Door County, Wisconsin, and Calhoun County, Illinois, ought to cooperate.—Editor.

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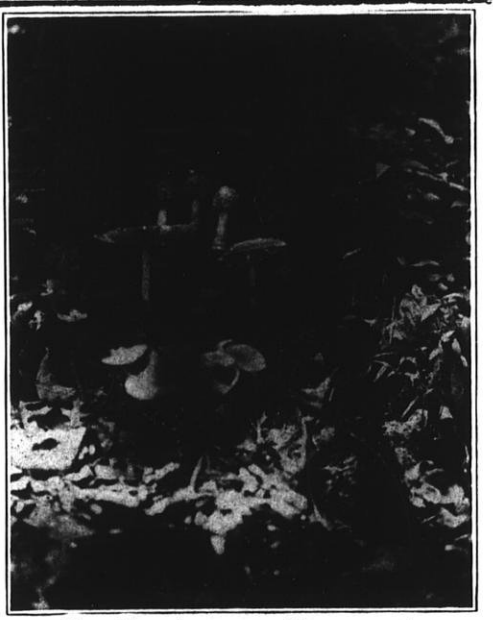

THE FLY AMANITA (POISONOUS)
Photo by Huron H. Smith

GRAPE GROWING IN WISCONSIN.

By Virgil Fieldhouse.

Grapes have been raised on the rolling prairies of southern Wisconsin for 60 years or more, and the Concord grape is a leader now as it was then.

Our home and grounds are located on part of the old Ellwood nursery and vineyard at Dodgeville, and we still have some vines said to be 55 years old. The first plantings were made here in 1865; and by 1880, 15 acres were devoted to the Concord alone. 1200 gallons of wine were made that year, and this seems to have been the principal way of disposing of the crop.

When I first saw the place 18 years ago there were still two acres of these Concords, mostly on stakes. We grubbed most of these out in recent years; because while there were not many gaps, we found that the vines would not properly ripen even a moderate crop of grapes. The clusters seemed to grow all right until ripening time, and then stay reddish and partly ripe until they finally had a dull appearance. The leaves on this old vineyard would be brown or gone before the heavy frosts. Perhaps potash or phosphate would have helped matters; but as we had a young vineyard we grubbed out the old. Besides, we did not care to sell third quality grapes when our new vineyard was producing large clusters of excellent quality table grapes.

These pioneers in grape growing in Wisconsin probably found that they could not well compete against the rapidly developing grape districts of other states where the climate was more favorable. Six years before the Ellwoods made their first plantings, Chautauqua Co., N. Y., had only 20 acres of bearing vineyards. By 1910, this one county had 30,000 acres. Time has proved that the climate of Southern Wisconsin with the exception of a few sheltered nooks does not allow the wholesale production of grapes on a paying basis.

I have given this early history to show also the hardiness of the black grape here, when properly cared for. We bury the new canes every fall if possible, and I have not seen or heard of serious damage by winter killing in this vineyard.

The certain favored locations to which I alluded are along the Mississippi river bluffs on rather low priced land. The Potosi growers produce large quantities of very fine grapes. The territory within a radius of 35 miles probably uses almost all of these.

On the other hand in the northern part of Wisconsin to quote Mr. Cranefield, "It is useless to attempt to grow grapes except for a vine or two in the back yard and these should be Janesville a Wisconsin cross, or Beta a Minnesota seedling, for no matter how well protected in winter nor how carefully tended in summer, the fruit fails to ripen before frost."

It is true that grapes, even in the southern zone of Wisconsin, are very uncertain as a market crop; but this has always given a fascination for the work to me. It is often a close race to ripen and pick most of the crop before the killing frost, but usually we win out by a narrow margin.

The most favorable location for the vineyard should provide a free circulation of air, and plenty of sunlight during the greater part of the day. Our own location is a very good example. It is on the south slope of a hill, sheltered from the north, but getting the full benefit of the south winds. Two rather deep valleys draw the cold air away on the first frosty nights, and often cause people to ask us how we escape the killing frosts that are occurring on the more level lands. This air drainage is a very important thing to consider in the location of your vineyard as it also helps to ward off fungi. Our clay loam soil on a limestone ridge produces a much sweeter and earlier grape than we used to raise on a level black soil 20 miles west.

The Moore's Early, Campbell's Early, Worden and the Concord are the best grapes for market, but the amateur may enjoy growing also the green and red grapes recommended in the Annual Report of this society.

The Moore's Early is about two weeks earlier than the Concord with us. In recent years, we have not been successful in raising paying crops of this variety; but have learned that it should have a richer soil, much more bearing wood, and that the fruit buds suffer more damage from insects. It is less subject to downy mildew than the later varieties. At ripening time, the wasps and hornets cause great waste and damage to the clusters. The Campbell's Early has a tougher skin and would thus be a better shipper.

The Worden grape may be the most delicious of the lot, or really nauseating according to the treatment of the vines. When well grown, the grapes are very large and formed very closely together on the bunch. Heavy pruning, a good trellis with the vines well spread, and removing some of the bunches in case of an overload will usually give nice fruit. The Worden cracks very easily, and even more so than any other black grape should be picked in the warm part of the day if possible. Altho we have calls for this variety for table use on special occasions, the uncertainty of the flavor of each bunch leads us to prefer selling them for canning.

The Concord is our main crop grape and is easily the most profitable. It ripens at a time when we suffer little loss from insects. When well ripened it is our sweetest grape, and each bunch can be relied upon to have a good flavor. Many people do not seem to know that the Wisconsin raised Concord grape is ever sweet; and their amazement when they first sample our product is always amusing and pleasing to us.

They also marvel at the size and beauty of the clusters no matter what the variety.

When you order your plants from the nursery, always get the best plants. We prefer the 1 yr. old No. 1 grade as these are usually the choicest vines. If you are planting only a few vines and want them larger to start with, get the best 2 yr. olds. It is best to have the soil well manured and disced thoroughly before planting. The plants will grow much faster if the soil is rich and kept moist the first year. I have noticed that writers differ as to whether the vines should be crowded more on a rich soil or given extra room. We certainly have not benefited by crowding. If the soil is found to be too rich after the vines are well started, something can be grown between the rows to take the surplus nitrogen out of the soil. It would have to be planted in hills at first so as not to interfere with cross cultivation.

It is best to cross cultivate for the first few years if possible. If you plan on a trellis, it should be in for the third year. Always use smooth, single wires. Amateurs sometimes get the bright idea of using woven wire. After the vines have twisted thru this, the only way to do a reasonably quick job of pruning is with an axe. Even the rusty barbed wire that the farmer sometimes uses, gives better results, altho it is dangerous.

Some claim that the amateur is better off with his vines on stakes; because he is not so likely to leave too much fruiting wood and so ruin his vines. That proves true in many cases. They also say that where the ground is not too sloping, even the professional should use stakes and cross cultivate to save hand labor. Personally, we have found that it must be a pretty level piece of ground with no surface water running onto it in rainy weather if it can stand cross cultivation for years and yet not wash so as to expose the grape roots.

Some advocate a perfect cultivation and absolute freedom from grass and all weeds, but I dropped that idea ten years ago and am thankful that I did. Our vineyard has no more gullies in it and is catching soil from the corn land above. The soil is full of humus from decaying weeds, and the grape roots are not exposed by washing rains. A grass carpet makes nicer walking for the pickers, and the grape vines can be covered much faster as there are grass roots to hold the soil in sods.

Our trellises were put in three years ago, and they enable us to grow much more first quality fruit from an acre of ground. The fruit can be spread along the wires nicely so as to be up away from the ground, lightly shaded with leaves and in a free circulation of air. The rows run east and west, but we cannot see that the vines are handicapped any. We had a neighbor once who, when building a chicken house, put half the windows on the east side and half on the west. He explained that when the sun wasn't in the east it was in the west. We could not run the rows orthodox fashion because of the lay of the land, but the sun stays in the south long enough to ripen the grapes as well any way.

As we have lots of other work, the weeds are usually nearly a foot high by the time we have the vines all tied to the wires, and are ready to work the soil. We plow the ground away from our vines every year, starting with a team and ending up with one horse almost touching the trellis with a six inch adjustable vineyard plow. We hire a slow steady draft horse and his driver for the finish, and choose a day when the soil is moist. The one holding the plow raises the point as he nears the grape trunk and the plow is often less than two inches deep when over the main roots. Then we start discing the soil back towards the vines. While there is still an open furrow next the vines, the narrow strip of sod is cut away with a shovel. When we drag, a rope is tied to the back of a single section to help in steering and dumping it. When necessary, the disc is reversed so as to throw toward the center of the aisle. It has been very difficult to plow or cultivate close on the lower side of the vines because the earth has worked down hill, so last year we started using a small road patrol or grader to grade up this side of the rows. This worked fine in the wide aisles, but the axle will have to be shortened before we can grade in the 9 ft. aisles. The ground is left level so that at picking time a wheelbarrow and a Ford car can be used for handling the grapes. Fall weeds or grass absolutely should not be allowed to grow up thru the vines as they rub the bloom off the grape bunches and prevent the free circulation of air.

I am not going to tell you much about pruning. Prof. J. G. Moore has written a very good bulletin, No. 134, containing that. F. F. Rockwell in his "The Little Pruning Book" gives the amateur some very good advice when he says, "There are two main facts which must be constantly kept in mind in pruning grapes; the first is that the fruit is borne only on shoots of the current year's growth; the other is that the grape vine, under culture, naturally attempts to produce several times the number of bunches that it can fully mature."

This sounds very simple, but very few amateurs pay much attention to the amount of bearing wood on their vines. A well-educated man, who had been in our vineyard many times and who had asked many questions decided one spring to prune his own vines, which had been neglected for a few years. A month later, I happened to see the vines "Why", I said, "You have cut off practically all the bearing canes. What you have tied up is wood two years old or more." That fall, he got so few grapes that he decided to quit pruning. If a vine has not been pruned for two years or more, the new wood may be very spindly, short, and located very far from the main trunk.

We have learned that when pruning neglected vines for the first time, it is well to leave many more buds than on our own regularly pruned vines if the main object is a good set of fruit. Of course, these vines really need a severe pruning to bring the bearing wood back close to the main trunk. I do not believe it is ever good policy to cut everything back to the ground to secure a renewal, as the setback is so great that the vine may even die. I think a neglected vine can be whipped into shape better, by leaving a trunk with a few buds on it.

Covering is not difficult or even slow if done every year. We do not even tip the base of the vine as has been suggested. We pin the canes down with a five tined fork and also stand on any extra springy trunk. With a shovel we skim off shallow sods from under the trellis, and throw them onto the new growth. The sods should always lie top outward so as not to form mice nests. Any vine that is too large and stiff to be buried is not pruned until early spring, and a renewal at the ground is secured when possible.

It is well to spray the vines to kill insects that eat the buds, and to ward off diseases. We pick off any harmful insects that we can find in the spring. The downy mildew bothered us last year for the first time, and we were very sorry that we had sprayed only once.

Drs. A. J. Riker and L. K. Jones, fruit disease specialists at the College of Agriculture have very kindly given their opinion as to future damage from this disease.

"Downy mildew of the grape is believed to overwinter on the young growth as well as on the leaves on the ground. A serious outbreak one year therefore provides an abundant source of infection for the following season. Practically each year, however, there is sufficient downy mildew to act as a source of disease in case weather conditions are favorable. The weather next season will therefore be a much more important factor in determining the prevalence of disease than the abundance of inoculum remaining in the vineyards this winter. The best control measure consists of spraying with Bordeaux 4-4-50, making the first application before the blossoms open and repeating four or five times, depending upon the weather."

We do just enough summer pruning to keep the grape shoots at least six inches above the ground as this makes cultivation easier; and by checking the wood growth, turns the vine toward the development of the fruit. We use an old style sickle and try to always leave at least two joints beyond the last grape blossom. The shoots that follow the wires can be let grow long.

When the grapes are as large as peas, we go over the rows, carefully shaking out any tangles of clusters and cutting any grape tendrils that are drawing shoots or bunches together. The value of leaving long arms on the wires rather than pruning to a more compact form, can readily be seen at this time. This shaking out of grape clusters makes easier and more rapid harvesting and also gives each cluster a much better chance to ripen evenly on all sides and in perfect shape. This work cannot be well done when vines are on stakes, and is another big point in favor of the trellis. If a vine is heavily overloaded, some clusters are removed at this time.

When fall nears, we go over the rows again and thin each vine down to the load that we think will ripen properly. The kind of growing season we are having and the apparent ability of each individual vine are carefully taken into consideration. We rarely leave over 80 good sized bunches on any vine, often 60, or fewer.

This policy of producing a moderate crop of well ripened grapes, and of trying to see that each individual vine does not over tax its strength, preserves the vitality of our vineyard and helps it to pass thru severe winters or drouths.

I have not told you how to produce the largest possible quantity of grapes; but when quality will bring more money, why overtax your vines with quantity?

I have not told you how to sell quality grapes, because they sell themselves. When people drive for thirty or fifty miles to buy them, when the big job is to satisfy the waiting line of out-of-town customers, when people ship them as far as Oregon or Florida, —the marketing part is a minor point.

HOW TO GROW ROSES

Compiled by A. J. Gemmill, Baraboo, secretary of the Sauk County Horticultural Society.

The Rose is the queen of flowers. From time immemorial it has held its place in the heart of mankind.

The satisfaction of having roses from June until frost will be greater than that derived from the growing of any other flower.

Rose bushes should be planted by themselves. Plant in the garden or make a garden for them. Do not plant in a hole in the sod. To grow roses properly, it is necessary that they have sunshine the greater part of the day. Avoid planting where trees and shrubbery will rob the roots of plant food and moisture. Do not plant anything between the bushes, as it will also take the fertility and water, and make stirring of the soil impossible. Cultivate the plants as you would potatoes. Soak the ground with water in very dry weather. About once a week. The better quality of roses should not be used in the place of shrubbery. We must look at the rose blooms and not the bush.

The rose does best in a deep, rich mellow soil, well drained. It is much better to plant them in groups or beds, where the soil has been specially prepared for them, rather than plant them promiscuously over the lawn or garden. Roses are gross feeders, and ought to have frequent application of fertilizer during the growing season.

and a good mulch of straw, etc., in July. Before they are planted the soil should be worked at least 18 inches deep. If the soil is not good, dig it out deep and put plenty of good soil and fertilizer below.

Roses are classified in the catalogues as hardy field-grown, and pot-grown varieties. The roses we buy are grown in the fields, and in order that there may be little delay in handling them, in the spring, they are dug in the fall. All through the winter they are dormant, unfrozen in the nurseryman's cellar. The rose plant should pass with the least possible delay from the soil in which it grew in the nursery, to the garden where the amateur desires to have it grow. Get a nurseryman's catalogue, and order two-year-old dormant plants early so that you can have them about April 1st. Dormant plants should be planted as early in the spring as possible. Cut the tops back to not over six inches, and cut out the small stems. Roses planted in the fall should be cut back the next spring. Plant deep so that the graft will be 3 or 4 inches below the surface of the soil. Watch for shoots that may come below the graft, and cut them out. It is better to pinch off most of the flower buds the first season. The climbers should be pruned in the same way the first year, in order to insure a bushy growth, rather than blooms. The roots should be spread out as much as possible, and the soil tamped firmly about them with the feet. The soil should then be thoroughly soaked. Fall planting is advised where good plants can be obtained in fresh condition, and gotten into well prepared soil in time to get a little root growth before the ground freezes deeply.

GROUPS OF ROSES

The two most important groups of roses, grown for cut flowers, as well as for garden display, are the Hybrid Perpetuals, and the Hybrid Teas. The H. P.'s. are not perpetual bloomers, but they are hardy and produce a large amount of bloom in June. The H. T's. have a longer season of blooming, and are of lovlier colors, but not so hardy, and will stand the cold, in winter, only when well covered.

There are also hardy Climbing Roses, including the Rambler group.

Some of the best H. P's. are: Frau Karl Druschki, white; J. B. Clark, scarlet; Paul Neyron, pink; Capt. Hayward, pink; and Gen. Jacq., crimson. Some of the best H. T's. are: Ophelia, white; Los Angeles, pink; Madam Butterfly, white and gold; Columbia, pink, and Red Radiance, crimson.

Some of the Climbers are: Tausendschon, also called Thousand Beauties, flesh pink; Dr. Van Fleet, pink; Climbing American Beauty, deep pink; Dorothy Perkins, pink, and Paul's Scarlet Climbers, scarlet. Plant climbers 1½ to 2 feet from the wall, if you must plant near the house.

If you have never grown pretty roses, plant at least two Hybrid Perpetuals this year.

PRUNING

The H. P's. and the H. T's. produce all the flowers on new wood, so there is no advantage in saving all the old wood. Climbing roses produce the flowers on the old wood, consequently, after the first year, you want to save as much of the old wood as possible. But the Hybrid roses should be cut back each spring to within twelve inches of the ground. Do this and you will be surprised at the beauty and quality of the flowers on long stems that you can carry by the armful.

The other branchy shoots, and the dead wood should be removed, as well as the short, slender twigs. This is all the pruning necessary for the climbers, and can well be done as soon as the flowers fade. Prune the Hybrids in the spring after the plants have started growth. All through the season the flowers should be cut off as soon as they fade, cutting back the stems upon which the flowers are produced. Always cut just above the bud pointing outward. This keeps the center of the plant open to admit light and air, and preserves good shape. If large, strong blossoms are desired, only one bud should be left on a stem. Sometimes a stem separates into two or more tips, each having several buds. If the tips are strong they may be left, but only one bud at the end of each, if they are to properly mature. In this manner large roses on strong stems, two feet long, can be grown.

Cut the flowers during the early morning, put them in a deep container filled with cold water, and place them in a cool dark room for a few hours. If cut while in the bud, you will be able to keep them for many days. When the roses have finished blooming, usually in July, each stem should be carefully pruned back to three or four eyes and the process of fertilizing, cultivating, and spraying repeated. In a few weeks you will be rewarded with roses just as large, just as strong, and just as many as you had in June. This applies more particularly to the H. T's.

INSECTS AND DISEASES

Insect enemies and diseases must always be taken into consideration, but these can be controlled. Red spiders, are two species of web-spinning minute mites attacking many plants, killing the foliage. Dust with dusting sulphur, or spray with water from the hydrant, with the garden hose. For the destruction of aphis or green and black fly, nicotine solutions will be found the most effective. Black Leaf 40, is the most economical of the nicotine extracts. It must be put onto the lice themselves. Use arsenate of lead for all worms or slugs that eat the foliage, and the nicotine extracts for all insects which suck the juices, but do not eat the leaves. Nicotine, and arsenate of lead, may be combined if both aphids and leaf-eating insects are present. Watch for those little green lice that suck the juices out of the tender rose stems. Black spot can not be cured, but must be prevented. To prevent black spot and mildew give the ground and the bushes a treat-

(Concluded on page 128)

THE FLORIST'S PAGE

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

MILWAUKEE'S 1925 SPRING FLOWER SHOW.

Milwaukee's 1925 Spring Flower Show is history. It is the most satisfactory history to Milwaukee Florists Club, because through it all there was no hint of personal advertising. Friday, 13,431 visitors came, Saturday 16,962 and Sunday 51,560 or 81,953 in three days, or 1,800 to break our record. Milwaukee felt that it was their show because it was held in their Museum-Library building under the auspices of the department of botany. A more beautiful building for a show would be hard to imagine. The rotunda is a work of art four stories high. Mitchell Park Conservatory filled it. The Park Commissioners like to help a city show. A large foliage group filled the center, built around a large palm, with Kentia, Raphias, Cycads, tree ferns, crotons and coleus. Between the columns benches and floors held spiraeas, crotons, the two cinerarias, schizanthus and ageratums. Between the two entrance doors a lofty Moorish window housed an artistic ensemble of Cineraria stellata edged with growing hyacinths.

The rest of the show was nearly a city block away, in the new Museum annex. However, a liberal sprinkling of signs and fifty Boy Scouts made the visitor eager for more. All during the show, one way traffic rules were enforced by the Milwaukee Police Force and after one crossed the covered bridge into the annex, the only way to get out was to pass each and every exhibit to the Ninth Street exit. The first room carried a warm suggestion of spring, with tables of cut and potted jonquils, double daffodils, early and Darwin tulips, hyacinths in boxes and cut callas. One of the cleverest ideas in decoration for the first room was a miniature set announcing the arrival of the stork. Pink sweet peas and Columbia rosebuds were entwined with white baby shoes; a tiny bassinet was similarly decked, and a metal stork carried the infant from his beak with a gauze veil.

The second room exhibited the main carnation show, calendulas, stocks, snapdragons, primroses of all kinds, Azalea indicas and Jap Azaleas, roses and spring baskets. Here too was a display of the Wisconsin Chapter of the Wild Flower Preservation Society of America in posters, literature and the society folk who fill the Director's chairs.

The main large room was very cleverly arranged somewhat after the manner of the S. A. F. Cleveland show, with a woodland dell on the stage. Milwaukee florists who saw the Cleveland layout, declare this one was more convincing. Many native trees had been forced, —white birch and pussy willow being the dominant features, but plenty of sugar and red maple, larch, white and black spruce, flowering dogwood and white lilac formed the background. On the rocky slopes, peeping through the moss, were yellow primroses, crocus, cinerarias, tulips, jonquils and several other spring flowers. On the forest floor, springing up along the dead logs were hyacinths, jonquils, daffodils, crocus and other spring blossoms. The center piece of the room was a diamond shaped group of potted and blooming plants large enough to stock the ordinary greenhouses. There was a wonderful collection of foliage and blooming plants, crotons, screw pines, sansevieras, cinerarias, genistas, tulips, hyacinths, rambler roses, crotons and orchids in pots. Grouped around the room were many dining table set-ups for every occasion,—the work of our retailers. While all were very effective, some were especially rare. There was a bride's table in white porcelain on a fine linen cloth worth $250 and the table as it stood without any table service at all assayed $750. The banquet table this spring carried a gorgeous centerpiece, with all colors of roses, wherein rested a group of colored porcelain parrots holding a garland of roses reaching to either end of the table. At each end of the table single light green porcelain parrots took up the burden. The whole was placed on a fine Italian table cloth.

Around the sides of the room were other tables supporting spring baskets and cut flowers of all descriptions. A dozen choice orchid hybrids from Mrs. Albert O. Trostel's greenhouses won admiration as the only examples of such crosses in the United States. A series of steps carried the offering of sweet peas, pansies and freesia, some fifty of them. Individual pedestals and larger wicker basket vases carried a wonderful series of bride's bouquets and corages. The north end of the room, as well as the dining service for all tables, were furnished by the Milwaukee Jewelers' Association. They produced a homelike effect in a dining room with buffet, table, tea-cart, serving table, chairs, and a very fine Brunswick-Radiola, dispensed music from coast to coast and Gulf to Canada. Flowers in their most expensive settings seemed as much at home as the costliest gold or silver container. From an overhanging balcony, flood lights picked out high spots and supported hanging baskets of orchids with pendant flower clusters.

In the first exit room were a group of the newer roses sent for the show from E. C. Amling & Company of Chicago. They were much admired because of their novelty. In the last exit room some oddities such as fruiting grape fruit and flower novelties were shown. A wonderful collection of huge flowered Amaryllis, showing color ranges, from the Forest Home Cemetery, made visitors think we had kept the best till the last. Here, too, was the finest Cineraries of the show, both C. cruentis and C. Stellata, and one of the stellata

was the heliotrope scented cineraria, we have mentioned before.

Every exhibitor was known by number and to give all due credit, we append the list below with as nearly correct a list of the exhibits as it was possible to get in those strenuous three days.

1. Mitchell Park Conservatory: Complete rotunda display, and all orchids there.
2. L. C. Eifler, 1330 Fifth St., City: Three baskets primroses, two pots of flowers.
3. Holton & Hunkel Co., 471 Milwaukee St., City: Huge central group, main floor.
4. Frank Dilger, 418 Pryor Ave., City: Seven bunches tulips; lots of fifty of white daffodils, Narcissus, Bicolor Victoria, and Von Sion.
5. Joseph Aumueller, 153 New Fond du Lac Ave., City: Four bunches sweet peas.
6. Thos. Griebler & Sons, 39th and Keefe Ave., City: Box hyacinths, dozen Callas, two Cotyledons, several bunches of pansies, mignonette, sweet peas and freeshia.
7. Sunny Point Floral Co., Sunny Point Rd., City: Five vases bulb stock.
8. Gust Pohl, 1405 Bolton St., City: Vase of snapdragons.
9. Schroeder Floral Co., 2401 Pease St., City: Vase Cupheae, Vase Rosalind carnations and Vase Livingstone's seedling carnations.
10. Grunwaldt Brothers, Cedarburg Rd., N. Milwaukee: Vase of Beacon carnations, two pots Primroses, pot of Cinerarias.
11. Riebs Bros., Cedarburg Rd., N. Milwaukee: Four vases snapdragons, five bunches sweet peas.
12. Roscoe Godfrey, Wauwatosa, Wis.: Vase Enchantress Supreme.
13. Greenwood Carnation Co., Cedarburg Rd., N. Milwaukee: Vase each of carnations — White Wonder, Alice, Enchantress, Matchless, Nebraska, Beacon, and two vases stocks.
14. A. Reinhardt, Cedarburg Rd., N. Milwaukee: Carnation vases—Enchantress, White Enchantress, Enchantress Supreme, Beacon, Radium, and Belle Washburn. Five vases stocks.
15. Frank Heyden, Green Bay Rd., N. Milwaukee: Basket Grenadier Sweet peas, six geraniums.
16. Fred J. Manke, Cedarburg Rd., N. Milwaukee: Three vases sweet peas.
17. Richard Lietz, 1433 Fond du Lac Ave., City: Five boxes hyacinths, box daffodils, two vases daffodils.
18. Frank Zacharias, Brown Deer Rd., N. Milwaukee: Vases Belle Washburn and Matchless carnations, vase forget-me-nots.
19. Heitman & Oestreicher Co., 56th and North Ave., City: Vase Winsor carnations and vase Calendulas.
20. Art Arndt, 494 Ludington Ave., City: Vase Callas, five vases sweet peas.
21. Norman Schmidt, River Rd., City: Three pots primroses.
22. Singer Brothers, Landscapists, 1662 Humboldt Ave., City: One begonia.
23. Herbert Johannes, 1261 Hopkins St., City: Vase Nemesia, four pots primrose, two pots cinerarias.
24. Unidentified.
25. Kochanski Bros., Hawley and Oklahoma Ave., City: Four vases sweet peas, two vases Callas.
26. West Allis Floral Co., 380 67th Ave., West Allis: Begonia, grape fruit and five Jerusalem cherries.
27. Frank Eberfeld & Sons, Brown Deer Rd., N. Milwaukee: Three pots daffodils, two pots tulips, box hyacinths, box primroses.
28. Fred Schwebke, Lisbon Rd., City: Vase Calla lilies.
29. Hugo Locker & Sons, Wauwatosa, Wis.: Vase Belle Washburn, two baskets spring, basket anemones, vase sweet peas, box primrose, bouquet Freesia.
30. Arnold Brueggemann, Hopkins Rd., N. Milwaukee: Vases carnations, Laddie, Ward, Pink Enchantress.
31. Lnor Floral Co., 279 27th St., City: Bridal bouquet.
32. Fox Point Floral Co., Fox Point, Wis.: Vase snapdragons, vase Calendulas.
33. Carl Menger, 536 27th St., City: Spring basket, box of flowers.
34. Fred Gutermuth Co., 815 Winnebago St., City: Large basket flowers, two pots Cinerarias.
35. Rudolph Preuss & Sons, 2602 Lisbon Ave., City: Two baskets spring flowers, shower bouquet.
36. Baumgarten, Inc., 93 Wisconsin St., City: Large cut flower basket, Table decoration.
37. C. C. Pollworth Co., 474 Market St., City: Three Easter Lilies, Spiraea, Rambler rose, hydrangea, orchid, daffodil, carnations—Edna, Surprise, Harvester; Roses—Premier, Golden Ophelia, Columbia, Butterfly, Mrs. Coolidge, 18 vases in all.
38. Ernst Praefke, 140 Concordia Ave., City: Seven pots Primulas, box primulas, four pots cinerarias, pot calceolaria.
39. Mueller Flower Shop, 1273 Hopkins Rd., City: Spring basket.
40. Fischer Floral Shop, 194 27th St., City: Colonial bouquet.
41. Gumz, Estella, 425 East Water St. City: Centerpiece cut flowers.
42. Wm. Zimmermann, 429 Grand Ave., City: Centerpiece cut flowers.
43. Otto Sylvester, Oconomowoc, Wis.: Vase Laddie Carnation, vase snapdragon.
44. Wm. Rayner & Son, Oconomowoc, Wis.: Vase Callas, vase violets.
45. Forest Home Cemetery, City: 24 pots Amaryllis, 20 pots cinerarias.
46. Semler-Leidiger Co., 419 Milwaukee St., City: Table decoration.
47. Skinner Floral Co., 1606 Wells St., City: Spring basket flowers.
48. James Fox, Inc., 437 Milwaukee St., City: Banquet table decoration.
49. Mrs. Albert Trostel, 850 Lake Drive, City: Twelve orchid plants, one cut orchid.
50. Edlefsen Floral Co., 280 3rd St., City: Bridesmaid bouquet and bride's shower bouquet.
51. Currie Bros., 348 E. Water St., City: Centerpiece for new born babe.
52. E. Welke & Co., 752 Third St., City: Table decoration.
53. Aug. F. Kellner Co., 1384 Humboldt Ave., City: Moorish window, large vase, Dorothy Perkins roses, cinerarias and pussy willows, assortment Darwin tulips and bulb stock, woodland scene.
54. M. E. Kroseberg, 185 11th St., City: Table decoration.
55. North Side Floral Co., 997 Third St., City: Spring basket flowers.
56. E. C. Amling Co., Chicago, Ill.: Seven baskets new roses.
57. Gimbel Bros., City: Basket Baby Rambler roses, Pernet roses for vases, centerpiece for table decorations.
58. Mass Floral Co., 128 Oneida St., City: The $750 white table.
59. James Livingstone, 1140 Lake Drive, City: Four large begonia.

A youngster whose questions had evidently been answered satisfactorily by his father said, "daddy how do you know so **much**"? We find this line by brother Mackintosh in the April Minnesota Horticulturist: "Keep that school girl complexion out of the rain."

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TURNING A CORNER

There has been considerable criticism by members in the past and there are still criticisms of the conduct of the affairs of the State Horticultural Society. This criticism, not always openly voiced, as it should be, centers around the undeniable facts that the business of the Society has been conducted wholly by the Executive Committee and the Board of Managers and that the Magazine Wisconsin Horticulture has been devoted wholly to information on horticultural topics and does not sufficiently reflect the activities of the Society. These things are true. I know they are true because they are the fruition of policies which I proposed years ago and were adopted by the managing boards.

When I began my first term as secretary, twenty-one years ago, the Society seemed to have no definite policy. The age of pioneering was nearly over and the Old Guard, that splendid group of men who had fought step by step for nearly half a century often through defeat and discouragement, that we "common people" might have fruits and flowers, were rapidly passing from the scene or resting on their past accomplishments. The scant appropriation was expended largely on conventions and on the Wausau "trial" or test orchard at Wausau established through the foresight and persistent efforts of Prof. E. S. Goff. The society then numbered 111 members.

Let me say here and now that no criticism of the men who then conducted the affairs of the society is intended nor should such be inferred; the society had in the natural course of events reached a turning point. We turned. The trial orchard work was extended so that at one time and another we have had 21 trial orchards. Some of them lasted only a year or two and only one of those under the original 20 year contract survived to the expiration of contract, the Poplar orchard.

These were busy years for the secretary. Inspection and care of 13 orchards, the peak, involving 12000 to 15000 miles of travel yearly, publicity campaigns to promote membership, publishing bulletins, another "trial" venture, answering questions by letter and in person, Farm Institute work, arranging conventions and other little chores kept him reasonably busy.

After a few years of trial orchard activity this field seemed to be fairly well covered and no new orchards were established.

In the meantime Wisconsin Horticulture was begun. Intended at first as a medium of exchange of ideas, a gossipy family affair, it has grown into something entirely different. Whether for better or for worse, who can say?

Five years ago the secretary proposed a new line of field work which was adopted by the executive committee; small fruit stations which were intended to prove, or disprove, that the raising of bush fruits and strawberries is a profitable occupation.

This work, on the whole, has not proven successful.

So here we are in the year nineteen hundred and twenty-five: No further demand for field work; membership which reached the high water mark in 1914 of 2500, of which 114 were life memberss, declining in 1924 to 2200, of which 317 are life members and held at this point mainly through accessions of auxiliary societies and by aid of plant premiums; conventions, although the programs are beyond criticism, poorly attended; more fruit grown than can be marketed profitably, we seem to have reached another turning point. Quite so. We have and we are turning and it is that of which I wish to speak, namely, an exposition of

THE NEW POLICY

The Policy, hereinafter set forth was adopted by the executive committee at the January meeting. It is new only to the extent that it was formulated by a special committee of members of the executive committee appointed by President Toole. The main features of the policy had been brought to the attention of the executive committee by the secretary in 1923 and 1924 and all of them laid before the committee at its first meeting Jan. 13, 1925. The rough outlines then presented were amplified and brought into a systematic whole through the untiring efforts of the Committee on Policy who worked unceasingly throughout convention week. Their report is given herewith. It should not be considered as a final or complete report, fixing arbitrarily the policy of the Society for any extended period but rather as concrete suggestions, a starting point on the new road

around the corner that we are turning:—Preliminary Report of Policy Committee:

In order to supply the need for a policy to substitute for the trial station work, now nearing a close, your Policy Committee recommends the following:

1. That the Society enter into a vigorous campaign for the development of interest in ornamental planting for home grounds and for civic improvement, and that wherever possible this work be carried out in connection with local horticultural societies.

This section is an urge to further efforts along lines already followed to some extent. Our efforts in the past have been but mild efforts; this urges a "vigorous campaign." Such is badly needed and is quite within the field of endeavor as stated in our Constitution. The suggestion that the work be "carried out in connection with local horticultural societies" is particularly appropriate as we have twenty-two strong local societies. There would no doubt have been added "and the horticultural department of the university" except that the fullest cooperation of these two organizations is always taken for granted.

2. That a definite organized effort be made to stimulate the growth and activity of local horticultural and garden clubs. This work is important enough to justify its becoming a major project of the Society. The work among these clubs to take the form of stimulation of enthusiasm and of activity insofar as possible along lines similar to the Society's projects.

While we seem to be strong in local societies I feel that this field has been merely scratched not at all cultivated. Our name "local horticultural society" might well be changed to "Garden Club." It's foolish to ask "what's in a name." There is great pulling power in a name. Scarcely a city or a town in the state but can and will support a Garden Club, affiliated with the state society and probably, for a slight additional fee, with a national organization. Hundreds of communities all waiting and ready to go.

3. That a more largely attended winter meeting be developed. That for 1925–26 the meeting be held in November, the week before Thanksgiving, and at some place other than Madison, and that the place selected should be one where active local co-operation can be secured for working up a good fruit, vegetable and flower show as well as for securing attendance from several adjoining counties.

This section does not contemplate permanent removal of the annual convention from Madison but merely a trial. See March W. H. P. 104. (A few words of the original section have been deleted here in order to avoid embarrassment to the board; we are working hard on this section.)

4. That, in order to conform with the spirit of the times, a program looking for the stimulation of consumption of fruits and vegetables, rather than for stimulation of greater production, should be undertaken. Because of the important bearing of new scientific discoveries upon the value of fruits and vegetables in the diet it should be easy to stimulate a remarkable interest on the part of the consuming public. The activities of the society should take the form, among others, of press clippings furnishing to newspapers, of a vigorous policy in our own paper, of an active cooperation with the University which will stimulate its departments to place the proper emphasis on fruit and vegetables instead of merely working for increased dairy product consumption, and also of a studied effect to enlist the support of every organized group in the state which can be of assistance in the campaign. We have in mind particularly groups of clubs such as business men's clubs, women's organizations, where a speaker might spend several days in a given locality, and we also feel that the use of posters, letters and speakers in connection with the schools should be highly profitable.

