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The Wisconsin horticulturist. Vol. IV, No. 11 January 1900

Wisconsin State Horticultural Society
[s.l.]: [s.n.], January 1900

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WE WISH YOU A HAPPY NEW YEAR!

The Wisconsin Horticulturist.

VOL. IV.

JANUARY.

NO. 11

“Every year is a fresh beginning;
Listen, my soul, to the glad refrain,
And in spite of old sorrow and older sinning,
And puzzles forecasted and possible pain,
Take heart with the year and begin again.”



THE THREATENING DANGER.

Prof. E. S. Goff.

At present (Dec. 30, 1899) the prospects are that we may have another snowless winter throughout southern Wisconsin, like the last one, which brought such disaster to our nurseries and young orchards. Already the cracking of the bare ground gives evidence that it is freezing deeply and as the summer and autumn rains have wet the soil only to the depth of three or four feet it will not require many nights with the mercury below zero for the frost to penetrate this layer of wet soil, when the roots of all young trees will be frozen solid.

I am making the experiment of mulching a few rows of apple trees in the nursery with coarse manure to see if this may not prevent the disastrous freezing of the roots. If the ground remains uncovered with snow for some time to come I purpose washing out the roots of some of the mulched trees and of others in the near vicinity left unmulched, to see what the effect of the mulching has been. The manure can be removed in the spring at a slight expense.

This is a matter of importance to the owners of nurseries and young orchards in the snowless region.

Experiment Station, Madison, Wis.

CENTAUREA MARGUERITE.

This new annual, although akin to the old-fashioned "bachelor's button," is said to be more like a carnation, for it is white, fluffy, and fragrant. It grows readily from seed, continues in bloom from July until frost and is fine for cutting, hence is an ideal flower for the home garden.

A writer in Vick's Magazine gives her experience with it as follows: "Centaurea Marguerite is all that is claimed for it. From the tiniest seedling it is perfectly hardy, paying no attention to freezing nights, drenching rains, pelting hail storms or even to being buried in snow, but comes up bright and smiling, and grows rapidly through all. And then the blooms, so large, white, fluffy and fragrant, and of such lasting texture. A week they will keep in water, and they mingle so beautifully with other flowers in bouquets."

WHITE PERENNIAL PHLOX.

The new, improved varieties of the pure white perennial phlox are beautiful either in the flower garden or in clumps upon the lawn. We were surprised last summer to notice with what effectiveness this phlox was used both in parks and private grounds. Not the old white perennial phlox with straggling heads of bloom, but new kinds, of vigorous growth and with large, compact panicles of snowy blossoms. For the best immediate effect several plants are needed; although, if one can afford but a single plant, he can be cheered by the anticipation that it will increase to a "clump" in a few years.

Aunty (to Elsie, who has been out to look for eggs): "Have you found any, dear?" Elsie: "No; not one; the hens are all standing about doing nothing."—Judy.

BROOKSIDE BERRY FARM.

Profits of the Business.

"There's no danger of overproduction; if the whole state of Wisconsin were growing berries they would find a ready market in the great Northwest," was the remark made by a fruit enthusiast five years ago.

About three years later this man committed suicide. The subsidence of the fever did not have such a depressing effect in my case, as I had no desire to run the risk of a premature entrance into a hot climate.

In sizing up the profits of fruit growing dollars are not the only desideratum.

A few years spent in a railroad office in the capacity of lightning slinger, left me with a depleted stock of health. The exercise required to make both ends meet from the productions of "Brookside," which was originally a "poor but stony farm," has resulted in restoration of physical strength. There was profit in that.

Growing the fruit and having it on our table the year 'round is pleasant and healthful, therefore profitable. The acquaintances formed among horticulturists (who are a jolly lot of respectable cranks) is an enjoyable feature.

The business methods required to properly manage a crew of berry pickers and place the crop on the market are conducive to mental discipline, which is profitable to man.

And then there are great POSSIBILITIES in berry culture. When we grow corn, potatoes, hay, etc., we know about how large a return we can figure on—never very large but generally sure. "Slow but sure" does not satisfy average men; they prefer a game of chance. They will play poker, bet on a horse race, or place money on the soul-inspiring game of foot ball. Others will go to Klondyke for one chance in a thousand of making a fortune. I prefer to

grow berries. "It satisfies my longing as nothing else can do"—for games of chance.

Six hundred dollars have been taken for one acre of berries. It is easy to figure that five acres at that rate would bring in \$3,000; and in the beautiful golden some-time, when there's no frost nor drought, no bad insects, ditto commission men, when my competitors have reduced their acreage to the limits of a normal demand and no longer aspire to be called "berry kings,"—then we'll wonder what to do with our surplus.

Finding that berry growing could not be relied on for a steady diet of three meals a day, we invoked the aid of the Jersey cow and now our little herd furnishes us a steady income. A few porkers are drafted into service every year and are not to be sneezed at when the returns come in. Neither shall we despise the old hen so long as she continues to cackle out forty or fifty dollars every year.

