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The Wisconsin horticulturist: issued monthly, under the management of the Wisconsin State Horticultural Society for the purpose of disseminating the horticultural information collected through the age...

Wisconsin State Horticultural Society

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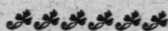
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THE WISCONSIN



HORTICULTURIST

ISSUED MONTHLY,
UNDER THE MANAGEMENT OF THE

WISCONSIN STATE HORTICULTURAL SOCIETY

For the purpose of Disseminating the Horticultural Information
Collected through the Agency of the Society.



A. J. PHILIPS,
Editor and Manager,
West Salem.

VIE H. CAMPBELL,
Associate Editor,
Evansville.

DEMOCRAT PRINTING COMPANY,
MADISON, WIS.

If you have not cut back your ever-bloomers do so at once so that you will have plenty of new shoots for roses. Watch for aphids and slugs; hardy kinds will resist their attacks but tender varieties soon succumb. The best insecticides, pyrethrum and white hellebore, must be fresh to be effectual. It is said that salt water, in the proportion of two handfuls of salt to a large sized sprinkler of water, will kill slugs. We cannot verify the statement as we have never tried the remedy. If your roses are affected with mildew dust them over thoroughly with sulphur early in the morning while the dew is on, or immediately after a rain. If only a few branches are affected they should be cut off and burned.



WISCONSIN'S RESOURCES are attracting general attention, and its railroads furnish the means to develop them. The limitless iron ore deposits of the Penokee and Gogebic Iron Ranges provide abundant opportunity for the establishment of Iron Furnaces and general iron working industries. Hardwood timber in great quantities attracts manufacturers of all wood articles, including Furniture, Woodenware, Staves, Headings, Hoops and Veneering; the Granite and Lime Stone quarries are attracting attention, as their quality is unsurpassed for fine building work and strong lime. Numerous Clay, Kaolin and Marl beds furnish the best material for Tile, Brick and Pottery.

All of these materials are located along the line of the **Wisconsin Central**, and any one who desires to locate a manufactory is requested to write us, as we desire to confer with everyone who wants a good location with facilities for reaching markets everywhere.

W. H. KILLEN,

Industrial Commis'r.

C. L. WELLINGTON,

Traffic Manager.

H. F. WHITCOMB,

General Manager.

MILWAUKEE, WISCONSIN.

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GEO. H. HEAFFORD,

Gen. Pass. and Ticket Agent.

The Wisconsin Horticulturist.

VOL. 1.

JULY, 1896.

NO. 5.

RAISING CHERRIES IN WISCONSIN FOR MARKET.

By A. D. Barnes, Waupaca, Wis.

I know of no line of horticulture in this state that bids so fair for quick returns and sure profits than does the growing of cherries on good, strong soil on high sites and if the proper varieties are planted and they have fair care and attention. The accompanying photograph shows a harvesting scene in my orchard, taken on June 19th, and speaks for itself. On April 28th, '88, I planted 99 Early Richmond trees; four failed to grow, two of them I replaced with May Dukes (which have since died) and two with Lombard plums. Three of the original ninety-nine have died in the last few years and one is nearly dead now, leaving ninety-one in perfect condition to-day, the ninth season since planting.

In June, 1890, I sold fruit worth.....	\$40.00
In 1891.....	30.00
In 1892	60.00
In 1893	150.00
In 1894	100.00
In 1895	20.00
In 1896	150.00
Total	\$550.00

It cost me one cent per quart to pick these cherries, and they sold on the average of about 9 1-2 to 10 cents per quart readily. These trees have made a splendid growth and are from 6 to 7 inches in diameter and from 12 to 16 feet high, and equally as broad across the top. They were thoroughly pruned when planted and very thoroughly and carefully pruned again in July, '95, but nothing only the inner branches and those which were chafing each other have been removed, and I find this the proper time and season as well as best sys-



CHERRY ORCHARD OF A. D. BARNES, WAUPACA, WIS.

tem of pruning cherry trees. These trees were budded on the Mazzard stock and planted at 3 years of age in broken rows or quincunx form 18-2 feet apart each way. They were cultivated in potatoes and other root crops for the first three years, then seeded to clover and mulched with coarse manure since at least every other year. I planted in sandy surface loam with heavy red clay subsoil, in deep, wide holes well filled with loose surface soil. I set these trees very deep; have always been careful to not bruise roots or branches and have never had one single tree sprout up from the roots. Since the first season since they began to fruit we have not noticed the devastations of the birds very much, and I think we lose no more fruit from these trees than we would from a half dozen. I do not look for them to be long lived, and in fact if they keep on growing as they have done it will be very inconvenient to harvest the fruit. Yet I have them trained so low that we can reach the bulk of the fruit from the ground.

Be it understood that these are not sweet cherries, yet the fruit is very fine and most healthy. They are rather small for tame cherries but always perfect and ripen even.

I am testing some twenty varieties and as yet find nothing that will equal the Early Richmond for hardiness, productiveness and profit, and it is my opinion that the more this tree is generally planted instead of sour crab apples or Ironclad Russian apples, apricots and wine berries the sooner the people of Wisconsin will have faith in Wisconsin as a profitable horticultural state. But be it further understood that to make a success of raising cherries one must plant a goodly number on good land, and they must have good care and plenty of fertility, and the fruit must not be harvested until ripe as the stripping off the green cherries destroys the fruit buds for next year.

Questions cordially answered on this subject.

SUMMER MEETING.

Minutes of the summer meeting of the Wisconsin State Horticultural Society held June 16 and 17, 1896, as reported by Miss Myrtle Benedict, for which she was awarded first premium.

Early in the morning, and even the evening before, of June 16, members of the Waupaca Horticultural Society were busy arranging their exhibits of fruit, vegetables, house plants, flowers and ferns. The reception room and the library of the Dane's Home were used for the exhibits.

At nine a. m. the meeting was called to order, after which about two hours were spent in meeting friends and making acquaintances.

The meeting was again called to order for a short time at eleven a. m. Explanations as to arrangement of exhibits were made, and committees appointed to make awards. A general discussion followed on the merits of the strawberries. Michel's Early and the Belmont were discarded from the future premium list. The merits of the Wilson were also well discussed, but it was finally retained on the list.

Rev. Jolliffe opened the afternoon exercises with prayer, and was followed by an address of welcome by E. E. Browne, of Waupaca. Prof. F. E. Doty, principal of the Waupaca high school, next on the program, read a paper, "The Value of Horticulture to Young People."

A. J. Philips, secretary of the State Horticultural Society, West Salem, responded to the address of welcome with a few well chosen remarks.