This section indeed breathes the "spirit of the times". Our horticultural crops are quickly perishable crops, berries, cherries and fall apples. Production has not outrun consumption or at least not potential consumption but has outrun distribution methods. Mainly this section is important in respect to the stand taken that we have been too slow or too modest in advertising our products and in stressing the importance of fruit in diet. The *great big feature* is the challenge to the dairy interests. This is the first time that our society, or so far as we know any horticultural society has dared to say openly what many of us have rather furtively hinted, that unless we get up courage to kick the dairy cow in the slats she will crowd us off the earth. If in our wild kick we should miss the cow and land on the rear elevation of the cow worshipers in the agricultural colleges no harm will be done, possiblly some good. There is much food for thought in this section; study it.

5. That the trial orchard and small fruit stations now operated by the Society shall be continued until such time as the purposes for which each plot was established has been fully accomplished. The discontinuance of any of these plots shall be a matter of decision for the Board of Managers when they feel that the proper time has come. For the present at least there shall be no expansion of this department of the Society's work.

Comment on this section appears in the beginning of this article. It may be of interest to know that the board of managers have put into execution all of the provisions of this section. Three small fruit sta-

(Continued on page 126)

HORTICULTURAL TROUBLES

Edited by E. L. Chambers, Assistant State Entomologist

HOW TO COMBAT THE APPLE APHIDS.

By E. L. Chambers

The apple aphids promise to be a very serious pest to the fruit growers of our state this season. Horticulturists who have had some experience with these insects will likely find their control even more complicated and difficult than ever this spring and from all indications those who have never taken the pest into consideration in their spray schedules will find it necessary to do so this year.

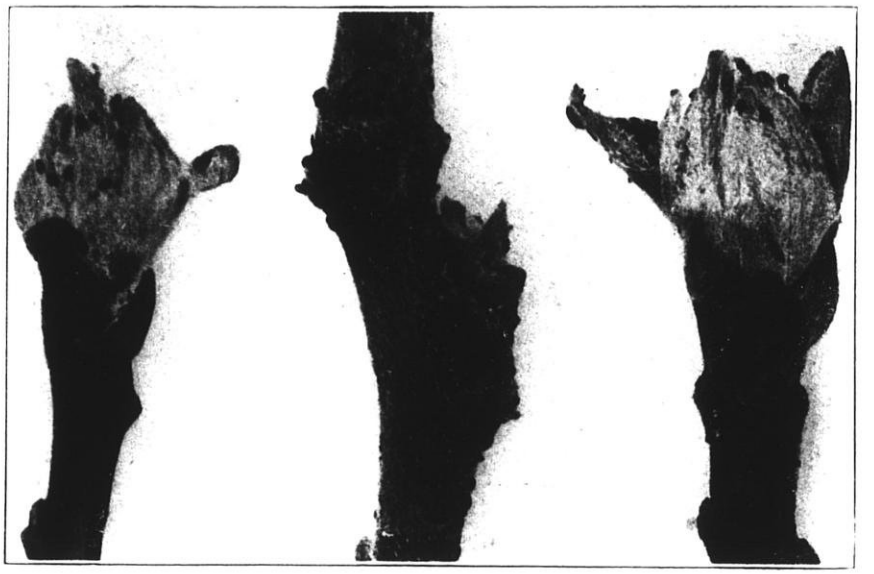
It will be recalled that the air was swarming with various species of aphids during the last few warm days last fall as the fall migrants were returning to their original host plants previous to laying the overwintering eggs. If the twigs are examined at this time they will be found to be literally plastered with dark green and black glistening eggs awaiting favorable conditions for hatching.

Although the aphid is one of the easiest pests to kill when hit by a contact spray and thoroughly covered, yet on account of the uneven period of hatching and ease with which this insect may be missed by even the best of applications it often proves to be a very difficult one to completely control. The difficulty lies of course in the fact that besides only those plant lice which are actually drenched by the spray being killed, the majority of sprays have no toxic effect as an ovicide and hence do not attack the unhatched egg.

Without a doubt the most effective spray for the control of plant lice in general is the standard nicotine spray consisting of Nicotine Sulphate (Black Leaf 40) used at the rate of one part to 800 parts of water and in which an inch cube of soap has been dissolved for each gallon of spray. This applied at frequent intervals will be found quite effective on a small scale. However, on a larger scale in orchards the best spray for controlling the apple aphids is lime-sulphur at dormant strength (1–7) with the addition of the above mentioned 40% nicotine at the rate of one pint in 100 gallons of spray material. (No soap should be added when used with lime-sulphur.) To be most effective this spray must be applied when the maximum number of aphids have hatched and before the leaves have begun to show more than a trace of their green, or at what is known as the delayed dormant spray. Too much emphasis can not be placed upon the method of application to get thorough and complete covering of every bud tip.

The standard oil sprays used for scale control with the addition of the nicotine sulphate at the above recommended strength are equally as effective and are preferred by some growers. Other growers prefer to use a dust and a 2% nicotine dust will be found quite effective if applied when the majority of aphids have hatched.

The chief factor accounting for the wide range in the control of these aphids is the fact that several species are involved. In Wisconsin we have attacking the apple principally three species, one known as the rosy aphis, another the green aphis and a third, the grain aphis. The importance of the various species is shown in the order named. These plant lice have come to us from Europe and they have been present and reported as injurious ever since the latter part of the first half of the nineteenth century.



A twig covered with the eggs of plant lice is shown in the center while the picture on the left shows the proper time to spray and the one on the right shows plant lice on opening apple buds at a time almost too late to spray.

Generally speaking, the life cycle of these various species is similar. All of these forms overwin-

higher ground and on sandy soil.

ter in the egg stage on the apple tree and the eggs hatch into females which continue reproduction at a very rapid rate by giving birth to living young for several generations and in the fall the males appear and mating takes place and the overwintering eggs are laid.

Only one of the three species, the green apple aphis, spends the entire season on the apple, the rosy aphis remaining only for a couple of generations, while the grain aphis migrates to grain almost immediately after hatching.

The young of the rosy aphis usually are found hatching about the time the buds are distinctly showing green. They are commonly to be found congregating on the flower stalks, the leaves surrounding the flowers, and even on the flowers themselves, while the green aphis which hatches at the same time seems to prefer the succulent shoots. Rarely are the rosy aphids found on the succulent shoots and when they are present they are on the under side of the leaves, curling them. In fact, practically all of the severe curling of the foliage is caused by this species. A single rosy aphis on the under side of a leaf will frequently cause the leaf to become tightly curled and only a few are required to cause all the leaves on a fruit spur to become severely curled and distorted. It is evident that when this pest is not brought under control and is allowed to become abundant and every leaf and fruit cluster on the tree becomes infested that the natural result will be a complete loss of the crop and a serious weakening of the tree.

Foot Note:—Illustrations were copied by courtesy of Dr. Robert Matheson from his article "Apple Plant Lice and Their Control" which appeared in the 8th annual report of the Quebec Society for the Protection of Plants from Insects and Fungus Diseases.

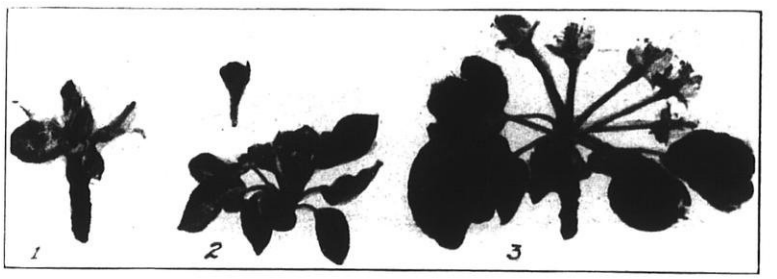
The new office of this society is at 233 Washington Building which is 119 East Washington Avenue. Further explanations elsewhere in this issue.

TO PREVENT WORMY APPLES.

By E. L. Chambers

One of the greatest problems the apple grower has to contend with in his business is the codling moth. It is the larval stage of this moth that attacks the apple and destroys its value by tunneling about the core and disfiguring it. As a result we have heavy losses from premature ripening and early dropping, all of which is a total loss, and when harvest time comes the remainder of the crop is usually found of little or no value.

The majority of the larvae of the first generation of this insect enter the apple through the blossom end or calyx. Although no injury may be apparent externally to the casual observer until the larvae have done their damage and have emerged, the presence of these "worms" inside the fruit is indicated by a mass of frass and droppings pushed out through the entrance openings. Once the worm has gotten established within the fruit it is beyond control and can feed to its heart's content until it is ready to leave prior to changing into its pupal stage and then becoming a moth.



Not content with the heavy toll taken by one generation a second generation does injury which is equally as serious by their habit of making entrance holes in the sides of the fruit just under the skin and feeding a short time and then often going no deeper. This leaves a severe injury on the fruit which is at this time almost mature and thus eliminates it from the best grades, especially when several such blemishes occur on the same apple. Besides making the fruit thus unattractive these injuries are a source of infection for the various rots which soon get a foothold and greatly reduce the keeping qualities of the fruit.

The insects winter as full grown larvae concealed under pieces of bark on the trunks of the trees and in May change to the resting stage known as the pupæ from which they emerge early in June as adult moths. The moth is a small ash gray insect which is rarely seen by the fruit grower on account of its minute size and habit of flying only at night. In from one to five days after the moth emerges she begins laying her flat oval white eggs on the leaves and fruit. The eggs hatch after a period of from five to fifteen days depending upon the temperature. After feeding for a short time on the foliage the minute larvæ make their way into the fruit, about 70% entering through the calyx where they continue to feed and grow for nearly a month. When full grown the larvæ are about ¾ of an inch in length, pinkish or whitish in color with a brownish head. Having made its growth the larvæ leaves the apple by burrowing out through the side and crawls down the tree until it finds a suitable place to hide itself on the trunk and then gnaws out an oval cavity and pupates. A couple of weeks later the adult moth appears to lay the eggs for the second generation larvæ. These after feeding a short time on the foliage enter the apple through the side about the middle of August.

(Concluded on page 126)

WOMEN'S AUXILARY PAGE

EDITED BY MRS. C. E. STRONG

Compensation.

For those who can't afford to spend
For hats and dainty frocks,
God has provided sun and, sky,
And birds and hollyhocks.

If I could have what fickle youth
Longs with such fervor for,
I might have missed the silver gleam
Of waves along the shore.

I might have occupied myself
With curlers in a row;
And never caught the calm of trees,
The purity of snow.

I think that God is wise indeed,
Who holds His gifts so high
That what He keeps to feed the poor
The wealthy cannot buy.

Helen Frazier Bower.

GROWING GLADIOLUS FROM SEED

The gladiolus is becoming one of our most popular flowers, because of its beauty of coloring, stateliness and lasting qualities as a cut flower. While the average person buys the bulbs—the flower lover who has the time enjoys growing them from seed. I have heard many people say, "this must be very difficult," but it really is not—as gladioli can be grown from seed as easily as many annuals. I have had seedling plants with buds showing color, in the fall from spring sown seeds. The seed should be obtained from a reliable seedsman—or if taken from your own plants, such plants as those which produce good bulbs, strong, straight flower stalks and large flowers of good substance should be chosen for seedling plants. Remove all the seed pods from the stem excepting two or three of the lower pods, when they are sufficiently ripened. Store carefully in a cool place until ready to sow.

The seed should be sown in the spring as early as the weather will permit. The soil of the seed bed must be light, rich and well worked, such as will not bake hard when dry. Make furrows one inch deep and about twelve inches apart; then pour water into the furrows until the ground is wet thoroughly; then sow the seed, not too thick, one to the inch is about right, fill in the furrow with fine soil and press down with a board, then cover with gunny sacks doubled and staking so the wind cannot blow them away. Do not let the ground get dry, it is not necessary to remove gunny sacks to water seed bed, sprinkle over sacks. If the weather is favorable and seeds have vitality, some of the seedlings should make their appearance within two or three weeks and then the covering must be removed so as not to smother the first plants. As gladiolus seed comes up very irregularly the bed must be kept as moist as possible in order to prevent a crust forming. After several sprinklings loosen up the ground so as to keep a fine mulch. Cultivation must be kept up all summer in order to keep the plants growing vigorously.

You can also germinate your seeds indoors thereby gaining several weeks—if you are willing to take some extra trouble. Take a good sized flower pot full of fine soft leaf mold and sift it. This must be of such consistency that when damp and squeezed in the hand it will shake apart readily; spread this soil on a piece of cloth and on this strew your gladiolus seed and mix with soil, gather up in cloth and place in pot keeping it nicely moist and in a warm room and in a short time the seeds will have all germinated; then sow out of doors in your prepared seed bed. It is very important to remember that you **must not** let these little seedling plants **get dry,** it will be fatal if you do. Cover the seed bed with the gunny sacks just as directed but as soon as the tiny plants show remove sacks and keep moist. Some plants will bud the first year, a good many the second year and all the third year. You must remember that among all seedling bulbs there will be many inferior varieties, small blooms as well as weak stems. These should be discarded when they bloom or if as is sometimes the case, they are planted so closely together that they cannot be dug up without injuring other bulbs, they should be labeled as these worthless ones mean extra work and care and spoil the looks of your gladiolus garden.

I have had as good success with field pollinized seed from my own garden as from hand pollenized seed; I have had as fine flowers from my own garden raised seed as from the expensive seed purchased. And it is not worth while to purchase anything but the best; but of course I have some of the finest varieties in my garden. Also one should know that taking seed from special plants to obtain certain colors cannot be depended on. I saved seed from certain plants hoping to get a particular color and of 250 seedling bulbs only two showed any color resemblance to the parent plants, but almost every other color imaginable. It's fascinating work, growing gladiolus from seed and you will soon learn to discard ruthlessly all bulbs whose plants and flowers do not come up to a certain standard. As an antidote for taking your mind off real or imaginary troubles I would suggest growing gladioli from seed.

EMMA L. GOELZER.

Again we invite attention to the American Rose Society. If you are a rose "fan" you cannot do without the Annual, Standardized Rose Names, etc.; if you want to expose yourself to "rositis" join the A. R. S. at once.

THE AMERICAN ROSE SOCIETY.

Organized 1899—Incorporated 1921

(The following is an unpaid advertisement designed to help the A. R. S., a non-profit organization. We feel that the A. R. S. is fully deserving of any aid we can extend.—Editor.)

OBJECTS

1. To increase the general interest in the cultivation, and to improve the standard of excellence of the rose.

2. To foster, stimulate, and increase the production in every possible way of improved varieties of roses suitable to our American climate and requirements.

3. To organize exhibitions of roses at such times and places and under such conditions as to rules, regulations, prizes, medals, certificates, etc., as seem best adapted from time to time to stimulate interest in the increased cultivation of roses in gardens, parks, and greenhouses.

4. To promote the organization and affiliation of local rose societies in the United States and Canada.

5. To establish fraternal relations for mutual benefit with national rose societies in all parts of the world.

6. To foster the establishment and maintenance of rose-test gardens in America, for the purpose of acquainting the people of the land with the best varieties of roses and their various uses.

7. To issue such publications as will serve to best promote the growth and improvement of the rose.

8. To stimulate and conduct rose hybridization and other research work upon rose improvement, and in regard to insects inimical to the rose.

The American Rose Annual is issued early in each year. It is a cloth-bound library volume of 200 or more pages, beautifully illustrated. Edited by J. Horace McFarland, it is really written by the enthusiastic members of the Society all over the world, whose experiences and rose notes Mr. McFarland weaves into an interesting fabric of information and inspiration to all rose-lovers.

Other publications include a Members' Handbook, giving names and addresses of the members, arranged both aphabetically and geographically, through which one may reach his fellow members; and Standardized Rose Names, an official list of all roses in American commerce, with synonyms and classes, sent on joining.

Rose-test Gardens are promoted in the various climatic ranges of the country, in order to determine the comparative value of varieties.

Research, and the study of rose diseases and insects, are actively fostered. The Society instituted the first definite pathological study of rose diseases.

Standards. The Society has issued regulations and scale of points for judging rose blooms and plants; rules for the Registration of New Roses; and an official list of roses of American origin.

Rose Pilgrimages are annually arranged in various sections of this country by the Society.

Free Advice to Members. The privilege of consulting a committee of experts concerning rose varieties, their habits, color, cultivation, diseases, etc., is available to members.

MEMBERSHIP DETAILS

All persons who care for the rose are eligible to membership. Experience or expertness in rose-growing is not essential.

Annual Members pay $3 in advance for the whole or part of the calendar year. They receive (1) the current year's Rose Annual, (2) a Membership Card, good for admission to any Rose Show controlled by the Society, (3) the Members' Handbook, (4) Standardized Rose Names, if not previously sent; and (5) advice and help as elsewhere mentioned.

Life members pay $50. Sustaining Members pay $10 annually, and Research Members $20 or more annually.

Affiliated Society Memberships, $3 each; for 10 or more members, 50 cents is returned for the use of the affiliated society; for 50 or more, 75 cents each is returned; for 100 or more, $1 is returned. Copies of the Annual and other publications are delivered for distribution by the Secretary of the affiliated society.

Address American Rose Society, Robert Pyle, Secretary, West Grove, Penna.

APPLE APHIS

While applying the dormant spray on my young fruit trees, 1 and 2 years old, I noticed a black gritty substance on the bark, especially in crotches of several trees. It resembles coal dust and when rubbed between the fingers it mushed up green. Now if you could tell me whether this is a pest and what kind of a pest, I would be pleased to hear from you as it is new to me; also if you know of a remedy please let me know."—H. J.

The State Horticultural Society has referred your leter of March 31, to the undersigned for reply. Judging from your description the black particles on the bark of your fruit trees are the eggs of plant lice which are unusually common this spring. Unfortunately the dormant sprays are not as effective as one might wish in killing them.

If you find the young plant lice on the buds a little later, add "Black Leaf 40" to the regular pink bud spray at the rate of half pint to fifty gallons of the spray material (one teaspoonful to a gallon.)

S. B. FRACKER,
State Entomologist.

TURNING A CORNER

(Continued from page 121)

tions have been discontinued and expansion in the remainder has ceased. Our contracts were so drawn that this could be done without prejudice or injury to either party.

6. That a budget system should be adopted, in order that the different activities of the Society may be more effectively financed, which divides by departments all such general expenses as traveling, printing and stationery, and which provides for regular reports to the Board of Managers and to the Executive Committee showing the progress of expenditures in each of the several departments. Your Committee believes that unless a budget is fully worked out some of the activities of the Society will be in danger of being curtailed at the expense of others.

Immediate action was taken on this section, the president appointing a budget committee which put in much time during convention week but was not able to give a final report. This committee plans to report to the board of managers before the opening of the 1925-1926 fiscal year, July 1st, 1925.

7. Your Committee feels that definite results on the above projects can be shown within a year if steps are taken to provide the necessary office assistance. It strongly recommends to the Executive Committee the hiring of a part-time or full-time assistant for the Secretary on such basis as will make it possible to expand the usefulness of the magazine and to enlarge contacts with local horticulturists throughout the State.

This is the section that is of most vital interest to the secretary and is of most far-reaching importance. In fact the entire policy hinges on this section. It bristles with difficulties but with none that cannot be removed. There is no need to go farther into this now; the board is wrestling with the problem and hopes to win. Members will be fully informed as things happen.

CONCLUSION

The responsibility for carrying out the policy rests with the Board of Managers. The Editor who is also, ex-officio, a member of the board of managers, secretary of society and member of the general executive committee, has been authorized by the board of managers to print this report and add such comments as he feels are shared by the board as a whole.

The New Policy cannot be summarized in a few words. The first thing to keep in mind is that it is a *preliminary* report which the committee offers; that changes will come as time goes on; that the field work as carried on in the past is to be discontinued; that aggressive campaigns are to be launched, one to increase the love of flowers thus making life more worth living and the other to compel the rightful recognition of our calling. We have turned the corner and we are on our way. Will you join the procession?

TO PREVENT WORMY APPLES

(Continued from page 123)

The habits of this insect must be taken into consideration in its control. Since the majority of the first generation larvæ enter the calyx end of the apple this fact is taken advantage of and a calyx spray is made when about two-thirds of the petals have fallen from the blossom to fill the calyx cup with poison before it closes up in order to have a meal of poison awaiting the hungry intruder. Thus we make poison his first food and consequently his last.

The standard control for this insect is arsenate of lead used at the rate of one pound in fifty gallons of water and since lime sulphur is necessary for the control of scab and other fungus diseases at this time it is usually combined, the lime sulphur being used at the summer strength of 1¼ gallons to 50 gallons of water.

The successful commercial orchardist applies at least five sprays during a bad scab year as follows:

(1) Prepink. Just a little earlier than Fig. I.

(2) Pink. When the buds appear like Fig. 2.

(3) Calyx. When the petals have fallen (Fig. 3.)

(4) 10 days to two weeks later than 3.

(5) 60 to 65 days later than 4.

The fourth spray is frequently very important especially if the curculio threatens to be serious as this is the proper time to get this pest under control.

Fruit trees, of course, should never be sprayed while in full bloom on account of the danger of killing the bees, which are performing a valuable service in pollination.

PHLOX

Hardy Phlox are among the most beautiful and showy plants of the Hardy Garden during July, August and early September. They will endure in light shade better than many plants but are at their best in the open. While the Garden Phlox needs plenty of water during the hot summer months when it is flowering, it must have a well drained soil to thrive. The variety Miss Lingard which is of a different species to the others requires an extra amount of moisture and will do well in soil that is too wet for other kinds. They will repay the extra labor and expense of making the soil quite fertile. The Phlox is quite hardy and does not require winter protection. It will repay to divide and reset the clumps of Phlox every four or five years.

Red Spider is the greatest enemy of Phlox. This may be kept in check by forcibly spraying the under side of the leaves with cold water from the hose. A very thin glue made by dissolving a pound of glue in four or five gallons of water and sprayed on the under side of the leaves is also effective.

W. A. Toole

JUSTUS SAYS:

PEACE.

There was once a man who was thought to be very wise, and he said many things about ruling a household, a city, and a nation.

It is but a slight stretch of the imagination to think of him saying of this present time, "How is it ye expect peace among the nations, when ye keep not your own laws."

A few years ago our country gave the voting privilege to our women; and the men thought there would be a change for the better in some things. Especially did the men look for improvement in the drink problem.

Now we loved our dear ladies, some of us almost worshipped them. We knew they had some faults, but we thought they were so much better than the men that there would be a moral revolution. We thought they would do all sorts of good things in the political world. We loved them because they are beautiful, because they inspired us to better things, because we just could not help loving them. We did not love their faults, but we loved them in spite of their faults. We still love them in spite of their faults and failure to do all that we hoped.

What has been the result of woman's suffrage? Simply a larger number of votes, with no particular change in results.

Now, someone's beloved is telling us we will never have world peace until the women take up the cause.

Would it not be better to clean house at home first? How about the liquor problem here? How about the murder problem? How about juvenile crime? There is much open defiance of law on many lines.

If the dear ladies could only see the opportunity before them and help us poor men to clean up, it would be a great blessing.

You brought us into the world, nursed us in sickness, you sent us to school and taught us while at school, you sat up nights to mend our clothes, you make our homes possible. We love you because you first loved us, must be the reason.

Now can't you see the hold you have for good? Grasp it, work it, and we will love you eternally.

JUSTUS.

CHANGE IN OFFICE

The offices of the State Horticultural Society are removed from 701 Gay Building to 233 Washington Building, which is at 119 East Washington Avenue. Reason, lower rent. Not so much scenery here but plenty of floor space. Visitors welcome. There is a nice elevator which runs up,—and down.

HOW TO GROW ROSES

(Continued from page 117)

ment of lime and sulphur, bordeau mixture, or sulphur arsenate (9 to 1). Do this early in the spring and repeat the application when the young foliage appears. You will not have all these troubles, but you may have some of them.

Winter Protection

The best roses must have winter protection. Winter protection is largely to prevent rapid change of temperature. Hardy and half-hardy plants will endure low temperatures if protected from rapid rise of temperature. Winter protection is for the purpose of preventing a sudden rise of temperature. Below zero weather at night followed by bright sunshine, and perhaps high winds, may cause a rise in temperature of fifty to sev enty-five degrees. Rapid change of temperature is what causes the damage. Shade from the sun must be provided.

Late in the fall, loosen the ground around the roots with a fork. Push the bushes over, tie the branches, and peg them down. Then hoe the ground up around the roots. The stems should be kept dry and have a little ventilation. Too much covering may smoother them. It is not the cold that kills, but the thawing and freezing. After the ground has frozen, the bent over bushes should be well covered with hay, straw, carpet, burlap or similar material, securely fastened. If covered before the ground freezes, mice may get in and destroy the stems. Remove the covering gradually in the spring, after the danger from freezing has passed.

Look at the roses in bud form, and then cut them in the morning with long stems, when just beginning to unfold their petals. Spread them about the community. Give them to some less fortunate, or entirely roseless friend.

APPLES FOR TREMPEALEAU COUNTY

"I am going to plant some apple trees this spring and would like to know which ones are the hardiest trees to plant in this part of Wisconsin." (Trempealeau County) P. H. J.

For a home orchard two to four trees each of Duchess, Wealthy, McIntosh, Northwestern Greening, Liveland Raspberry, Windsor and Delicious. Add two Transcendent Crab. Watch the last named for hold over blight cankers. If for market, the same varieties of apples but in different proportions, five per cent Duchess, ten per cent Wealthy, five per cent Liveland and twenty per cent of each of the remaining varieties. Leave out crabs. Ask twenty apple growers and get twenty lists, no two alike.

WISCONSIN HORTICULTURE

Vol. XV Madison, Wisconsin, May, 1925 No. 9

JACK IN THE PULPIT

MY JEWELS

Mrs. F. H. Horstman

Annual Convention, Madison

Jan. 15th, 1925

From Reporter's Transcript

I did not know the title of my talk before I got here and, seeing that I have no jewels in truth, the secretary must mean the things that I treasure most, and that must be my garden of peonies.

The thing that has attracted me to the peonies has been the personality of the flower. I do not know whether you may think that I do not know what I mean, but to me flowers have personality and personality plus, some of them. There is a something about the peonies that appeals to me more than any flower. I presume the fact that you can abuse the peony and it will go on furnishing its beauty for you as though you were doing your best for its care and the long-suffering of the peony and the richness of its returns to you, are something that have often appealed to me; perhaps because I am a teacher. You know that we have among our students those that respond readily and also those who do not respond so readily and it is the ones that react to our work that we cannot help but feel the closest feeling for.

Now in the peony, if I told you some of my experiences you would think that I have a great deal to learn still but I smile when I think of the many things that I have taken for granted and have had results because I did not know that anything else could be expected. The first peonies that I planted I waited until they got well up in the garden in which they were growing. It was one of our neighbors who was dividing the peonies and I waited until they showed color in the buds in the spring. Any peony grower will tell you that it is a very unheard of thing to transplant peonies in the spring, but we went on a rainy afternoon and got our peony roots and transplanted them. We took them when the color showed and we knew what we were buying. I was somewhat disappointed that they did not bloom that spring but the next year there seemed to be nothing the matter with those peonies—they did their full stunt. And since then I have wondered how they did anything. From that day to this those peonies have furnished their full quota of bloom every spring. There is no necessity of taking them up in the fall and putting them in the cellar and watching over them all winter to see that they do not get too damp and rot. That is the exeperience I had with dahlias. I do not grow them any more.

The peony garden grew from that stock and since that—fifteen years ago,—there has been so much of interest developed in the line of peonies that it seems as though it is a never-ending joy and source of interest. From year to year we have added to the peony garden and unlike many other flowers in growing it there never have been the disappointments that come from seasonal conditions or anything like that. For instance, two years ago we had sharp frosts late in the spring after everything else had started and that was the spring the Therese had been added to the garden. It had just been planted the fall before and I had read in so many catalogs that planting small divisions would not give you any results inside of two years. That year that small root furnished eight blooms. I could not account for it because I counted only four eyes on the root when I planted it in the fall but the explanation came later through Mr. Cooper. When he put out his fall leaflet he spoke of the fact that when the peony bud was spoiled by some untoward accident in the spring that the two leaf buds had grown so that instead of having four I had eight. So that is the personality of a flower that appeals to me. No matter what the conditions, it is always ready to give its full of joy and beauty.

Another thing that has always seemed of comfort to me; the peony may be abused but I do not know of any instance where it has been killed. It may be neglected and long-suffering but it is always there and year after year without cultivation, without any particular fertilization or anything being done to it, there will be that dependable bloom that can be counted upon in June. Then to think of the wealth of color and the wealth of different kinds. I do not mean kinds in varieties, but the singles and doubles and half doubles, all contributing their variation, that will lend interest and also attraction to your garden.

Another thing that makes the peony especially loved by me is the fact that the peony will go on and on and year after year. I think some-one made the statement that there was a peony in Maine that had furnished bloom every year for 125 years. The bloom was exhibited at a show in New York. Just think of planting flowers that will bloom for 125 years and still going strong. When we plant other things and they die out in the course of a few years we take it as the course of nature. Think of something that will last that long a time.

In Baraboo there is what we call the south side—that is over across the tracks and in the course of years the mill district has grown up along the tracks and it has been more or less unpleasant because of the heavy smoke and the traffic that usually is found around yards and the depot, but in front of one of the weather beaten houses, dingy because of the smoke and in the little space between the doorstep from the porch down to the street, like all such places look when children are accustomed to run across it, in that spot each spring there was one plant that grew and it was a single peony. The flowers are not large and as the half opened bud came up it made one think more of a pink rose than anything else. I used to pass that peony bush on the way to town and made special trips through that part of town when it was in bloom. I asked the owner of the place who is a fellow teacher, if some time she would let me buy a division of that peony

and she said, "Buy it? No, But you can take one off at any time. Be glad to have you. That peony means a great deal in our family. When we moved there, I think it was something like twenty years before, we brought that out from the old house where we lived. That is the one thing which connects the two places." It is sixteen years since we had that talk. Last spring it had its quota of bloom, beautiful as ever. That thirty-six years it has been going strong.

I presume there are a number of single plants that are marks of beauty that people consciously or unconsciously look for each spring. Another place we always look for peonies is in the cemetery. I did not know until I made a business of looking for peonies that they were so much of a favorite in cemeteries. But why not? There they will grow, neglect or not. They will live and bloom year after year. There are several plants in our cemetery that are referred to among flower lovers. They ask each other, Have you seen a certain bloom this spring? I remember last spring we took a whole afternoon going around looking for the certain plants that had been described to us; showing the interest that may be in plants people see from year to year. The length of time people can see those plants also makes it a great joy.

Whether there are pests or untoward things which hinder the growth of the peony or not, I have not found them. Of course there are ants that suck the juice of the peony. Some say they are harmless; others say, I think it is Mrs. Harding, that there is danger of their spreading fungus growth. At any rate, they are there and do not particularly disfigure the flowers.

I have heard people complain that they plant peonies and that they do not bloom. I have in mind a peony that was planted in the churchyard and one of the old parishioners had been watching that peony for thirty years and it never had had a bloom on. That was two years ago and we thought that something ought to be done. The rector was going to take it up and put in the alley. If it had kept that ground for thirty years with no return, something should be done. He dug it up and looked at it and said, It looks like a good root, I guess I will plant that peony and give it one more year. The next year he sent me a peony blossom with a note saying, "What is it?" It was a beautiful, beautiful specimen. I went down to see where the peony came from. He said, "that is the peony that I dug up after it had been planted for thirty years and replanted it in the garden and this is what has resulted." Now, why did it bloom? My theory is that the peony was planted and that the dirt was piled in to fill up the lot and it was a little too deep for the plant. It seemed to be the best explanation, but it may not be correct. Planting a thing too deep is going out of the way to make trouble. It will make its return if it has any possible chance, or half a chance.

The freeness of the peony from pests and diseases that makes it a hardship to grow some plants is another thing that makes it especially dear to me.

Then when we come to the matter of expense,—most of us that like flowers can keep ourselves poor enough in getting them and constantly in the matter of expenditures on peonies you can go the limit or you can do very well with little money. The expenditure of a little money will give so much in return that we cannot say that the peony is a luxury that we can't enjoy. For instance, last evening a catalog came and our good friend Festiva Maxima was listed at 45c. That is cheap enough. You pay that for a geranium and how long will that last? We can select some very fine varieties that will give rich return for a very small outlay. In the average yard there is not room enough to put in a great number. You talk of putting peonies in hedges. I think it is too bad to plant them so when single specimens are much more beautiful. I am speaking from my own experience on those that have proved the greatest joy in growing. Nothing can be of greater satisfaction than Festiva Maxima for white and Monsieur Jules Elie, in pink, the silvery pink that has much the shape of a beautiful chrysanthemum. Then if you wish another pink, take Venus. Every flower grown being perfect. And a red that will go along with the same group, is Felix Crousse; a beautiful red that will bloom about the same time as these others. Then the Edulis superba for a darker pink, that has the rose odor.

That matter of odor is another thing that we have to consider with the peony. I think there are four standard flowers that will give splendid satisfaction. Then, if you want to just take a fling, you can just go the limit. I think Mrs. Edward Harding is quoted at one hundred dollars a small division, and from that on down. There may be some quoted higher than that but these high-priced divisions do not mean that they are so much better quality of flowers, just simply the rarity of it, and peony fans, like tulip crazed people in times past when any price paid for a rare tulip was a good investment, may go as far as they wish.

There has been so much developed in the shape and size of the flowers by the growers and breeders of peonies in the last generation that it is extremely interesting to see what has been developed. not only the size and wonderful color but the odor has come to be another element in the selection of peonies. The old, strong odored peonies will soon be a thing of the past because they are being passed by. The peony with a rose or delicate odor is now being grown to the exclusion of those with a rank odor.

Another thing that is of so great satisfaction—you know we can raise beautiful flowers and they may be beautiful in the garden but when we want to give them to somebody some will be simply carted away and ought to be

(Continued on page 144)

SPRAY HOME ORCHARDS

Wisconsin Circular 158, Spraying Farm Orchards.

DEPARTMENTS OF ECONOMIC ENTOMOLOGY, HORTICULTURE AND PLANT PATHOLOGY, UNIVERSITY OF WISCONSIN, CO-OPERATING.

Every farmer having an orchard should spray. He should spray thoroughly, at the right time, and with the right materials. If uncertain about a pest attacking fruit trees, write to the Wisconsin Agricultural Experiment Station, Madison.

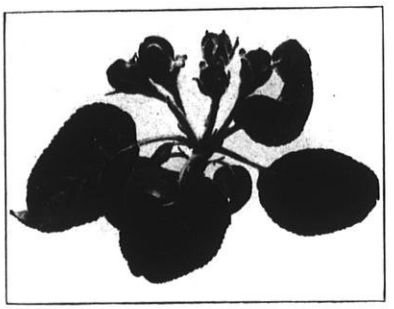


FIG. 1. PROPER "PINK" SPRAY STAGE

THE "SPRAY RING"

Until recently the owner found it necessary to purchase the spraying equipment and do the work. The necessity for this has been largely overcome by the advent of the "spray ring," which is a group of farmers having small orchards, organized for more efficient and more economical spraying of their orchards.

WHAT THE SPRAY RING DOES

The spray ring makes possible the use of a power sprayer at lower cost to the individual than a good hand outfit. The better equipment results in better work and a saving in materials and labor. As the spraying of all the orchards in the ring is done by one man he becomes better trained and therefore does a better job than each individual farmer, with his lesser experience would do, Efficient equipment and an efficient operator means more and better fruit for the home. The orchard becomes an asset instead of a liability and in some cases it may increase the farm income by the sale of high grade fruit for which there is usually a ready market at good prices. Even though the grower could not sell his surplus fruit, he gets good interest on his investment through the improvement in the fruit which he has for use in his home.

HOW THE SPRAY RING IS ORGANIZED

From six to twelve farmers whose farms are close together purchase a power machine suitable to their needs. The cost of such a machine ranges from $200 to $400. The common method of ownership is for the growers to own equal shares. A member of the "ring" acts as operator of the machine. Other officers are named if desired, but as a rule it is advisable to keep the form of organization as simple as possible.