CHAS. L. PEARSON.

Baraboo, Wis.



THE FORMATION OF FLOWER BUDS IN OUR FRUIT TREES.

[Read before the Northern Illinois Horticultural Society at Freeport, Nov. 29, 1899, by E. S. Goff, Professor of Horticulture in the University of Wisconsin.]

Before taking up my subject, I wish to speak briefly concerning some of the work of our experiment stations.

The sentiment has been quite popular that our stations should confine themselves chiefly to so-called "practical" work as opposed to scientific work. Farmers and fruit growers have felt that the instruction furnished by our stations should be sufficiently tangible to permit it to be applied directly to the practical work of the farm.

While the farmers and fruit growers have a right to demand that all work done at the stations shall be of a kind

that is directly beneficial to them, there is danger that the highest value of the station work may be thwarted if this rule is too narrowly interpreted. Many have been looking to our experiment stations to perform work that is, and always must be, local in its application. The testing of varieties and of fertilizers, for example, cannot be done successfully for a whole state on one, or upon half a dozen experiment farms, but must be done largely by the farmer or fruit grower himself.

The conviction has been growing in the minds of some of our most earnest station workers that it is not worth while for the government to employ educated men, at salaries, to perform experiments that the farmer and fruit grower are able to perform just as well for themselves. While our stations must not neglect the simpler kinds of work, such as methods of pruning and the use of insecticides, they are equally bound, by the terms of their contract with the government, to take up also lines of investigation that deal with general principles rather than with local questions, and to answer questions that require for their demonstration an amount of knowledge, experience and equipment that the farmer cannot hope to command at home. Unquestionably this was the purpose contemplated by the founders of our experiment stations. It was this conviction that led me to undertake the investigation that forms the subject of my present paper—an investigation which has occupied a large part of my time during the past six months, and in which I have been employed with the instruments and reagents of the botanist and the physician, rather than with the tools of the horticulturist.

The majority of our cultivated plants are grown either for their flowers, or for the product of their flowers: i. e., fruits or seed. But the flower is not an essential part of the plant, and instead of contributing to its welfare, it actually consumes a part of the plant's reserved food. As

might be expected, therefore, perennial plants do not always produce an annual crop of flowers, even when well developed in other respects, hence the grower is often disappointed. We all know that while many contingencies, as frost, fungi and insects lie in wait for the fruit crop even after the trees have bloomed full, there is no hope for a crop if the trees do not bloom. The most frequent cause of failure in our fruit crops is the failure of the trees to bloom well. And how much can we do by treatment to make our trees bloom? The answer to this question is that we know very little of the conditions that cause or prevent blooming in our fruit trees, and we are, therefore, almost helpless in this extremely important part of our culture system.

It has long been accepted in a general way that the flowers are formed the season previous to their expansion—a proposition that in some fruit plants admits of very easy demonstration. In the cherry, for example, the flower-buds are readily distinguished from the leaf-buds during winter, and examination with a pocket lens reveals beyond question the embryo flowers. That these flowers developed to their winter condition during the latter part of the previous growing season may also be inferred from casual observation, because the flower buds did not become conspicuous until after midsummer. But no systematic investigation seems to have before been made that gives us any definite knowledge as to the time when the development of the flowers actually begins, the rate at which it progresses, or the period through which it continues, in any of our fruit-bearing plants. This information is important, because it will enable us to make definite experiments as to the effects of special treatments upon the formation of flowers.

The past season the writer undertook an investigation to ascertain the time of the origin, and the rate of progress

of the flowers in four of our common fruit trees, viz., the cherry, plum, apple and pear. The results of this investigation were on the whole definite and satisfactory for the individual trees upon which it was conducted.

Briefly stated, the method of investigation was as follows: It was necessary to make a microscopic examination of the buds at frequent intervals during their development, for which purpose they must be cut into very thin sections. As the interior parts of the buds are very delicate, they can only be cut into sections after being impregnated with some material that can be introduced without displacing or injuring the most delicate parts, and that is sufficiently firm to be cut with the razor or microtome knife. For this purpose, paraffin—a product of petroleum which is solid at ordinary temperatures, was chiefly used. The problem in hand then was to sever the buds from the trees and to destroy their life promptly, so as to prevent further biological changes, to remove their natural juices and to replace these, and at the same time to fill all interstices between the parts of the bud, with paraffin. This was accomplished by long and complicated processes that need not be here described further than to say that they are the ones commonly used by biologists in examining delicate vegetable and animal tissues under the microscope. The investigation began before June 1st. The varieties used were the King's Amarelle cherry (*Prunus Cerasus*), the Rollingsone plum (*Prunus Americana*), the Hoadley apple (*Pyrus malus*), and the Wilder Early pear (*Pyrus communis*). These varieties were chosen because they had proved reliable for fruiting in past seasons.