About half an hour was then devoted to discussions on the benefits derived from the local societies, ways in which memberships might be increased, and the publication of a new monthly. This was followed by a paper, "How Best to Improve Our State Society," by Prof. E. S. Goff, of Madison, in which he set forth some of the influences impeding to the progress of the society. He said, (1) that one of the first duties of the society should be to make it more interesting by raising the standard of the papers read, by paying the expenses of

delegates and specialists, and by having a permanent committee on program. (2) That all public transactions should be published carefully. (3) That the society would be improved by publishing a monthly journal. (4) That the society was robbing itself by fostering local societies.

This was followed by a paper on "Experiences, Lessons Learned and Future Prospects for 1896 for Southern Wisconsin," by George J. Kellogg, Janesville, Wis., which was very interesting.

J. L. Herbst, corresponding secretary, Sparta, Wis., next on the program, read a paper on "Plant Distribution," explaining that it was the custom of nurserymen of this society to send certain plants and trees to the children of Wisconsin. By this plan a total number of 82,271 strawberry plants, raspberry plants, and trees had been sent out since 1892.

"The Farmer's Garden," by J. F. Hauser, La Crosse, Wis., made many long for one such as he described.

A very interesting program was rendered Tuesday evening. Mrs. Vie H. Campbell read a story, "The House that Jack Built," in a very pleasing manner. She showed that it is all wrong to get rich in lands and stock at the expense of a good wife's health and strength.

S. H. Marshall, Madison, Wis., read a paper on "Sweet Peas;" Mrs. Bushnell, of the Grand Chute Horticultural Society at Appleton, read a paper on "Flowers," and Mrs. Treleven, Omro, Wis., a paper on "The Benefits of Local Societies."

This session was interspersed with instrumental music and recitations by ladies of Waupaca. The evening closed with the following report from the awarding committees:

Best collection house plants, not less than ten varieties—first, Mrs. Chas. Churchill; second, Mrs. Koons.

Best collection of native ferns and wild plants—first, Myrtle Benedict; second, Mrs. Shaw.

Best show of wild flowers—first, George Dawes; second, Mrs. Barnes.

Best collection of roses in variety—first, Kellogg & Sons.

Best table bouquet of roses—first, Kellogg & Sons.

Best bouquet of roses—first, Mrs. T. Rich; second, Kellogg & Sons.

Best bouquet of white roses—first, Mrs. A. D. Barnes; second, Mrs. Chas. Churchill.

Best bouquet of roses, other than white—first, Kellogg & Sons.

Best collection of foliage plants—first, Mrs. Shaw.

Best show of pansies—first, Mrs. A. D. Barnes; second, Mrs. Chas. Churchill.

Best floral design—Myrtle Benedict, first.

Best show of cut flowers in variety—first, Mrs. Chas. Churchill.

Best collection fuchias—first, Mrs. Chas. Churchill.

Best bouquet of wild flowers to be gathered and placed on president's table by boy or girl under fifteen—Oscar Bendixen, first; Maurice Koons, second.

Best display of strawberries not less than ten varieties—first, Kellogg & Sons; second, Thayer Fruit Farm; third, A. D. Barnes.

Best new seedling strawberry provided it has never been previously exhibited for premium by the originator—first, Kellogg & Sons.

Best quart of strawberries for general cultivation—first, Thayer Fruit Farm; second, Kellogg & Sons.

Best quart of early strawberries—first, Kellogg & Sons; second, A. D. Barnes.

Best quart of late strawberries—first, Kellogg & Sons; second, Thayer Fruit Farm.

Best quart Warfield—Thayer Fruit Farm, first; Kellogg & Sons, second.

Best quart Jessie—first, Kellogg & Sons; second, A. D. Barnes.

Best quart Haviland—A. D. Barnes, first; Kellogg & Sons, second.

Best quart Bubach—first, Kellogg & Sons; second, Thayer Fruit Farm.

Best quart Van Dieman—first, Thayer Fruit Farm; second, A. D. Barnes.

Best quart Enhance—first, Kellogg & Sons; second, A. D. Barnes.

Best quart of Crescent—first, Kellogg & Sons; second, Thayer Fruit Farm.

Best quart Wood—first, A. D. Barnes; second, Kellogg & Sons.

Best quart Earle—first, Kellogg & Sons; second, A. D. Barnes.

Best quart Eureka—first, A. D. Barnes; second, Kellogg & Sons.

Best quart Greenville—first, Kellogg & Sons; second, A. D. Barnes.

Best quart Wilson—first, Kellogg & Sons; second, Thayer Fruit Farm.

Best quart Mitchel—first, Thayer Fruit Farm; second, Kellogg & Sons.

Best quart Gandy—first, Kellogg & Sons; second, Thayer Fruit Farm.

Best quart Belmont—first, A. D. Barnes; second, Kellogg & Sons.

Best quart of Sparta—first, Thayer Fruit Farm.

Best field variety for farmers—first, Thayer Fruit Farm.

Best berry for distant market—first, Thayer Fruit Farm; second, Kellogg & Sons.

Best for near market—first, Kellogg & Sons; second, A. D. Barnes.

Best exhibit garden vegetable—first, Mr. Shaw; second, Mr. Bendixen.

Best peck of peas—first, Mr. Shaw; second, Chas. Churchill.

Best half dozen heads of lettuce—W. Shaw, first; G. H. Dawes, second.

Best half dozen bunches radishes—W. J. Bendixen, first; Mrs. T. Rich, second.

Best half dozen bunches onions—Mr. Shaw, first; W. J. Bendixen, second.

Best half dozen bunches asparagus—Mrs. T. Rich, first.

Best six stalks of pie plant—A. D. Barnes, first.

At ten o'clock a. m. Wednesday carriages were in waiting at the Dane's Home to convey the delegates to Grand View hotel, where they partook of a bounteous dinner, after which

the meeting was called to order and all unfinished business despatched.

J. Wakefield, Freemont, Wis., gave a very pithy talk on "Waupaca County as Seen at Home," and A. J. Philips, West Salem, Wis., "As Seen from Abroad."

At three o'clock most of the delegates left for Waupaca to take the afternoon train for their homes.

A most enjoyable time was reported by all, and the people of Waupaca feel that they have received valuable help for future horticultural work in having the State Society meet with them.

DISCUSSIONS AT THE SUMMER MEETING OF THE
WISCONSIN STATE HORTICULTURAL SOCIETY
AT WAUPACA, JUNE 16, 17, 1896.

Meeting opened with President L. G. Kellogg in the chair. The following committees were appointed:

On Awards, Fruits and Vegetables—F. M. Benedict, Waupaca; R. J. Coe, Ft. Atkinson; John F. Hauser, Onalaska.

Flowers—Mrs. C. E. Bushnell, Appleton; Mrs. Joseph Treleven, Omro; Miss Jean L. Harden, Weyauwega.