WHAT THE OPERATOR DOES

The operator buys the spray material, sprays the orchards of members at the proper time and in the right way. He distributes the cost of spraying among the members on the basis of the amount of time and materials used in spraying each orchard. His compensation for his services are fixed by agreement at the beginning of the season.

CONTROL SCALE AND PLANT LICE

When Oyster Shell Scale is bad, spray with lime sulfur shortly before growth starts using 5 gallons of commercial lime sulfur in 40 gallons of water (winter strength). This spray is needed only when the scale becomes fairly numerous and, if desired, may be combined with the one recommended for the control of plant lice. If this is done, delay the application until the buds show green.

For the San Jose Scale use a standard miscible oil at the strength recommended by the manufacturer.

Although it is seldom necessary to spray for aphis (plant lice) under Wisconsin conditions, it may at times be desirable. Use 40 per cent "Nicotine Sulfate," ½ pint to 50 gallons of water. Add 2 pounds of soap in solution to the mixture. For commercial orchards substitute a casein spreader, ½ lb., for the soap solution.

SPRAYS WHICH ARE ALWAYS NEEDED

The preceding sprays may or may not be necessary but the following, known as summer sprays, must be made if the best results in producing pest-free apples are to be obtained.

For the following applications use five quarts of commercial lime sulfur and 1 pound powdered arsenate of lead in 50 gallons of water (summer strength).

1. "Pink spray." Just before the blossom buds open. (If leaf rollers are numerous use 3 pounds of arsenate of lead.)

Never spray fruit trees with poison when many of the blossoms are open.

2. "Calyx spray." As soon as most of the petals have fallen and before the calyx cups close.

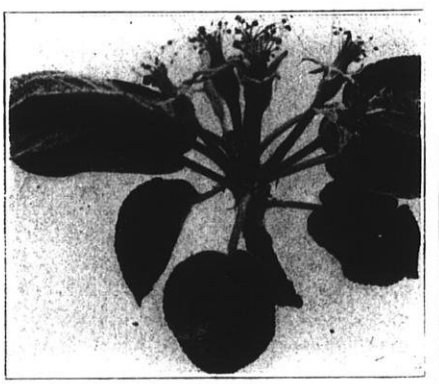


FIG. 2. READY FOR "CALYX" SPRAY

3. "Third spray." Two or three weeks after second spray.

4. "Second brood codling moth spray." Nine weeks after third spray. Apply only on late varieties.

"Pre-pink spray." An application when the leaf buds are just

opening is very beneficial in preventing apple scab infection in season favorable to its early development. Use same spray as for "Pink spray."

AMOUNT OF SPRAY MATERIAL NEEDED

For an apple tree, the average amount of spray for one application is as follows:

Age of tree in years	10	12	15	20	25
Gallons of spray	2	2½	3–4	4–5	5–6

CHERRIES AND PLUMS

Satisfactory results will usually be obtained in home orchards by spraying when spraying the apples.

GRAPES

Use Bordeaux mixture within ten days after blossoming and at intervals of two to three weeks if needed.

CURRANTS AND GOOSEBERRIES

Currant Worms. Use 1 pound of arsenate of lead to 50 gallons of water whenever "worms" are present. Examine plantation at least once a week from May 15 to September 1 for presence of the pest.

Currant lice (aphis). Use ½ pint "Nicotine Sulfate" to 50 gallons of water. Add 2 pounds of soap in solution. Spray just as buds begin to open.

RASPBERRIES AND BLACKBERRIES

Leaf diseases. Spray when spraying apples.

Anthracnose.

1. When first two or three leaves have unfolded on the canes in early spring use 1 part of lime sulfur to 10 parts of water. (Winter strength.)
2. About one week before blooming period use 1 part lime sulfur to 40 parts of water. (Summer strength.)

Crown Gall. Use healthy stock and plant in soil where crown gall has not been found.

Cane borers. Prune out and burn the wilted cane tips as soon as observed in June or July. Cut off the wilted tips a few inches below the wilted area.

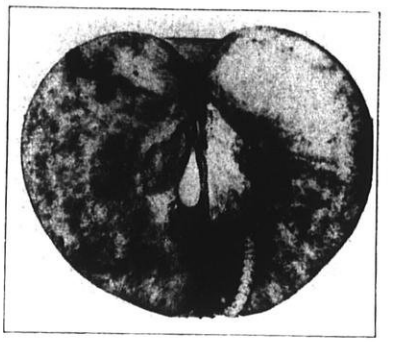


FIG. 4. CODLING MOTH IN APPLE

STRAWBERRIES.

Leaf Spots. Cut off and burn the leaves immediately after harvest.

Leaf roller. Spray with arsenate of lead, 3 pounds to 50 gallons of water, as soon as the rolling is noted. Cutting off and burning leaves immediately after harvest also aids in the control.

Root aphis. Use plants known to be free from this insect.

SPRAY MATERIALS AND FORMULA

When preparing sprays in small quantities it is very convenient to have a postal scale and a measuring spoon such as is used in the kitchen. It is more satisfactory to weigh the dry materials. The following formulas give spray materials of approximately the same strength as those used in commercial orchards:

Lime Sulfur (Winter Strength)

Liquid, 1 pint to 1 gallon of water.

Dry, 4 ounces (8 level tablespoonfuls) to 1 gallon of water.

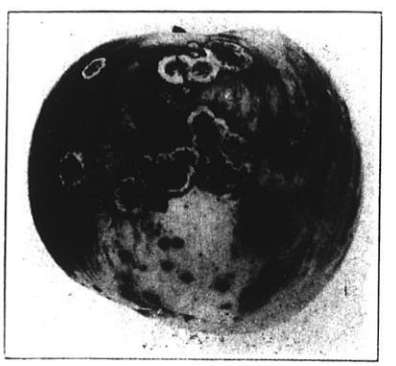


FIG. 5. APPLESCAB

Lime Sulfur (Summer Strength)

Liquid, 1 pint to 5 gallons of water.

Dry, 1 ounce (2 level tablespoonfuls) to 1 gallon of water.

Nicotine Sulfate. 1 teaspoonful to 1 gallon of water.

Arsenate of Lead. To make a spray equivalent to 1 pound to 50 gallons of water, use 1 ounce (6 level tablespoonfuls) to 3 gallons of water, or 2 level tablespoonfuls to 1 gallon of water.

Bordeaux Mixture. For small quantities get ready prepared Bordeaux and follow directions on container.

HORTICULTURE IN SOUTH DAKOTA

From April News Letter South Dakota Horticultural Society, A. F. Yeager, Secretary.

A recent examination of the fruit buds on the plum trees in the Agricultural College shows some interesting things. Space will not permit listing all varieties and the following are selected because they are varieties of recent introduction which have seemed worthy of trial:

Red Wing, Radisson and Waneta were not damaged.

Monitor, Winona, and Homer Cherry look very doubtful.

Elliott, Loring Prize, Tonka, and Underwood seem to have all fruit buds dead.

From this it would seem that during this winter, Underwood was less hardy than we expected. Loring buds have killed again for the third successive winter. The new Minnesota large early plum, "Radisson", looks like it would be worth more extensive testing and Red Wing has again justified our faith in it. Waneta also again takes rank among the hardiest of the hybrid plums.

Recent experiments show that celery plants raised under too cool conditions are likely to go to seed when set out in the garden. We used to think it was due to too early

(Concluded on p. 144)

HOW TO GROW PANSIES

Pansies love a cool moist climate best when the nights are cool and even a little frosty at times and the air is not too hot and dry in the daytime. Here in the central west they do best in the spring and fall, in the south winter is their time of flowering, but in some localities along the seacoast and by other large bodies of water or in the mountains they may be all summer favorites.

As a general rule, do not plant pansies on a southern slope or on the south side of a building. Probably an eastern exposure is best suited to their needs in this climate (Wisconsin). They will do quite well on the north side of a building if not too heavily shaded. The shade of trees or shrubs is not good because the roots of larger plants rob the pansies of needed moisture and fertility. If watering is necessary and possible the ground should be soaked in the evening and thoroughly stirred next morning to prevent a crust forming. Frequent cultivation is, more than anything else, the secret of success in pansy growing.

Pansy seed should be sown thinly in shallow furrows not more than one six-teenth inch deep. The seed bed should be mellow and rich, leveled smooth before the seeds are sown, and after sowing the seeds should be covered evenly and the surface pressed with a thin piece of board. The seed bed should be watered and shaded until the young plants are up, after which they should be gradually accustomed to full light. Shade of the seed bed may be secured by laying laths or pieces of sheeting over some kind of frame about a foot from the ground.

As soon as the plants are up the shading must be gradually removed. Too high temperature in the seed bed is fatal to pansy seeds. If the seeds are permitted to dry after they have sprouted their vitality is gone. If covered too deeply they cannot come up. Transplant after plants have attained fourth or fifth leaf and before they become drawn and slender with crowding.—W. A. Toole.

DUTCHMAN'S BREECHES

BADGERS AT BARABOO, MAYFLOWERS AT MADISON.

Almost before the last snow banks have left the north sides of the hills the little hairy, grey-green buds come through the soil on the open sandy pastures and abandoned fields that have not been plowed for years.

"So soft you'd like to cuddle 'em in your hands like a little chicken," Flora says.

With the first warm days the hairy buds open up and the "Badgers" as we call them around here—the first wild flowers of spring—are out. The botanics call them "Pasque Flowers," but "Badgers" will always seem the right name to me.

The light lavender-blue flowers are on short stems at first, staring straight up at the sky, but later the stem lengthens, the color gets deeper and finally the flower bends over and faces the ground. The

BLOODROOT

flower is followed by a fuzzy seed head as beautiful as the flower.

Father dug some of the first plants to bloom in a sandy pasture and we have transferred two colonies of several clumps each to the rockery. A sunny, well-drained spot was selected and a good proportion of sand was mixed with the clay before planting the "Badgers." Blue grass sod or any plant that crowds the "Badgers" will cause them to disappear, but given a chance they will grow much finer under cultivation than when found wild.

W. A. TOOLE.

THE RESURRECTION AND THE LIFE

Leonard Peterson, part of the wreckage of the hideous war, has been salvaged to make the world more beautiful. With gardens, flowers and shrubs he is carrying on this work in Ludington, Michigan.

Peterson was with E Company of the 168th Infantry when it went over the top at Chauteau-Thierry. An explosive machine gun bullet shattered his right hip.

After eighteen months in army hospitals and five operations, Peterson was sent back to civil life minus three inches of bone in the right leg. To work at his pre-war occupation of a farm hand was impossible.

Help of the government enabled Peterson to enter Michigan Agricultural College. He specialized in landscape gardening, studied beekeeping, poultry husbandry, trucks and tractors. He even saved a little money from his government training pay.

Now he is referred to as the "Gladiolus Man" of Ludington where he does landscape work, draws plans, plants flower gardens and acts as foreman during the spring rush of planting.

He cares for a small city park, grows bulbs and flowers for the trade. Peterson fills in odd moments with profitable attention to a small flock of select chickens and assists his father, who is a nursery agent.

Meanwhile, he has discarded his cane. Massaging has built up the muscle in his wounded leg, and instead of earning thirty dollars a month and his keep on a farm, as he did before the war, Peterson is making a good, independent living. He has made himself known as a specialist.

From his own experience, Peterson has this to say of the American Legion program of helping the disabled veteran:

"I am very much interested in the work you are doing. It is of vital importance. During the past years I have met a large number of ex-service men who should receive vocational training and would appreciate the opportunity of obtaining it.

"I say 'should receive' because every man should have an education. There are any number of real men who can not get out of the 'rut' because they must work to support themselves, fellows who could do things if given the advantage of vocational training.

"I firmly believe that every man who saw service in the army came out with the conviction that an education is essential to success."

Referring to the 5,000,000 Endowment Fund which the Legion is establishing for the care of dependent children of veterans and disabled ex-service men, Peterson said:

"This movement is another step toward the goal the Legion has set for itself, for it not only benefits the handicapped veteran, but it also will prove beneficial to the community in which the man takes up his vocation.

"As far as I am concerned, I can not tell how much I am appreciating the fact that the opportunity to take up vocational training was given me. It has meant much to me. I am grateful to the Veterans' Bureau and to the American Legion for the part each played in making it possible for me to return to civilian life prepared to earn my own way in spite of physical handicaps."

JUSTUS SAYS:

All things must make good their existence by some accomplishment. What of the flowers? Think over your friends and guage them by their love of flowers, not commercially, and what do you find? The writer has yet to know the person who really loved flowers, and was of an evil minded character.

By love of flowers we mean those who will save and revive a wilted blossom, perhaps talk to it in terms of love and affection; or one who will spend much time and thought over the flower garden and probably never have room or time enough to grow all the varieties wanted:

Is it, then, that flowers have a great uuplifting influence in human life, or is it only the loving and true that are attracted by them? Analyze it a little and you will probably conclude that the flowers both attract and uplift.

How bare a home looks without flowers. Now we want a continuous supply, from the crocus to the fall asters and daisies. We want flowers for the wedding, flowers for the home decoration, flowers for the party, flowers for the sick.

Flowers seem to be the one universal gift that is always appreciated, always expressive of love and sympathy, and always carry their messaeg to the heart of the recipient.

Let us honor those of our number who are striving to develop a deeper interest in flowers.

Some old sage has said the four necessary things in life are house, clothes, food, music. If there be a fifth, let us have flowers.

"Consider the lilies of the field how they grow."

—Justus.

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A NEW NEWS POLICY

In order that Wisconsin Horticulture may reflect more fully the activities of the society and that every member be given the opportunity to know what is being done, the board of managers in session at the office of the secretary, March 28th, requested the secretary to publish in full proceedings of all meetings of the board and of the executive committee. The proceedings of the March 28th meeting follow:

Meeting of Board of Managers, office of secretary, 329 Washington Bldg., March 28th, 1925. Board met pursuant to call of secretary. Present, President Toole, Vice-president Leverich and the secretary.

The board discussed the report of the Policy Committee. No definite recommendations except as follows:

(1) The board unanimously agreed that there shall be no further planting done in any of the small fruit stations, either in the ones established in 1922 or in the 1924 stations.

(2) That the stations on the county farm near Menomonie, on the Jackson farm at Wisconsin Rapids and on the Herman Horn farm in Milwaukee county be discontinued.

On motion of Pres. Toole the Board voted that the secretary should not guarantee any expense account either at the 1925 summer meeting nor at the 1925 winter meeting (Ann. Convention) except to members of the executive committee.

On motion of Pres. Toole the board unanimously agreed that no cash premiums be offered for exhibits of any kind at the 1925 summer meeting nor at the 1925 winter meeting.

After a protracted discussion concerning the location of winter meeting without decision the matter was laid over until the next meeting of the board.

Secretary requested to publish in an early issue of Wisconsin Horticulture the preliminary report of the New Policy committee and the proceedings of this meeting.

Bills audited; meeting adjourned.

FREDERICK CRANEFIELD,
Secretary.

UNCOMMON COMMON NAMES.

"I have looked over some 50 seed and plant catalogs to find the old fashion perennial 'Dove in the Chariot.' My mother had them in her garden. I have never seen any since. Can you give me information?"—C. C. E.

Common names of plants prove a constant source of confusion, irritation and blasphemy to botanists and specialists. Us common folks who just love plants and flowers have the same feelings, (1) and (2) at least, toward Latin names. And there you are! There is some common ground, but it will require much searching and compromise to find it. On behalf of common names: How can you expect any really rational person to speak of the Buttercup as Ranunculus fascicularis or perhaps it is R. repens or R. hispidus. **You** say this is a Buttercup but the (irrational) botanist immediately asks "**which** buttercup"? And there you are again?

There is much to be said on both sides. Where a common name is established by long usage over a wide territory it can be accepted but when localized and especially when a plant is known by a dozen names in as many localities then must begin a hunt for that common ground.

Neither are the botanists consistent nor stable. Linnaeus undertook the job of classifying plants and affixed to them Latin names. Later Britton, Gray, Bailey and others succeeding each took a turn at correcting Linnaeus and their successors and followers are still at it. For instance; that lovely spring flower growing on gravelly hill sides with a lavender cup shaped blossom and fuzzy stems that every child loves to pluck and fondle was known to the writer in his youth only as "May Flower". Later he learned to call it Pasque Flower. Who shall say which name was **wrong?** There may be and probably are a dozen other names for this flower. When we turn to the botanists we are inclined to invoke (3) of our invocations for while Linnaeus named it Anemone pulsatilla Britton insisted on Anemone hirsutissima, Gray A. Nuttaliana and now, anethema,—the latest is A. Wolfgangiana! Verily, we have sympathy for Bozo Butts of the comic strip. None of this helps our correspondent "C. C. E." and we are seeking help. Can any one describe "Dove in the Chariot"?

TOO MUCH TO EXPECT

"Would a plum tree of a variety in which the pollen produced is infertile on stigmas of the same variety be fecundated by the pollen of cherry trees in the same orchard." R. G.

Possible but not probable, in fact highly improbable. Crosses between plants of different species are not unknown but are rare. About the last thing in the world that one familiar with plant breeding would expect would be a cross between plum and cherry or cherry and peach. The trouble in this case can be remedied by planting trees of the wild plum, if the sterile trees are native plums, as fillers in the orchard.

NEW MEANS DISCOVERED FOR CONTROLLING BEAN WEEVIL

A notion long prevalent among growers of beans was that the planting of a weevily seed was the cause of a weevily crop, but investigations by the Bureau of Entomology, United States Department of Agriculture, in California, have shown that this has no effect on the infestation of the succeeding crop. The real cause of the spread of weevils in the new crop has been shown to be the development of large numbers of the insects in seeds held over from the preceeding year and and held in storage in buildings near the fields of growing beans. A few beans may be the breeding ground for enormous numbers of the pests. In one case it was found that 350,000 of a certain variety of cowpea weevil developed from a bag containing 60 pounds of cowpeas.

From this it is evident that the increase of the weevils may be largely controlled by the simple expedient of destroying those in the stored beans or by disposing of the surplus beans.

This weevil work of the department has been received by growers with much approval. In one of the most important bean-growing sections they have formed a weevil committee, the purpose of which is to spread the new information and to enforce recommendations which it is thought will reduce the losses which in recent years have been increasing with the continued cultivation of these leguminous crops.

ABOUT SOWING SEEDS OF PINE

Q. "Would like to know when is the right time to sow white pine and Norway pine seed. Should seed be sown in the shade of pine trees or in the open?"

"I gathered a few seeds last fall and I would like to grow a tree or two just for pleasure."

Ans. Much will depend on how the seeds were stored. Seeds of conifers intended for planting should be held at a low temperature but above freezing. If exposed to high temperature the chances of germination are lessened. The seed may be planted in the open but the seed bed must be kept moist. If the soil dries out for a single day after germination has begun failure is almost certain. The seedlings should be shaded the first season. Lath or brush screens raised 2 or 3 feet above the bed so as to give free circulation of air along with shade is desirable.

The soil in the seed bed should be thoroughly pulverized and the seeds covered lightly, barely out of sight. A mulch of pine needles, pulverized sphagnum or similar material over the seed bed will help to retain moisture.

A SPRAY BULLETIN FREE

A new edition of Spray Bulletin No. 36 State Department of Agriculture has been issued. A copy may be had on application to State Entomologist, Capitol Annex, Madison. A postal card and a moments time is all that is needed.

WILD GERANIUM

CHANGE IN OFFICE

The offices of the State Horticultural Society are removed from 701 Gay Building to 329 Washington Building, which is at 119 East Washington Avenue. Reason, lower rent. Not so much scenery here but plenty of floor space. Visitors welcome. There is a nice elevator which runs up, — and down.

ABOUT ROSES

By Alfred C. Hottes, Department of Horticulture, Ohio State University.

Reprinted from Wisconsin Horticulture, Sept. 1922.

What melody is to music, what expression is to the human voice, what rhyme is to poetry, what color is to painting, and form to sculpture—that the rose is to the realm of flowers. It holds a warmer place in the hearts of the people than any other flower, delighting the eye with its perfection of form and color, and rendering the air fragrant with its perfume.

Our language is filled with expressions derived from the rose. We speak of rose-tinted glasses, of rosy futures, of roseate hopes, of giving our confidences *sub rosa,* and telling our friends that they are as welcome as the roses in May.

To have a rose garden of one's own seems to many people a desire impossible of fulfillment, owing to unfavorable location and poor soil. At the same time that these persons are complaining, however, a neighbor is growing roses under the same conditions. If one is possessed of a real desire to have roses, and is willing to devote some time to their cultivation, there are no roses too difficult to grow. It is true that some varieties do not stand the cold, but for these, protection can be provided; insect enemies and diseases are discouraging factors which must always be taken into consideration, but these can be controlled. The bringing to perfection of one good rose is worth all the care that it takes. The satisfaction of having roses from June until frost will be greater than that derived from the growing of any other flower.

LOCATION SUITED TO ROSES

Rose bushes should be planted by themselves, in separate beds, so located that they are not exposed to heavy winds or surrounded by high walls or tall buildings. To grow roses properly, it is necessary that they have sunshine the greater part of the day. Avoid planting in places where trees and shrubbery will rob the roots of plant food and moisture. Perennial and annual flowers should not be set between the rose bushes, as they also take the fertility and water, and make the requisite stirring of the soil about the rose plants impossible. Such shallow-rooted flowers as pansies and sweet alyssum can, however be planted to border the rose beds.

The better quality roses should not be used in place of shrubbery because the bushes themselves are seldom beautiful in form or foliage. In enjoying roses we must look at the rose bloom and not the bush.

SOIL AND DRAINAGE

The best soil for roses is one of the heavier sort, but sandy soil will also give good blooms. The worst looking clay, after being enriched with manure, will grow roses to perfection after they become established for a year or two.

In heavy clay soils, or where water is liable to stand, it is necessary to furnish a means of drainage, as roses will not grow if water stands at their roots.

Dr. Huey once said that it is better to plant a fifteen-cent rose bush in a fifty-cent hole than to plant a fifty-cent rose bush in a fifteen-cent hole. The best part of the advice is that holes will not cost fifty cents but give healthful exercise.

Any well-rotted manure or good compost may be used as a fertilizer. Ground bone, at the rate of about 1 pound to each 8 square yards of soil, is excellent to add as additional food to the surface 6 inches of soil. If possible, the rose beds should be prepared in the fall, as this gives the soil a better chance to settle.

PLANTING

Time of planting.—Rose bushes may be planted either in the spring or in the fall. If planted in the fall, they should be placed early enough to get established before the winter sets in. Plants are in better condition when received from the nurseryman in the fall, but because of the danger of injury from freezing, it is better that they be planted in spring in Ohio. (Also Wisconsin.—Editor.)

Kind of Plants to Buy.—Either one-year-old or two-year-old plants may be purchased. One-year-old plants are sold cheaply because they are usually very small, and require patience and extra good care to get them to good blooming size. Two-year-old plants are better. Many of these have been budded on strong roots. Budded roses usually have a decided crook at the surface of the soil, thus showing that they have been budded. For the first year or two these strong wild rose stocks will push the tops better than will the natural roots of the plants, but these stocks will often send up suckers that will need to be removed.

Plants that are not budded are said to be own-root roses because they are rooted cutting and growing on their own roots. These plants send up strong blooming shoots from the roots which should not be confused with the suckers that often grow from the roots of budded stock.

The two-year-old plants are sold either as dormant stock or potted. Potted roses will not be set back when planted out-of-doors, and when buying one is sure of obtaining live, vigorous plants.

Depth of Planting.—The plants should be set 2 or 3 inches deeper than they were in the nursery rows. Budded roses should have the point of union between the stock and scion well covered. Never plant a rose just as you purchase it, but prune the plants when setting out, leaving 3 to 5 eyes on each cane. The climbers should be pruned in the same way, in order to insure a bushy growth the first year rather than blooms, as the two cannot be carried on successfully at one time. The roots should be spread out as much as possible, and the soil tamped firmly about them with the feet. The soil should then be thoroughly soaked, in order to settle it around the roots.

Distance Apart.—Some roses are strong growers, and need to be planted a greater distance apart

than those of weaker growth. The bushes should be so spaced that when full grown they will not be overcrowded. Hybrid Perpetuals should be planted about 3 feet apart; and Teas, 15 inches apart. Coarser growing Mosses, Rugosas, and old-fashioned Briar sorts should be given at least 4 feet and should not be planted in small rose beds, but placed among shrubbery or for backgrounds.

Width of Beds.—To prevent the intrusion of grass roots, the rose beds should be at least 3 feet wide, and had better not be over 5 feet wide for convenience in picking and cultivating.

SUMMER CARE OF ROSES

Keep the surface of the beds continually loose; this retains the moisture and makes watering unnecessary except in the dryest part of the summer.

When watering roses, lay the hose down on the bed and let it get thoroughly soaked. Water the plants thoroughly once or twice a week, preferably early in the morning or in the evening. This is better than light sprinkling more frequently. Spraying water on the leaves each day in the evening or early morning will help to remove dust and knock off the insects.

For summer fertilizing, cow manure and bone meal are the two best fertilizers, the manure applied as a mulch in midsummer. Manure should also be dug into the soil in the spring.

Suckers, which may grow from the roots of budded plants, should be removed by scraping away the soil, and cutting them out where they start from the roots, as they will exhaust the vitality of the plant, and often kill it. They have a different appearance from the normal branches of the rosebush. There are usually more parts to the leaf of the suckers, the thorns will be finer, and the branches will have a different color. No definite description can be given of a sucker because there are many sorts of wild roses which are used. They are never difficult to distinguish from the normal strong shoots from the bases of the plants.

PRUNING

If rose plants are observed it will be seen that they bloom from the stronger shoots of the previous season's growth, and that from the base of the plant extra strong wood is being produced each year, which causes the older, more branched shoots to become weakened. Each year the older, branchy shoots and dead wood should be removed, as well as the short slender twigs. This is all the pruning necessary for Climbers and Briar sorts grown for mass of bloom. Pruning of such sorts can well be done as soon as the flowers fade. In this way the plants are easily trained and the unsightly blooms are removed.

Hybrid Perpetuals, Hybrid Teas, and Teas are grown for individual large blooms and long stems—they need severe pruning. The weaker the sort the more rigorous should be the pruning. Prune the Hybrid Perpetuals back two-thirds of their growth, and the Teas and Hybrid Teas to within 5 to 8 inches of the soil. Pruning should be done in the spring after the plants have started growth. If pruned too early the shoots are apt to freeze back farther and will need pruning again. All through the season flowers should be cut off as soon as they fade, cutting back each of the stems upon which the flower is produced. There is a tendency for many roses to produce extra long shoots from the base of the plant, which may be induced to bloom provided they are continually cut back during the season and not allowed to grow their full height. Keep up the pruning process all through the summer.

INSECTS AND DISEASES

Should a housewife decide to make bread she would have to have an oven and necessary utensils; the same principle applies to the growing of roses—one must be supplied with the necessary equipment in order to have satisfactory results. Every rose grower should have on hand two insecticides at all times. As soon as the rose bushes are planted, buy a small bottle of nicotine extract (tobacco solution) and a can of arsenate of lead. Use arsenate of lead for all worms or slugs which eat the foliage, and the nicotine extract for the insects which suck the juices but do not eat the leaves.

Plant lice (aphids) and leaf hoppers belong in the latter class; they are always present, and will require spraying every few days if they are to be checked. The object of nicotine is to suffocate the insects, consequently it must be applied with force actually to hit the insects. Care must be taken to cover thoroughly each shoot infested.

Black Leaf 40 is the most economical of the nicotine extracts, It is effective against most plant lice at a strength of 1 part Black Leaf 40 to 800 parts of water. This may be combined with the arsenate of lead if both aphids and leaf-eating insects are present. If used alone, add 1 cubic inch of soap to each gallon o water. A bucket pump is better for use against sucking insects, because of the higher pressure obtainable. If the pump is equipped with a few feet of hose and a 4-foot extension rod furnished with an extra angle at the base of the nozzle, it is easier to direct the spray upward against the undersides of the leaves when necessary.

Rose slugs, various caterpillars, and other insects that skeletonize the leaves are readily controlled by arsenate of lead.

Diseases—Mildew is the commonest disease, and is difficult to control. Flowers of sulphur should be placed in a piece of cheesecloth and sifted on the plants in the morning while they are wet with dew. The sun will help to vaporize the sulphur. Dusting should be carried on once a week. Climbing roses are often affected if planted too close to the house where they do not get the proper air circulation.

A black leaf-spot is usually destructive on some varieties of roses. This disease is very serious and

often defoliates the plants. The affected leaves should be picked, burned, and the plants sprayed with potassium sulphide, 1 ounce to 3 gallons of water. Do not allow the diseased leaves to remain on the soil.

WINTER PROTECTION

It would be poor policy to buy plants, take care of them through the summer, and then neglect to protect them through the winter.

When the first real freezing weather has arrived, start to protect the roses. All of the Hybrid Teas, Teas and most of the Hybrid Perpetuals will need winter protection. The best protection is gained by hilling the earth about the base of the plants to a height of 8 to 12 inches. A common cause of injury in the winter comes from water being allowed to remain about the crown of the plants. This hilling of the soil will eliminate the difficulty. After the soil is drawn up about the plants, the surface should be mulched with several inches of coarse strawy manure, which will not only serve as a protection against the cold, but will conserve the moisture in the plants and add to the fertility of the soil. Late in February and in March the strong sun causes the branches to become warm and start their growth. At night the air again becomes cold. Such alternate freezing and thawing is very injurious to the rose plants. To guard against this injury, the branches should be wrapped with burlap or straw, and tied, or the beds may be covered loosely with evergreen boughs.

Many rose lovers use orange boxes or peach baskets, turning them over the plants after they have been hilled up and mulched. Such protection will keep the winter rains and ice from contact with the plants. Many of the Briar roses and old-fashioned roses will need no protection for their tops. Merely hilling the soil about them a little will be sufficient.

In protecting Climbing roses, the hardiest sorts pass through the winter safely if they are grown in a sheltered situation where they do not have too much winter sunshine. The greatest injury to the climbing sorts is due to lack of maturity of the branches, it being the tendency of these roses to grow until stopped by the frost. If the climbers are planted in such a situation that covering them with burlap sacks will not be unsightly, this will make an excellent means of protection. Climbers are also well protected if their tops can be placed on the soil and covered.

PROPOGATION

Layers.—The simplest method of increasing roses is by layers. Choose a branch that may be bent down, and cover it with soil. Rooting will take place more readily if the branch is injured by cutting into the wood at a point under the soil. Climbers are very easy to increase by this method.

Seed.—The wild roses, such as the shrubby sorts used for landscape purposes, are usually increased by seeds. The seeds are collected in the fall and washed from their fruits. They are then sown in shallow boxes of sandy soil and placed in a protected spot out of doors, prefereably in a cold frame. Here they must freeze, so that their seed coats are cracked. They will germinate in the spring.

It is interesting to hybridize roses and grow them from seed. The results are very uncertain, but often very interesting. One cannot tell before the new plants bloom just what kind of a rose to expect. Many will be worthless, but occasionally one is rewarded by securing a really worthy rose.

Cuttings.—For making slips or cuttings the best shoots to use are those which are blooming. Cut the flower with a stem about 6 inches long, cut off all wood of the stem below the lowest leaf and cut off the shoot at the top down to a leaf that has at least five parts. This means that the cut should be just below an eye at the base and just above a strong eye at the tip. Remove all leaves except the top one and also take off its tip leaflet. Set the cuttings 3 or 4 inches deep in a loose soil or in sand, place a fruit or bell jar over it. The jar will keep the air moist, provided the cuttings are watered. Shade the jar for several weeks and the cuttings will root. When the cuttings start to grow slightly so that one realizes that they have rooted, they should be taken up and transplanted to good soil, shaded for several days, and carefully cultivated.

Ramblers may be propagated easily by cutting the long stems into 6 or 8-inch lengths. During the winter, bury them in moist sand, either in a cool cellar, a cold frame, or in a well-drained spot out-of-doors. In the spring they will have rooted and should be planted out in the garden, where by careful cultivation they will make excellent plants by fall.

SPRING IDYLLS.

"To own land anywhere imparts a sense of dignity to the possessor. What if the surface area be not extensive? It is four thousand miles deep, and that is a very handsome property."—Charles Dudley Warner.

I and my dignity are out on my "four thousand mile" plantation for a few days, getting spring work a-going out doors and in. Isn't this the heavenly time of the year to be in the country? God speed the day when it is not an exceptional event with me!

My hair is wind and smoke burned into a bewitched barley stack and hands covered with sunburn, briar greetings, callouses and black paint (marking my tools) and I'm perfectly happy,—look like a fright and feel like a saint!

I've burned endless bushels of quack roots in my broad fireplace, welcomed the pale green cushions of the "Live-forever", the fat red noses of the pink and wine tulips, the yellow green points of the white narcissus, deep red sprouts of the blue Veronica, pinky arabesques of Bleeding-heart, purple-gray shadows of Virginia Cowslip, tiny feeling fingers of Delphinium and Monkshood, thick raggy mats of Cardinal flower,—and something new every morning!

Have planted the cold frame and established a small "Experiment Station" on my own where I can try out some of the flambouyant novelties, dasheens, chufas! They sound so thrilling. My chicks have voted for "cherry pie" and peanuts in their little gardens. Being city bred the poor little innocents have only names to go by. Please excuse so much chatter. I'm having such a beautiful time I want to *tell it* to some who *knows it*.—G. E.

MARKETING VEGETABLES

Read at Annual Convention, Madison, Jan. 14, 1925

It is a pleasure to me to extend to you greetings from the Minn. State Hort. Society, and congratulations at the large and healthy membership which your society can well be proud of. I am not acquainted with the exact membership rolls of the horticultural societies in the Northwest, that is data our secretaries are interested in. You and I are more interested in what the horticultural societies are doing to promote better and greater horticultural activities and what practical benefits you and I have because of our horticultural membership.

This session of your meeting being devoted entirely to marketing problems, I am expected to say something about marketing vegetables. As secretary of the St. Paul Growers Association, I am perhaps familiar with the difficulties encountered in marketing vegetables in the Twin City territory and other specialized truck growing sections of the state. I am a grower myself and as those of you who are in the trucking business know it has been quite a battle to make ends meet as they should.

I am not acquainted with your vegetable marketing problems, neither am I expected to give you a solution, for such solution can only come from united effort of groups or communities. I can however give you an outline of what we are doing and hope you will get some helpful suggestions from it. My first experiences in marketing vegetables date back to before the general use of the motor truck. The vegetable supply of the cities was secured from a radius limited by team haulage. Vegetable growers enjoyed alternately more or less extreme plenty or shortage. The shipping facilities for vegetables from specialized sections were not as responsive, in fact at that time sections especially fitted by soil and climate for certain crops had not been developed. In St. Paul we had a number of shippers who made up solid or mixed cars and shipped to Duluth, the Iron Range, The Dakotas and Nor. Michigan. I actually believe that this period some fifteen to twenty years ago, with its restricted area, low overhead and plentiful barnyard manure, was as favorable for market gardening as any period we have had since, excepting perhaps the three or four years during and after the war.

To offset the advantage gained by the growth of the cities, the motor truck came into use and the radius of the vegetables growing circle was correspondingly increased. The cultivation of new and better land was possible. As new varieties of vegetables were improved and developed for growing in shorter seasons, the vegetable producing area moved northward and tended to curtail rather than increase the shipping demand. To illustrate, last summer the Duluth Growers, a cooperative concern, in one shipment sold 2300 bu. of cauliflower to Chicago people, price $2.25 F. O. B. Duluth, while cauliflower on the St. Paul Market was going begging at $1.00 and $1.25 per bu.

A little incident of last summer will illustrate what the professional vegetable grower has to contend with. A woman and a boy in a touring car with some vegetables packed in the rear backed on the local market one morning. They were one of hundreds like that who did so every morning during the heavy season from July to Oct. A local grower a trifle curious asked them where they came from. They named a town some forty-five miles distant. Certainly the grower asked, it does not pay to drive forty-five miles to market a little vegetable. They replied that they wanted it to do some shopping and the $4.45 they received for their goods would help to defray expenses. Such people do not grow vegetables for a livlihood but as a sideline. They are not conversant with prices, take anything that is offered them, in fact cannot command a price because their goods are usually off grade and quality.