Program—Mr. Baldwin, Fred A. Harden, Weyauwega; Geo. J. Kellogg, Janesville.

To fill vacancy on resolutions—Prof. E. S. Goff, Madison; Mrs. D. Huntley, Appleton.

(Letter from Daniel Huntley read by secretary, and leaves of Duchess and Peerless trees sent by him exhibited.)

Geo. J. Kellogg—I believe in that Peerless not because I have the trees to sell, but because it is the peer of the Duchess in the nursery and the orchard.

I wish to break all precedence in naming the three best varieties of strawberries for the farmer. Do you not think it would be better for the farmer if you should furnish him three perfect berries? We offer a premium for "best three varieties," and there is a great difference of opinion as to what constitutes the best variety for a farmer to grow. The facts are that the farmer has been fooled more in planting pistil-

lates than anything else. I think you should offer a premium for perfect varieties.

Prof. Goff—I do not think that question should enter in. The premium is offered for the three best varieties for the farmer and I think it should stand that way without any restrictions. Soil and locations differ, and the farmer will learn what succeeds best with him.

A. D. Barnes—We have always claimed that the imperfect flowering kinds, when properly fertilized, are the most productive and I do not think we should specify.

J. L. Herbst—We have the two kinds and I think we should let the farmer hear about them and cultivate them, and find out for himself which is the best for him to grow for home use or for market.

M. A. Thayer—I do not think we can examine these berries here today and determine which is the best berry for market. We have such a variety of markets. Some of you have a local market while others have a market several hundred miles away. I think we should change the premium list and offer a premium for the best shipping berry. I move that in making up the next premium list for berries, so that in offering the premium for the best market berry, that the shipping qualities be taken into consideration.

R. J. Coe—I move to amend Mr. Thayer's motion so that we shall offer a premium for the best berry for near market, and also for the best berry for shipping long distances. Mr. Thayer accepted the amendment and the motion was carried.

A. D. Barnes—I would like to inquire if there is any one here who knows anything about the Sparta?

M. A. Thayer—The Sparta is a seedling which was originated on the "Thayer Fruit Farms" by J. L. Herbst; it is a child of the Jessie and the Warfield. It is a staminate variety; it has the color of the Jessie and quality of the Warfield. The Sparta is a very heavy pollenizer. Those on exhibition here today are not good samples. The drought of two years ago left them in very bad condition. It is generally very much larger than those represented here today.

A. D. Barnes—I am glad to hear such good reports of a

Wisconsin child, and I think the success of Wisconsin horticulturists lies right along this line of work. I move that the Michel be stricken from the future premium list. We have already stricken it from our recommended list.

Motion prevailed.

Moved and carried that the Belmont be also stricken from the list.

Geo. J. Kellogg—I move that the Wilson be dropped from the recommended list and also from the premium list. We are right up here in the Wilson country and if any one can show good Wilsons let them do so.

R. J. Coe—For one I should have to vote against that motion. We know that the Wilson is somewhat subject to disease, but it is one of the best berries we have for market.

A. D. Barnes—There are several good berries in this state today that are much better than the Wilson, and I think we should strike it from the list. Why should we continue to recommend one berry for forty years?

John F. Hauser—I object to having the Wilson stricken from the list. It sells for two cents more in the La Crosse market than any other berry.

Mr. Floyd—The reason the Wilson has become so unpopular is because of the abuse that has been given it. The plants have been taken from beds after they have fruited, and with such a practice it would of course naturally degenerate. J. M. Smith was always successful with the Wilson and it was always his custom to raise plants for setting from beds that had not fruited. His plants were always vigorous. If that custom had been followed by other growers the Wilson would never have run out.

Geo. J. Kellogg—No good grower has taken plants from old beds for the last ten years. I sent to J. M. Smith for Wilson plants, hoping that he had a better strain, but I did not find them any better than those I had. It succeeds locally, it was a success on Mr. Smith's grounds.

R. J. Coe—Is it not a fact that most of the growers around Racine grow the Wilson and do they not bring the best price in the market? Then why strike Wilson from the list?

John Corse—I think it is because the Wilson are so much later that they bring a better price in Racine market. The growers have not commenced shipping to any amount yet. I think it is because of their lateness that they bring more and stand so well with the growers there.

Prof. Goff—I took the report of the American Pomological Society, which gives reports for all sections of the United States. I expected to find that the Wilson had been superseded. As a rule I did not find it so. The Wilson stood first and the Crescent next. I think the plan pursued by J. M. Smith is the one that will keep up the character of the plants.

Motion to strike out was lost.

V. H. Campbell—I move that the premium list be revised and amended at this meeting. Motion prevailed.

A. D. Barnes—I move that the chair appoint a committee for that purpose. Motion carried and the president appointed the committee on awards to revise the premium list and make such changes as they deemed necessary.

Adjourned.

WAUPACA COUNTY AS SEEN FROM ABROAD.

By A. J. Philips, Secretary State Horticultural Society.

Since my first visit to your county some ten years ago and during several visits since that time, I have entertained pleasant recollections of your natural advantages, pleasant surroundings and hospitable people. Your thirteen beautiful sheets of water, making up the Chain O'Lakes that almost encircle your county seat, are not surpassed in our state for attractiveness. On the banks of these you furnished the site to build cottages for those from our state who offered their lives for the preservation of our government. It indeed looks good to see the old soldiers comfortably provided for and spending their declining years in nice quarters with such pleasant surroundings. To look from the bank of the lake across the grounds and read in large letters Governor Rusk Hall brings back remembrances of that noble man, brave soldier, good governor and efficient secretary of agriculture. If

anything is found here that one from abroad covets, especially if he has to pump water three hundred feet, it is your beautiful artesian wells. I've seen as many as three on one farm and many I have seen by the road side, offering spontaneously the best drink ever furnished man or beast without money and without price. Then, too, you can boast of more good seedling apple trees than any county in Wisconsin. The one described yesterday by Mr. Hollis Gibson is a grand old landmark. I've stood under its branches and it took me back to my boyhood days among the large apple trees of the east. The Veteran tree standing less than two miles from the beautiful spot where we now stand, is one of the most handsome apple trees in Wisconsin. It is now loaded with fruit. Prof. Goff has a picture of it. From abroad I oftentimes think of your trees with a history that I have visited—the old Wolf River, N. W. Greening, Mary, Jenny, Casey, Ratsburg, Granite Sweet, Bessie, Wisconsin Russet, Alden, Wrightman or Ruth, and many others. I am reminded of them because I have them all growing and a number of them fruiting in my own orchard at present. From abroad I am free to say, that within your borders you have a lot of good, kind and hospitable people. Why, uncle Wm. A. Springer is one of the most unselfish horticulturists that lives. He has sent free to growers from Maine to Colorado trees and cions of your best new seedlings. He collected and exhibited at New Orleans a show of seedling apples from this county that brought compliments and astonished the visitors from all over the world.