The market gardener found it necessary to make some changes in his methods. He did so by specializing in earliness in quality and in the raising of vegetables and plants under glass. The tomato is an excellent illustration of the first method. The professional grower thru the use of selected seed, hotbeds and coldframes, painstaking care, especially adapted and well prepared soils, matures his crop thirty days ahead of the rush. The price for this period will run for $5.00 to $75 per half bu., while the price during the glut in a normal season is $.50 per bu. In addition to getting his main tomato crop early, the alert grower often has a late crop which usually pays well because of the superior quality of the fruit.

Growing and forcing lettuce, radish, cucumbers, rhubarb, plants, etc. out of season help the professional grower to keep his business running throughout the year. Vegetables out of season usually market readily and extend the growers income season.

Other factors which assisted the professional grower were his knowledge of quality and grade. These enabled him to create a demand for his goods among discriminating buyers even tho the market was long.

But other factors were even more revolutionary in changes they brought about in market gardening, and chief among these is the everincreasing overhead brought about by expensive land, expensive buildings, motor and garden equipment, seed, labor and fertilizer.

It is difficult to raise all vegetables in season and market them successfully, except in the East where it is not uncommon to see twenty to fifty employes on a single truck farm. It has been found more profitable to develop the production of several or more vegetables on a large scale and specializing in them, filling in time and space with other crops. When shippers are looking for goods they get them best from the gardener whose production is large enough to enable him to furnish quantity and quality.

Our biggest market is our local consumption, but a considerable shipping is done in an unsatisfactory manner. In the first place our shippers work with the handicap of having to compete with the local demand, which desires the best and pays big when goods are scarce. Thus the shippers quotations fluctuate and he is not positive that he can fill orders at price and of same grade he quoted out. So much in their defense. We growers do not feel that the shippers exercise the proper care and precaution in the vegetables they send out. An order which does not repeat is not satisfactory. Tho some shippers make a fair attempt to ship only quality goods, too many instances are noted by us of goods going out which cannot give satisfaction. The president of our association during a trip he made to Duluth walked along the commission row and saw grocerymen pass up sunken half filled baskets of St. Paul tomatoes for California goods which traveled 2,000 miles and competed successfully with goods grown 160 miles away.

There are many growers who have no scruples about packing or shipping poor quality vegetables when the shipper is not watching. Such growers should be blacklisted and all purchases made of such should be carefully inspected.

This brings up the subject of the golden rule in marketing vegetables. Something is fundamentally wrong with our moral fibre, when a gardener can take fifty baskets of tomatoes to the local market and be asked exactly fifty times, "Do they run alike from top to bottom, are they the same all thru." And if they are uniform throuout the buyer is agreeably surprised. Whether you sell on a local market, or to a retailer, be it groceryman huckster or peddler; to a shipper, or ship yourself to a distant market; whether you are naturally honest or unscrupulous in your makeup, you will find it a sound economic policy not to misrepresent your goods in the package or by description. Tho a sucker is born every minute, with apologies to Barnum, there are many buyers who try not to repeat any oftener then necessary and soon make it a habit to buy from those growers whose goods correspond to description or grade exhibited. Identify your goods with your name or brand, if you are doing business as an individual. If you sell thru an association help make the association brand mean something and see that your neighbor does likewise. The public will soon learn that the melons grown by Ed. Jones are always of uniform quality, and when Jones found it necessary to sell second grade goods he sold to the wild buyer on price alone and not under his name.

Proper grading is another big asset of the market gardener. The price of any packgae of vegetable or fruit will be closer to the price of the poorer instead of the better grade contained therein. A discriminating buyer will mentally weed out the poorer grade and make an offer on the basis of the quantity of the better grade in the package, basket or bunch. Illustrating with carrots, compare a standard bunch of nine uniform carrots with a bunch in which two or more of the carrots are tiny, misshaped or withered. Every market should have a standard package, as well as standard bunches suitable for the various vegetables. Growers and dealers should be agreed on what should be a standard package or bunch aside from weights of commodities which are fixed by law. During a conversation I had with a shipper last summer, he told of how his quotations on certain bunch goods were consistently beaten by a competing shipper. He quoted carrots and onions out nine in a bunch and discovered that his competitor sent them out six and seven in a bunch. Such business practices are a decided handicap to the development of a sound market. It is a situation which can be remedied by strong and active growers associations.

The popular use of the family auto, the development of good highways, has inaugurated a method of marketing almost revolutionary in its method and vastness.

I believe that the roadside market is as great a direct to consumer method of marketing, as has ever been devoloped. It has made it possible for the consumer to purchase a week's supply of vegetables, while he and the family were on the weekly outing and at a saving which helped to defray the outing expense. The grower was able to dispose of his surplus of miscellaneous goods at prices usually higher than he could have realized otherwise, if he could have sold at all. During the season of 1923 when local apples were almost unsalable on the Twin City markets even at $.50 to $.75 per bu., the roadside markets in the proximity of the Twin Cities could not keep supplied at a $1.00 and $1.25 per bu. The same was true of tomatoes, unsalable in the cities and the city people at the same time eager for all that were available. It would seem to me that market gardeners and fruit growers located on trunk highways up to 30 miles or so from big centers of population have with the coming of the roadside market solved their marketing problem. Of course the roadside market does not injure or supplant other marketing agencies to an appreciable extent. A large percentage of the roadside sales are a distinct gain to the community. Melons, tomatoes, potatoes, dry onions, all root crops, apples, plums and berries are good roadside sellers. Perishable vegetables as lettuce, bunch goods

spinach, endive, parsley, green onions, radishes, peas and beans can only be sold in limited amounts and are still marketed to the best advantage through the grocery store.

In some localities especially in the East, the roadside market has become a veritable green goods counter, protected from the weather with provisions for weighing and wrapping and the preservation of perishable goods. The roadside market is nothing more than going the cash and carry one step better with the producer coming in for a share of the saving.

I wish to say a few words about the big desert in our vegetable marketing, and what efforts the St. Paul Grower's Association is making to remove it. We have with us as regular as the seasons what is called the annual glut, varying from year to year in degree and tempered only by nature causing a short crop here or elsewhere. Beans selling today at from $2.00 to $4.00 per bushel may at the end of tomorrow's market be unsalable at $.50, cucumbers likewise, cauliflower the finest going begging at a $1.00 per basket. Tomatoes always experience a time when the going price does not pay the picking. Cabbage when down is out and can't be sold locally at all and is only marketed if shippers find an outlet for some carlots. Very perishable crops as radishes, lettuce, spinach, peas and beans are fast up and fast down, the crop going to ruin if not sold when mature.

Our membership felt that the public as a whole was not eating enough vegetables and that the consumer did not know what vegetables were in season as the summer went by. Strawberries though not a vegetable are a big factor in our market and a great majority of the homes like to preserve some berries. Devising some quick and effective way to inform the public when berries were reasonably priced, would quickly create a vast case lot sale to consumers for canning purposes and thus relieve the market. Such information in the hands of the consumer would compel the retailer to quote reasonable prices, instead of taking big profits on small quantities. The same may be said of tomatoes, for there are few families who do not and should not put up from 1 to 3 bu. of tomatoes for winter use, if they can get them at a price of 6 cents to $1.00 per bushel. Pickles are usually sought for after the prime of the season is gone, and the consumer through his ignorance pays more and buys less.

The St. Paul Growers raised $150.00 in 1922, $400.00 in 1923 and a like amount in 1924, not a large amount you might say but contributions to an advertiseing fund were largely voluntary, the percentage of organized growers is not large, and the approval of our publicty attempts was not unanimous. Our advertising committee cooperating with the county agent and the University Agricultural Extension Division anticipated heavy receipts on the local market and advertised the fact in the leading Sunday Dailies. There was no way possible to check up results but we believe the method a good one. Our budget was too small. We should have no less than a $1000.00 to spend on Newspaper advertising.

Through the courtesy of the Northwest Farmstead our association secured from WLAG considerable broadcasting opportunity. Direct advertising over the radio was not permissible. Our program had to be strictly educational in its makeup. It included one speaker per week for 23 weeks. The talks included discussions by doctors, nurses and others on the value of vegetables in the diet, seasonable instruction in making home gardens and beautifying the grounds, lessons in canning and preserving strawberries, cabbage, cauliflower, pickles, tomatoes and apples appeared in season. Every week on Tuesday during the household hour, a woman engaged and paid for by the association, gave a five minute talk called a weekly trip to market. Housewives listening in learned what vegetables were available and what to expect the following week. A recipe or two for the preparation of some vegetable was included.

We received numerous letters and inquiries, one as far as St. Louis. Curiously enough, all but one outside of the cities. The results were encouraging nevertheless, and whatever the benefits may have been they accrued to all vegetables growers in the community, though but a small portion were association members. What we are trying to get is some concrete evidence that vegetable consumption can be increased through advertising the value of vegetables in the diet and making possible the purchase of vegetables by the consumer at prices he can afford to pay, not forgetting of course that the grower is first deserving of a profitable return. Securing of tangible results of the value of vegetable advertising would enable us to arouse more interest, and get more shoulders to the wheel so to speak. I believe that to the plebian spinach belongs the honor of being the first vegetable to show the effects of persistent advertising. Years ago spinach was only in season a few weeks in spring and again in fall, the demand for it at other times was negligible but now spinach is bought and sold the year round. Credit for increasing spinach consumption belongs to the doctors and dieticians who are also responsible for the ever increasing demand for carrots.

The closing of WLAG early last summer cut short that part of our publicity program which promised the most interesting results. However our plans for the coming season include some features to be given over the radio pending what arrangements we can make with WCCO.

At the close of the rose growing session at the Convention Jim Livingston arose to remark,—"This is the Hottest discussion on roses I have ever heard." He then sat down. March H. O.

Ask Questions, you may learn something.

MY JEWELS

(Continued from page 131)

thrown in the ditch because of wilting so soon after cutting. You know there are some things so perfect that you can't find fault with them. It seems that is what we find in the analysis of the peony. It is so all the way through. Cut them and what wonderful decorations peonies can be. Not only in the home but on any occasion. I must confess that one of the things that encouraged me in enlarging the peony garden was the fact that it bloomed just when commencement exercises came on and people wanted flowers. It was after Decoration Day and flowers had been wanted in quantity for decorations. It is a joy to see it in the stage decorations, usually as the main flower. Last summer of course they developed late but I think I threw out the last peony the last week in August. Those had been cut the last of the first week in July and had developed from buds so that the full bloom came out about the first of August. Now can you imagine that with any other flower? And this is not with expert care. This was the foolest kind of care of an ordinary dub in the matter of taking care of flowers. A person can love flowers and yet not know what should be done to get the best out of them. So there we have another quality that endears the peony to those who grow it. It is not something you have to use only in your home or for your own people but something you can pass on to your friends and let them enjoy.

Now, taking all things together, can you match the peony for the good that it can do, for the trouble that you take in growing it? That is why I like the peony.

HORTICULTURE IN SOUTH DAKOTA

(Continued from p. 133)

planting. Perhaps that idea was due to the fact that plants started extra early were likely to encounter more cold weather before being set out and would also have to be kept cooler in order to keep them from becoming overgrown before planting time.

A new method of blanching celery has been discovered by the Minnesota Experiment Station. Green celery treated with Ethylene gas will be blanched perfectly in a week and apparently has all the flavor and quality of a field blanched crop. This is the same treatment given oranges and grapefruit nowadays when they fail to develop good color naturally.

Have you any bright ideas? Write to the editor, he needs them. Your experience may be valuable, pass it along. Even a few words may be helpful.

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WISCONSIN HORTICULTURE

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What though on hamely fare we dine,
Wear hodden-gray, an a' that;
Gie fools their silks, and knaves their wine,
A man's a man for a' that!
For a' that, and a' that,
Their tinsel show, and a' that;
The honest man, though e'er sae poor,
Is king o' men for a' that.

Then let us pray that comes it may,
As come it will for a' that,
That sense and worth, o'er a' the earth,
Shall bear the gree, and a' that.
For a' that, and a' that,
It's comin' yet, for a' that,
That man to man, the warld o'er
Shall brothers be for a' that.

ROBERT BURNS.

BUSH FRUITS FOR WISCONSIN

JAMES G. MOORE

Wisconsin Circular 187, incomplete

Wisconsin farm homes are often poorly supplied with small fruits. The strawberry is the only small fruit which is had in abundance by the average Wisconsin farm home.

RASPBERRIES AND BLACKBERRIES

Raspberries and blackberries can be grown successfully for the home on soils ranging from rather light sands to moderately heavy clays, although they usually do best on fine sandy loams or light clay soils. More important than the type of soil is its physical condition and its moisture relations. No crops are more frequently reduced by insufficient soil moisture at the critical time than are the brambles. No matter, then, what the type of soil selected, it must be retentive of moisture if success is to be had.

* * *

Although requiring abundant moisture, the brambles will not do well on water-logged soil. Good soil drainage is necessary and if the site desired is not well drained, then it must be drained before planting or another site selected.

Northern Exposure Desirable

There are two other important considerations in selecting a tract for growing raspberries and blackberries. Exposure, or the direction of the slope of the land, should not be overlooked, because soils on northern exposures retain their moisture supply better and are cooler than southerly exposed soils; and these conditions are favorable to the production of large yields of high quality berries. Then too, berries on northern exposures are somewhat slower in coming on in the spring and are therefore more likely to escape injury from late frosts.

Careful Soil Preparation Pays

A good raspberry and blackberry plantation should give good crops for a number of years. This is only possible, however, if the soil and the plants are kept in good condition.

A liberal supply of manure, the equivalent of 15 to 20 loads per acre, should be used in connection with this crop. Thorough tillage should be given so as to get the soil in as fine tilth as practical. Another application of manure may be made before plowing for the brambles.

Fall plowing is preferable under Wisconsin conditions. Plow at least 8 to 10 inches deep unless a great deal of subsoil is turned up. The furrows should be left unharrowed until spring. As early in the spring as soil moisture conditions permit, disc, harrow and drag the soil to pulverize and firm it and give favorable planting conditions.

Selection of Proper Varieties Important

Red raspberries are hardiest. Latham is probably as hardy as any of the varieties commonly grown. King is an early and hardy variety. Cuthbert, Herbert, and Marlboro are other varieties largely grown in the state. For those sections having very severe winters, Sunbeam will doubtless prove hardy although it is not equal to the varieties previously named in productiveness and quality of fruit. The Ohta is a comparatively new variety which is said to be very hardy.

Ranere (St. Regis) is a so-called everbearing variety. It produces fruits on the old canes at the same times as other varieties and the new canes fruit in the fall. It has not gained much favor in Wisconsin. Its quality seems to be inferior to some of the other varieties; its summer crop is less abundant and seldom does a sufficient amount of the fall crop ripen to justify its selection over the common varieties.

For home plantations many growers prefer the Columbian, which is a purple cane variety. The fruit is large, darker in color than the reds and has a bloom which gives it a dusty appearance. This characteristic is against it as a commercial variety. It has the advantage of not producing suckers. Due to this fact and its very vigorous growth it is often offered for sale as the "non-suckering red" or "tree" raspberry. When well grown it is more productive than the reds. The two varieties of black raspberries most largely grown in the state are Cumberland and Plumb Farmer. Older, a somewhat trailing variety, is very hardy but the fruit is too soft for a good commercial variety. Gregg is frequently grown in the southern and eastern counties. Black raspberries cannot be successfully grown in the colder parts of the state.

The four varieties of blackberries best adapted to Wisconsin conditions are Eldorado, Ancient Briton, Snyder and Stone Hardy. Snyder is not adapted to heavy clay. Eldorado is grown the most.

Home Grown Plants May Be Used

If one has a plantation and desires to start a new one, the necessary plants may be secured from the old plantation, providing it is free from serious diseases. With red raspberries and blackberries, the suckers arising between the plants or between the rows may be used. They should be dug at the time of planting, preferably taking with them a small portion of the root from which the sucker developed.

The black raspberry and the purple canes grown in Wisconsin form new plants by developing roots at the tips of the canes during the latter part of the growing season. If plants are desired, it is advisable to cover the end of the canes about September 1 to insure the rooting of a sufficient number to meet the demands of the new plantation.

Plant Early

Plant as early in spring as possible, as late planting is much more likely to result in loss of plants. If not ready to plant when the plants are received from

the nursery, remove them from the package, open the bundle and spread the plants along a narrow trench covering all the roots with fine soil. A cool place protected from sun and wind is best suited for this purpose. Make the time between the receipt of the plants and planting just as short as possible. The longer the plant is out of the ground, no matter how well it is cared for, the less likely it is to make satisfactory growth after planting.

Three Systems of Planting

There are three systems of culture used in growing brambles: hill, linear and hedge row. In the hill system, the plants are retained as individuals and are planted at sufficient distances to permit of tillage both between and crosswise of the rows.

The linear system is like the hill system, but the plants are set closer in the row so that tillage is confined to one direction. In this system a trellis support usually takes the place of the stake support used in the hill system. The linear system is preferable for the black raspberry and purple cane raspberry.

In the hedge system, plants are allowed to develop in the row between the original plants. Because of their suckering habit, red raspberries and blackberries are usually grown after this system. Constant attention is necessary or the plants become too thick and the rows too wide. In fact, in a great many home plantations, failure to confine the plants sufficiently results in the disappearance of the rows and the plantation degenerates into the proverbial "patch" which precludes proper cultural practices, and results in much trouble and discomfiture in harvesting the greatly reduced and inferior crop. Firmly resolve before setting these fruits to adopt some definite system and then stick tenaciously to it.

The kind of fruit and the vigor of the variety influences the distances of planting. The usual distances in Wisconsin when the linear or hedge row systems are used are given in the following table:

Kind	Distance between plants	Distance between rows
Red rasp.	2½—3 feet	6—7 feet
Black rasp.	3—4 feet	7—8 feet
Purple rasp.	4 feet	7—8 feet
Blackberry	2—4 feet	8 feet

Set Plants With Care

The chief essentials of success in planting are protection of the plants from drying out during the operation and good contact between the roots and the soil. The tops should be cut back to about 6 inches. The top makes handling somewhat more convenient and serves as a marker for the plant. If it is diseased, it should be entireley removed, as so doing may avoid having the new canes diseased. Its removal does not injure the plant. The roots may be pruned somewhat if they are so long as to interfere seriously with planting. Set the black raspberries and purple canes not more than two inches deeper than they stood in the nursery. Red raspberries and blackberries may be set somewhat deeper. Some growers prefer setting black raspberries and purple canes much deeper on account of better moisture conditions and the support which the canes get from the soil. This is permissible providing the plants are covered shallow at first and the trench or hole filled in as new cane growth takes place.

Three methods of planting are commonly used. One is the furrow which is frequently employed in making extensive planting. In the "hole" system a hole is dug as in planting a fruit tree. This method is desirable if planting has been delayed until the tender new shoots have started. It permits of more careful handling and less breakage. For quick work and easy planting, the spade method is very satisfactory. The spade is held with the concave side toward the operator. The blade is inserted into the soil to the desired depth, usually its entire length. With a forward and backward movement, an opening is made, the spade partly or entirely removed, depending upon soil conditions, and the plant inserted in the opening. The spade is again inserted into the soil, about 3 inches nearer the operator and the soil is firmed against the roots of the plants by pushing the handle of the spade away from the operator. In this method two men, one to operate the spade, the other to set the plants, make for more rapid and efficient work. Whatever the system used, fine soil pressed firmly against the roots is necessary for successful planting.

Till! Till! Till!

Much of the success in growing any cultivated crop depends upon the kind of tillage given. The brambles are cultivated crops and demand thorough and frequent tillage if good results are to be had. It should start immediately after planting. Loosen the packed soil between the rows, and around the plants. Repeat the operation frequently, maintaining a soil mulch on the surface and keeping down the weeds. Till shallow; two or three inches is as good as deeper tillage and better with red raspberries and blackberries as it does not result in the production of as many suckers as does deep tillage.

With red raspberries and blackberries, the suckers will need special attention. Those growing between the rows should be cultivated or hoed off. The same is true of those between the plants if the linear system is used or if they become too numerous in the hedge row system. Continue tillage until late summer or early fall.

Plow or Cultivator?

The first cultural operation in spring is breaking up the surface soil and the covering of fertilizing materials, covers or weeds. Shallow plowing is necessary on the heavier types of soil or where there is much refuse to incorporate into the soil. Plowing toward the rows one year and away the next is most

satisfactory. Plow as shallow as possible and still cover the refuse.

On lighter soils where there is little or no litter, a heavy cultivator or a short disc gives very satisfactory results. A grape hoe, a special type of cultivator used by vineyardists, also does good work.

Follow the plow with the cultivator until the soil is leveled and a good tilth re-established. Cultivate at least until picking time. Some growers continue to cultivate during the harvest, and while there are some disadvantages, the advantage gained in conserving soil moisture probably offsets them. Resume tillage after harvest and continue until fall or until the cover crop is sown.

Should We Inter-Crop?

Growing crops between the rows probably gives no advantage if continued after the first season; and many growers believe that it is not a desirable practice even the first season. If it is done, the crop should be a tilled crop and be confined to one or two rows in the center of the space between the rows of fruit. Strawberries are not recommended as an inter-crop for brambles.

What of the Fertility?

Failure to keep up the fertility and organic matter in the soil means an unprofitable plantation within a short time. Upon the lighter types of soil and frequently upon the heavier types, the addition of some plant food is desirable. Well rotted stable manure, 10 loads per acre, fills the bill as well as anything and also adds organic matter. However, care must be exercised not to use nitrogenous fertilizers too freely as they cause undesirably heavy vegetative growth.

The use of a cover crop, or on small plantations mulching with the lawn clippings, will help keep up the supply of humus.

Pruning Essential To Success

In the spring one to three new canes usually arise from buds at the base of the canes. Red raspberries and blackberries also send up new canes from the roots, frequently at considerable distance from the base of the plant. These canes may or may not produce branches the first season, depending upon the kind of fruit, the vigor of the plants and pruning practices. The second season, the canes, or their branches, send out lateral shoots which produce the fruit. After maturing its fruit the cane dies.

Three Essentials in Pruning Brambles

1. Removal of fruited canes.
2. Thinning. Removing weak canes and those not desired for fruit production.
3. Heading-in. Pinching or cutting back the ends of canes or laterals.

Remove Old Canes Soon After Harvest

Fruited canes are of little or no further value and may be a source of insect or disease infection of the new canes. It is advisable therefore to remove them as soon as possible after harvest.

Some thinning is usually desirable at the time the old canes are removed although, under Wisconsin conditions, it is probably best not to reduce them to the exact number desired, as unusual winter killing may make it desirable to leave a greater number than anticipated. Weak canes should be removed. If more canes than desired still remain and two or more of those remaining arise from the same old cane, remove one or more of them.

Growers do not agree as to the number of canes to leave. When red raspberries are grown after the linear system, 4 to 6 canes per plant are sufficient. In the hedge row system the canes should be not less than 8 inches apart. Blackberries and black and purple cane raspberries are commonly grown after the linear system. Three to five canes per plant are usually left.

Should Summer Pinching Be Practiced?

Probably no other question regarding pruning practice is more under debate in Wisconsin than whether or not the canes should be headed back in summer. Most growers will probably agree that red raspberries should not be headed back, but there is no such agreement as regards the other types of brambles. In the writer's opinion summer pinching, if properly done, is desirable with black raspberries and purple cane raspberries. This is especially the case with black raspberry when unsupported or trained to a low trellis. The Columbian, which is the variety of purple cane most grown in Wisconsin, makes such vigorous and heavy growth, if left to itself, that proper heading back in the spring cannot be done without serious reduction of the crop. With the blackberry, summer pinching is not so important.

If summer pruning (pinching) is to be practiced it is very important that it be done at the proper time, which is at the time the new cane reaches the desired height. For black raspberries this is 18 to 20 inches, and for purple canes about 28 to 30 inches. The height at which blackberries are "pinched" is 30 to 36 inches. Letting the canes get longer than desired and then heading them back to the desired height does not give the same results and is favorable to winter injury because the laterals are later in getting started. As all the canes do not reach the desired length at the same time pinching will need to be done two or three times during the season.

Spring Pruning Practices

The first item in spring pruning is the removal of any excess canes left the previous summer. Many growers do no other pruning of the red raspberry. Others do some heading back. The desirability of heading back depends upon the height of the canes and their method of support. If the canes are vigorous and well supported,

little or no heading back should be done.

Even though not summer pruned, black raspberries and purple canes produce laterals, so whatever the treatment the previous season, the principal problem in spring pruning of these fruits is heading-in (cutting back) the laterals. While there are differences between the various varieties as to the fruiting area of the laterals, on the average, laterals on black raspberries should be left 10 to 15 inches long and on purple canes 15 to 18 inches. On blackberries, they should be left 15 to 20 inches long.

Supports Are Usually Desirable

As a rule, artificial support for the canes is desirable. This is particularly true with varieties with weak canes or when unusually long growth is made. Three types of trellis are commonly used; the single wire, the two-wire horizontal, and the two-wire vertical. Posts for all are set from 20 to 30 feet apart. The height of the posts above the surface of the ground is from 3 to 5 feet for the single wire and horizontal wire systems, although usually about 4 feet.

In the single wire systems, a No. 10 wire is stapled to the posts and the canes tied to the wire. The canes may be tied loosely in groups or singly.

The two-wire horizontal support is more expensive to construct but it eliminates tying. A 15 to 18 inch cross-piece is fastened to the posts at the desired height and a wire fastened along the ends of the cross-piece.

Two by four inch material makes satisfactory cross-pieces. The wires are kept from spreading too much between the posts by stapling loosely to them pieces 1x1 inch or 1x1½ inches. These can be spaced at any desired distance between the posts.

The two-wire vertical trellis is little used except for tall growing varieties of red raspberry. Under Wisconsin conditions, it is doubtful whether this form of support is ever advisable. It necessitates longer posts and more attention to tying up the canes.

Is Winter Protection Advisable?

This question cannot be answered by "yes" or "no." Doubtless in some parts of the state, protection will more than pay for the expense and trouble. In others, when proper varieties are grown, it might save a crop in a very unfavorable year and be of no benefit during a number of years. The first thing a grower should do is to select varieties, if possible, which will stand up under the climatic conditions of his section as they usually obtain expecting some losses in unfavorable winters. If one cannot secure varieties hardy enough to stand up under average winter conditions, then he had best give winter protection.

Protection may consist in merely bending the canes over as close to the ground as possible without too much breakage, fastening them down by putting soil on the ends or by staking down the trellis wire. If the canes are in hills, the tipping over is made easier by digging under the side of the hill, and then forcing the plant away from the side loosened, obliquely into the space between the rows. A large fork is a convenient tool for pushing the canes over. In some cases the canes are covered with straw or earth. Covering, especially with soil, is so expensive as to make the value of the operation questionable.

Green Berries Possess Poor Flavor

There are two principal things to give attention in harvesting the crop—ripeness and picking clean. Raspberries are ready to pick when they separate readily from the "core." If allowed to become too ripe much fruit is lost by being jarred from the plants by wind or by the disturbance in picking, and the quality is reduced. Leaving berries which are ready to pick usually means that that fruit is lost or is too soft at the time of the next picking. It is somewhat more difficult to determine the proper time for picking blackberries. As a rule they are picked too soon, with the result that the quality is much poorer than if the fruit had been left longer on the plant. The blackberry is still green when it has turned red and it turns black some little time before it is fully ripe. For highest quality it should not be picked until it is fairly ripe at which time the stem separates quite readily from the "core."

When conditions are favorable for ripening of the fruit, the plants should be gone over at least every second day. The observance of two or three other precautions will also help give a finer product. Frequently the container in which the berries are picked is too large. By putting too much fruit in a container the first fruits are mashed, sometimes so severely as to be of little value and entirely unmarketable if they are offered for sale. This condition often results with the red raspberry. The most desirable container for red and purple cane raspberries and blackberries is the pint box. Black raspberries are somewhat firmer than the others and can be handled in quarts but if the fruit is to be marketed, pints are preferred. The fruit goes to market usually in a 24 pint case.

The bramble fruits deteriorate rapidly when left exposed to the sun after picking. Get the fruit into the shade just as soon after picking as practical. Unless it is to be used at once, do not pick the fruit while wet.

As with other fruits, the yields vary so much with the vigor of the plants, cultural and seasonal conditions that it is impossible to give any very accurate suggestion of the amount of fruit that can be expected. When conditions are reasonably favorable, the following yields may be expected for 100 feet of row: red raspberries 25 to 35 quarts; black raspberries 30 to 40 quarts; purple cane 35 to 45 quarts; blackberries 40 to 50 quarts. Sometimes the yield is larger, frequently it is less.

How Many Crops?

The commercial grower who takes good care of his plantation and is fortunate enough to keep out diseases and serious insect pests, plans on keeping his purple canes and black raspberries for 6 or 8 years; red raspberries 8 to 10 years and blackberries 8 to 10 years. In the home plantation they are frequently left for longer periods. However, the desirability of doing so will depend upon the care which has been given the plants, the success with which serious pests have been kept in control, and the precautions exercised in keeping up the organic matter and plant food content of the soil.

Diseases Are Most Serious Pests

Several insect and plant diseases are frequently injurious to the brambles. As a rule the disease pests are most troublesome. For three of these which are common in Wisconsin, there is no satisfactory remedy, the control measures being the removal of the infected plant. They are: crown gall, orange rust and mosaic. Crown gall is characterized by abnormal growths or excrescences at the base of the plant or along the stems. Orange rust appears as reddish brown or orange powdery discoloration on the foliage. Mosaic is characterized by a yellowing and curling of the foliage.

The other most common disease in Wisconsin is anthracnose. It is usually most serious on the black raspberry. The disease ordinarily appears as small reddish spots on new canes, enlarge and become gray to white in the center with reddish margins. The disease may spread over the fruiting branches and cause the fruit to be small and not to ripen. The treatment is to start with disease-free plants. Keep the rows free from weeds and excess growth. Spray preferably twice each spring. The first application should be made when 2 or 3 leaves have unfolded on the old canes, using 1 quart liquid lime sulfur to 9 of water. The second application is made about one week before the blossom buds open. Use liquid lime sulfur, 1 part to 39 of water. Care should be taken to thoroughly cover both the old and the new growth.

Spur blight is sometimes troublesome but if spraying is done to control anthracnose, it will be held in check sufficiently as not to be serious.

Insects May Cause Damage

Two cane borers are more or less destructive. One lays its eggs in the cane a few inches from the tip. It then makes two rows of punctures, one above, the other below the point at which the egg was deposited. This causes the tip of the cane to wilt making it easy to detect the infected canes. The tips of the infected canes should be cut off a few inches below the point of injury. The other cane borer burrows in the wood of the canes causing enlargements of the cane. A section of the cane an inch or more in length will appear swollen. Cut off the cane below the point of enlargement and destroy the infected part.

During the past two or three years, the snowy tree cricket has been causing considerable injury to raspberries in some sections of the state. The adult female deposits her eggs in a row in the side of the canes. Later on the canes crack open exposing the cylindrical shaped eggs which are readily detected. Cut out infected canes early in the spring and burn them. If the plantation is seriously affected, it may be advisable to sacrifice one crop and cut off all the canes so that the new canes may be free from the attacks of the pest.

The larvae of the raspberry sawfly may cause considerable damage by eating the foliage. They eat holes in the leaves and may consume all of it except the veins. Unless it appears to be unusually severe no remedial measures are taken. Heavy infestations may be controlled by spraying with arsenate of lead, 1 pound to 50 gallons of water (1 oz.—6 level tablespoonfuls—to 3 gallons) during the early part of the attack.

Currants and Gooseberries

These fruits may be grown on a great variety of soils, although they do best on cool, well drained, fertile silt or clay loams. A northerly exposed, gentle slope with enough elevation to have good air drainage is desirable. Soil preparation includes liberal fertilization with manure, well rotted manure being preferred, deep plowing and thorough harrowing. If the tract selected is in sod, or if fresh manure is used, the plowing should be done in early fall. It should preferably be replowed and harrowed in the spring just before planting.

Many Varieties From Which to Select

As all varieties of currants and of the American gooseberry are seemingly hardy in Wisconsin, the grower has a considerable list from which to make his selections. Several varieties have become so mixed that some probably have been entirely lost or the same variety is being sold under a number of names.

The grower usually groups currants into large and small fruited varieties. Large fruited varieties are much in demand, although frequently they are less productive than some varieties with smaller fruit. The Perfection is most planted of the large fruited varieties. It is a particularly desirable variety when grown on a congenial soil, as medium clay loam, but it does not do well under all conditions and has frequently proved disappointing under Wisconsin conditions. Wilder is rapidly becoming the most popular commercial variety. The fruit is medium to large; the plants are of erect growth, and it is doubtful if any other variety surpasses it when subjected to the varying conditions of soil and climate existing in Wisconsin. Diploma is one of the less well known varieties. It is large-fruited and an exceptionally good

variety for the home fruit garden. The Red Dutch, also sold under the name of North Star, is one of the best of the small-fruited varieties. It possesses good quality and is unusually productive. If one desires a late variety to prolong the season, he should make a choice between Long Bunch Holland, also known as Franco-German, and Prince Albert. These varieties in addition to being late seem to be less susceptible to unfavorable cultural conditions. When a white variety is desired the choice should be White Grape.

Grow American Gooseberries

The American gooseberry is not so large nor attractive as the European, but its greater hardiness, greater resistance to disease and on the average better producing ability makes its selection preferable under most Wisconsin conditions. Downing is a large, green fruited variety. Josslyn (Red Jacket) has large reddish-green fruit. Oregon, a late, green variety, while not much grown in the East, is the most popular variety in the West and gives promise of being well adapted to the East. Poorman, a new variety, has the largest fruit of any of the American varieties. It has not been extensively tried, but where grown has proved exceptionally good. The fruit is red when mature. It is productive and has less objectionable thorns than other varieties. Pearl sometimes offered seems to be practically identical with Downing. The number of plants depends upon the amount of fruit desired and the productiveness of the plants. Currants in full bearing, if given good care, should produce 5 to 7 quarts each, and American gooseberries somewhat more.

How to Secure Plants

Probably the most desirable way to secure plants is from the nurserymen. Only strong one or two-year-old plants should be used. When received from the nursery they should be cared for as directed for raspberries.

If one has some old plants, he can propagate his own plants for a new plantation. As only a few plants will be needed, layering will usually be the most satisfactory method.

In early spring select a vigorous growth of the previous season. Bend it over to the ground and cover a portion 8 to 12 inches in length with 4 to 6 inches of soil. If the cane has considerable spring it will be well to peg or weight it down, as the part covered must be kept motionless if a good root system is to develop. Under ordinary conditions the new plant will be ready for planting the following spring. Older canes can be used but they are less likely to develop a strong, vigorous root system.

Planting—When and How

Early spring planting is best in Wisconsin. Five by five feet is the minimum distance for ease in cultivating and harvesting. Large growing varieties like Wilder and Franco-German, when grown on rich soil, should be given more room. These distances are also adapted to the American gooseberries. If European varieties are grown, four to five feet will be sufficient.

The roots of currants and gooseberries may be cut back somewhat at planting. The amount varies with the strength of the root system and the size of top to be left. They should be kept at least six inches long.

The plants may be set by any of the methods described for planting the brambles, although the larger root system makes it somewhat difficult to plant currants and gooseberries by the "spade method" unless the soil conditions are extremely favorable.

The plants should be set deeper than they stood in the nursery. Setting them deep enough so that the base of the bottom branch is below the surface of the soil is not too deep.

The tops should be pruned somewhat at planting. The weaker canes should be removed. The canes left should be cut back depending upon the extent of the root system. Canes about 6 inches long will be satisfactory under most conditions.

Neglect Reduces Crop

While currants and gooseberries will give some return when subjected to the greatest neglect, they respond quite as readily as other fruits to good treatment. They should be cultivated the same as other small fruits and not forced to grow in competition with the weeds and grass in some out-of-the-way corner.

Tillage should begin right after the plants are set and continue until about July 15. As both currants and gooseberries are shallow rooted plants, tillage should be shallow, especially near the base of the plants.