Through you and his generosity Waupaca county seedlings are seen in nearly every fruit catalogue in the northern states. A Waupaca county seedling, the seed of which he claims to have planted, took more money in premiums at the New Orleans exposition, than any seedling apple in the United States. Why, you have a man here in the sound of my voice who rode all night in a stage coach with Abraham Lincoln, an honor indeed. He became tired of Waupaca county and went to the fruit garden of the west Michigan to live, but in less than two years he became homesick and has come back to spend

his days amid the attractions of Waupaca county. I refer to my friend Wakefield who is to follow me in an interesting paper on Waupaca county as seen at home. Time is passing and I close, having spoken of only a few of the many pleasant things seen in your county by a representative from abroad.

WAUPACA COUNTY AS SEEN AT HOME.

J. Wakefield, Fremont.

I have been asked to prepare a paper, to read at this meeting, giving "Waupaca County as Seen at Home." I could tell you how we "natives" see it, but you might ridicule my conclusions, and make fun of our pretensions. But you are here to see for yourselves. I am glad we have so many visitors at this time, so many intelligent men and women, for I have long noticed that horticulturists as a class are the most intelligent people we have. We want you to look the ground over, and then excuse us for being a little proud of our county.

Other counties may have equal attractions—Wisconsin is full of such. We firmly believe that no state in the union can boast of a more health-giving climate, more good land to the acre, more prospering industries according to population, no better or more industrious citizens, in short, no more of anything that tends to make a state or nation respected, great and prosperous.

A true patriot loves his country, and is ever ready to speak a good word for it, if need be brag a little about it, and, if not too cowardly, fight for it. It is his country; his home is there, and home to him is the dearest spot on earth. Other countries may have superior attractions for the average human, but not for him.

That is what ails us. We love our county. We have perhaps spent the biggest portion of our valuable lives in it, we have learned to appreciate its many advantages. Our homes have long been in it, and we expect to spend our remaining days here, and die here,—if we live long enough.

I might speak of the many great improvements made in our county within the past quarter of a century, but my time is too limited to thus tire your patience. I will say, however, that we have a profusion of shops, stores, mills, factories, half a dozen or more ably conducted newspapers, etc. We also have three flourishing cities, and a full supply of aspiring villages, each one expecting soon to become the county seat.

I might speak of our agricultural advantages, but our fields are before you, and you can see for yourselves. One thing is sure, our people never starve—not much. We can raise nearly everything adapted to our climate, except the price of potatoes.

We can raise fruit here, nearly all kinds of small fruit, and some varieties of apples. Who has not heard of the famous "Waupaca county seedlings?" We have praised them so much that outsiders begin to more than half believe us, and we begin to believe it, too. And we had cause for boasting. Many varieties have gone back on us, but they couldn't help it nor we either. Enough are still with us to give reasonable hopes in regard to our horticultural future.

Following is a partial list of those seedling apples that have found their way into the records of our Society: Nijota, Puritan, Balch North, Riches' Greening, Wrightman, Addie, Mary, Waite's Blush, Eveline, Wall, Weyauwega, Wrightman's Blush, Martha, July Sweet, Sweet Snow, Tewabie, Bennet, Sappho, Wolf River, Albert, Waupaca, Willson's Russet, Morse's Sweet, Ratzburg, N. W. Greening, and goodness knows how many others, many of them having been discarded years ago.

We have three horticultural societies in our county, one at Fremont, one at Waupaca; our county society was organized July 11, 1874. It has had 65 members or more, and was at one time quite a lively and useful institution.

The first apple trees in Waupaca county were set in 1850 by Peter Meiklijohn, of Little Wolf, and John Baxter, of Weyauwega, and Allen Hubbard, of Weyauwega, in 1852 raised the first apples.

There, ladies and gentlemen, you have heard both sides of the question, or one side both ways. You have heard an able paper read by our worthy secretary giving "Waupaca county as seen from abroad," and you have heard a less able paper read, giving "Waupaca county as seen at home." Do you need further enlightening? If so, please pay us another visit in the near future, and learn more of us. Our people will try to make your visit pleasant. I am not afraid to make that promise, for I know their proverbial hospitality.

AMONG OUR NEIGHBORS.

The unexpected announcement in the Minnesota Horticulturalist last month of the death of their treasurer, F. G. Gould, of Excelsior, brings to mind many pleasant moments spent in his company, as only last season he visited the writer's orchard, and we visited the Thayer Fruit Farm at Sparta together. His death occurred May 9th. He was an earnest worker and a life member of their society. He was a man of strong character and good principles, and in his death the state society loses a valuable member whose works will live after him. Peace to his ashes. At the annual meeting of their state society last December one of their lady members read the following original poem. It was so interesting, so applicable to the assemblage and so well received that I am satisfied our readers will enjoy its appearance in these columns:

A POEM.

MRS. S. IRWIN, EXCELSIOR.

Read at the annual meeting of the Minnesota State Horticultural Society,
December 5th, 1895.

VINECROFT, May 17, 1895.

It is hard to be a farmer when possessed of bookish taste
And feel that either mind or farm is sure to run to waste;
My soul cries out for knowledge with a greed I dare not utter,
Since 'tis the farm and not the books that brings the bread and butter.

I know 'tis oftimes hinted by the folks who do not know,
That fruiters lie in hammocked shade and watch the berries grow,
Then whistle for the hired help to load them in a van,
Drive to the nearest market and sell them — if they can.

To us who learned our lesson, such talk bespeaks "poor sense,"
 For the price of fruit, like "the price of peace," is eternal vigilance,
 Since every drowsy, stupid bug, each insect in the air,
 Each crawling worm, each flying bird, expects an ample share.

The breezes through the orchard come heavy laden with news,
 Which daily mails re-echo, but to read I must refuse;
 For in looking through the orchard, I descry beneath the leaves
 The densely peopled cities that the caterpillar weaves.

The birds upon the branches, pouring forth a flood of song,
 Will soon be ravaging the grapes, "a hundred thousand strong;"
 Then we must reconnoiter, tired, hungry, cold or hot,
 And wage a fierce, vindictive war, with powder caps and shot.

And then, besides these battles, there's a thousand things to do,
 Like making fence and burning brush and berries to renew,
 Garden to plant and trees to prune, raising each buried vine,
 Planting the posts and stretching wires and tying up with twine;

Plowing and leveling the ground between the endless rows,
 Where up and down, the summer long, the cultivator goes;
 And when the vines begin to climb, then we begin to hustle—
 You'd not believe how fast they grow, they make big stories rustle.

Over and over, up and down, forever pruning, tying,
 Some one must go with railroad speed or cycle record vying,
 Spraying with new insecticides, then lest the crop be lost
 We range old stumps about in heaps to "smudge" in case of frost.

To hoe, to weed, to spade, to mulch are things that come of course,
 And then there is the housework and the care of cow and horse,
 The little ones to work for, love, school, sew for and to feed—
 But without these small incentives, life would be blank indeed.

We find no rest on rainy days, awaiting adverse weather,
 Thousands of baskets, snugly stored must then be put together;
 Full eighteen hours of steady work, before at close of day
 I lay me down too tired to read, almost too tired to pray.

Until, if safely guided on, through bugs, birds, fungus, frost,
 We pack and send to market, then reckon up the cost;
 And if above the wear and tear, encouragement we win,
 We work awhile at something else and then again begin.

* * * * *

I am thinking of your topics as I go about my work,
 But if I sit me down to write I'm brought up with a jerk
 And find no time to "Fancy" since "Duty" stern and strong,
 "Marches" me without "Music" in "Silence" right along.

Though oft at work till "midnight" my pen lies idly by,
 'Tis o'er the endless "Must be done's" the fleeting moments fly;
 And from "Merry May" till "Easter" I can with safety say
 No busier woman can be found in all "America."

P. S.—

In looking o'er my letter I see that you may find
 An undercurrent of complaint—I meant nothing of the kind;
 Indeed I would not now exchange my rural situation
 For any phase of city life no matter what the station.

Society we call the best — I know it well of yore —
 Contains a class of "borers" far worse than "currant bore;"
 You cannot clip them off with shears and burn as we do ours,
 You have to let them hang about and sap your mental powers.

It has its swarms of useless "moths" far worse than "cabbage flies;"
 You cannot send them on their way with pepper in their eyes;
 It has a host of parasites, the worst that you can find,
 You cannot dose with Paris Green or something of the kind.

It has its Black Rot, Blight and Curl — its Mildew is in sight —
 We use fresh lime and vitrol to set these matters right;
 It has its hail storms, drought and frost that prey upon the heart,
 These latter come to every life — they are of life a part.

But in this busy quiet place whatever ills may come,
 Their blackening shadows do not spread far from my humble home;
 And so my forced seclusion from April to December,
 Affects or injures no one else except your country member.

Following this, as the apple shipping season is at hand, I feel that I can publish nothing that will do our fruit growers more good than the talks and discussions at Minnesota's last winter meeting on the subject of shipping when a number of the leading commission men of Minneapolis were present and took part. I find by referring to the following carefully collected figures that Wisconsin stands highest in the scale of 100 for this season's prospect of an apple crop of any state given, Minnesota second and South Dakota third:

Texas, 75; Arkansas, 65; Tennessee, 65; West Virginia, 68; Kentucky, 70; Ohio, 75; Michigan, 97; Indiana, 80; Illinois, 78; Wisconsin, 102; Minnesota, 101; Iowa, 90; Missouri, 75; Kansas, 75; Nebraska, 85; South Dakota, 100; California, 70; Oregon, 70; Washington, 90.

I publish the following because it interests us, and Prof. Henry has always urged Wisconsin growers to keep an eye open to the markets of the twin cities.

I will not take space to publish all that Mr. Corbett of the firm of Arnott & Corbett said, but will give a few of the important points he made. He said he did not come with the idea of making a speech but felt that a closer relationship and a better understanding should exist between the producers of fruit and the men who handle it. He complimented the society on the fine show of fruit on exhibition, then said: There are some things that I would like to suggest to some of you gentlemen as shippers, and that is in the line of a lit-

the better preparation of your fruit. Your apples that I have seen here on our market have not been put up in the best way. They have not been put up in the best way to bring the best returns to you. They have not been satisfactory to us who handle them, because when we do not get good results it is just as unsatisfactory to us as it is to you. The Duchess has been marketed in large quantities during the past season. They came to us in sugar barrels, gunny sacks, cracker boxes, shoe boxes, poultry crates and in every other way except the right way, and the result was they did not bring the prices the Wisconsin fruit brought or that the Illinois fruit brought, and it seemed to you as if the commission man here was not doing his duty.

In regard to crab apples, it is my idea that a little greater concentration on the production of the crab would be best as far as growing a nice apple, a standard apple from the middleman's standpoint is concerned, and you could not grow too many. That is the apple you ought to grow in this state for the market. Thus, last year and this year the demand for crab apples was far in excess of the supply. I know that we had orders for a thousand barrels or more that we could not supply. One other thought I wish to express in regard to marketing the crab apple; the crab apple will bear packing and careful handling. The barrels should be filled and packed so the apples will not roll about. Then, also, care should be taken in picking the fruit. Apples come to us which appear to have been clubbed off with a rail or a flail. They are not salable in that shape. So far as small fruits are concerned, I think it is beyond question that the small fruits of this state rank as high as any small fruits grown in the union.

Pres. Underwood—We appreciate the interest you are taking in our work, and we should be glad to have you gentlemen, without any formality whatever, participate in our deliberations on all points of interest. We would be glad to hear from Mr. Stacy, one of the leading commission men of Minneapolis.

Mr. Stacy—I do not know that I can add anything particularly to what Mr. Corbett has said, and I will not take up any of your time.

Pres. Underwood—We would like to hear from Mr. Palmer, of Porter Bros.

Mr. Palmer—Speech making is not my forte, but I can say I endorse all that Mr. Corbett has said on the subject. The great trouble with apples is that they are brought to our market in improper shape. What we want principally is crab apples. The demand in North Dakota for crab apples is enormous, and they look this way for their supply, and if we can give them nice, sound crab apples in nice, clean packages we can always get a good price for them, and this is what I want to emphasize to you to raise all the crab apples you can and send them to market in good condition.

Mr. Elliott—What variety of crabs do you consider the best shipper?

Mr. Palmer—The Hyslop.

Mr. Elliot—What is the next best variety?

Mr. Palmer—The Transcendent, but as a rule it comes into the market too ripe for shipment. Of course, it is all right for the local market.

Mr. Bunnell—How does the Hyslop compare in price with the other varieties?

Mr. Palmer—It always brings more.

Mr. Philips (Wisconsin)—How is the Whitney No. 20?

Mr. Corbett—Well, we are not familiar with the names of varieties.