A great many commercial growers follow tillage with a cover crop. The principal object of this crop is to add organic matter to the soil so as to keep it in good physical condition. Unless these fruits are grown in conjunction with the brambles the plants are not numerous enough to make this method very practical. In such cases mulching with a 2 or 3 inch layer of well rotted manure would seem to be preferable. If cover crops are used, some rapidly growing crop which kills with frost is preferable.

Keep the Soil Fertile

Currants and gooseberries like fertile soil. Large crops of fine fruit cannot be obtained unless there is an abundance of food material. If the mulching system suggested above is followed, other additions of plant food will not ordinarily be necessary.

Follow a System in Pruning

The difficulty in pruning currants is greatly increased by neglect. Systematic annual pruning from planting should be followed. The finest currants are produced at the base of one-year-old shoots

(Continued on page 158)

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BUSINESS POOR

There is very little society news to record this month. No meeting of the Board of Managers has been held since March 28, although a meeting has been called for the first week in June.

The plant premium campaign was satisfactory, bringing in about 200 new members. The total number of applicants for premiums is 288 but many of these are renewals.

New memberships average about two daily which is very low but this is the dull season, everybody busy.

We would like to have your renewal now. Over 200 members are in arrears and all have been notified once. Another gentle hint will be mailed soon. You can save us postage.

BEG PARDON, MR. GERTEN

The article on pp. 141–142–143 of May number should have been credited to Mr. Frank Gerten, South St. Paul, Minn., who is secretary of a large organization of Minnesota vegetable growers. Mr. Gerten represented the Minnesota society at our annual convention.

WE EDUCATE

The following lines are taken from our Annual Report for 1924 and comprise the closing remarks of the Secretary in his annual report. In view of the changes now progressing these words seem timely.

A closing word: I wish to emphasize, to reiterate what I have said so many dozens, perhaps hundreds, of times, to impress, if I may, upon you that the State Horticultural Society is first, last, and all the time an *educational institution.* Sometimes some of you have forgotten that. We are an educational institution as truly and as fully as the great University of Wisconsin and in the lesser and corresponding degree. In this there apparently was some difference of opinion a year or two ago as to whether commercial men should do this, that or the other thing that might be to the detriment of the society, and whether the amateurs should wholly dominate the society. If you would keep to that one idea which I firmly believe to be true, that the society is an educational institution, these differences would disappear at once and we would have the efforts of all the members of the society working to one common end. One class of members have the same right as another, whether amateur or professional. Neither should, can, nor will dominate the society. When you do that, *if the occasion should come when this society should become a purely commercial organization with twenty men sitting here instead of a hundred, and those twenty men commercial men, then is the end of the usefulness of the state horticultural society.—From Reporter's Transcript.*

CHARLES HIRSCHINGER

Hon. Charles Hirschinger passed away at 6:15 this morning, May 11, at his home on Broadway, after suffering a stroke of paralysis Thursday afternoon. He never regained consciousness, but everything possible was done for him. Life seemed to ebb away gradually and without pain or any suffering. During the past few months he had been weakening, but attempted to begin spring activities which have characterized his life for the past twenty-five years—that of developing a number of flower beds about his home.

Mr. Hirschinger was born Feb. 26, 1837, at Capatine, Ohio, and in 1847 came to Baraboo, locating on a farm in the town of Baraboo, which is still known as the Hirschinger place, now owned by Corwin Hirschinger. Although only a lad Mr. Hirschinger remembered at Navoo, Ill., he saw some of the fighting which drove the Mormons out of that locality, who later went to Salt Lake. It was one of the pleasures of his life the past few years to recount events of early history which made a great impression on his mind. He often told of his father, who was born in Alsace, and who was a soldier in Napoleon's army. His father's two brothers, one six feet five and a half tall, and the other an inch shorter, were a part of Napoleon's body guard. Both were killed in action.

Mr. Hirschinger was a man of enterprize as a farmer, nurseryman and breeder of high class stock. He used to enjoy telling how he became a nurseryman. It was the first winter in Wisconsin, when everybody was poor. His father purchased a few Christmas

luxuries, among which was a fine red apple. The lad, Charles, went out in the yard and dug down into the snow which was a foot deep, and planted the seed. He became deeply interested and for many years was the leading nurseryman. He furnished the foundation for many of Sauk county's orchards.

Mr. Hirschinger was always interested in public affairs and politics. For many years he represented his town on the county board, and also served as assemblyman in the legislature. He always proved himself worthy of public trust, as his neighbors found him in their dealings. He had a faculty of accumulating wealth so that in the declining years he could live as he pleased, but careful management of his affairs to be the life's characteristic. Even the past year he invested in city home property and business buildings with as much care as if he would always live.

He was married to Miss Catherine Zorn on March 24, 1858. She passed away two years ago. No children were born to this union. The nephews surviving are Louis Hirschinger, Milwaukee, and Corwin Hirschinger, Baraboo; nieces, Mrs. E. H. Roser, Baraboo; Mrs. Mabel Grosenberg, and Mrs. Lydia Smith, Rock Valley, Iowa.

The funeral will be held Monday afternoon from the first M. E. church, Rev. Kundert officiating.—Baraboo News.

WANTS TO KNOW AND WE ARE WILLING TO TELL.

"I desire a little information on root pruning, for dwarfing and early fruiting of trees.

In this northern section, Lincoln county, we have an early fall frost almost every year and it takes the unripe plums.

Hansen's hybrids ripen before it gets them; and after the frost a long period of warm weather follows. In my opinion I believe that by keeping a tree or two low-headed it will be possible to cover it and keep frost injury away."

"The information which I have is dormant pruning promotes wood production; summer pruning, within certain limits, promotes fruit production; and fall root pruning promotes fruit production."

"What or when is fall root pruning? In some parts of the United States it is still fall when we have winter. In what stage of the tree's development should root pruning take place? that is when leaves are still storing starch or when they have fallen off?"

I am considering setting out pears in the Spring some of the hardy blight resistant varieties lately introduced and there is one thing I would be pleased to know and that is are the fruits very sensitive to frost such as plums or hardy such as the apple?"

W. B.

The conclusions stated in regard to dormant and summer pruning are correct in principle but these are only principles and although founded on scientific data their application in practical work is affected at every step by conditions of tree, soil, climate, etc.

So far as root pruning is concerned I have never heard of it nor known it to be recommended as an aid either in checking tree growth or production of fruit. I am unable to locate any scientific data on root pruning and am inclined to class it as wholly empirical. Trees as a rule need all the roots with which nature has provided them.

You cannot change your climate and we doubt that you can change your trees to fit the climate by any horticultural practice.

The search for a blight resistant pear has been long and weary and to date unsuccessful. The late C. G. Patten spent a life time in the effort to produce one, crossing the Chinese pear on European varieties and failed. Prof. N. E. Hansen has just started on another journey to the heart of Asia with the avowed purpose of finding a blight-proof pear, let us hope he will succeed. In the meantime the gullible public spends its hard-earned dollars on "blight-resistant" or "blight-proof" pears happily, joyfully and expectantly.

OUT OF THE MOUTHS OF BABES

The following delightful bits of childish wisdom come to us from one who loves children and children's gardens. With care and loving kindness both grow,—you, kind reader, may complete the simile.—Editor.

"I'll give you a few gems to fill in odd corners, if you can find a place for them. Here's one for your spraying department, perchance!"

I had been reading Bible Stories to a flock of children and had read "If thou wilt diligently hearken to the voice of the Lord thy God, and will do that which is right in his sight" etc. "I will put none of these diseases upon thee which I have brought upon the Egyptians."

The following evening small Rudolph asked thoughtfully, "Aunt Jeano what are D z'ses anyway? Is a D Z a bug? Sidney from the seat of the scornful (Sidney has an Uncle Doctor) answered, "Naaw! They're *germinations!*"

Here's another—Geology of Wisconsin. Bobby came tearing up from the lake, his face aglow, holding out a small fossil fern and shouting, "Oh lookit! I've found a *perpetualfied* feather!" Do you know that seems to me a pretty satisfying synonym for *petrified.*

PERMANENT LABELS FOR PLANTS

Sometimes we forget what we have planted and where. Wood labels are only good for one season, or less. Zinc is the best cheap material for labels. After that a good permanent ink is essential. The following formula is vouched for by H. C. Cooper, president of the South Dakota horticultural society.

1 dram copper acetate.
1 dram ammonium chloride.
½ dram lamp black.
10 drams water. Mix thoroughly.

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

AN EASTERN IDYL

By a Western Idler

A Crimson Rambler creeps his way
Through sun and shadow every day;
Opens for him the Morning Glory;
Nor does the Night Shade close his story;
He asks not why the Snow Drops white,
Nor questions if the Dog-Wood bite;
He grieves to hear the Crocus croak,
He grieves to see poor Arti-choke.
He loves to hear the Hare Bells ring,
He loves to see Spring Beauties spring—
And spring and spring till Tu-lips meet,
Nor find such Candy-Tuft to eat;
Sweet Peas he seeks instead of Wars
Tho not averse to Shooting Stars;
No Golden Rod is his to hold;
He'd not descend to Mari-gold;
Sad Bleeding Hearts he never makes;
No lock of Maiden's Hair he takes;
Then why the "Crimson" in his name?
Why should he wear the blush of shame?
Alas—he Vio-lets the law—alas—
The law which says "Keep off the Grass."
Then gives some Dande-lion talk
Of how Prim Rose along the walk
Prevent his going as he please,
So goes to Grass to get Hearts Ease;
Jack in the Pulpit now cries out pat;
"I'll never stand a Lilac that;
In your excuse I take no Stock,
Begon-ia must by Four O'Clock!
And you shall find that from this Thyme
'Twill take Ten-drils to help you climb!"
The Rambler now, all Crimson, Rose—
Calling to us as on he goes—
"O Love-in-the-Mist of this dear spot,
I Beg of Yew—Forget Me-Not."

AUTUMN CROCUS

Parkinson said in his Paradisus Terrestris, 1629, of Parkinsonii Colchicum autumnale," "This most beautiful saffron flower riseth up with his flowers in the Autumn as the others before specified doe—although not of so large a size, yet farre more pleasant and delightfull in the thicke, deep blew, or purple coloured spots thereon, which make it to excell all others what-so-ever; the leaves rise up in the spring, being smaller than the former—for the most part three in number and of a paler or fresher green in colour lying close on the ground, broad at the bottome, a little pointed at the end, and turning or folding themselves in and out at the edges as if they were indented. I have not seen any seeds it hath bourne—the root is like unto the others, but small and long and not so great, it flowereth later for the most part than any other, even not until November and is very hard to be preserved with us, in that for the most part the roote waxeth lesse and lesse every year, our cold country being so contrary unto his naturall, that it will scarcely show his flower; yet when it flowereth anything early, that it may have any comfort of a warm Sunne, it is the glory of all these kinds."

This quaint description written several hundred years ago, can be relied upon as being more truthful than one I saw at the State Fair several years ago—when I passed a booth where bulbs of the Autumn Crocus were heaped up and labeled: "The wonderful Japanese Pansy bulb—very rare, no trouble to grow however—just drop the bulbs in a bowl of water. beautiful Pansy like blossoms and fern like foliage." "Take some home with you and surprise your neighbors and friends."

Glass bowls and small aquariums held a number of the bulbs in *full bloom*, a half dozen pansy blossoms and some sprays of Asparagus Plumosa were cleverly inserted in the neck of the bulb. and made a very attractive display. They were placed far enough back in the booth so meddling fingers could not disturb the bulbs and the proprietors were lustily shouting out their attractions.—and an eager crowd were purchasing the bulbs at twenty cents apiece or three for fifty cents. as fast as they could be handed out. A protest was sent in to the Secretary's office and they were ordered from the grounds. Had the bulbs been sold for what they really were they would have gained many friends. The fact that they will bloom without soil or water lying on a shelf or sunny window would have been as much of a novelty to many people as the Japanese Pansy, and the lavender blossoms are quite attractive.

Very often children and grown folks as well become interested in flowers through such novelties as the Ressurection Plant, Autumn Crocus, etc., and they should have a place in exhibits of plants and flowers for this reason.

Is He Right?

My neighbor is grading and improving his lots, but is anxious to have fruit trees growing, so he selected a spot that need not be disturbed, ordered his apple, plum and cherry trees and planted them in bushel baskets of good soil placed on this spot of ground, filling in between and around them with top soil. Next spring he contemplates moving baskets and trees to their permanent homes in the garden, and believes he will have gained a year by so doing. What do some of the tree experts think about this? He is one of the new members of the Horticultural Society and will be glad of advice.

(No need of advice, he will know when he begins digging the *baskets*. I would like to be there at the time, out of reach but within hearing.—F. C.

DOVE IN THE CHARIOT

We have the following concise and definite information from Mr. Frank Grether in response to the inquiry of C. C. E. on p. 136 of May Wisconsin Horticulture.

"Dove In the Chariot," Täubschen im Wagen, is Monkshood (Aconite). One of the five sepals is keeled and forms the chariot and the pistil is the dove."

K. C. Davis in Standard Cyclopedia of Horticulture says, "Aconites should never be planted in or

too near the kitchen-garden or the children's garden, as the roots and some of the flowers have a deadly poison."

PRICE SPREAD ON FARM PRODUCTS ARE STUDIED

We print the following communication from the U. S. Dept. of Agr. in the hope that it may inspire comment. Both fruit growers and consumers should read it.—Editor.

Few things arouse more bitterness in the farmer's mind than the spread between the prices he gets for his products and the prices paid for the same goods by the ultimate consumer. This spread, in the case of many products, has increased in the last decade. Various explanations of this fact have been offered. These explanations, according to the United States Department of Agriculture, are mostly incorrect because founded on unreliable data. It is often charged that the margin between prices paid to farmers and prices exacted from consumers largely represents an unfair profit taken by distributing agencies. Studies made by the department, however, have shown that net profits taken by so-called middlemen are an insignificant part of the total spread. Such profits seldom amount to more than 5 per cent of the consumer's price, and generally they are less than 5 per cent of it.

It is the cost of furnishing distributing service rather than the profit taken by the distributors that widens the spread between producers' and consumers' prices. Distribution costs, as a matter of fact, generally account for about 95 per cent of the spread. This has been demonstrated by investigations which the department has made to determine what portion of the retail price accrues to each agency in the marketing chain in the case of several important commodities. It has been shown that service costs incurred in the distribution process affect consumers' prices much more than those prices are affected by fluctuations in the farm value of agricultural products. A study recently made into the margins and costs of the marketing of apples grown in the State of Washington affords a typical illustration of what makes the farmer get so much less for his products than the consumer pays.

This study was based on data collected from 13 fruit shipping associations in the State of Washington, whose boxed apples were marketed in the New York district. The average retail price per box of extra fancy and fancy grades was $5. Out of this price the grower's portion, per packed box, was only $1.18. Moreover, this amount was in no sense a net return to the growers. It had to cover such marketing expenses as the cost of boxes, paper, nails, labor, overhead charges, etc., amounting altogether to about 40 cents a box. There was consequently left to the grower, after these expenses had been paid, 78 cents a box. From this 78 cents he had to deduct all of his expenses of production, which include such costs as pruning, spraying, irrigating, thinning, fertilizing, picking, equipment maintenance charges, hauling to central packing houses, taxes, and interest on investment in orchards and equipment. It should be noted too that these figures deal only with the best grades of apples. Returns to the growers for apples of smaller size and inferior grade were undoubtedly smaller.

After every necessary charge is met, therefore, the grower's share of the $5 which the consumer pays for a box of extra fancy Winesap apples in New York is pretty small. The important queestion is, Do the other persons engaged in getting this product to the consumer fare relatively better? On this point the department does not express a definite opinion. It does, however, figure out the share of the final price which goes to each link in the distributing chain, and it throws some light on the forces that determine the varying shares.

Thus, the retailer is credited with taking $1.87, or 37.4 per cent of the total retail price. But this is the retailer's gross margin, not his net profit. Before realizing a profit, he has to meet many expenses. These include moving the box of apples from the jobber's warehouse to the retail store, clerk hire, delivery costs, credit expenses including losses from bad debts, shrinkage in quantity or quality of the apples, cost of wrapping material, building costs such as rent or taxes, insurance, depreciation, etc. and other items. The chief function of the retailer is the distribution of boxed apples to consumers in lots of less than one box. Where he must make many sales to sell an entire box, his expenses are of course increased.

In the same way the jobber's margin is made up largely of unavoidable distribution costs. On the apples covered in this study the jobber's margin was 49 cents, or 9.8 per cent of the total retail price. The wholesaler's margin was 39 cents, or 7.8 per cent of the total retail price. The jobber, it is pointed out by the department, has distinct services to perform in the marketing of boxed apples. He has to buy apples in central wholesale markets, transfer them to jobbing centers at his own expense, and sell them to retailers. Similarly the wholesaler, who buys in car lots and sells to jobbers in less than car lots, has to pay storage charges, unloading and handling expenses, charges for delivery to jobbers' trucks, credit expenses, and losses due to shrinkage of fruit in cold storage or in handling.

Transportation charges took 80 cents, or 16 per cent of the total $5 retail price. Shipping organizations' market margins averaged 27 cents or 5.4 per cent of the total retail price. This margin included not only the expense incurred in assembling and shipping apples, but also charges levied by outside agencies for selling functions. Service costs, in short, were the main cause of price spreads at every stage in the process of distribution.

Accordingly, the department is making investigations to find out how these costs can be reduced. They are affected by the efficiency of the methods used in handling commodities. An important influence is the business environment in

(Continued on page 159)

THE FLORIST'S PAGE

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

UNITED THEY STAND.

HURON H. SMITH

In the good old days, we remember when father used to say, "Now this is going to hurt me worse than it will you, son," and then fanned the seat of our trousers till a more thorough job was produced than a vacuum cleaner could do. Of course, "son" might have had some different ideas about the hurting part. But after-years proved that dad was right. Something of the same thoughts were harboured by certain retail florists in Milwaukee when the florists combined for advertising purposes. The forward-looking florists who proposed the pooling of resources for advertising became the dads, and the erring, shoestring retailers were the sons. And in this case, it proved that dad was right again, and the sons have now become respectable and wealthy members of the community.

The Milwaukee wholesalers started the ball rolling, by quoting that litttle line: "Little birds in their nest agree, so why not we?" Accordingly a special meeting was called by Herman V. Hunkel, of the Holton & Hunkel Co., at the Blatz Hotel, Sept. 6, 1917, to which all florists were invited. It was a leery period of time, when almost hourly the florists expected to hear the war department declare that they were a non-essential industry and couldn't have coal, so the meeting was well attended. Everyone expected the worst, but was soon gasping at the bold plan of advertising on a big scale. The meeting was quite informal and no secretary could have recorded the hectic remarks for and against. At a meeting Feb. 17, 1918, definite plans were submitted and all but eight florists, agreed to a plan of collecting one per cent from the retailers and half a per cent from the growers by the wholesalers. The first collection was levied April 27, 1918. The eight protestants (all retailers), clubbed together and bought on the Chicago market for three or four weeks. Dividing the stock when it arrived proved to be the joker which broke the back of the rebellion, and soon everybody was on the bandwagon.

The Board of Directors consists of three wholesalers, three growers and three retailers. At the first annual meeting, Feb. 10, 1919, results aroused so much enthusiasm that the assessment was doubled to two and one per cent. Out of the sixty present, 58 voted for the increase. Since then it has always been the same ratio, except during the months of February and May when it is four and two per cent. This double assessment was first levied in Feb. 1923. At the end of the first year, $4,873.65 had been collected and $3,708.12 spent for advertising. Last year $20,-876.37 was collected and $22,650.85 spent, which is another way of saying that they increased their business 450 per cent in six years, through advertising. It sounds like they spent more than they collected, but the year was started with a balance of $8,485.48 and closed with $6,711.00. They have voted to never allow the treasury to get slimmer than $2,500. Their motto has ever been never to spend a nickel unless they had it. Their overhead is less than five per cent. Can any other association duplicate this?

The original officers are largely the same: H. V. Hunkel, President; Gust. Rusch, vicepresident, H. J. Seel, secretary. The treasurer is new, Henry Welke, one of the younger gang and the directors for 1925 are Hunkel, Rusch and Pollworth, wholesalers; Eugene Oestreicher, Alfred Locker and Wm. C. Manke, growers; Henry Welke, Art Leidiger and Archie McDonald, retailers. They early adopted a policy of advertising only in newspapers and street cars. As collections increased, they more fully covered these mediums. Then they branched out into bill boards and film ads. Twenty-one local theaters are now using their film ads, and fifty-two bill boards in the four spring months line every approach to the city. They do not advertise on programs, menus, in periodicals or sectarian newspapers. They feel this field is too large and that their efforts would be spread too thinly, so have left this field to the individual retailer. Extra street car cards are printed each time, and each member is furnished a neat frame to use in displaying them, thus tying his business to the local advertising. There is no summer advertising.

This war chest has enabled the Milwaukee florists to participate in several worth-while movements and to get indirect advertising that is tremendous. They have bought quantities of various vases, from time to time and have loaned them to the hospitals to take care of the flowers sent there to the sick. The permanent exhibits of cut and potted plants at the Milwaukee Public Museum for the past seven years have all been donated by them from their Publicity Fund. The spring and fall flowers shows of the Museum starting in the spring of 1922 were the result of that fund and co-operation. Much free newspaper space and unbelieveable crowds to see the shows resulted. Starting with 25 exhibitors in the first show, 62 came to the last show and another record was broken in attendance. In three days, 81,953 people saw the show. This spring show was the seventh and the total attendance combined shows 375,304. The free publicity during these shows was staggering. 193 items and large pictures took a combined space of 1572¾ inches or 76 columns or 12½ solid pages of the daily newspapers.

Although Milwaukee just creeps into the fourteen large cities of the U. S., their Florists Club is the liveliest of the lot, according to their numbers, 117. The local State

Fair week finds them on hand with a much larger display than the Museum one. In fact, they have grown so large that it will be necessary to make an addition to the Horticultural building as large as the present building. They also attend the annual convention in Madison of the Wis. State Horticultural Society and help transform the rotunda of the state capitol into a bower of beauty. They furnish speakers for the program and generally show themselves alive. Only last January they entertained the American Carnation Society and the Rose Society in their annual meetings. The expense of entertainment was oversubscribed by $200, which was returned pro rata.

The Milwaukee Florists Club is not co-equal with the Milwaukee Florists Publicity Association, but the 117 members are all members of the latter. The publicity association includes everybody in the business, while the Florists Club is a social organization, and usually has a turn-out of around 70 members at monthly meetings in the Trustees' Room of the Milwaukee Public Museum the first Tuesday of each month. When ladies night arrives there are about 200 present. These meetings are regular affairs, interesting and concluded with eats and smokes. To join the club, one submits to a real initiation, with a ritual administered by the eight officers of the team. Passwords, signs and grips are furnished and the newest initiate is the most enthusiastic at the next initiation period. Summer meetings are family picnics at the greenhouses of outlying growers, with a full attendance. Annually the Club holds a Benefit Theatre party which furnishes the sinews of entertainment to that committee. This year it was the Greenwich Follies at the Davidson Theatre, Feb. 23rd, with top prices at $3.85. The Club bought out the house and realized $667.00. During the winter months, there are five teams in a bowling league and friendly games are held with the Chicago Florists Bowling league. The florists business was never better in Milwaukee. Follow one of our florists around awhile and you will see that he is enjoying life as well as working hard. They are touring the U. S., making trips over the C. P. R., out to California, to the East Coast, to Florida and Cuba, up to Alaska and mercy knows where else. At a recent fall meeting of the Florists Telegraph Delivery Association in New York City, the writer found them there 16 strong. Several of them are hunters and fishermen and appreciate Wisconsin to the full. In a woods sense, they are sportsmen as well as they are sportsmen when it comes to playing the business game. You will never find them wanting when you ask them for a favor.

JUSTUS SAYS:

"NO TIME"

What do we mean when we say "I have no time" to do this or that?

When the writer was in school we had one teacher who, if any pupil had the misfortune to say he did not have time to do a particular thing, would snap out the reply, "You have all the time there is."

Did you ever think of it in just that way? Each of us has all the time there is, so long as we are on the earth—no one has more—no one has less than you. What then do we mean by the expression, "haven't time." Is it not simply that we think some other work or pleasure takes precedence over the particular matter under discussion.

You say, "Come on Bill, let's go fishing."

"Nope, no time."

Bill has all the time there is, but really means that to his mind, he should stay home and hold down his job. Now does this indicate that Bill is a harder worker than you? It might seem so at first that, but when you go to Bill's farm, you see his barn needs painting, his tools are scattered over the place, and his potatoes need attention, etc. "Bill, why in the name of thrift don't you cultivate those potatoes?" "No time, too busy." Should you go on over the place and ask questions, you would get similar replies to all your inquiries. Why is it?

Bill does not plan his work, he does not work systematically, or perhaps he putters around when he should be at a real honest to goodness job. Suppose you ask him to take part in some community betterment work, you get the same reply.

On the other hand you go to your friend, Joe, and in spite of the fact that he has a bigger farm than Bill and is managing director of the cooperative cheese factory, is a member of the school board and president of the local farmers association, he can take a day off for a fishing trip, can take an active part in every movement for community betterment and yet his farm is kept right up to the scratch all the time. Why?

Joe plans ahead, Joe gives men responsibility and expects them to carry it. Joe has a logical, orderly mind, while Bill has a jumbled up disorderly mind. Of course there are a lot of other points to this idea but we cannot now go into too much detail.

Plan your work and try to hold to the line laid out. It is hard to always follow the best line. We all fail at times, but if we know we have failed, and then are ready to go to it and hit the line hard, there is hope that we may succeed in the end.

Remember that the unpaid work of the world is very largely done by the busiest people. Those who seem to "have time," seldom do anything of general value. It is the one whose schedule is already full who manages to get in the work for community good.

JUSTUS.

That move of offices after nearly eleven years surely started something. We moved again May 1st but only downstairs. The number is now 233–234 Washington Building. Same elevator.

HORTICULTURAL TROUBLES

Edited by E. L. Chambers, Assistant State Entomologist

BEWARE OF THE CANKER WORMS.

Every year orchards are found about the state which have been seriously injured by the canker worms. In the southeastern portion of the state it is not at all uncommon to see an entire small orchard completely defoliated by these "loopers" or "measuring worms" as they are sometimes called. Some of these promising orchards have been defoliated two and three years in succession and yet their owners wonder why they do not get a crop of apples. An apple tree will not stand so much loss of vitality from such injuries and frequently succumb to it. Usually the orchards that suffer the most from this menace are those on our larger general farms where the apple crop is a minor one and consequently the orchard receives minor attention during the rush of the spring work when they need protection and treatment against insects and plant diseases. By the time these ravenous worms strip the leaves sufficiently to attract the farmer's interest from his other pressing duties and the cause of the trouble has been determined it is usually too late. The damage has already been done and not sufficient foliage is left to warrant spraying and the farmer again resolves to be prepared for another year and not let this pest get such a start. Now is the time to be on the lookout for the insect and have the proper "dope" on hand to get it with. All of this loss can be prevented if the proper steps are taken to combat this pest.

Canker worms can be effectively controlled by a careful and thorough application of arsenate of lead at the rate of one and half pounds to fifty gallons of water. To be effective this spray must be timely. If the poison is applied as soon as the minute worms are found upon the leaves it will immediately check them. A slightly stronger strength of poison may be found necessary to be effective if the worms are half grown or further developed. The fact that the female moth is wingless and must crawl up the tree to deposit her eggs after emerging from her pupal cell in the ground make the use of sticky bands a very effective means of control when spraying is found to be impractical. Tangle foot or similar substances may be applied directly to the bark or upon bands of heavy paper or cotton batting closely drawn around the trunk of the tree. To get these effectively the bands should be kept in a sticky condition, and renewed if necessary, until the following May to prevent both the wingless females and newly hatched larvae from ascending the trees.

On account of the characteristic habit of looping this insect has when they are crawling about, and the manner in which they hang down suspended from the branches on silk threads when they are disturbed makes them easily recognized by the horticulturist. The worms are about three fourths of an inch long and pale green or dark brown in color, depending upon their environment and age. The larvae of this insect devour the leaves of various trees but seem to prefer the apple foliage to the rest.

There are two distinct species of canker worms, one being known as the spring form and the other as the fall form. These two forms of moths while they differ in certain features, have much in common. They both pass their pupal stage in the ground after the larvae have matured, the females of each are wingless and each upon emerging from her pupal cell lays her eggs in clusters on the twigs of the tree to hatch in early spring. The eggs hatch at about the same time, although the fall canker worm lays her eggs in the fall and they are allowed to over winter on the twigs while the spring canker worm remains as a pupa in the ground until early spring when she emerges and lays her eggs.

The adult male moth is winged and is of a light gray color with faint markings while the wingless female is of a uniform mouse gray color.

BUSH FRUITS FOR WISCONSIN

(Continued from page 151)

and on one-year-old spurs arising from two-year-old wood and on spurs on three-year-old wood. Spurs on older wood produce fruit but it is much less in amount and smaller than that produced on younger wood. Canes, therefore, are usually past their best fruiting after their third crop.

The chief item in currant pruning is to remove canes which have passed their best fruiting and to replace them with new canes. A good plan is to remove a definite number of old canes each year and leave an equivalent number of new canes to replace them. When a three-year system is followed, nine canes to a plant makes it easy to keep the balance.

The three-year plan can be operated as follows: at the beginning of the second season leave six strong canes. At the beginning of the third season remove two of these canes and leave five strong new canes. At the beginning of the fourth season, remove one two-year cane, two one-year canes and leave three new canes. Thereafter the three oldest canes, those in their fourth year, should be removed and three new canes left to take their place. This will give a plant, at the beginning of the growing season, composed of three canes in their second season, three in their third season and three in their fourth season.

The new canes which are left annually may or may not be cut back. Some growers do no heading-in while others cut back the new canes so as to make them branch nearer the ground. Heading-in is more commonly practiced if the canes are unusually long. Lateral branches will seldom need to be cut back.

More canes will develop during a given season than will be needed for renewals. In removing superfluous canes, especially when spreading varieties are grown, those which have a tendency to droop to the ground should be removed. Dense upright plants should be opened up by cutting out the new canes at the center.

Gooseberry pruning is much like currant pruning. Their fruiting habits are very similar. The gooseberry fruits on one-year wood and one-year-old spurs on older wood. The canes are shorter and branch more freely, therefore the plant is more likely to become dense. The common practice in well-cared-for plantations is to remove wood after it has fruited two or three years, replacing the parts removed with new shoots. It is not so much a question as to what system is used for renewing the wood but rather that the old wood be removed and enough young wood left to give good crops of large fruit.

Pests Demand Attention

With good care a currant and gooseberry plantation should supply the home for from fifteen to twenty years. Neglect of cultural practices and allowing pests free range will not only lessen the production but shorten the life of the plantation.

Three insect pests which are common and seriously injurious are the imported currant worm, currant borers, and currant aphis. The currant worm strips the foliage from the plant often before the grower is aware of its presence, although it has been at work for some time on the lower branches. A good plan is to examine the plants carefully at least once a week until the first of July. If worms are present, spray with arsenate of lead—1 oz. (6 level teaspoonfuls) to 3 gallons of water.

The larvae of the cane borer burrow in the young canes, remaining in them over winter, emerging as adults in May or June. The canes which are attacked make a sickly growth in the spring and may at times break over. Cut out and burn affected canes before the adult emerges.

PRICE SPREAD ON FARM PRODUCTS ARE STUDIED

(Continued from page 155)

which any particular distributing process is done. Another factor is the adequacy of the facilities used. It has been figured, for example, that about 25 per cent of the trucking charge for handling fruits and vegetables in New York City is due to idle time occasioned by the use of unsuitable facilities. Service costs, says the department, are the important point of attack in any study of price spreads. The line of advance would seem to be in the direction of improvement in handling facilities, speeding up sales processes, affecting economies in packing, transportation and handling in wholesale and retail markets. In other words, more efficient service at each stage in the marketing process offers a better prospect of increased returns to the grower than a lessening of the net profits of wholesale jobbers and retailers, since these profits are only a fraction of the total price spread.

OFF-YEAR APPLE PRODUCTION NOT DUE TO LACK OF POLLINATION

Experiments by R. H. Roberts, of the Horticultural Staff of the University of Wisconsin have again demonstrated that the dropping fruit from apple trees which occurs during the growing season is not due to the lack of pollination, for fertilized ovules were present in the second and third drops while practically all of the fruit dropped in either the first, second or third drops was pollinated.

Findings Disagree With Reports

It has been reported that self sterility in apples is due to the slow rate of pollen tube growth. Roberts has investigated this phase of the problem, and his findings do not agree with these reports. While it is true that tubes of self pollinated blossoms do not grow further than from one-third to one-half of the length of the styles, it was repeatedly observed that they make this growth at practically the same rate as the cross pollinated blossoms. It was found that it is the stopping of the pollen tube growth and not the rate of growth which results in apple sterility.

Detailed observations made of blossom buds through the past summer show that blossom bud formation seems to be directly related to the secondary thickening of the wood growth which occurs after terminal elongation is over. Preliminary work was also started dealing with the influence of pruning upon blossom bud formation. Pruning gave similar responses to those previously secured by varying the nitrogen fertilizer. This means that the type of growth which results was due to factors associated with blossom bud formation and not the particular cultural treatment.

Make Orchard Disease Studies

By means of specially devised apparatus which made possible the determination of the number of apple scab spores per cubic foot in orchard air, the discharge of these spores was carefully observed. It was found that the spores of the scab fungus were discharged abundantly from the overwintered leaves on the ground at the time when the first apple cluster buds begin to break open. Infection was noted on one variety twenty days before the blossom buds were in the "pink" stage. In fact, fifty-eight per cent of the blossoms in certain plots at Sturgeon Bay showed sepal infection

before this stage. The fungus on the sepals was therefore in position to cause a heavy secondary infection on the young fruit.

These results emphasize the importance of the "pre-pink" spray previously advocated. Under weather conditions favoring the development of the fungus in early spring, such as abundant moisture and low temperature, more than one "Pre-Pink" spray may be necessary.

While observations made in connection with the cherry leaf spot disease indicate that the spores were discharged as early as May 14 and frequently thereafter, no disease was observed until June 23. The infection which then appeared was shown to have been caused by spores discharged about June 15 from the dead leaves on the ground, in which the leaf spot fungus is commonly carried over winter. In spite of the moist weather conditions of early spring the infection was delayed until higher temperatures prevailed. Low temperatures in early spring and summer apparently check this disease, even on unsprayed trees. It is apparent that in a season such as the past, trees which receive the regular spray application frequently advocated in previous studies suffer little from the cherry leaf spot disease.

DO YOU KNOW?

That 21,000,000 letters went to the Dead Letter Office last year?
That 803,000 parcels did likewise?
That 100,000 letters go into the mail yearly in perfectly blank envelopes?

That $55,000 in cash is removed annually from misdirected envelopes?
That $12,000 in postage stamps is found in similar fashion?
That $3,000,000 in checks, drafts and money orders never reach intended owners?
That Uncle Sam collects $92,000 a year in postage for the return of mail sent to the Dead Letter Office?
That it costs Uncle Sam $1,740,000 yearly to look up addresses on misdirected mail?
That 200,000,000 letters are given this service, and—
That it costs in one city alone $500 daily.

AND DO YOU KNOW?

That this vast sum could be saved and the Dead Letter Office abolished if each piece of mail carried a return address, and if each parcel were wrapped in stout paper and tied with strong cord?

Moral: Every man knows his own address if not that of his correspondent. PUT IT IN THE UPPER LEFT HAND CORNER!

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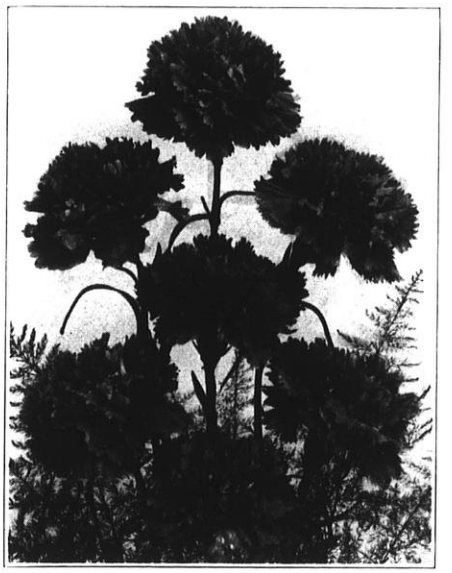

ABOUT WILD FLOWERS

Extension Service Bulletin, Ohio State University.

By Alfred C. Hottes

It is a long time since we have found so delightful a story about wild flowers as this one by Prof. Hottes. It is called a "bulletin" but that is a misnomer; it's narrative poetry. Prof. Hottes speaks our language, not some foreign tongue.—(Editor.)

Wild flowers are nature's gifts to all who observe and appreciate them. They grow freely and create masses of color in meadows, on hillsides, brook banks, and mountain tops. It is as if nature hastened to cover every bare spot with greenery and flower color.

What Is a Weed?

Some flowers in nature are admired, and then we call them "wild flowers." Others we call "weeds," because they encroach upon our hospitality. The weeds of one country are frequently the choicest garden flowers of another. The more interest we take in plants, the less sharply we draw the line between weeds and wild flowers. The person who is interested in a garden is apt to admire such wildings as have showy flowers whether they are weeds to others or not.

When any plant becomes a pest to us, we call it a weed and rightly. A cornflower is a weed among lettuce, and a lettuce is a weed in our flower garden. How often persons have said, "If the dandelion wasn't so common, I surely would like it."

Dr. L. H. Bailey once wrote: "The man who worries morning and night about the dandelion in the lawn will find great relief in loving the dandelions. Each blossom is worth more than a gold coin, as it shimmers in the exuberant sunshine of the growing spring, and attracts the bees to its bosom. Little children love the dandelions; why not we? Love the things nearest at hand and love intensely. If I were to write a motto over the gate of a garden, I should choose the remark which Socrates made as he saw the luxuries in the markets, 'How much there is in the world that I do not want.'"

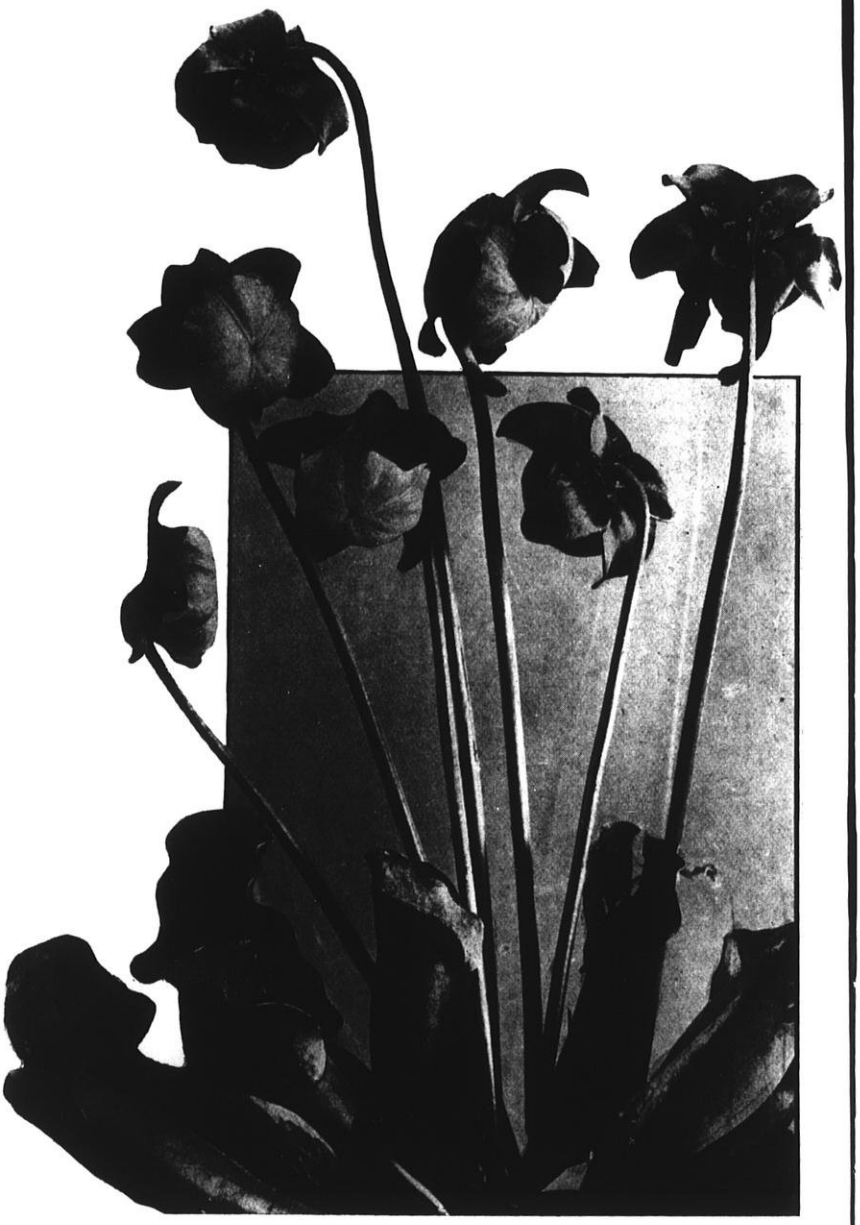

Fig. 1.—Strange as enchanter's cups stand the leaves of the Pitcher-plant. The beautiful but curious flowers are madder red in color

Dr. Bailey says that children love dandelions, because they have never been taught to consider any flower vulgar. This is clearly shown by Hilda Conkling, a little girl of nine years, who wrote as follows:

"O little soldier with golden helmet,
What are you guarding on my lawn?
You with your little green gun
And your yellow beard,
Why do you stand so stiff?
There is only the grass to fight!"

It is not my desire, however, to give the impression that I actually want dandelions in my lawn. I am not sentimental about them. The only point is that we miss much enjoyment when we do not

take an interest in the common things about us.

Learning to Appreciate the Wild Flowers

How are the wild flowers most truly appreciated? The real enjoyment of nature depends upon ourselves. As Emerson says, "Nature reflects the color of the spirit." Go to the woods, according to your temperament, either in groups, alone, or with some congenial companion. Go whenever the spirit moves, at any time of the year, and there will be something to delight you, if you will give yourself to the spirit of the place.

Trips may be made to the same spot season after season with added pleasure, because nature is always renewing itself. Train the eye upon some definite plants. Study at one time the Spring-beauty; at another time the Wild Aster; or, if the season be late, perhaps the flower of the Witch-hazel. In the winter, the evergreen leaves and the seed vessels of trees and plants make an interesting study. Go with a book describing the wild flowers. Take a hand lens, for much escapes the unaided eye.

Misguided Nature Lovers

Some believe that they love nature. They have a fast car, which they pack to overflowing with persons disinclined to walk, the women prepare too much to eat, and after arriving at the spot they lie about on the grass and talk of every-day things—of the price of lots, and business conditions, and newspaper reports—blind to the beauties around them.

Others of these "nature-lovers" set the example to their friends and families by destroying what they can see, remarking as they pull and break the plants, "These flowers are so beautiful I am sorry we can't stay longer to take all of them."

If it be Dogwood* time, they ruin the trees as high as they can reach to break the branches. If it be a shaded, marshy spot, they step full force upon an orchid, because they have their eyes on the path which will take them from the place as quickly as possible.

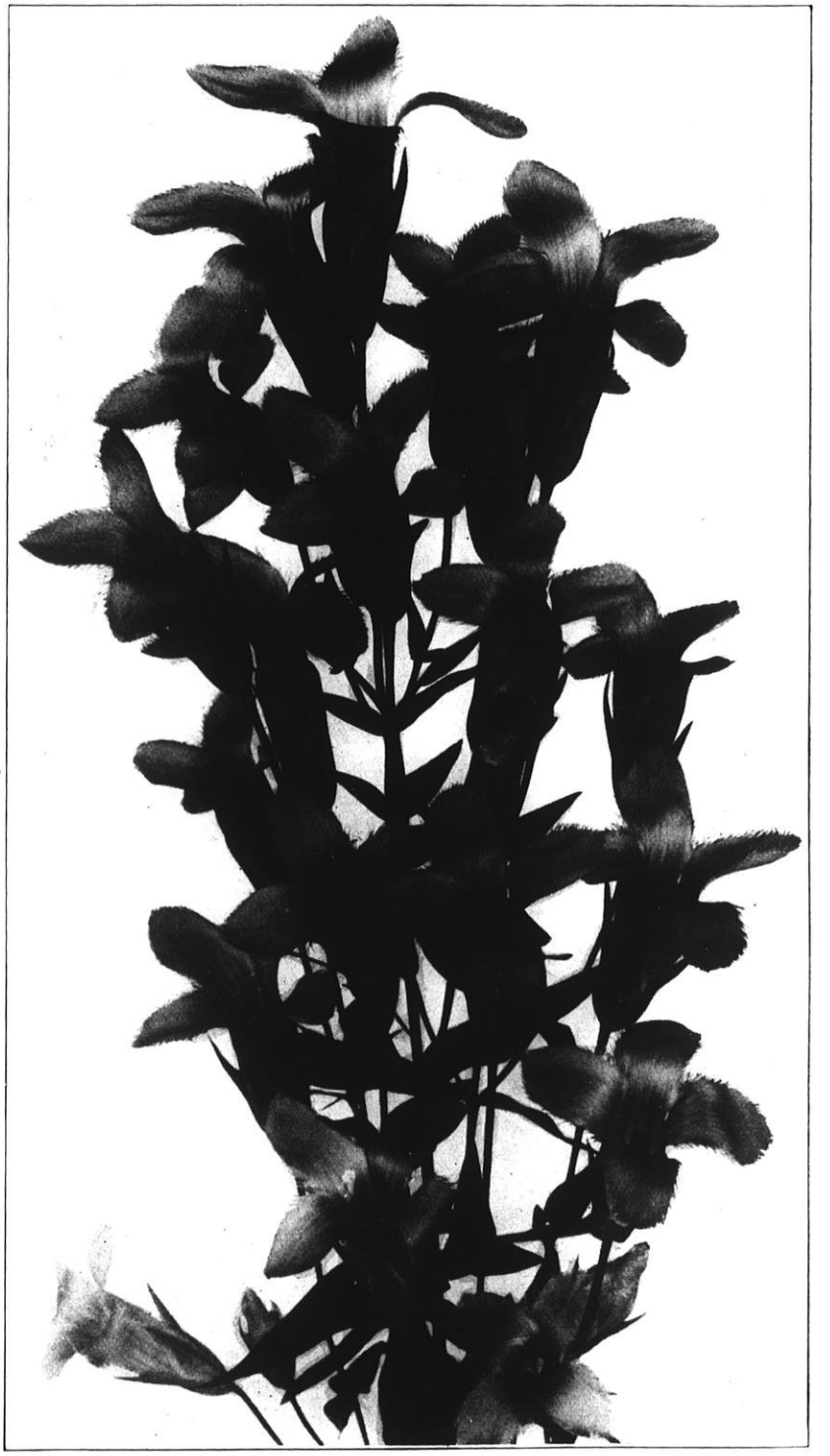

Fig. 2.—The choice blue Fringed Gentian, a gem to be seen in our wanderings when Indian summer comes

For Wisconsin read Wild Crabapple.

If a hillside be covered with Trilliums, they stop long enough to gather armfuls of these snowy flowers, for which they care but little except to give evidence that they shall be known to be nature lovers.

The flowers are rammed into tin buckets, choked to death, and set upon the front porch that the neighbors may behold their industry.

Or, perhaps, these persons have a bare spot of soil, hard and dry, located between two houses—a spot where neither grass nor moss will grow. They dig baskets full of wild plants wherewith to make a "garden" of this bare spot. Why not dig them up? The plants are free.

It is Sunday; evening falls before the travelers reach home. About the middle of the week the plants are set out, without any preparation of the soil, under conditions which are intolerable to them. They die. "Nothing will grow in that spot," remarks last Sunday's visitor to the woods.

Sunday after Sunday, year after year, this process repeats itself. Many regions are becoming barren of our native wildflowers through just such thoughtless actions.

"What would you have us do, let the flowers go to waste?" has been the remark of every garden beggar for years. Everyone who has a garden knows such people. They always fear the waste of beauty. They take too literally the words

"Full many a flower is born to blush unseen,
And waste its sweetness on the desert aid."

Pick flowers with knowledge, and in gaining this knowledge you will be too busy to pick the flowers in large enough quantities to ruin the native flora. If you truly love these native flowers, refrain from disclosing the location of rare things to persons who will plunder them.

It has not been the intention to be sarcastic or to scold. The only object in writing the preceding criticism has been to bring these matters to the consideration of the people of our state. The writer does not consider the preservation of our native flowers the most important matter for the residents of Ohio to consider. His feeling is, however, that there is enough luxuriant beauty in our woods to be enjoyed by all if it is not wantonly

Fig. 3.—The quaint blooms of the Indian Pipe growing among the Clubmosses

despoiled. We must not allow this generation to destroy that which should increase and be the inheritance of the future boys and girls who will desire to live in a state with its natural resources preserved.

There is much in our woods that may be picked without injury. The rare flowers, however, should be known and viewed with a reverence real enough to prevent their being destroyed. The persons who will err most in picking flowers which are rare are the ones who will never read these words, nor any article on the subject. It is hoped that the reader will realize the necessity of publishing abroad this information.

Hidden Beauty That Study Reveals

Some of the most interesting features of flowers are only seen when given careful scrutiny. Sometimes they must be watched when insects visit them; then, again, flowers reveal different characteristics at different times during the day.

It is not merely the brilliant big mallows nor graceful nodding goldenrod that should catch our attention; there is much in nature which is miniature, but none the less fascinating. At first sight, and when striding along at four miles an hour, there seems to be nothing at all interesting in an old wall. But if one stops and carefully examines the stones, there is a great deal that is interesting.

"The change in an old wall when one looks at it from a few inches distance is most remarkable," writes C. F. Scott Elliot in *The Romance of Plant Life*. "The entire surface is spotted or dusted, sprinkled or entirely covered by thick lichen stains and crusts. The original color is nowhere visible. The lichens show the most delicate shades and contrasts in color, all blending together in harmonious general tones. Spread over the entire surface of the old wall is a thin layer of soil, else the lichens could not grow."

Lichens are interesting, for they are a combination between a fungus and an alga living happily together for mutual benefit. The fungus is colorless, the alga is green, and supplies the fungus with its food. Gradually the lichen will dissolve more soil from the rock surface, until by its action and supplementary influence of the weather, there is sufficient soil for the growth of tiny ferns; later, flowers and grasses get a start. "The story of the colonizing of

Fig. 4.—A happy couple at home enjoying each other's company—Pink Moccasin flowers.

rocks by plants is just as vividly interesting as the romance in the story of man's colonies." So has plant life progressed from deep water, to marsh, and then to dry land; from granite rock, to finest soil.

Persons who ride through the country often will not stop to see a clump of beautiful flowers, although they willingly stop to look at a very ordinary dam or bridge. Many visitors to strange cities hasten to see asylums and factories; would it be too extreme to drive to see a handsome clump of Cardinal-flowers? Persons are not thought peculiar because they scan a baseball report for half an hour. Would it be strange for a manufacturer or a clerk to sit at a microscope for fifteen minutes a day, or to use a botanical guide to determine the name of a plant.

The Priceless Possessions of a Nature Lover

Many people do not allow their love for flowers to become known, because they fear that other people will consider them "peculiar." He who truly enjoys flowers cares nothing for the derisive laugh which the passer-by gives him when he is discovered scaling a cliff for a dainty flower, or working in old clothes in his garden.

In Philadelphia there lives a lawyer, a man who deals with trouble, property, claims, and other prosaic things, but . . . read of the one moment in his life which he remembers with great joy.

"I had been exploring a little mountain stream, which I had fondly but mistakenly hoped might prove to be a trout-brook. The winding wood-path passed through dim aisles of whispering pine trees. At a steep place, a bent green stem stretched half across the path, and from it swayed a rose-red flower like a hollow seashell carved out of jacinth. For the first time I looked down on the Moccasinflower or pink ladyslipper (*Cypripedium acaule*), the largest of our native orchids.

"For a long time I hung over the flowers. Its discovery was a great moment, one of those which stand out among the thirty-six-odd million of minutes that go to make up a long life.

"For the first time my eyes were opened to see what a lovely thing a flower could be. In the half-light I knelt on the soft pine-needles and studied long the hollow purple-pink shell, veined with crimson, set between two other tapering petals of greenish-purple, while a sepal of the same color curved overhead. The whole flower swayed between two large, curved, grooved leaves." So has written Samuel Scoville, Jr.*

He continues, "Leaving the path, I began to hunt for others under the great trees, and at last

* Orchid-hunting. Samuel Scoville, Jr. Atlantic Monthly, June, 1919.

Fern Groups

1. Sensitive Fern—(a) frond; (b) spore bearing frond.
2. Hartford or Climbing Fern.
3. Grape Fern—(a) frond; (b) modified frond producing spore cases; (c) detail of spore cases.
4. Cliffbrake—(a) frond; (b) spore cases like pockets above veins.
5. Common Polypody—(a) frond; (b) large fruiting dots.
6. Interrupted Fern—(a) spore bearing pinnae (leaflets) confined to a few in middle of frond; (b) and (c) details of spore cases.
7. (a) Cinnamon Fern — Fertile frond.
8. Royal Fern—(a) frond; with (b) the modified pinnae at tip producing spores.
9. Maidenhair Fern (a) Pinnae; (b) detail showing spores beneath the folded margins of pinnae.
10. Bracken—(a) Entire frond; (b) detail of pinnae; (c) spore bearing folded margins of a pinnule.
11. Chainfern — (a) Pinnae; (b) Spore areas in chains.
12. Christmas Fern—(a) frond; (b) spore cluster; (c) detail of spore clusters.
13. Bladderfern—(a) frond; (b) fruit dots.

came upon a whole congregation nodding and swaying in long rows around the vast trunks of white pines which were old trees when this country was born. From that day I became a hunter of orchids, and a hunter of far-away forests and lonely marsh lands, of unvisited hilltops and mountain-sides. Wherever the lovely hidden folk dwell, there go I."

The owner of the land through which Mr. Scoville wandered doubtless was busy with barn construction, colt breaking, farm bureau meetings, and a thousand-and-one things. To him, as to many, a lonely marsh, with the wild birds nesting in the swaying grasses, would be merely so much unproductive land. That shady woodland path would be to the many just a convenience; only to the few would it be a door opening into heaven. Many people knew the orchids were there in the wood; but only a few really looked at them. Yet so charming is this flower that it is as the "pearl of great price," or the lure of the mountains, or the quest of the extra dollar.

Many of the priceless possessions of life are ours because we have eyes to see them, ears to hear them, and other powers to sense them.

An acre upon the brow of a hill may belong to you, but the land itself is the least of your possessions. The view it commands of the winding river is also yours to enjoy; the wild flowers are there to thrill you with their beauty; and the birds in the trees pour forth "their profuse strains of unpremeditated art" for you.

"Wildflowers are fairest on neglected by-ways, and for him who still tramps the by-ways they are garden enough," writes Walter Pritchard Eaton. "What need has he of vast estates whose way lies where the mountain laurel climbs the hills, or the purple of flowering raspberry and the tiny jewels of gold thread are the foreground for a vista of falling brook and emerald vale? What gardened estate will ever satisfy him, indeed, that does not hold something of the simplicity and wild grace and pictorial naturalness of this rural America, of this landscape which shall always be to him as the thought of home?"

The Intangible Wealth That Is Ours

Gardeners on large private estates feel that the flowers, ponds, woods, and hills, are more their possessions than those of the acknowledged owner. Follow this thought farther with Charles Wing, who asks questions which one may answer for oneself:

"Who owns the blue vault overhead? Who owns the south wind? Who owns the sun's rays that make our planet a comfortable place in which to live? Who owns the rain that refreshes our plants and makes them grow? Who owns the energy that changes cold soil to living plants, and thence to animals? Who owns the birds and flowers? Who owns the brush that transforms the leaves from their summer green to garnet, carmine, copper, and gold? Is this not wealth that is not capable of being made private property, certainly not transferable, and all the better that it can not be so?"

And if these features of nature can not actually belong to the owner of the land, how much less do they belong to us who merely tour the land? It is hoped that the reader realizes without greater emphasis that the writer is not opposed to the gathering of some remembrance of his trips, but it is urged that destruction need not necessarily follow his pilgrimages.

"Hast thou named all the birds without a gun,
Loved the wood-rose and left it on its stalk?"

Cultivation of Wildflowers

Wildflowers are of unusual charm in the home grounds. However, many sorts have short blooming seasons. They often die down to the soil and the foliage effect is not lasting. This is especially true of the spring flowers. Rather than try to dig these plants from the wild, it is usually wiser to order the plants from some specialist. Plants purchased from these commercial concerns often will be better rooted than flowers one could collect. If quantities are desired, they can be bought cheaper than they can be dug from the woods. Surely a hundred plants would cost less than gasoline for the automobile, and one's time.

Trees in the wild almost never have balanced root systems. The roots of seedlings from the earliest age must range widely in search of food. When dug, these trees have long, unmanageable roots. Nursery trees are constantly transplanted and root-pruned so that they transplant successfully.

In planting any of these flowers study the natural conditions under which they grow. The nearer you can imitate these conditions, the greater chance of success you will have.

Most of the forest flowers will require a quantity of leaf mold, whereas the prairie and meadow flowers require but ordinary good soil.

Transplant in earliest spring or else wait until September, or even as late as November. Severely cut back plants set at any other season. Plants collected may usually have the soil shaken from the roots, after which they are wrapped in damp moss.

The culture of ferns is indicated in the table which is found on page —. Most of the good ferns desire shade and a soil better than the poor soil so generally found around city homes. Be willing to dig out this old soil and bring in some leaf mold; then you will find that the ferns will not only exist but will thrive. Most ferns need moisture; for the greater number, this means also good drainage and a loose, humus soil which retains its moisture. Transplant them either in the fall or earliest spring for best results.

Suggestions on Gathering Wild Flowers

It is desirable that these instructions be read by all who have a

(Continued on page 169)

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THE IMMEDIATE FUTURE

Prologue

Here is a little piece by the editor. I hope you will read it. It begins rather dull but I promise everything but murder and sudden death before you have finished. I am trying to get you interested in your society. I wonder if I will succeed.

A fair beginning was made in the April and May numbers of this paper toward informing members about the affairs of the Society. Business was dull through May and June nor is it picking up in July. The proceedings of the June meeting of the board of managers appear in this issue.

In order that interest may not lag too much the editor offers a few comments, mainly concerning the action of the board in cutting down expenses. A word of explanation should be offered here for the benefit of new members as well as some of the older ones.

Since time began, or at least for forty years, it has been the practice to pay the expenses, both railway fare and hotel bills, of all who have been invited to furnish a part of the convention program from the time such person left his home until his return thereto, usually three days, often four and sometimes five days.

So far as I can learn no other similar society in the United States or Canada does this. There may be others but I have not found them. It may be said that this need not be considered an argument against the practice; if it is a poor practice we ought to discard it, if good keep it but decide wholly on its merits regardless of what others do. Yes and no.

Why do we pay? The only answer I can find is,—custom, habit. The earliest records of the society are not available but treasurer's reports show that the custom appeared about 1885 and has been continued to April 29, 1925.

Was the practice good and for the best interests of the society? I am of the opinion that it was not good. My experience of twenty years in building programs has convinced me that much better results might have been obtained without the guarantee of expenses. How it will be in the immediate future I cannot predict because there is the old custom, the fixed habit to be overcome. But this is certain, I have been handicapped in making up programs by this custom. Each year I knew of men and women needed at the convention but to invite them meant adding one hundred or two hundred dollars more to the expense of the meeting because all must be treated alike.

Will these people come to the convention and pay their own expenses? I think so. I believe that the prestige of our society is sufficient to attract a very considerable number of people, people who are keenly interested in all the different branches of our profession who would be highly gratified if asked to appear on the program. Especially would this be true if they understood that an informal talk was all that would be expected of them. Too often those who *know* the practical things protest that they cannot "make a speech" or prepare a paper. Quite often this is true but if these members could only be convinced that neither skill in speech nor literary excellence is required, I believe we could uncover a wealth of information.

There are two parts to every convention, the regular sessions (program) and the interim sessions, the contact with fellow members in hotel and lobby where new acquaintances are made and experiences exchanged. Who will say that these together are not worth the price of a trip to the convention?

We need the scientific or technical as well as the practical. We need Moore, Roberts, Jones, Vaughn, Kiett, Fracker and others and these we always have, without expense, when we meet in Madison and often at our summer meetings.

Both commercial growers and amateurs request men from other states who are prominent in their chosen fields. These we have had for the asking,—only one has ever refused on the basis that he would not meet an audience worthy of his talents. Although these "foreigners" have always been paid expenses I feel that many of them would have attended on their own expense. I have in mind men from other states who I am certain will attend our next meeting, free of expense to us, if asked. Its our standing in the community of horticultural societies that attracts them.

It's a poor question that does not present two sides for argument. There is the question of service

rendered to the society by those who participate in the proceedings. No one will deny that a service is rendered. The society is an educational institution for the benefit of all the people of the state. When it ceases to be that and is conducted for the benefit of any particular class then we forfeit our right to state aid. On this basis hiring or paying expenses to people to impart information may seem to be a legitimate expenditure of our funds. If this information is a purchasable commodity and members who read papers put it wholly on that basis then they need only come late and leave early. There would seem to be no good reason for paying hotel bills for three or four days for one hour of service, plus railway fare. Quite often such a service has cost us fifty dollars. Rather high!

I am unwilling to believe that the average member takes this view of it.

The point has sometimes been raised that in some cases the paper furnished might have been sold by the writer for more than the expense money paid. That is possible although not probable. Fortunately or unfortunately, as may be interpreted, articles of a scientific or technical nature are rarely paid for. The authors are only too glad to offer their papers with the hope that publication will help them and others.

There is a good market for the right kind of "dope" horticultural or otherwise, but it is an open market and the goods must be adapted to the publisher's demands. Most readers "eat up" sensational stuff, the apple tree in bloom in September, plants that eat flies, frogs and rattlesnakes, but have little stomach for truth. So it all depends.

There is another side to this expense and service rendered argument. That makes three sides. There is no more certain road to popularity, of the right sort in the state and a position of influence in agricultural circles than active participation in the affairs of the state horticultural society.

I have in mind several such men who were substantial citizens in their respective communities but unknown outside who have through their connection with our society become widely known and have exerted a wider influence for good in the state. Incidentally it has not injured them in a commercial or social sense. Most good rules work at least two ways, some three or even more.

This lengthy discussion has no point whatever unless it can be shown that this proposed change in the disbursement of our funds will serve the best interests of our clients, the people of the state of Wisconsin. It may well be asked, "What do you propose to do with the money when you have saved it?" This is answered in part in the April number under the caption, "Turning a Corner." The new policy there outlined will serve merely as a starting point from which may be developed a broader policy, not an inflexible plan but one which may be changed with changing conditions, a plan which looks to the future rather than to the past. We of the present are reaping the benefits of fifty years' experience; should we be satisfied merely to live in the present or ought we to build for the future? I do not ask nor expect that pure altruism should rule but it must be one factor. I insist that self-interest must not be the only end sought but that there be a happy union of these motives. The world needs the idealists and the dreamers but usually they starve without the help of the hard boiled guy who buttons his altruism in an inside shirt pocket until such time as he can afford to give it an airing.

Here is another nuggett but whether pure gold or merely mica you may judge: If we expect to "get" we must "give." May I add, if you have already "got" you ought in common courtesy be willing to "give." There is something in the Scriptures about that, I wish I could remembber what it is.

FREDERIC CRANEFIELD.

Meeting of Board of Managers

Board in session office of secretary, 119 East Washington Ave., Madison, June 25.

(1) The Board decided to hold the annual convention at Eau Claire. (By action of the Executive Committee in session Jan. 16, the date was fixed as the week of November 16 to 21.)

(2) Secretary requested to investigate possible locations for summer meeting and report to Board.

(3) The Board approved the employment of Mr. Dale M. Welch as temporary assistant secretary.

(4) The secretary reported on conferences with professors of horticulture at Purdue, Ohio State and Illinois universities with reference to the employment of an assistant secretary. (When negotiations have been completed these recommendations will be published.)

(5) The secretary reported a balance of $1,173.71 as of June 24: Accounts due $110; total est. balance, $1,283.71. Bills due and payable $1,040.19, leaving an estimated balance of $243.52 July 1st. Meeting adjourned.

ABOUT WILD FLOWERS

(Continued from page 167)

sincere desire to preserve our native flora. They are revised from "A Key to the Flowering Plants of Cincinnati and Vicinity," by Professor O. T. Wilson.

(1) Exercise the same care in picking wild flowers that you would in picking flowers in your garden.

(2) Whenever possible, do not walk on the plants—you would not walk on your home garden.

(3) The leaves of the plant are its food factories; if you remove all the leaves in picking any flower you are destroying the factory, and taking away from the plant the opportunity to store food in its root-

(Continued on page 175)

WOMEN'S AUXILIARY PAGE

EDITED BY MRS. C. E. STRONG

You and the Pine Tree

The pine tree's trying to reach the sky,
Its arms are long and its reach is high;
Perhaps 'twill manage it by and by.

You and the pine tree have your dreams;
Each of them sparkles and glows and gleams,
The object of all your plans and schemes.

If you and the pine are never knowing
Aught save your high dream's over-throwing
What matters it, since it keeps you growing?

Ida M. Thomas.

"I open Wisconsin Horticulture with fear lest our 'Woman's Page' be missing—but joy still fills the hour that the delightful little magazine affords me, it is still complete."

(And joy filled is the hour, when such cheery lines as those greet the Editor of the Woman's Page.)

Always Something New

Each year brings something new in the arrangement of flowers in our gardens. Here is one I accidentally happened upon. Golden Glow grown with a support, so that wild cucumber vines will twine through and around it, and with its soft white sprays of bloom add materially to its gladsome appearance. Then add tiger lilies which blend in a most harmonious gold and copper effect.

Elderberry blossoms and hollyhocks are another effective combination.

For an early spring display a bed of periwinkle and daffodils edged with the early purple iris. gave much pleasure. This bed is on the south side of the house near the kitchen door, and affords a sunny restful nook to bask in—long before the rest of the garden is pretty to look at.

Mrs. F. X. Schoen, Madison.

SOME FAVORITE FLOWERS AND "WHY"

In one charming garden the old fashioned double Columbines are loved. "Because," says the mistress of the garden, "shortly after I planted the seeds in a box in the house—one cold wet spring—my husband was very ill with pneumonia. In the worried dreary days that followed I cannot tell you what a comfort those two green growing plants were to me. They grew so sturdily that every time I looked at them they seemed to encourage me to say—'all will be well.'"

The early dark red peony is the favorite of another gardener because, "As a child I used to walk around the big peony plants in my grandfather's front yard—longing as only a child can long for one of the beautiful red blossoms. But grandfather never picked peonies—neither would he allow any one else to pick even one. It is such a lot of satisfaction to know those red peonies are mine and that I could pick them all if I wanted to."

"Why do I have annual larkspur tucked in every available spot? Because, when I look at their bright blossoms I see my first home where I went a stranger after I was married. The house was comfortable but the yard was bare—not even a bit of grass; but soon a kindly neighbor came over with a basket of larkspur plants, saying cheerily, 'Here are some little plants for a flower bed, to help cheer you up while you are getting acquainted with us.' That bed of larkspur did cheer me up wonderfully, and larkspur blossoms will always be a reminder of kindly neighborliness."

"Lemon lilies grew on the other side of the fence in a neighbor's garden—not another plant like it in the little town, and the neighbor would neither give nor sell a bit of the coveted plant. Now I have lemon lilies—plenty of them and their sweet blossoms tell me flowers were not meant to be selfishly hoarded."

And So It Will Always Be

Forget-me-nots grew beside the tiny stream that wandered across one corner of the meadow. Two little girls thought this the nicest place in the world to play on their way to and from school; they picked bouquets for teacher and waded in the water while they planned what they would do when they grew up; of one thing they were sure—they would live near each other and be friends. To make sure of this they each picked a bouquet of forget-me-nots and exchanged—took them home and put them in a glass of water with two inches of sand from the creek in the bottom of the glass—if the flowers rooted their friendship was secure — they would "forget-me-not." Anxiously they watched their bouquets and two happy little girls ran to meet each other the last day of school—the "forget-me-nots" had rooted, now nothing could ever break their friendship.

Years went by—somehow they drifted apart—and far from the old home, old friends were almost forgotten. Then one day a woman visited the old home and went down to the little stream in the meadow—the forget-me-nots were in bloom and childhood memories returned. A box of the blue blossoms and a handful of sand were sent half way across the continent. When the box arrived and was opened the years faded away—another woman was a little girl once more standing beside a brook and vowing eternal friendship over forforget-me-not blooms. A letter was written and answered. The friendship thus renewed still continues, they will not forget ever again—

because this time they planted the forget-me-nots that rooted in the glasses in their gardens. The charm cannot be broken.

WHERE ARE WE GOING?

We are all much interested in the plans for the future of our Wisconsin State Horticultural Society as indicated in the April and May numbers of Wisconsin Horticulture.

It is especially gratifying that the members of the executive committee are more than ever before acting up to their responsibilities and duties in directing the general plans of the society. With these systematic plans outlined our society will accomplish much more from the same amount of effort and cash expenditure. Probably once will be sufficient to convince us that the state capital is the logical home for our Horticultural Society, and that we should hold our winter meetings and schools at Madison. The two resolutions adopted by the board of managers are such a distinct departure from established custom that we are surely surprised and doubtful of any good resulting.

The board voted that the society should not guarantee any expense account either at the 1925 summer meeting (summer convention) except to members of the executive committee. Note that the wording is should not rather than shall not thus leaving it possible to follow out a simple policy. There is no doubt that in the past we have often paid more than their worth to the society for the presence of some persons on our programs, on the other hand we have received papers which if commercialized would have brought more to the writers than has been the cost to the society. If it is made a rule that there shall be no payment for these services rendered to the society, I think we would have meetings not worthy of attendance. The board unanimously agreed that no cash premiums be offered for exhibits of any kind at the 1925 summer meeting nor at the 1925 winter meeting. We probably in the past at times have offered for premiums in excess of good judgment, but if it is wise to omit competitive exhibits from our meetings then our State Fair and numerous county fairs, also our neighboring state horticultural gatherings may learn wisdom from our example and profit from our penny wise economy.

With these proposed changes, limiting the gathering and spread of information on horticultural matters, and the suppression of competitive effort, what excuse will we have for the existence of a Wisconsin State Horticultural society?

William Toole, Sr.

ROSE MILDEW

Mildew is rarely troublesome on the old fashioned garden roses or the so-called hybrid perpetuals but hybrid teas and hybrid Wichurianas, including Crimson Rambler are particularly subject to attacks. The first indication is grayish spots on the surface, somewhat sunken. If not checked the disease quickly destroys the leaf and may completely defoliate the plant. Fortunately this is one disease we can cure by use of fungicides as mildew is a surface feeder working on the outside of the leaf only.

What is known among rosarians as Massey's dust mixture is the most effective remedy known. It consists of 90 per cent finely pulverized sulphur known as "Sulphur dust," "Sulphur flour," "atomic sulphur" etc., and 10 per cent arsenate of lead. There is a small dusting machine on the market costing about one dollar that is mighty handy but a cheese cloth sack on a stick will answer all purposes. Don't wait, get the dope and get up before breakfast to apply it, a fine coating over the whole bush and repeat often enough to keep a fine coating of the mixture on the leaves until the disease is checked.

The "flowers of sulphur," the drug store kind is *not* good the particles are too big. This 90–10 mixture is offered by many dealers in fungicides.

CAULIFLOWER AND EASTER LILIES

"At what stage, size of head, should cauliflower be tied up?"

There is no fixed rule as to size. When the "flower" first forms the leaves furnish protection without any help. As growth proceeds, the leaves are pushed back and the head or "flower" is exposed to sun and rain causing discoloration. Tie as needed.

"How should Easter lilies be treated after they blossom to have them bloom again and to save the bulblets?"