Mr. Harris—Ordinarily the fruit men who send their fruit in that style do not belong to the State Horticultural Society. I live in Houston county. I have seen thousands of bushels of crabs lying under the trees breeding worms, because at La Crosse they could not get more than fifteen cents a bushel for them. One La Crosse merchant told me he had often bought them and sent them up here to this market and cleared one dollar a bushel on them. I believe what we have heard here will do us more good than what this meeting will cost us. This past year I sold my crab apples for twenty-five to fifty cents a bushel. For very fine fruit, I got fifty cents a bushel. I left orders at home to dispose of all they could at home, and I lost \$150.00 by not sending them to this market. I would

like to ask the gentlemen here if it would pay to pack such tender varieties as the Transcendent in small packages? I see farmers who have perhaps one hundred bushels. The farmer loads his wagon box full of apples, and then he fills a lot of sacks with apples and puts them on top of the boxful, and then on top of all he piles his wife and children and the hired man, hitches his team to the wagon, and those apples are bumped up hill and down hill, and then they are sold to the local merchant and barreled up and sent to Minneapolis. I told one of those men it would pay him to buy bushel baskets.

Mr. Corbett—Our firm alone had to cancel orders for over two hundred barrels of apples this fall.

Mr. Stacy—It is best to pack them in barrels; that is the uniform package.

Prof. Green—Does it pay to face the barrels, the fruit?

Mr. Corbett—That question answers itself. A pretty lady is never the worse looking for being nicely dressed. A barrel of apples should be put up nicely.

Mr. Philips (Wisconsin)—Apples packed in new barrels bring the best prices. It pays to ship in new barrels. It is quite a considerable work to face out small crab apples.

Mr. Corbett—It will add twenty-five cents a barrel to the price. It will pay to face your apples for the time spent in doing it.

Dr. Frisselle—I do not know, but would it not be well to put them up in smaller packages, say in half barrels?

Mr. Corbett—The barrel is the standard we work from, and as far as price is concerned I do not think it makes any difference whatever.

Dr. Frisselle—It is somewhat difficult to press fruit of this sort. Does the color have anything to do with the price the apples bring?

Mr. Palmer—Well, the red apple sells for much more than the lighter color, and sells better. A red apple will outsell any other color.

Mr. Corbett—I do not know that there is so much difference. You get more uniformity with the red apple than with

the yellow. There is but little difference to the trade. In North Dakota and Winnipeg the red crab is much more desirable. But in South Dakota there are thousands of people who want the yellow crab apple.

Mr. Wedge—Do you think another crab as good a shipper as the Hyslop and colored red would sell as well? I will say the Hyslop is hard to raise.

Mr. Corbett—I do not think it would make any difference what it was.

Mr. Kellogg (Wisconsin)—You would sell it for the Hyslop anyway. (Laughter.)

Mr. Corbett—Well, we always sell what the people want.

Pres. Underwood—In shipping some delicate apples like the Whitney, that are liable to bruise, I was going to ask if it would not be desirable to ship them in small packages.

Mr. Corbett—I do not think it would be from the peculiar situation of our market. It does not cut any figure with the trade. They do not want any special fruit simply because it is early or has some other good point about it. The people are willing to wait until later in the season when more is offered and the prices are lower, so I don't think it would be any encouragement to offer it in that form.

Pres. Underwood—Is this sixteen quart package (exhibiting a crate) the package you like to have strawberries come in?

Mr. Corbett—Our wise legislature has been attempting to legislate in the interest of the consumer, but I think the twenty-four quart package gives us the most desirable crate to put strawberries in. It is a thing that must be apparent to you that it is just as easy to sell twenty-four quart cases as it is to sell sixteen quart cases, and it is all done in one transaction and is in every way more desirable.

Pres. Underwood—Is this the kind of quart, as shown in this crate, (exhibiting a sample) that you want strawberries in?

Mr. Corbett—I would rather have the full quart.

Pres. Underwood—Would they bring more in that size?

Mr. Corbett—I think they would. The consumer makes an objection because the box does not contain a full quart and is always willing to pay more for a full quart.

Pres. Underwood—I think this is a very important question to us. The southern fruit shipped in is in quarts which have been adopted by Illinois and Wisconsin. Our quarts are called the short quart. It is the same size over the surface, but not quite so deep. If by using the full quart we can get so much more for our fruit, when we buy our supply of boxes next year we ought to get the full quarts.

Mr. Corbett—The Florida fruit comes in that shape, but while fruit at that time is scarce, people are pleased with the large boxes and they buy it.

Mr. Harrison (N. Dakota)—So much has this short measure been practiced on us people of the north, that it is hard to tell whether we get a full barrel or a full quart. In regard to crabs, you can sell two barrels of crabs in North Dakota to one of any other kind.

Mr. Brackett—Are the people prejudiced as to the color of raspberries?

Mr. Palmer—The Cuthbert is the most desirable. The Turner is a good fruit; it is large, juicy and sells well.

Pres. Underwood—How about black raspberries?

Mr. Palmer—The Gregg is the best. The larger they are, the better they sell.

Mr. Wedge—How do our better grade of wild plums stand in the market?

Mr. Corbett—We have no experience as to the variety.

Mr. Elliot—While we are all interested in horticulture, there is one thing that almost every horticulturist produces, and that is potatoes. We would like to know the best package to ship potatoes in.

Mr. McLean—The most desirable package is sacks. They must be sacked somewhere, and it might as well be done where they are dug as anywhere else.

Mr. Elliot—The reason I asked the question, in going out into the country I saw farmers putting them in sacks.

Mr. Brackett—Is there a marked difference in the price of very early blackberries compared with those that come in later?

Mr. Palmer—The earlier berries bring considerably more than those that come in later.

SECRETARY'S NOTES.

Irrigation. Have just received from the New Hampshire Experiment Station Bulletin No. 34, a very interesting and instructive document treating of surface and sub-irrigation, by F. Wm. Raue. At the first glance over it I concluded to publish some extracts from it in our magazine for the benefit of gardeners and fruit growers. But on looking it carefully through I find so much that is good and valuable that I have concluded I can do no better than to give the address so that any one interested can send and get it. It is sent to any one in their own state free, and I do not know the terms to outsiders, but it will be a good investment to enclose a stamp and find out. Address F. W. Raue, Horticulturist, Ex. Station, Durham, N. H.

Bulletin on growing nuts, by department of agriculture, has been received and is full of interesting data for the information of those engaged or about to engage in that business and as I have seen it noticed in many papers—many compliments given the present pomologist for the work as it appears. In justice to our esteemed ex-pomologist, H. E. Van Deman, I wish to say that during the latter part of his term of office I was employed in that office at the suggestion of Sec. Rusk, in the new apple department, and I know that Prof. Van Deman was working hard with an able corps of correspondents on the bulletin and had the work well under way at the time his valuable services were dispensed with, and I am well satisfied that much of the credit for compiling such a valuable bulletin justly belongs to him.