Both lilium longiflorum and lilium candidum are used by florits for forcing. The bulbs are largely imported from Bermuda although some are grown in the Puget Sound region. There is no winter season in Bermuda and but little in Washington. We have winter in Wisconsin, six months. For that reason neither of these lilies can be successfully propagated here. Both require a much longer growing season than we have in Wisconsin.

However, a true amateur will try anything just for the fun of it.

After blooming let the bulb rest for six weeks or more then plant it in the garden. (A cold frame is better.) If we have a late fall the bulb may have matured sufficiently to stand forcing again and may also have divided so that you have two bulbs where you only had one before. Also the bulblets may be mature enough to be removed and stored for planting next spring if you can store them without shriveling. The bulb should be dried off for a few weeks before potting. It may work out nicely but the chances are that the lily will be just nicely on its way to do all these things by the time frost comes.

If garden culture is the idea leave the bulbs in the ground over winter. Next spring plant something over their graves.

THE FLORIST'S PAGE

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

EUROPEAN BOTANICAL GARDENS

By
Mr. Huron H. Smith[1]

Someone has said that England in the summer time is a vast flower garden, and this is not very far from the truth. It might equally be said of other European countries, of Holland, Belgium, France and Germany — naturally these older civilized centers have produced more botanical gardens than the United States. Perhaps at some future time we will be as rich in botanical gardens as the older countries. These botanical gardens are, in a sense, outdoor museums and breathing places for the over-populated centers of Europe. Even in the United States, the American Association of Museums is coming to recognize that the outdoor museum has a very decided place in our museum's program. Our present day tendency seems to be that of taking the museum to the public where they are congregating. The latest instance of this is the establishment of a museum in Yellowstone Park, where the flowers, shrubs and trees of the region, as well as the animal life and the mineral resources can be studied on the spot.

Botanical gardens are not the outgrowth of any one particular period. The utmost results are never achieved during the life of any particular man, it is only started by him and carried on for centuries after it has been started. This is, of course, the case in the European botanical gardens. Although it was impossible for the writer to visit all of the botanical gardens in the four countries just mentioned, some of the larger and finer botanical gardens were visited, and it is the intent of the writer to say something about their use and history in this Yearbook article.

Villages and hamlets so small that the tourists practically never visit them have their own botanical gardens and parks, and a great deal more importance is attached to the whole subject of this type of environmental beautification than is the case in the United States. There is room for a great deal of improvement in our country.

The most famous English botanical garden, if not the most noted in the world, is the Royal Botanical Garden at Kew. The Kew Gardens had a very checkered career, and were known away back in the latter half of the seventeenth century. At that time the garden was an adjunct to a private estate, that of Sir Henry Capel, who was an enthusiastic and capable horticulturist. In 1678, an Englishman writing in his diary, wrote of the garden as having the choicest fruit of any in England. When Lord Capel died, in 1696, the property descended to his grandniece, who was the daughter of the second Earl of Essex. Her husband, Mr. Samuel Molyneux, who was interested in astronomy, converted a part of the Kew house into an observatory, and it was there, in 1725, that Dr. Bradley, afterwards a royal astronomer, made two important discoveries, namely the aberration of light and the rotation of the earth's axis. These are still commeorated by a sun dial standing on the spot where they were made in the Kew Gardens. Upon the death of the Molyneux family in 1730, the property was leased by the family, to Frederick, Prince of Wales. This was the start of the long and intimate association of Kew with the royal family, which only ceased with the death of the Duke of Cambridge in 1904.

Prince Frederick took an interest in the improvement of the garden, and hired Kent, a celebrated landscape gardener of the time, to improve the grounds, but he died in 1751 and the house and grounds came under the control of his widow, Princess Augusta, the mother of George III and it is due to her that this was turned into a botanical garden rather than a purely horticultural establishment. In 1760, with the help of John Stuart, as scientific director, William Aiton as head gardener, and Sir William Chambers as architect, they commenced the planning of a botanical garden. This was originally done in a space of nine acres. Sir William Chambers built numerous temples and other buildings on the grounds. Many of these have since decayed and been demolished, but some of the more substantially built structures are still there—the pagoda, the temple of Aeolus, the temple of Bellona, the ruined arch and the orangery, now Museum III.

Princess Augusta died in 1772, and Kew then came under the control of George III. Previous to his mother's death, he had owned and occasionally resided in Richmond Lodge, a house situated in an old deer park at Richmond, the grounds of which were adjoining those of the Kew house, from Richmond as far as Brentford Ferry. The two properties were then divided by an ancient bridle path called 'Love Lane" over which the public had right of way. King George obtained permission from Parliament to close Love Lane and purchase the freehold at Kew house from the Essex family, thus uniting the two properties. King George III and his Queen often lived at Kew, and took great interest in the botanical garden. He secured the services of Sir Joseph

[1] Curator of Botany, Milwaukee Public Museum.

Banks, a famous scientific man of his time, who became the unpaid director of the garden, and under whose partonage and scientific control it remained until his death in 1820. Under the Bank's regime, plant collectors were sent to various countries abroad, the first of them being Francis Masson, who was sent in 1772 to the Cape of Good Hope, where he remained for some years and sent home bulbs and seeds from which arose the collection of Cape plants, especially heaths. From that time until 1864, when the last Kew collector, Richard Oldham, died at Amor, China, a succession of men were engaged in field collecting. Kew was the first, and for many years the only institution which carried on a systematic introduction of plants from abroad.

George III and Sir Joseph Banks died in 1820, and from that time the garden gradually sank in reputation until the early years of Queen Victoria's reign, when the idea of abolishing the botanic garden was seriously considered. The reason for this was that the cost of the upkeep was borne entirely by the Privy Purse. Public opinion, however, was against the abandonment, and in 1840 the garden was given to the nation by Queen Victoria and was placed under the control of the Commisioners of Woods and Forests, and subsequently under the office of Works. The gardens then became, as they have since remained, the center of botanical science in the Empire. Since 1903 it has been controlled by the Ministry of Agriculture and Fisheries.

In 1841, Sir William Hooker, who was then Professor of Botany at Glasgow, was appointed Director of the botanical gardens, whose area then consisted of fifteen acres. They were thrown open to the public and from the first were very popular. In 1943, forty-five acres were added and in 1845 the whole area outside of the botanical gardens were known as the Pleasure Grounds, and they were at that time placed under Sir William Hooker's charge with a view to establishing a national collection of trees and shrubs. This is the part of Kew that is now known as the "aboretum" and its acquisition brought the area of the gardens up to two hundred and forty acres. Recent additions to the gardens have increased the total area of the gardens to a little over two hundred and eighty-eight acres.

Thus a second great period of activity was inaugurated under Sir William Hooker's direction on much broader lines than existed in the time of Sir Joseph Banks. Instead of it being a sort of private establishment, in possession and control of the royal family, Kew became a national establishment with world-wide connections, and collectors who had ceased to work for the Kew had started out again and materials soon flowed in from all parts of the British Empire. The Palm House, for a long time the largest plant house in existence, was built in 1844–1848. The first museum, designed to illustrate economic botany or the use of plants and their value to mankind, was opened in 1848. The formation of the aboretum and the large area acquired three years before, was commenced in 1848. The herbarium and botanical library, each of them now the most extensive in existence, were founded in 1853. The artificial lake at Kew, was excavated between 1857 and 1861, and the building of the temperate house was commenced in 1862.

One of the chief duties given to the Director of the reconstituted gardens in 1841, was the introduction of new and useful plants through their colonies, and the fostering of new industries in connection with them. This work, which was commenced by Sir William Hooker, was actively carried on by his successors and enormous numbers of plants, producing fibres, medicines, foods and rubbers, and so on, were sent in from all parts of the Empire. Thus the gardens became very important to the colonies in assisting in their material prosperity.

Since this was the first visit of the writer to England, he came with a preconceived notion that London was naturally very much congested, and that there was very little open air or breathing spots to be found. Nothing could be further from the truth, for every section of London has its own parks or squares which are kept up so as to give plenty of fresh air and resting space to the inhabitants of that particular region. The Kew Gardens alone form a wonderful week-end playground for the hordes of London, and you will find the youngsters playing ball out in the gardens on the open stretches and generally having a good time.

Most of the visitors who come to Kew, use the main entrance, although there are five entrances to the gardens. It just happens that the main entrance has many interesting features of the gardens. Just inside the gate is the area occupied by the old botanical garden in 1760, and there are to be found, some of the oldest exotic trees in Kew, such as the Corsican pine, the maidenhair trees, the Turkey oaks, the persimmons, the black locusts, the Oriental plane trees, the sophora, the stone pine and the Zelkowa of

Japan. Then too there are some fine native elm planted on mounds, originally so planted, no doubt, in order to break up the monotonous natural level ground of the Kew Gardens. These mounds are planted with crocuses, which make a very fine display in the springtime. Just inside the entrance on the right-hand side, is a greenhouse devoted to aroids, or plants of the arum family, such as the calla-lily and jack-in-the-pulpit. Nearly all the plants in this house are purely tropical. The next house that one comes to is the tropical fern house, and it is devoted to ferns that come from the moist tropical forests. Probably the most interesting ferns of this house are those of the maiden-hair type, but there are also found some of the ferns which form a stem and trunk and are known as "tree" ferns. There are also some of the staghorn ferns which grow on tree branches.

Next to this greenhouse is the temperate fern house, which requires a cooler temperature than the previous one. This is the most interesting of the fern houses, and there are many remarkable ferns here to be seen from the West Indies, Australia and New Zealand. The general public is probably the most interested in Conservatory No. IV at Kew, because it is used for a display of flowering plants all the year around, and has but a rather small permanent vegetation of its own. Most of the plants that furnish this continual blooming exhibition are grown and brought to the flowering state in the forcing houses in the background, and are taken there when they reach the flowering state—being taken back when their beauty is over. It must require a great deal of thought and planning to keep this huge house gay with flowers the entire year through, and to insure that as each batch of plants goes out of blossom, another is ready to take its place. Forced shrubs like cherries, crab-apples and azaleas, bulbs hastened into flower by heat as the daffodils, tulips and hyacinths, constitute prominent features in the early months of the year. Later on there is a succession of popular plants like primulas, acacias, fuchsias, pelargoniums (or what we call geraniums), calceolarias, begonias, cannas, carnations and bell flowers. There are also a number of very rare and little known plants that are sandwiched in between the large exhibits all of the time. The fogs of London during the months of November and December, make it very difficult to have the proper flowers during these months, but chrysanthemums and winter flowering begonias and the South African heaths are of great help. At some time during the year they illustrate, in this house, the history of some of our well known garden plants, such as petunias, primulas and begonias, and the wild plants from which our garden flowers have been evolved.

In their succulent house, which is the next one encountered, one finds all of the vegetation that inhabits the hot and dry regions of the globe, the chief of which are plants from the southwestern United States, Mexico, Peru, Chile, South Africa and North Africa and portions of Australia. The popular idea of the succulent plant is rather at variance with the actual fact. One hardly thinks of a cactus as a succulent plant, and yet when one comes to study it, he will see that it is quite succulent and full of juice. The most remarkable plants in the succulent house, are the examples of the American cacti and the South African euphorbias. Their largest example of the cactus is the Cereus giganteus, which is ten and a half feet tall, four and a half feet in circumference and weighs half a ton. It is the largest cactus in the British Isles. Of course we know that there are much larger ones to be found growing native in Mexico.

(To Be Continued)

Better be at Bayfield, August 19—20.

SELLING FOR PROFIT

Corporations and business firms, whether they deal in stocks, securities, real estate or other valuables are constantly advising prospective buyers what they have to offer in the field of investment. They use letters, newspapers, trade journals and frequently employ salesmen to deal directly with prospective purchasers. Why shouldn't fruit growers advise buyers what they have for sale, specifying volume, quality and time of movement? To do this would mean more buyers, keener competition and better prices.

One of the best ways to become well established and known to the trade is to have products of more than average quality. Quality in the orchard does not appeal to the consumer. What he is interested in is quality at the time of purchase. Quality to the consumer includes appearance, uniformity of size, richness of flavor, good physical condition and fullness of measure. Buyers are dis-

criminating more and more against falsely packed containers that do not hold full dry measure. Do you blame them?

A little neglect at harvest time is apt to cause the grower considerable loss. This loss may arise from several sources. The fact that a grower has a good crop throughout the orchard does not mean that he has made a success of the fruit business. If it has cost him as much or more to produce the fruit than it can be sold for, then he has failed financially.

Usually producers of large yields of quality fruit are successful provided they sell it to a good advantage. Some growers are so wrapped up in growing good fruit that they neglect to properly market it. Farmers are poor salesmen at best and probably always will be because they get so little experience. They do not know what is going on among their competitors and this is very valuable sales information. The price your neighbor secures for his fruit will affect the price of all fruit sold in your community. Then it should be to your interest to see that he doesn't sell at too low a figure. A mutual desire for better prices can usually be obtained by co-operative selling.

If you want your fruit to bring top prices, it must be handled carefully from the time it is removed from the trees until it is placed in the refrigerator car. To get fancy prices you must have fancy size, grade, color, flavor, packages and other things that the great volume found on the market doesn't have. Careful handling, grading and packing will pay long dividends, so why not take time and market your fruit in the way it will yield most profit?

Tennessee Horticulture, published by The Tennessee Horticultural Society.

GERMINATING ROSE SEEDS

Results of discoveries recently made at the Boyce Thompson Institute for Plant Research, Yonkers, N. Y., on control of the germination of seeds were described today by Dr. William Crocker, director of the Institute, at a celebration here of the fiftieth anniversary of the American Association of Nurserymen. The time necessary to germinate hybrid rose seedlings has, as a result of the Institute's temperature experiments, been reduced from five years to four months—this one discovery alone, according to the statement of one of America's leading nurserymen, being worth more to the nursery industry than the investment in the Boyce Thompson Institute and its maintenance would ever cost.

Five degrees Centigrade is necessary to germinate the rose seedlings, Dr. Crocker explained, with alterating temperatures for other plants, such as dogwood and the grasses. Slides were shown to the nurserymen picturing the actual accomplishments made by the Institute in this direction. Dr. Crocker's progress report on plant diseases, especially those known as "mosaic" and "yellows," were also of vital interest to the American Association of Nurserymen.

ABOUT WILD FLOWERS

(Continued from page 169)

stock or bulb for the net season's growth.

(4) Picking flowers removes potential seed. This is especially important in the case of annuals and biennials.

(5) If you see only a few of some kind of flower in the woods you are in, leave them, even though that particular plant may not be classed as rare or disappearing.

(6) Do not pick flowers, even common ones, if you do not intend to take them home with you. There is no excuse for picking flowers only to throw them away an hour later.

(7) Pick flowers by breaking their stem sharply, or cutting, not by pulling. Pulling loosens the roots and may cause permanent injury to the plant.

(8) Avoid excessive picking.

(9) We do not advocate no picking of wild flowers; we advocate, discriminate, thoughtful, loving picking.

SUMMER MEETING

Bayfield, August 19 and 20, 1925

All Roads Lead To Bayfield

Bayfield people assure us a hearty welcome and that alone insures the success of the meeting. There is besides the incomparable beauty of Bayfield and its environs and the historical and legendary associations of two and one-half centuries. Bayfield, so new and yet so old!

The wonderful Indian Pageant so successfully enacted last year will be repeated this year, August 2 to 16. We select the following paragraphs from the Pageant circular:

America's Great Indian Classic

At the Top O' Wisconsin, in one of America's most scenic wonderlands, will be given an artistic presentation of the thrilling historic incidents which sent the "Gentlemen Adventurers" of France to the shores of Chequamegon Bay, Lake Superior. The tragic tale of the subjugation of the proud Ojibway Indian Nation will be told in magnificent pageantry in appropriate surroundings on the shores of the "Big Sea Water."

A Natural Setting for the Pageant Grounds

On the shores of Chequamegon Bay, on the world's longest blue water highway, Nature has made a vast arena with wooded slopes on one side and the shining waters of Lake Superior on the other. Here the Indian pageant will be enacted from the natural heights overlooking the cradle of Wisconsin's history, the Apostle Islands.

All Roads Lead to the Pageant Grounds

Whether you come by water, rail, or automobile the way is never crowded. Come over the Great Lakes by water; the Northern Pacific, the Northwestern Line and the Soo Line by rail; Wisconsin State Highways 10, 13, 24, 35, 112 and Minnesota Highway No. 1, by automobile.

Come to Bayfield, Wisconsin. From there the way is clearly marked to the pageant grounds about five miles distant.

Bayfield horticulturists have reserved the pageant grounds and dining hall for us on Wednesday. Here, in the forest, we will hold our meetings, forenoon, afternoon and evening.

On Thursday we are again in the hands of our friends. There will be an automobile excursion in the forenoon and a boat ride in the afternoon, the famed "Islands" trip, no doubt touching Madeline Island.

While this is a delightful outing trip it should not be considered wholly in that light. While no definite program can be announced at this time we promise all who attend a profitable day on Wednesday. There will be short talks, discussions and the Question Box.

For auto campers this is a paradise, for those who prefer to sleep under a roof there will be ample accommodations at,

The Pageant Inn, Bracken Hotel and in Bayfield homes.

The hotel proprietors respectfully ask that you write a week in advance for rooms. This is the only announcement that will appear in WISCONSIN HORTICULTURE. Check the date on your calendar.

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WISCONSIN HORTICULTURE

Vol. XV Madison, Wisconsin, August, 1925 No. 12

Marble and Bronze or a Yankee in the garden of King George. Huron H. Smith in the Royal Botanical Garden at Kew England.

MARKETING SMALL FRUITS

F. KERN

Annual Meeting Wisconsin Horticultural Society, January 14-1925.

I recall having been before you at least once before on this same topic and I am quite confident it is not due to any great brilliancy nor to any really valuable suggestions made on that occasion, and carried out since that I am here again to tell you what you all know and what in substance I told you ten years ago.

Then you might ask, just what is the justification for imposing upon you again. The Secretary asked me to talk to you.

Well, in explanation, some eight or ten weeks ago I happened to be mixed up in a matter pertaining to better marketing, where I think perhaps I talked too much, which might possibly have suggested that I knew something about the subject. At any rate that session aroused in me a desire to have something on this program on the subject of Marketing and I took the liberty to suggest it to Secretary Cranefield by mentioning to him the names of two men highly prominent in the marketing of perishables, who were good talkers, one of whom I am pleased to know is here to tell us something really worth while on this subject, but anyway, as is always the case when one makes a motion when you make a motion to appoint one or a committee, the maker of the motion always gets on the committee and I think that is how it happened.

This subject is one that has occupied the minds and attention and tested the ability of a great many capable men for years and years, with some degree at least of success.

In Wisconsin, we have the Wisconsin Division of Markets, whose main purpose is to devise and put into operation the best methods of marketing. They have been very active in their efforts along various lines of marketing, some of which may have been in some measure beneficial, though I am not sold on their plan of grading eggs or strawberries, but they have tried their experiment on a district in our locality which if local reports may be relied upon in that instance did not prove satisfactory, but one of the prominent members of the Division is listed to speak on the program this afternoon and I am sure he will tell us what was accomplished for the growers at Warrens by giving us net results.

We have been passing through a theoretical period on this marketing proposition, with the urge of co-operative marketing on one side and various other methods on the other side.

I will take the affirmative and let those who follow me take the negative if in their opinion my theory is incorrect.

I hold no brief against any other plan or method and my statements will be based on my own knowledge gained from actual experience during the past fifteen years or more years in this work, and in my talk I may appear to refer to the author too frequently to be really polite, but in giving my own experience I know the statements are true, whether or not the theory is correct.

To keep close to my text and to keep my thoughts in the right channel I have written what I have to say, because there have been so many misstatements, giving rise to many misleading conditions, and with apologies for inflicting an essay upon you rather than a burst of oratory, and with the idea of getting a birds-eye of the bull rather than a bulls-eye of the bird, my brief is as follows:

It has always been my notion that market should be considered under at least two heads. I think I made that clear in my paper on this topic some ten years ago, but I want to emphasize again that there are at least two distinct kinds of marketing, the first and most important of which I want to consider under proper, or profitable marketing.

Marketing small fruits the topic given me for discussion has many angles, in fact it is all angles sometimes, we think, except right angles.

There are so many angles in fact, which have an acute bearing on *proper marketing,* which we will discuss first that I deem it would be imposing, should I take the time to go into them in detail. therefore it will be my purpose to discuss the more important angles thoroughly and omit or touch but lightly upon the minor influences.

The first essential, of course, is to have something to market.

If it be strawberries, we must have enough of them to interest some locality that must import its supply of that product. And, too, we must have enough to insure the buyers of that locality or market that we can take care of their orders and assure them of a regular supply.

How are we to know where these markets or localities are? That is one of the most essential studies in marketing and with the continual changes in strawberry producing areas and the source of supply for the non-producing areas it is some study.

In this discussion I shall confine my talk to cover commercial sections only.

In any locality where a sufficient quantity of any perishable commodity is grown to require real effort to market it properly I would say the first essential in marketing is organization. The old Proverb: Let not the right hand know what the left hand doeth'' does not work out satisfactorily in marketing perishables.

We must have *organization* in order to have standardization and proper distribution. Both are very essential in proper marketing. The grouping of 100 growers into one organization does not create a market for their product, but the fact that they co-operate makes it possible to concentrate their product in sufficient volume to interest some non-producing section, assuring that section of an uninterrupted supply, another very essential factor in successful marketing of perishables.

Now, after you have organized the growers of a commercial sec-

tion producing perishables, which should assure volume you are about as far from successful marketing as you were before you organized, unless you can standardize your product and thus be in a position to assure the market or markets you expect to use that you can deliver the quality they want to buy. And ladies and gentlemen, as the public becomes more able to buy they become more and more exacting as regards quality.

They demand quality. They want the value of their dollar, which, by the way, is but fair, for their dollar is only worth about seventy cents. They want what they pay for and it is but right they should have it.

The buyer of quality is the kind of buyer I am always looking for, because they are willing to pay the price. I never lost a customer in any line of business on good quality goods.

Then the question of marketing resolves itself in to organization and standardization as the first *two* essentials in proper marketing. Now, I do not want you all to agree with me fully on this for I like to argue and if we all agree there can be no discussion and the discussion is of vital importance if we get much out of this topic of marketing.

I would place distribution third among the essentials in marketing perishables, for without organization you cannot have standardization and without both you cannot have proper distribution and without proper distribution there is no such thing as proper marketing of small fruits.

Through organization we get uniformity which the buyer or buyers come to know and which they in turn can have confidence to recommend to their customers and to the ultimate consumer and without standardization you will not have a commodity that will command attention necessary for proper distribution and without proper distribution we cannot have proper marketing.

Organization, standardization and proper distribution, while the first essentials in proper marketing, by no means solve the problems of marketing. We can arrange our volume, our quality, and make our connections for the proper distribution without any knowledge of our competing sections and what they are planning, and think we have the marketing of our crop solved to wake up the next morning to find our plans all shot to shadows.

Yes, what about these competing sections? What place do they occupy in the discussion of this topic. *A mighty important* one! Are *they* organized? They may or they may not be.

If organized the marketing heads could work together and keep each other advised as to the movement from each section, what markets they were using etc. Do they? No. Why not?

Because each of these marketing agents seems to think it is none of the other fellow's business what Sparta or Warrens or Bayfield or Sturgeon Bay or Washburn or Brule or any other section is doing.

I have mentioned the most essential factors in proper marketing, but the independence among the marketing heads of the various competing sections, is directly responsible for more real grief than any other one factor in the whole marketing scheme, and if it were polite I could give you some concrete instances, but most of us are present and I will let the other fellows spring it.

We marketing heads belong to one of two classes: We either think we know it all or else we do not want the other fellow to know how little we do know and I should class us all in the *first* group.

There is a deplorable lack of cooperation among the marketing agencies of the various competing sections shipping berries and at a tremendous expense to the growers of these shipping sections.

In our locality we have been troubled some days by what I term truxters coming into our district and hauling out enough berries to interfere with our plans for loading or filling orders just whenever conditions are favorable for them, buying from our growers whom we depend upon to help fill out a car we have promised, and have been short sometimes 100 cases.

They truck them into nearby towns which we depend upon for an outlet by express. They often buy the berries from our growers for less than we might have netted them but the grower feels secure if he has the cash in his pocket. This Truxter does not add transportation to the cost of the berries and he sells them perhaps for less than we have quoted the same dealer in that town several days previous, we disappoint the fellow who bought the car, possibly lose him because he cannot depend upon you for a supply and has to pay excess freight because of the 100 cases short in the car and you lose him just at a critical time in your shipping season, for this usually happens at the opening of the season. He has for a time copped you outlet for express, and the berries continue to ripen regardless of this situation and we have to hunt a new outlet, get things sized up and feel that it is safe to drop a car into Chicago, there are only about ten thousand cases of straws in there this morning. The next morning after your car is past a diversion point you read that Michigan has dumped 55,000 cases in Chicago over night, and your marketing stock drops to zero and we emphasize the word luck with a few adjectives that would sound improper at any other time in a man's life, and we turn to some other market. Duluth looks good and we ship a car there and two days later get a phone call from the consignee actually shedding tears over the telephone—most of those commission men shed that kind of tears—while he tells you that there are two cars of Hood Rivers, one from Alma Center and two from Warrens in this morning and the market is rotten and says if you have any better place for them I would not advise shipping another car until this situation cleans up and so it goes until the end of the season, we are butting in on each other day after day and paying the penalty about twenty days out of the season.

But we have to settle with the grower, who from some glowing report he has heard or read in the Milwaukee paper concludes he is going to clean up a nice little sum this year and he buys a new car, or paints the house, or maybe goes to Yellowstone park expecting we marketing heads have netted him enough for his berries to warrant all this, and we have to meet this situation. Possible roadside marketing has some bearing on marketing in some localities but that is merely a retail proposition, selling direct to consumers, many of whom might not have bought at all, but for the individual grower located on a State Trunk Highway this system has its place and at times may have some bearing on proper marketing, but it has never been a factor in my experience.

In this paper I have endeavored to bring out clearly the main essentials as I see them, in marketing berries in particular, as well as mention some of the diffiulties with the purpose of bringing out any questions from the audience on this important subject being conscious of my inability to cover the subject properly.

And in justification of results obtained by the various marketing agencies and our failure to keep abreast of the times in marketing I want to leave with you the suggestion that the grower is a very uncertain quantity as applied to our state, and I might add Michigan as well, for I have had some experience in that state.

For that reason we are unable, due to the uncertain source of production to build dehydrating and canning plants to relieve the fresh fruit markets in peak season and thus maintain a steady market for the fresh fruits shipped.

Demand and production fluctuate and for that reason the term orderly marketing is a misnomer. There can be no orderly marketing with a fluctuating production and demand.

Production is governed largely by price. If returns are good this year more growers will plant strawberries next spring and if the price happens to be low they will plow up the old bed and possibly neglect to clean out the new bed or take care of the new planting with the result that the following season we have a good outlet for a small production get a good price and the following year they all go back into the business again, after you have lost your markets or that portion which you need so badly in big crop seasons and perhaps that year we get a price too low again to satisfy the growers and the operation is repeated.

We have to sell the whole crop, and if we have a poor demand the price is low, naturally, and if we have high production the price is accordingly low.

What we need then is a steady supply of standardized berries from organized growers, officered by competent men, men who know the selling end, knows the markets and knows the firms in the markets, with whom he intends to trade; in fact had everything made to order, and had the co-operation of all the local organizations marketing the same commodities at about the same time, had a juicing plant to take care of the unmerchantable berries, then it seems to me the only other essential would that one man should regulate the distribution, then we would in fact have proper marketing. Would we?

It seems to be the law of nature that there should be counter influences in the onward march of progress and I am wondering, if we could coordinate all the perishable fruit shipping organizations under one head, so far as distribution is concerned at least, in this state, whether or not we might stir up these counter influences. Whether such cooperation would fully solve our problems in marketing small fruits?

Those of you who have followed closely the phenominal growth of the new Octopus, the Continental Baking Company, a corporation of six hundred million dollars, a baking corporation which plans to have a line of bakeries from the Atlantic to the Pacific, have seen opposition, have seen this counter influence against this gigantic scheme, by the grower the grain dealer and the entire milling industry of the whole country. Why? Because it means that one man will do the buying of the raw material for that firm for flour to bake one tenth of the bread used in these United States will dictate not only the price of the finished product, bread, but the price of the wheat that is used in making the flour, by dictating the price they will pay for the flour.

Of course it is not fair to compare our little marketing scheme on a few perishables we have to sell, to this immense organization, but I used it to illustrate the point that whenever we attempt to control the price or distribution of any commodity in the raw material class you immediately antagonize the manufacturer or in our case the dealers, as well as the consumer, probably through fear that we might grow strong enough to dictate the price that would make the production of a commodity highly profitable, and that you produers will just literally eat up the middle man who has builded for himself a splendid business and the fight is on.

Personally I do not take this situation seriously for we are yet a long way from such a goal, but it is something to think about.

With perishables, they come with the seasons, they grow regardless of market conditions and they must be marketed almost on a moment's notice, making control practically out of the question, so that the most we might expect from coordination, amalgamation the term applied to all big business, would be proper distribution, one of the most essential, if not the most essential factor in marketing perishable products such as small fruits. And even this could not be accomplished without some man with a lifetime of experience, one who has been confronted with every obstacle, and there are a lot of obstacles, one who has a broad knowledge of conditions, one who knows the marketing game well enough to enable him to market the crops of the growers comprising these organizations for enough more money through this proper distribution so that his services

would not cost the locals a cent, then such an organization, in the course of a life-time might give satisfaction after having first justified its existence by being able to do business for nothing-so-to-speak. The idea is correct, the plan sounds good. Can we work it out it is the solution of marketing small fruits.

The cooperative idea is as old as time. We have seen cooperatives such as the grange, the farmers' alliance, and I might add dozens of others that are still functioning just preparatory to their sad funeral, flourish for a time, start a store, an elevator, a potato warehouse, a live-stock shipping association, a creamery and out of all, about the only thing we can point out as being a success in Wisconsin is the dairy business, an industry producing milk enough to float the United States Navy, and excepting Wisconsin and Minnesota and a few sections of a few other states the industry is unorganized, and it represents an annual production $2,566,000,000 last year. It has been bled from the beginning and yet it is the one industry or project of farm production that is proving profitable or at least that not losing money and yet I dare say there is not a creamery or a cheese factory bordering on the territory of an independent corporation or privately owned factory that is not being patronized by those who once boosted for cooperation.

We have one of the large creameries at home, one of the large creameries of the state, in point of production, making a million and a quarter pounds of butter annually and I am safe in saying that at least ten per cent of the stockholders and probably 25% of the farmers in the district tributary to that creamery patronize other agencies. Why do they do it? *I don't know*, but I do know this, that until the producer is ready for cooperation, whether it be milk producers, strawberry growers, potato or any kind of growers, until the growers are ready for cooperation no man nor no set of men can do very much but theorize, yet I still cling to the theory of cooperation as the only correct theory, and especially for the marketing of small fruits or perishables.

In all cooperative marketing schemes the main item watched is the selling cost. The grower as a rule pays very little attention as to whether you are getting more than the market price for him through cooperation and cooperative marketing but they watch the marketing cost so closely that our small marketing organizations dare not do any effective advertising in an effort to broaden their markets, because it figures in the marketing cost. Many times they have laid too much stress on the cost of marketing or selling service, and too little on the service rendered and the advantage gained.

It is my firm conviction that we have been giving too much attention to the small percentage of the consumers dollar which covers the cost of selling through cooperation, and too little attention the net returns secured.

In my own organization we charge the stockholder 5% for marketing and prorating and we have so handled the business that we have never had to take one cent out of the small fruit growers for the handling cost on berries, but have made it out of other lines, and been able to refund that commission in the way of patronage dividend at the close of the year.

Possibly in the marketing of small fruits we have become too keenly interested in the consumer. We have been too anxious for him to eat our berries, our apples, etc. that through the common methods of marketing we have given him our products for practically nothing if we have not in some instances paid him for handling them.

Personally I am more concerned about the producer's dollar and in seeing the producer get a reasonable return on his labor and investment and this can only be accomplished through proper marketing.

FRUITS NECESSARY SUMMER FOOD

Dieticians attached to the staffs of medical schools are unanimous in declaring that fruits have ceased to be a luxury or an appetizer but are an absolute necessity in the summer diet, important the year round, but of greatest importance as regulators of intestinal activity and stimulants of many body processes during the hot months when they are apt to become sluggish.

They are the best of tonics to tone up the system and keep the human machine in efficient working trim. The mineral salts contained in fruit are most valuable, the vitamines are a necessity in maintaining health and vigor while the roughage aids in digestion and keeping the intestinal processes regulated.

Fruit, according to the best authorities, should be eaten at least twice a day and the poorest form of economy is cutting down on the fruit supply or buying fruit of inferior quality. Either fresh from the market or utilized in various cooked dishes, fruit in hot weather is essential.

Berries of various kinds, strawberries, raspberries, blackberries, blueberries, all should be used freely. Currants and gooseberries form an important article of diet either in the form of pies and jelly and jam or eaten ripe from the bushes. Few people know the delicious ripe gooseberry, much esteemed in England but seldom seen here as a dessert fruit, its use being chiefly for pies.

Fruit is one of the cheapest articles of diet because there is so small percentage of waste to it. Household economy in securing a daily supply of fruit is best practiced in buying fruit in season. Many of the fruits can be purchased all season but at high prices. Apples remain the most reasonable of all fruits the year around and are always available.

BE AT BAYFIELD AUGUST 19 AND 20

THE FLORIST'S PAGE

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

EUROPEAN BOTANICAL GARDENS

(Continued from July, p. 172)

By
Mr. Huron H. Smith

Not far from this house, is the orangery, which was built by Princess Augusta of Wales in 1761, for the purpose of wintering over her orange trees. These were moved to the Kensington Palace in 1814, and the building was given up to an exhibition of exotic timbers, many of which came to the Kew Gardens after the exhibition of 1862. It then became known as Kew Museum III. From the Cumberland gate entrance, one enters first through the wild gardens—a mound on the left-hand side and topped by the temple of Aelous. The slopes around this are thickly planted with daffodils, and various kinds of British ferns, hardy cyclamens, Christmas roses, hepaticas, anemones, chionodoxas and crocuses. The Cumberland gate was built in 1869 and is the first one on the Kew road that is passed by omnibuses coming from London. There are places of interest directly inside of this gate, the rock gardens, the rose pergola and the herb gardens. Nearest to the wall is the herb garden, and here one finds a purely botanical arrangement of the herbaceous plants in beds; the plants are set out according to their relationship, all the species of a genus and all the genera of a natural family being brought together. This, of course, is to make it convenient for the students and not necesarily to make a fine showing. There are a large number of beautiful plants here, but the duller ones have not been rejected.

The rose pergola, which was built along the edge of this herb garden, was a purely horticultural feature. As we happened to visit the garden, there was to be seen a wonderful selection of the best varieties of climbing roses, and it really was a delight to the eye. The rock garden, which was started in 1882, was built on the ordinary lawn of Kew. It was the intention to make it an imitation of a very rocky mountain water course, such as the one encountered in the Pyrenees Mountains, but owing to various circumstances the idea has not been so very well carried out. They have brought down stone from Cheddar, the limestone and oolite from Gloucestershire, tufa rock from Darley Dale, and have made an artificial rock garden that is very interesting at any rate. The vegetation that is planted there comes from the mountains of the north temperate regions, such as the Alps, the Pyrenees, the Carpathians, the Tyrol, the Caucasus, as well as the mountains of North America, China, and Japan. The southern hemisphere is represented by plants from New Zealand mountains and the Falkland Islands. Rock gardens are becoming much more popular to the skilled horticulturist and the amateur lover of plants, because Alpine plants are, for the most part, noted for their rosettes, or its cushion-like habit of growth, with small crowded leaves, and relatively large and brilliant flowers. In no small area of an equal size, can horticulture, in the open air, produce so many plants of beauty with such distinction as by alpine gardening, and doubtless it is the best reason for its great popularity today. The chief genera represented in such a collection, will be found among the Saxifrages, Primula, Gentiana, Sempervivum, Sedum, Campanula, Veronica, Dianthus, Silene and Aubretia.