State Fair. The Wisconsin state fair will be held at Milwaukee, September 21 to 26, when it is hoped the fruit growers will unite and make the largest show of horticultural products ever exhibited in the state. The board very generously added to the premium lists in this department, and we expect to make improvements in the building to accommodate all in a way they will be satisfied. Several of our largest growers have already expressed their intention of being on

hand with a fine show. The outlook for apples is good, as already noted in our columns. Second premiums have been added to plates of apples and grapes, enabling the committee to give two premiums where competition is close. Clarence Wedge, an up to date horticulturist, of Albert Lea, Minn., who is a good judge of fruit, will place the ribbons in that department.

It is always a pleasure to me to meet and converse with a man who, as Prof. Goff would say, knows something. I have several times in our meetings referred to the fact that a man living at Benton Harbor, Mich., had bought sixty acres of land near the city of Ripon in Wisconsin, and set it all out to apple trees. I have visited that orchard several times, but never had the pleasure of meeting Mr. Winans until May last, when I spent a day in his company visiting his and the new fifty acre orchard of our president and Mr. Reynolds. Mr. Winans had just returned from Missouri, where he had cleared the land, set and pruned seven hundred and eighty acres of apple orchard, and he had just finished pruning the orchard at Ripon, and I am free to say if a man can not learn something about pruning and caring for trees by watching and hearing his methods he must be a dull student, and if I learned anything new about trimming young trees my own new set orchard of four hundred trees and the new state trial orchard of six hundred trees at Wausau will have the full benefit of it, as I have gone over every tree since that time. I have thought and preached for years that we grow too much top for the roots to support. Two things should be kept in view, the shaping and forming of the tree and the production of fruit. After the top is formed, little cutting should be done. Winter pruning should be avoided. Do it when vegetation is active, and wounds heal quickly, is my plan, and doing it when sap is active promotes the forming of fruit buds.

It is a great mistake to leave too many main branches. We can in many young thrifty growing trees take off half the top and in five years it will not be missed. Cutting large limbs from bearing trees is a shock that takes a long time to recover from. Mr. Winans believes as I do in the plan of

planting what he calls fillers in the orchard, that is, trees that come into bearing quick and are liable to be short lived. Alternate with the later bearing larger trees the first will usually pay all expenses of orchard before others come into profit. In some places peaches are set in and pay all expenses of both orchards, before apples begin to bear. The Rhode Island station has found that about fifty per cent. more clusters of blossom buds grew on a limb of same size in the sun than on the one in the shade, showing that a conical tree like the No. Twenty, or a tree with plenty of room and sun light, will bear more apples than trees whose tops are crowded by too close planting. I have proofs of this in my own orchard.

SPRAYING SMALL PLANTS, POTATOES, ETC.

The home made spraying machine shown in the accompanying cut is thus described in bulletin 113, Cornell University Agricultural Experiment Station:



"The greatest sensation of the day, however, was occasioned by the appearance of the home made sprayer of Potter and Ware. An ordinary barrel spray pump was fastened to

a barrel having a capacity of about fifty gallons. The liquid was pumped into a gas pipe which was supported upon a light frame at the rear of the wheels. This pipe was fitted with four discharges to which nozzles could be attached. Four rows were sprayed at once, the work being fairly well accomplished as the horse walked across the field. Mr. Ware drove and pumped at the same time, and the machine worked without a break. The plants were uniformly although rather lightly covered, and the machine was pronounced a decided success by the four or five hundred people who saw it in operation."

HOW TO FIGHT THE CUTWORM.

Cutworms are more destructive than ever this year. On Long Island, from 5 to 20 worms are found about the roots of every cabbage plant in some sections, and complaints of its ravages are widespread. In addition to the partial remedies described in our last issue, trapping the worms under boards which have been placed on the ground and then in the morning destroying the worms which have congregated will diminish their number. A tablespoonful of a mixture of paris green with fine wheat bran and a little sugar scattered on boards or stiff paper near the plants will kill many. Plowing the infested land in the fall gives the birds a chance to destroy many of them. Kainit or muriate of potash applied liberally as a fertilizer has been found beneficial. These are the principal remedies employed but an infallible preventive or cure has yet to be found. Some success is following the use in Germany of bisulphide of carbon injected into the soil by a recently invented French apparatus. The same insecticide put into the soil about the plants with a McGowen injector is effective against the cabbage root maggot and is worthy of trial against cutworms and wire worms. Our American experiment stations ought to test this and other methods of sterilizing the soil against insect pests.

The Wisconsin Horticulturist.

MRS. VIE H. CAMPBELL, EDITOR.

HYMN TO THE FLOWERS.

HORACE SMITH.

'Neath cloister'd bough each floral bell that swingeth
And tolls its perfume on the passing air,
Makes sabbath in the fields, and ever ringeth
A call to prayer.

Not to those domes where crumbling arch and column
Attest the feebleness of mortal hand,
But to that fane most catholic and solemn,
Which God hath planned.

To that cathedral boundless as our wonder,
Whose quenchless lamps the sun and moon supply;
Its choir, the wind and waves; its organ, thunder;
Its dome, the sky.

There, as in solitude and shade, I wander
Through the lone aisles, or stretched upon the sod,
Awed by the silence. reverently ponder
The ways of God.

Your voiceless lips, O flowers! are living preachers;
Each cup a pulpit, and each leaf a book;
Supplying to my fancy numerous teachers,
In loneliest nook.

THE WAUPACA MEETING.

The summer meetings of the Wisconsin State Horticultural Society are always interesting, always enjoyable. Coming, as they do in June, in the midst of the busy berry season it is difficult for our small fruit growers to attend, but the busy horticulturist, who does run away for this brief respite, always finds physical and mental refreshment, and goes home with a keener zest for his work, and he feels that he has made a gain that cannot be estimated in dollars and cents.

We missed, this year, the friendly greetings and the wise counsel of friends Hirschinger, Hatch, Hoxie, Johnson and Tuttle and several others whom we are accustomed to have with us.

The season advanced very rapidly after June 16 and 17 had been announced as the date for the meeting at Waupaca, and many fears were entertained that the best of the strawberries would be gone before that time, especially those in the southern portion of the state, but those who shook their heads at the unwisdom in the selection of dates would have been agreeably disappointed if they could have seen the unusually fine and large display that filled the air with fragrance and greeted the admiring eyes of those who came to "The Dane's Home Hall" where the first meetings were held. Geo. J. Kellogg & Sons, Janesville, had the largest exhibit, fifty-three varieties. The exhibit from Thayer Fruit Farm was not quite up to its usual standard of excellence, as the berries showed the effect the severe drouth of last year had upon the plants. A. D. Barnes showed some fine berries on which he was awarded several premiums. The floral exhibit was very fine and large and reflected great credit upon the Waupaca Horticultural Society. When we saw the exhibit of wild flowers we were led to exclaim, "Waupaca is the very Paradise of wild flowers!"

At our annual meeting in February, when the invitation was given us to go to Waupaca, we were promised a treat, and we had it in the meetings held June 17 at the Grand View Hotel on the "Chain-o'-Lakes," three and one-half miles from Waupaca. Wisconsin is noted for the beauty of her numerous lakes and is fast becoming a state of resorts, not only for pleasure-seekers but for those who are wearied and worn with the rush and worry of business life. We have visited nearly all of the prominent resorts in the state but there are none that can compare with "The Chain-o'-Lakes" when a quiet place with all the comforts and conveniences of the city are combined with the unparalleled beauty of the natural scenery. We were very much indebted to the genial proprietors of the Grand View Hotel who provided everything for our comfort and furnished every convenience for an ideal meeting.

Three years ago the proprietors, Messrs. Hill and Uessling, erected a large and commodious hotel upon the most beautiful site of the entire chain of thirteen lakes, but so fast did

the popularity of this resort increase that the hotel was found inadequate for the increasing number of guests, and last year another large hotel was erected near it called The Annex. The two hotel buildings and ten adjacent cottages provide ample accommodation for 250 guests. The cuisine department is under the supervision of a competent and skillful chef, and on the tables of the beautiful dining rooms are found every luxury of the season. Only the best trained attendants are employed and the "summer guest" is sure of receiving all of the delicate little courtesies that go so far towards making one's sojourn so charming and delightful. Prices for board and rooms are low when one considers the advantages and comforts afforded.

Our meetings were held on the spacious porch of the Annex and it seemed a fitting place indeed for horticulturists to meet and plan how to advance the interests of horticulture in Wisconsin, and we watched with reluctance the hour for adjournment draw near when we must close one of the most interesting and profitable meetings we ever held.

A LESSON IN BUDDING.

Our illustration shows a lesson in budding nursery trees, as given to the second year students in the Short Course in Agriculture, at the University of Wisconsin. Readers of the Horticulturist who desire to become acquainted with this method of propagating trees and shrubs, and who are unable to attend the "Short Course," may gain some useful hints by studying this picture carefully.

Budding is usually performed toward the latter end of summer when growth is beginning to decline, but before it has so far declined as to prevent the bark of young trees from separating readily from the wood. The buds are taken from young shoots of the current season's growth, only those that are hard and plump being selected. It is customary to cut the shoots containing the buds,—“bud-sticks” as they are called,—on the same day they are to be inserted, and to pre-

vent them from withering in the least, they are trimmed at once and rolled in a damp cloth. The trimming consists in cutting off the leaves, leaving a short bit of the leaf-stem (petiole) attached to the branch to serve as a handle while inserting the bud. The trees to be budded, which are called stocks, are usually seedlings of one or two season's growth, though with Marianna plum stocks, which are now quite largely used in propagating the plum in some sections, the stocks are grown from cuttings.

The lower branches of the stock are cut off up to three inches or more from the ground and a smooth place is se-



STUDENTS BUDDING TREES.

lected for the bud,—usually on the northeast side of the stock, as that is the part least exposed to the sun. With the budding knife, which may be purchased of most of our extensive seedsmen, a T-shaped cut is made on the stock, just deep enough to reach through the bark and about two inches above the ground. Then a bud is cut from the bud-stick by inserting the knife blade about one-fourth of an inch above the top of the bud, at such an angle that the back of the blade nearly touches the bark of the stock. The right-hand student in the picture is in the act of cutting a bud. The blade is passed down just behind the bud, being inserted deep enough so as to touch the wood, but not deep enough to re-

move much of it, and then turned a little so as to run out about a fourth of an inch below the bud.

With the ivory end of the budding knife, the "lips" of bark in the angles of the T cut are next loosened from the wood, as is being done by the central student in the picture, when the bit of bark bearing the bud is slipped down behind these lips, using the stub of the leaf-stem left on it for a handle, until the top end of the bit of bark is just below the horizontal cut of the T. The bud, of which the apex should of course point upward, is then visible between the lips of the stock. The next operation which is being performed by the left hand student in the picture is that of tying the bud. For this purpose, an oriental grass called "raffia," which may be ordered through the larger seedsmen is now chiefly used. This should be moistened a little before use. A bit of raffia is held as is shown by the student across the lower end of the T cut, and just below the inserted bud. The ends are then crossed on the opposite side of the stock, brought forward and crossed again just above the bud, entirely covering the horizontal cut of the T, and pressing the lips down snugly over the bud. Then bring the ends behind again, and tie a half knot, drawing them up moderately tight.

If the bud "takes" it will grow fast to the stock in a very few days. In about ten days the raffia should be taken off, by cutting it on the opposite side of the stock from which the bud was inserted.

WHAT CAUSED THE DEATH OF THE SHADE TREES?

The great mortality among shade and forest trees this season has elicited much comment and various hypotheses as to its cause. "Root killing" has been a favorable explanation, which appears to satisfy many inquirers, and there is evidence in many cases that the roots perished before the rest of the tree. The root-killing has been ascribed to the freezing of the roots in an unusually dry soil, a proposition that would have been more tenable had the past winter been a severe one, instead of the mildest one with which we have been fa-

vored for many years. I have recently examined sections of the trunk of several trees that were found dead this spring on the campus of the University of Wisconsin, and in every case the growth ring formed during the remarkably dry season of 1895 was decidedly thinner than in previous years. In many cases it was reduced to a mere line, and sometimes it run out entirely in part of the circumference. This indicates that the trees were in a starved condition at the commencement of winter, and doubtless goes far toward explaining the trouble. We know that by girdling a tree in summer, thus cutting off the supply of food to its roots, we insure its death before the following spring. If the assimilation of food by the leaves of a tree is so much restricted by a scarcity of water that there is no surplus food in the cells at the end of the growing season, the end must be the same—the tree must inevitably perish. The cases in which the trees leaved out and even blossomed the past spring and then perished may have been due to their having possessed a small surplus of food in the branches which was not sufficient in quantity to reach the roots.

E. S. Goff.

Experiment Station, Madison, Wis.

HINTS FOR JULY.

After your cherries are picked thin the heavy crown. The wounds heal quickly at this season of the year.

Read the excellent and instructive article by Prof. Goff on budding and then bud your roses. Budding is nice work for women.

The bulbs of hyacinths and other spring bloomers should be lifted now, well cleaned and stored in a dry, cool cellar until fall planting time.

Go over your grape vines; keep off the suckers. Tie up the canes. Give plenty of ventilation through the foliage to prevent mildew, insure better fruit and hasten ripening.

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