There is also water in this rock garden, so that boggy places can be provided for plants that come from the damp alpine meadow, such as the Soldanellas, the Primulas and the North American Cypripediums. We think it safe to say that the popular interest is greater in this section of the Kew Botanical Garden than any other series of plantings. Then, in England at large, the private residents seem to have taken up the idea of the rock garden and one may always judge the advanced amateur by the status of his garden.

In this same part of the Kew Gardens is located the aquatic garden, which consists of a large sunken tank, in which is grown a collection of hardy waterlilies with swampy beds for marsh marigolds, swamp irises and other similar plants. At the four corners, are tanks of higher levels, filled mainly with British aquatic plants. Close to the aquatic gardens is an ivy-clad building, called Museum II. This is now used for a display of exhibits belonging to that great division of plants, known as the monocotyledons, which includes, the palms, the grasses, the orchids, lilies and so forth. Here too we are close to the Cambridge Cottage, with the walled-in garden attached to it, and there we may see a geometrical arrangement of beds in which is grown a collection of hardy medical plants, culinary herbs and so forth, such as the mint, thyme, marjoram, rosemary, borage, balm, hoarhound and so forth.

In this neighborhood, also, is to be seen "T"-range" greenhouses, so-called because they are shaped like the letter "T". There are twelve compartments of this greenhouse; four of which are devoted to orchids, one of them to Victoria regia; two of them to economic plants and the rest to various hothouse plants. They have a very fine collection of orchids represented by about one thousand eight hundred species. Many species are grown there which can not be seen elsewhere—the duller ones as well as the beautiful ones. The giant waterlily of the Amazon, named after Queen Victoria, is planted in a large rectangular tank because the sunlight is wanting in the winter time in their

climate, and therefore has to be treated as an annual. The seeds are sown in February in a pot, and the young plant is put out some six weeks later in a bed of rich soil in this tank. Here it grows very rapidly, and by midsummer the circular leaves have become six to seven feet wide with upturned rims four to six inches deep. The flowers alone are twelve inches in diameter—at first white and fragrant and then changing to purple pink before they fade. One flower only remains open for about twenty-four hours, but in summer time a fresh one opens every three or four days. It probably is of as much interest to the visitor, as the night-blooming Cereus is in this country. In a small annex to this Victoria Regia house, there is a fine group of insectivorous plants cultivated, such as the sarracenias, with pitcher-shaped leaves, the sundews, the Venus flytrap and others, all of which are furnished with the means of trapping insects and digesting them. In the remaining houses there is nothing peculiar or different from some of the conservatories of our own country, so we will not discuss them here.

The Victoria gate, which was opened in 1889, is the second entrance on the Kew road available to those who come by road from London, but it is chiefly used by visitors who arrive by railway at the Kew Gardens station. The interesting thing from this gate is the pond, with its border of water plants and interesting and various collections of water fowl. This is a natural pond, and the borders are very well planted with spring flowering plants, and summer and autum flowering plants. It is the chief center for the garden roses at Kew—a large number of beds are devoted to the best variety of roses, suitable for a London shrubbery bed. These rose gardens are bordered by hollys which have been trimmed as hedges. Near here is the largest of the greenhouses which is called the Palm House. It reaches to a great height, and one finds in the center of it a winding iron stairway, which leads to the top of the house where one can get a good view of the palms looking down upon them. There was a very fine collection of cycads, remarkable cone-bearing plants, owning some relationship with the conifers, but more like a tree in their method of growth. As one steps out of the west end of the Palm House, there are three broad grassy avenues leading away in the distance, two of them giving the most extensive views to be had in Kew. The one at the right is short, and is terminated by the finest species of Lebanon tree in the garden. The central one affords a view of over a mile in length, the first thousand yards of which is known as the Sion Vista, and ends at the boundary of the garden in the River Thames. The view, however, is carried on over the flat meadows of the Sion House property through the woods near Isleworth. The left-hand vista ends with the pagoda.

Just across from the east steps of the Palm House, across the pond, is Museum I, which was opened in 1858, which is used to show the uses of plants to mankind, and is devoted to that great division of plants known as the dicotyledons, that is, plants which have two seed-leaves, or cotyledons, and net-veined foliage.

At the left of the entrance of the Victoria gate, there is a very pretty little hollow known as the "Barberry Dell". Here is found probably the largest collection of barberries in the world. It has been much increased in recent years by new introductions from central and western China. Around this dell is grouped a collection of magnolias, and rock roses, very beautiful summer flowering shrubs and so forth. It is in this neighborhood, too, that the Kew flagstaff stands. It is a pole of Douglas fir which was discovered in the forests of Vancouver Island, British Columbia, in 1914, and presented by the government of British Columbia. It was a three hundred foot tree, and the flagstaff itself weighs eighteen ton.

The temperate house, or Winter Garden, is situated about midway between the Victoria and the Lyon gate. It consists of three rectangular buildings connected by two small octagonal ones. The northern section is known as the Himalayan House, and is given over largely to rhododendrons and camellias, flowering trees and shrubs from the Canary Islands and Madeira as well as a number of plants from other parts of the world that are too tender to grow in the open air at Kew. The central part of the house is kept warmer than the northern part, and is dominated by the Australian flora. The finest collection of Araucarias is to be seen here. Then too, there are the palms from different sections of the world, and also the tree ferns. The southern section of this Winter Garden, is the Mexican House, and is kept the warmest of all three sections. Here are to be seen palms, dragon trees, rhododendrons from Java, and a group of cacti, euphorbias and other desert plants. A hundred and fifty yards north of the temperate house, is King William's Temple, built by William IV in 1837, and in its neighborhood is a collection of plants belonging to the Heath family. The Heath family is one which includes some of the most beautiful and popular garden plants that we have, including the azaleas, rhododendrons, heaths, arbutuses, and many smaller groups. On this plot of ground is assembled a rich variety of these plants, mostly of the wild type. The garden kinds of azaleas have a special section to themselves, about three hundred yards northwest of here called the azalea garden. There are a series of beds, each one filled with a single variety, paving the whole length of the broad walk. In the center of this group of shrubs is the rhododendron walk, which runs parallel with the plants on the western side of the garden. This walk or dell was excavated about 1760, and is fairly deep. As one walks along the upper edge, he is on the level with the tops of trees that are planted down in the dell.

(To Be Continued)

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WHY IS A FRUIT EXHIBIT?

The Board of Managers at one of its recent meetings abolished cash premiums for exhibits of fruit, flowers and vegetables at our annual convention, (we have not offered premiums of any kind at the summer meeting for several years.)

Now we didn't do that to be smart nor wholly to save money, although that was one reason. We did so believing that it was a step in the right direction, that it would prove to be the beginning of a much needed change in the kind of exhibits now staged at county and state fairs not only in this state but throughout the country. If a change is needed and we can initiate it we ought to do it, we ought to be the leaders. Let others follow.

Why exhibit fruits, flowers and vegetables? Is a change needed? What have we to offer better than we now have? There are the three important questions. There are many other closely related questions as; how long has the present system been in existence? Have the character and purposes of exhibits developed during the past century to meet the developments in amateur and commercial horticulture? During the past 20 years? If two of these six questions can be answered satisfactorily we will be well on our way.

In order to get more than a superficial view we must look backward to see how this thing started and why.

The American Institute of New York city staged exhibits of Horticultural products 140 years ago, perhaps earlier.

The Pennsylvania Horticultural Society organized in 1827 and the Massachusetts Society in 1829 have held shows from the dates of their organization to the present time.

Reports of these early meetings stress the *new* varieties. Showing *new* kinds of fruits and flowers was the thing. The fruits were shown on plates then as now. That was the plan followed for about one hundred and ten years, new fruits, new flowers, new vegetables the fruit on plates the flowers in pots and vases. Such exhibits were of great educational value and strictly in keeping with the times, that long period of testing, ever testing to find the fruits adapted to this new continent. That era closed a quarter of a century ago when production began in earnest to meet the needs of our growing population. Then growers began to exhibit fruit in bulk; boxes, barrels, car loads of boxes and of barrels aggregating train loads of boxes and barrels. Particularly was this true of fruit shows in the Pacific coast states.

Now this style of exhibits is no longer popular; the big fruit shows formerly held both in the East and West are now no more. Big exhibitors have found it unprofitable to show. What next?

How has it been in our own state? We have exhibited for at least seventy-five years and for the first fifty years of this period we were justified in showing *new* varieties, the testing of varieties was our main task. Twenty-eight years ago the writer staged an exhibit of seedling plums and apples grown in the experimental orchards at the Agricultural College. This was the first exhibit ever made by the University or any other state department at the state fair. Each succeeding year until 1920 an educational exhibit of one kind or another was staged, first for the College and later for this Society, some years occupying nearly one-half of the horticultural building.

In the regular premium exhibits we added first, bushels of apples, pyramided on tables, and later trays, in addition to plates. That is as far as we have gone either at state or county fairs or conventions.

This brings us back to our questions, what is the purpose of exhibits of horticultural products. Should we change the character of our exhibits and if so how? In order to answer intelligently we must enlarge our inquiry to include the objects and purposes of fairs in general. Why are fairs held? There can be but one satisfactory answer that will justify the expenditure of public friends, namely, EDUCATION. (The state of Wisconsin spent last year approximately $150,000 on the State fair and exactly $325,-080.64 on premiums to county fairs.)

A fair is not or rather should not be exclusively an entertainment like Coney Island or The White City but that is exactly what the average fair now turns out to be. Success is measured by the number of thrilling and ris-

que entertainment features, the nearer the approach to Coney Island the more successful the fairs; with this difference, Coney Island from begining to end is absolutely *clean*.

I do not hold that amusement features should be wholly excluded but they should be subordinated and if possible correlated to the underlying thought, education. The best fair I have seen in my lifetime was one held last fall in a town of 1500 people the center of a rich agricultural district. Farm products, fruit, flowers, vegetables and honey. The premiums were few and insignificant, in amount 25 and 50 cents each. On a cold and drizzling afternoon over *one thousand* people from the farms attended! On the following day, I was told, the number was doubled. In the evening "Main Street" was roped off and the young people danced on the concrete pavement. The fathers and mothers sat on the side lines enjoying the dance more than did their children. "Why do do all these farmers come to this little fair," I asked the local banker. "They don't come for the fair," he answered, "they come to stand around and talk." To get back to our biscuits. Are not our horticultural exhibits both at fairs and conventions merely spectacles? Take the 1924 state fair apple show and the January 1925 Horticultural Society show, as like as two peas except as to size. What did they demonstrate? That two hundred bushels and fifty bushels respectively of apples were grown in Wisconsin last year, two fine spectacles. Just that and nothing more. Tier on tier of trays, table after table of plates sometimes labeled, more often not. And that is as far as any one can go under the present system. (It cost about $1800 for premiums on fruit at the state fair and $341 at the Convention. In 1924 we paid $640 in premiums.)

There are at least two reasons why we should change the character of our exhibit; we have passed the variety testing stage, we should keep abreast or a little ahead of the times.

What has been said about fruit also applies to flowers and vegetables. The florists ask us to "Say It With Flowers," but do not tell us in their exhibits just *how* we can say it. Perhaps the florists agree with Gilbert Chesterton who says that we waste our time on non-essential things; that there are really only two important things in life, getting married and being hanged. They show bridal bouquets and funeral wreaths. For the rest spectacular exhibits of gladioli and impossible flower beds. So much for criticism. There remains the third major question; what changes should be made? The answer to that will be deferred until the September number or later, this tale is already too long.

PROCEEDINGS

Joint meeting of Board of Managers and Budget Committee, office of secretary, Madison, July 10th, 1925.

Present: Pres. Toole, Goff, Kellogg and the Secretary.

The budget committee offered the following recommendations:

(1) That plans be formulated toward making the conventions as nearly self supporting as possible; that this might be accomplished in part by, (1) rental of space to exhibitors of spray machinery, fruit packages etc., (2) selling advertising space in the programs.

(2) That it is the sense of the committee that the expense of the executive committee meetings ought to be reduced and that this may be done either by an amendment to the constitution reducing the number of members or by limiting the amount paid for expense to mileage only.

(3) That five hundred dollars be set aside for the fiscal year 1925-1926 for Wisconsin Horticulture, two hundred dollars to cover the 1024-1925 deficit.

The following claims were audited by the Board of Managers: (Beginning July 1st for the fiscal year, 1925-1926).

Voucher No.

1. D. W. Welch, services $25.00
2. Wis. Telephone Co. 11.36
3. Meyer News Service Co. 2.50
4. Kellogg's Nursery 3.00
5. Madison Gas & Electric Co., current 2.80
6. Madison Gas & Electric Co., current 1.48
7. White Elm Nursery Co. 2 50

Note:—Our constitution provides that all claims against the society shall be audited by the board of managers. The audited vouchers are then forwarded to, the Auditor of the Department of State who also passes on them. The b. of m. audit is to determine if the claim conforms to the rules and by-laws of the society; the state audit requires only that the claims comply with the state law governing our appropriation. By common consent of the b. of m. the secretary forwards certain specified claims, fixed charges, on his own audit. The following classes of claims are passed on the secretary's audit: Salaries, office rent, telephone and telegrams, electric company, freight and express, salary and services of casual employees.

These statements will be published each month so that every member may know exactly how our funds are expended. The secretary ventures to say, without formal authorization, that the board of managers and the general executive committee will welcome suggestions and constructive criticism both as to the policies adopted by them as well as to the specific expenditures of funds.

It is not too early to announce that our next annual convention will be held in Eau Claire, Nov. 17-20. Eau Claire folks don't know about it but we know they will be pleased when they find out we are coming.

WOMEN'S AUXILARY PAGE

EDITED BY MRS. C. E. STRONG

"THAT REMINDS ME"

Some plants are like some folks we know—when ever we see them, they remind us of something.

"Oh yes a Bleeding Heart is a pretty plant—but some how I never cared for it—it reminds me too much of an aunt of mine. All the plants she had in her yard were two big Bleeding Hearts. She never did anything but find fault with us young folks. I know I never did anything in my life that suited her."

I never see double Petunias but I think of a neighbor who came over one day with a package of choice double Petunia seed; and asked mother who was a master hand at raising flowers—if she wouldn't plant this seed for her on shares—the plants were to be divided equally—but she was to have her choice of the plants. Mother agreed and planted the seed carefully, about thirty plants came up—about half of them were strong healthy plants—the rest were very weak and spindly. When the plants were ready to transplant over came the neighbor and took her share, every one of the nice strong plants. "I bought the seed you know," she said, in explanation of what looked very much like selfishness. Mother carefully planted out the little weak plants, they grew and bloomed.

* * *

One day over came friend neighbor very much disappointed saying—"Do you know every one of those Petunias are single," "Did any of your plants live?" "Oh yes", said mother "come and see them," and took her out in the garden where fifteen thrifty Petunia plants were covered with great double blossoms. I'll never forget the expression on her face as she stood there looking at the plants she had thought would not live. Then mother told her—"usually the weaker plants are the double ones—but you took the plants you wanted you know."

* * *

"Bittersweet indeed are the thoughts that come when ever I see the vine. Sweet, because of memories of my friend's fondness for the scarlet and orange berries and our years of happy friendship. Bitter, because I lost that friend through my ready acceptance as truth, a maliciously told tale."

* * *

"Ribbon grass grew all around a tall plum tree that stood near the house. My but those plums were sweet and good, but we boys were never allowed to pick any, they were carefully made up into "preserves," for special company. Sometimes we found stray ones in the grass and that gave me an idea that was put into practice that night, waiting until everyone had gone to bed I leaned out of the window as far as possible, and with my brother holding fast to my ankles, found I could shake the tree gently; the next morning there were a pocket full of plums apiece. Every morning one of us picked up plums while the other one stood guard. Mother wondered what was taking the plums but we were not suspected: One bright moon light night—when I was making a special effort to give the tree a good shake—for the plums were to be picked the next morning, my brother relaxed the grip on my ankles in his anxiety to see how many plums were tumbling down. I pitched forward, clinging like grim death to the ends of the branches I clutched in my fingers—they broke of course and I landed in the Ribbon Grass with a howl that brought every one in the house to the scene. Luckily there were no bones broken—but there was considerable explaining to be done and the next day, there was an unpleasant session in the wood shed—a tingling sensation was left with me, that returns even unto this day when I see Ribbon Grass."

* * *

The cyclamen and the carnation are among the flowers most susceptible to the influence of music. Some which were used in floral decorations close to a stand where the band was playing jazz were found, after a few hours, to have all turned their faces away from the music.

They were turned around facing the band, but soon began leaning away again. It is believed that the musical vibrations affect the fibers of the plants.—Pittsburgh Chronicle. If it was anything like some of the Jazz we have been obliged to listen too—we don't blame the flowers for turning their faces away—we wished we could also stop up our ears.—C. E. S.

GROWING OLD

This issue of WISCONSIN HORTICULTURE completes the fifteenth volume. It is a striking coincidence that the paper was born at the summer meeting at Bayfield August 21st, 1910 and the current issue carries notices of another Bayfield summer meeting just fifteen years later.

The secretary recalls clearly his anxiety and doubt as to the reception of his proposal to issue a magazine and recalls with pleasure the attitude of the committee toward the project, their unanimous, hearty approval.

So fifteen years ago another flame was kindled to light horticulturists on their way, just a tiny rushlight. Sometimes flaming brightly, sometimes dimly but never extinguished. Pages 1-2-4-5 of No. 1. Vol. 1. are reproduced in this issue. Fifteen years hence the editor will probably reproduce No. 1 Vol. 16.

HORTICULTURAL TROUBLES

Edited by E. L. Chambers, Assistant State Entomologist

HOW TO CONTROL "DAMPING-OFF" OF CONIFERS

Anyone who has attempted to grow conifers from the seed knows the heavy toll taken by this disease which makes promising beds look sickly, wilt and die out in patches. Excellent results have been obtained at the State Nursery located at Trout Lake during the past three years by the use of sulphuric acid used at the rate of 9 oz. to each 4x12 bed.

The disease is aggravated by adverse weather conditions and is especially difficult to stop when once started in a coniferous seed bed. It usually appears soon after the tiny plantlets have pushed their way through the soil and continues for some weeks during which time the plants are forming their woody stems; occasionally it kills the seedlings before they appear above ground.

This disease is caused by a number of different and distinct species of fungi. An indefinite number of species of Fusarium are capable of causing this disease. Pythium has been found to cause the malady and Rhizoctonia has been found associated with the trouble.

While "damping-off" may kill the germinating seedlings before they push through the soil it usually attacks them a few days after they have come up. At this time a few seedlings may be found which have fallen over and the upper portion green and fairly turgid.

This disease first appears as a small watery spot on the stem. A little later the stem becomes a trifle shrunken at this spot and soon bends and the plants fall over. The fallen plants lose their green color, die, wither and finally disappear. The disease spreads rapidly from this source of infection until more or less extensive areas are denuded of seedlings.

This disease is often blamed for injuries caused by the white grub which feeding upon the roots also causes quite large irregular areas to wilt and die. This trouble however can be distinguished from the grub injury by the fact that the plants are pulled down into the soil somewhat by the feeding action of the grubs beneath.

Another trouble often mistaken for this damping-off disease is a killing of the seedlings in spots over the bed resulting from drippings from freshly creosoted shade frames during rainy spells.

Seed Beds, I Untreated, II Treated

At the state nursery the ground is plowed shallow and disced and then the 4x12 frames for the seed beds were lined out in rows and the beds spaded, raked and rounded up in the center and then tamped smooth.

After the bed has thus been prepared the seed is carefully weighed out and evenly scattered. The bed is then tamped again to hold the seed in place on the moistened surface and then covered by sifting a quarter of an inch of soil over the top. In applying the acid treatment the sulphuric acid of commercial strength is measured out and 4½ oz. diluted in three gallons of water is applied just after the first tamping and prior to seeding. The other 4½ oz. diluted in a similar amount of water is added to the bed after the covering has been sifted over the seed. An ordinary sprinkling can was used for this purpose but an earthen vessel would be better since the acid eats metal. The beds are then covered with the wire screen burlap and slat shade frames. The beds are watered down lightly the following day and repeated a few days later to insure against injury to the germinating seed.

This treatment was used successfully against white pine planted at the rate of 12 oz. per bed, Norway spruce at the rate of 6 oz. per bed and white spruce at the rate of 4 oz. per bed.

Every other row of beds was thus treated and the 15 treated beds had practically a 100% stand as compared with the untreated which showed only from 40 to 50%.

Aside from this difference in stand the treated ones were practically free from weeds while the untreated were very weedy and required a great deal of extra work.

An idea of the contrast between a treated and untreated bed may be seen in the picture above.

GRAPE JUICE

Concord grapes, 20 pounds.
Sugar, 3 cups.
Water, 2 quarts.
(Or measure the juice and add one-sixth of the volume in sugar.)

Wash the grapes and pick carefully from the stems, using only the firm, whole grapes. Place in a double boiler and add the water. Cook until all the skins are broken and the juice is extracted. When this is done, place the grape mixture in a muslin jelly bag and allow to drip until all of the juice is obtained. (Allow it to drip over night.)

Heat the juice with the sugar until the latter is dissolved. Put in sterile bottles and fill to about two inches of the top. Insert a sterile cork. Put the bottles in a

(Continued on page 192)

Wisconsin Horticulture

Official Organ of the Wisconsin State Horticultural Society

Vol. 1 **September, 1910** **No 1**

DOOR COUNTY

The city and town of Sturgeon Bay and adjacent village of Sawyer is but part of Door county. There is really much besides. This statement may surprise some people, including not a few Sturgeon Bayites.

Door county or the Door peninsula has been associated in the minds of Wisconsin horticulturists as a great and promising fruit region, as indeed it is, but the casual visitor rarely gets beyond Sturgeon Bay and is apt to go away with the impression that the only available fruit land is just outside the city limits. It is true that the only cherry orchards of any importance are located there but that is easily explained; the business of fruit growing on a commercial scale can be traced directly and easily back to A. L. Hatch. In company with the late Prof. E. S. Goff, Mr. Hatch planted the first orchard, of any size, in Door county and induced his neighbors to do likewise, but as the details of orchard growth at Sturgeon Bay is really no part of this story we will not go into it at this time. These men pursued their business in a quiet, methodical way and no land booms were apparent until recently. With the big crop of 1909, running as high as $600 per acre, owners of land adjoining these orchards began to get excited and to push up land prices. Prices didn't rise, they jumped.

This would be all right if the land adapted to cherry raising and the peculiar climatic conditions so necessary were absolutely confined to the region immediately adjacent to Sturgeon Bay, but this is clearly not the case.

In that part of the county lying north of Sturgeon Bay can be found thousands of acres of land that from a casual examination appears exactly as well adapted to fruit growing as any near Sturgeon Bay. The native growth is similar, the soil is similar and who shall say the climate is not the same? It is true that magnificent "artery of commerce," the Ahnapee & Western, after wandering leisurely from Green Bay to Casco and then backing up to Algoma, finally stops, worn out, at Sturgeon Bay, and no doubt the fact that the road stops here has led many to think that nothing lies beyond but rocks and forest.

Door County Cherries. Average branch on 8 year old trees orchard of D. E. Bingham, Sturgeon Bay," July 20, 1910

While the lack of rail transportation is a decided handicap to the development of any region, it is not really serious in upper Door county on account of the excellent boat service on both shores.

A glance at the map shows numerous excellent harbors and it is safe

to predict that even when railroads have pushed up to Ellison Bay that water transportation will still be an important factor. From a rather hurried trip from Sturgeon Bay to Jacksonport, Bailey's Harbor, Sister Bay and Ellison Bay, returning on the west shore by way of Ephraim, Fish Creek and Egg Harbor, these impressions remain:

(1) The upper peninsula does not give the impression of a new or undeveloped country. In traveling through many parts of northern Wisconsin one is never for a moment in doubt about being in a pioneer land; little clearings of 5 to 10 acres with board cabins surrounded by forests, are the rule, while in upper Door the amount of cleared land, the comfortable, painted farm houses and large barns give the impression of an old and settled down farming region. This is true not only of the main highways but of the east and west roads as well. The size of the farms, cleared, and the character of the farm buildings was a constant surprise. At least twenty new barns were seen all of one type, hip-roof and high stone foundation.

(2) The excellent roads: For fully one-third of the distance the main roads are macadamized and stone-crushers and steam rollers are at work extending these splendid highways toward the tip of the county.

(3) The number of farm orchards: On this ninety-mile trip we passed hundreds of farms and almost without exception every farm had an orchard of 10 to 20 trees, mostly apple. Many of these trees have been planted at least 25 years and at Fish Creek are apple trees at least 40 years old.

Even without care these apple orchards are thrifty and productive. But few cherries have been planted, but occasional trees show the possibilities in this direction.

One very striking feature from a fruit standpoint is the existence of seedling apple trees by the roadside. Several such trees were noted and under circumstances leaving no doubt as to their origin. These roadside seedlings, rare in Wisconsin although exceedingly common in the eastern states, show clearly that the apple at least is indigenous in Door county.

The farmers along the way were all willing to talk and all were unanimous in the opinion that fruit could be grown successfully; no one seemed to question it.

(4) Price of land:

As to farm land prices the usual wide range was found, but as a result of unceasing questioning we conclude that through the central portion of the peninsula, including the townships of Jacksonport, Egg Harbor, Bailey's Harbor and Gibraltar, improved farms may be bought for $35 to $50 per acre. All land is reckoned in "forties" as in all new wooded counties, and these prices refer to a forty practically all cleared and under cultivation and with fair buildings.

In the vicinity of Egg Harbor we were offered improved forties without buildings at $35 per acre. At another point we were told of a farm consisting of three forties, tools, et c., which could be bought for $5,000.

Good unimproved or wild land seemed to be scarce. The farmers were all emphatic in their assertions that these lands are mostly held by large owners and speculators who will not sell. The only quotations we could get ranged from $5 to $10 per acre and these forties so quoted were well up towards the tip of the peninsula.

It must be kept in mind that these statements of prices are merely the result of roadside inquiry and are not intended in any sense as fixing the value of Door county lands.

In addition to these impressions, rather firmly fixed, two others seemed to drift in, although nothing substantial can be cited as proof: first, that the soil layer seems to grow gradually thinner from south to north. The limestone outcroppings were certainly more frequent north of Fish Creek and Bailey's Harbor, the rye thinner and the barley shorter.

Secondly, the west shore seems better than the east; crops appear better, farm homes have a more comfortable appearance and the weeds more luxuriant.

Finally, the big impression remains and with a tenacity that cannot be dislodged—this tongue of land north of Sturgeon Bay is splendidly adapted to fruit raising, land is cheap, at present, and there are boundless opportunities. Sturgeon Bay is really only a very small part of Door county. If any one doubts it let him go and see.

FRUIT SELLING ORGANIZATIONS

Two things are of the very highest importance in commercial horticulture, the ability to raise the fruit and ability to sell it to advantage. The first is readily acquired by actual experience, by study of the best literature on the subject and by attending horticultural meetings.

The selling of the crop to the best advantage is a more difficult matter and an individual grower in any community acting alone may easily work at cross purposes with every other grower, while if all acting as a unit through a local organization may improve conditions almost beyond belief.

In co-operation lies the secret of success here as in every other line of business. Busy little Denmark discovered this long ago and has set a pace for the rest of the world in marketing dairy produce.

The Colorado melon growers were probably the first to demonstrate the value of an organization for selling and their success has prompted fruit men in every part of the country to follow suit. Both the berry growers and the fruit tree men of Missouri are well organized as are the far western apple growers.

Hood River Valley is a little crack in the mountains and apple raising and selling might have been carried on there for a century and the world at large no wiser if it had not been for the wise co-operation of the growers there. Some wise person saw the value of working together and organized the growers to act as a unit. This organization not only markets the fruit grown but packs and labels every apple and strawberry grown by its members. Not only that, but has set standards of quality and these conditions must be met fully or the fruit is rejected.

Continued on Page 7

Wisconsin Horticulture

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FREDERIC CRANEFIELD, Editor
Secretary W. S. H. S., Madison, Wis.
ASSOCIATE EDITORS, Fourteen Hundred Members of the Society.

Sent only to members of the Society. No subscription list. Wisconsin Horticulture will be mailed to every member of the W. S. H. S. whose fee is paid in advance.

Send application for membership to Secretary, Frederic Cranefield, Madison Wis., accompanied by fee.

Fee for annual membership 50 cents. Life membership $5.00. Remit by Postal or Express Money Order. Coin may be sent safely if wrapped or attached to a card. Personal checks not accepted. Stamps accumulate faster than we can use them. Do not send stamps if any other means are available.

Application for entry as second-class matter at the Post office at Madison, Wis. pending.

Advertising rates made known on application.

NOTICE

A blue pencil mark in this space means that your membership has expired. No other notice will be given. A prompt remittance will insure you the next number of the paper. Send Fifty Cents in coin, or Money Order to Secretary F. Cranefield, Madison, Wisconsin.

A dollar bill pays for two years. Life membership is but Five Dollars.

Wisconsin State Horticultural Society

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ANNOUNCEMENT

This paper is purely an experiment and its success or failure rests largely with the members of the society.

The secretary has been appointed editor but no one alone can edit a paper worth while and as the society cannot afford to hire associate editors every member must help.

Beginning with 1896 our Society published a monthly magazine, The Wisconsin Horticulturist, which was sent free to members but for reasons which seemed good to the Executive Committee it was discontinued in March 1903. It was a good little magazine and its untimely end was greatly mourned by the members. We sincerely hope that the present venture may be more successful. If every member of the Society will please consider himself an associate editor of Horticulture and send but one contribution to its columns each year we can have a good paper.

Notes on crops and prices, methods of culture, new varieties, spraying notes, prevalence of insects and diseases, helpful hints of all kinds and not forgetting personal notes. If you have planted an orchard or berry patch, tell us about it; if your son or daughter gets married let us know about it. If each member will do a little, realizing that he assumes an obligation with acquiring membership, will give the best of his knowledge and experience for the benefit of all, we can have the very best horticultural journal in the land. If, however, every one expects to *take* and none to *give* then our paper will be a failure.

It will be the business of the editor to classify the material furnished by the associate editors. He expects also to glean all of the horticultural papers worth while of the best things printed in them and boil it down for Horticulture readers.

The Experiment Station and Agricultural College literature can also be itemized each month.

W. S. H. S.

HORTICULTURE will also be the official organ of our Society containing all announcements, programs, etc., taking the place of the circulars and bulletins now in use.

ADVERTISING.

Advertising will be carried of reliable firms only. Our home nurseries should all patronize us to the extent of a card at least.

Spray pump and insecticide dealers, seedsmen, fruit package dealers and other lines affecting horticulture will no doubt realize the worth of an ad. in a paper every reader of which is interested in their wares.

FINANCIAL

The paper must be self-supporting and not a penny of the money received from the State is to be used in any way. The membership fees and revenue from advertising should easily do this with a safe margin besides.

Application has been made for entry as second-class matter and if this is granted it will save the Society over $3.00 a year in postage now expended on programs, notices to members, etc.

The financial end will take care of itself, it is the quality of the material from month to month that is the doubtful factor and this will depend on the interest of the membership body and their willingness to sacrifice a little of time and effort for the common good. If the response warrants the continuance of the magazine its value cannot easily be reckoned.

How many will volunteer? Let's hear from you as soon as you receive this number. Write Editor Wisconsin Horticulture, Madison, Wis. A postal card will do if you are in a hurry. Your opinion of the scheme, your offer to help and at the bottom a dozen words for publication. Who will be first?

FREDERIC CRANEFIELD, *Editor.*

ADVERTISEMENTS

We solicit advertisements. Every nursery firm and seedsman in the state is hereby solicited and we hope to receive orders for at least one full page of ads. in this line for the October issue. For Sale, Wanted or Exchange ads. are solicited from members for any article whatsoever.

We expect to carry ads. of all kinds of horticultural goods and supplies. This will be in a sense a trade journal and as such prove a valuable advertising medium.

We guarantee a circulation of fifteen hundred all interested in some branch of horticulture. Write for rates.

CONCERNING HORTICULTURE

How do you like it?

Who will be the first?

Write the editor about it.

Send your first contribution for the October number.

It is to be distinctively a family paper, a family of fourteen hundred members.

This paper is a forward move and will be a test of our strength and usefulness.

Suggestions and criticisms always welcome. How do you like the size of the page? The type?

It is also to be practical. We want the practical experience of practical growers of fruit, flowers and vegetables.

The editor will look up the best from our good friends the scientists from month to month but most valuable of all will be the simply told tale of success or even of failure.

The home garden and orchard will have a prominent place in future issues but for this month it has been difficult to find timely material. Here is a chance for our 1400 assistant editors.

We must move *forward*. If once we stop the forward movement we will immediately begin sliding down hill. This is a mangled bit of philosophy but it is true of our Society. We do not glory in numbers but in quality of membership and the kind of work we are doing. Let us keep on moving forward and upward.

Remember that with the membership body must rest the success or failure of the enterprise. If you help by contributing, by giving to the Society through the medium of HORTICULTURE the benefit of your experience, if every member will help a little then we have success assured.

There is no dearth of information, the trouble is to get the people who *know* to *tell*. While we bring out an immense amount of valuable information at our meetings the Secretary has always been aware of veritable gold mines of practical help that could not be touched owing to modesty or diffidence.

We hope that HORTICULTURE will tap some of these mines. Don't be afraid to write. This is not a journal for literary critics and if we lapse in diction occasionally we will leave that to literary crnaks, what we want most of all is good common sense in a plain dress.

WISCONSIN HORTICULTURE is to take the place of the Bulletins which have been issued from time to time. If we have any information to impart it can be done as well through the medium of a monthly paper as in any other way. The bulletins have been a heavy expense both for printing and postage.

Remember the only way you can get this paper is by joining the State Horticultural Society. Certain slight restrictions have been recently attached to the acquiring of membership but these are not burdensome.

Those desiring to become members must sign a regular application while applicants for life membership must be recommended by a life member or an annual member in good standing for at least two years. Blanks will appear in each issue and additional copies will be sent on application.

In a multitude of counsel there is much wisdom. Let us hear from you. When you are writing about this add a few words about crops, etc. We will follow the plan adopted by all reputable publications concerning contributions, viz., the writer must sign his or her name. No anonymous contributions will be accepted for publication. If you do not want your name to appear your wishes will be respected.

COST OF HARVESTING APPLES

Estimates vary greatly regarding the cost of marketing apples. W. H. Robson, of Orleans county, N. Y., makes the total 56 cents, which includes 31 cents for the barrel, 12½ cents for picking, 10 cents for packing and 2½ cents for hauling to the station. Freight and commission would average as much more except in localities near to market.—Green's Fruit Grower.

GRAPE JUICE

(Continued from page 187)

pasteurizer or deep steam cooking dish or boiler containing a rack made of wooden slats or a metal rack over which a layer of cloth has been placed. Fill the container with cold water. Heat gradually to 165 degrees Fahrenheit, and leave at that temperature for 30 minutes. Cool, remove from the container, cover the cork and top of the bottle with paraffin, and store in a cool, dark place.

SUMMER MEETING

Our printer treated us to a surprise by handing us the August number early which offers an opportunity to remind you again of the Summer Meeting at Bayfield Aug. 19th and 20th. See July paper, Page 176.

The following provisional program has been prepared.

Forenoon

(1) Something About Fire Blight—Mr. A. N. Brooks, U. S. Dept. of Agriculture.

(2) Mosaic and Other Small Fruit Troubles in Douglas County—Dr. S. B. Fracker, State Entomologist and Nursery Inspector.

(3) The "A.B.C." of Spray Ring Organization—Conrad L. Kuehner, Fruit Specialist, College of Agriculture.

(4) Let's Have a Garden Club; Why Not?—Mrs. N. A. Rasmussen, Oshkosh.

(5) The Home Flower Garden—Herman Christensen, Oshkosh.

Question Box

Afternoon

(1) Muskmelons — N. A. Rasmussen, Oshkosh.

(2) Growing and Marketing Small Fruit — F. Kern, Sparta, Rex Ebert, Warrens; J. R. Williams, Montello; Dudley Knight, Bayfield; W. P. Jones, State Dept. of Markets, and others.

DEMOCRAT PRINTING COMPANY
MADISON, WISCONSIN

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