As it was desired to discover the earliest beginnings of the flowers, it was necessary to become familiar with the structure of the incipient flower-buds before the flowers had commenced to form. Some of the buds cut early in June were therefore sectioned. The bud scales at this time were

few in number, and the heart or core of the bud was then quite small. Other cherry buds taken after this, were sectioned, but no change in their structure was apparent until one of the series cut on July 11 was reached. Up to this time the line bounding the end of the heart of the bud, about which the bud scales are clustered, and which, in lieu of a better name we will call the crown, described a nearly uniform curve. But in certain cherry buds cut on July 11, it was observed that this line showed a more or less irregular curve.

These irregularities probably show the first visible beginnings of the flowers, for in later-sectioned flower-buds they are continually exaggerated until they form unmistakable flowers. The wrinkles in the crown, at first scarcely noticeable, gradually became more and more pronounced until they formed decided prominences. The examination of other buds with a simple microscope showed that in the early stages, the embryo flowers appear as roundish swellings on the top of the crown, but later they become more or less cup-shaped by the more rapid growth of the outer portions. In the later-cut buds, the differentiation of the organs of the flower becomes apparent, from which it appears that the calyx is first formed. In the normal order of development, the corolla, i. e., the showy, white portion of the expanded flower, originates next after the calyx, and is followed in turn by the stamens and pistil or pistils. Lastly the pistil appeared at first as a rounded protuberance, gradually developing until it finally assumed a columnar form.

DATES OF THE FIRST EVIDENCES OF FLOWER FORMATION.—As I have already said, the earliest indications of flowers in the cherry were in buds taken on July 11. This was the only bud out of twelve of this series that showed any clear evidence of the embryo flowers, though two others seemed to show slight indications in this direction. Ten

buds taken July 8 gave no evidence of embryo flowers, other than a slight thickening of the crown in a few cases.

In the plum, the flowers appeared a little earlier than in the cherry. Of twelve buds taken July 8th, one only showed the flowers quite well started, and two others showed a slight dilation of the crown. Nine buds taken July 6th showed no evidence of flowers. In the apple, the first clear evidence of flowers was found in the bud taken June 30. In the pear, the first clear evidence of flowers appeared in buds taken July 21st.

The early beginning and very gradual development of the flowers is a subject of interest, and also the fact that the flowers commenced their growth about the time the wood growth ceased. The energies of the tree are expended during the first half of the season in producing the annual increase of wood, and during the latter half in preparing the flowers for the next season's crop, and in bearing trees, in maturing the fruit. In the apple, a longer time is apparently consumed in preparing the flowers than in producing the wood. We cannot, however, conclude that the preparation of the flowers consumes as much vital force of the tree as does the production of wood, because, in the case of bearing trees, the crop of fruit, with its concentrated seeds, is mostly developed, or at least is matured, after the formation of the flowers begins. We can now easily understand why a bountiful fruit crop so often causes reduced fruitage the following year. The nourishment that might otherwise contribute to the formation of flowers is absorbed by the numerous seeds that are maturing. Here is one grand argument for the thinning of excessive fruit crops.

In trees that are not yet old enough to bear fruit, the development of wood often continues throughout the growing season, unless it is checked by drought or by some artificial means, as pinching the tips, root pruning, removing the leaves, or growing a cover crop on the land to use up

the available moisture and plant food in the soil. It is quite possible that normal fruitage tends to render trees more hardy by checking the growth of wood late in the season.

Thus far, there is no evidence that a relation exists between the time of the formation of the flowers and the time of maturity of the fruit. In the apple, pear and plum, the flowers commenced their growth several weeks before the fruit matured, but in the cherry the two processes were nearly simultaneous.

It is interesting also to note that while the approach of freezing weather seems to mark the end of the life cycle in the case of the leaves of our fruit trees, it is only an interruption to the development of the flowers. The prime purpose of the plant's existence is the perpetuation of the species, and with plants in the temperate zone, that produce fruit requiring several months of continuous summer weather for its development, the flowers from which these fruits are to grow must have their inception well back in the preceding summer. We thus see that our fruits are in a sense biennial productions.

The expansion of the flowers in spring is little more than the distention of the cells formed in the preceding year. Sometimes owing to peculiar climatic conditions, as when a period of severe drought late in the summer is followed by abundant rains and warm weather the expansion of the flowers occurs in autumn, in which case the purpose of the plant is thwarted.

The last change noted was in buds taken Oct. 30th. In these buds, the surface of the anthers had apparently grown out into small roundish protuberances, and the cells on these protuberances were conspicuous from the large size and very dark color of their nuclei. It is probable that these indicate the formation of the pollen mother-cells. The ovarian cavity appeared more nearly closed in, and in a few cases some indications of the ovules were perceptible,

but no well formed ovules were found though many buds were sectioned. Other plum and cherry buds were taken Nov. 9th, but these showed little if any advancement over those of the preceding series. By this time, the leaves were entirely off the plum tree and were apparently all ready to fall from the cherry tree. Apple buds taken Oct. 30th showed neither carpels nor ovules in the flowers, and the pistils showed little advancement over those taken weeks before.

In order to ascertain the stage to which the flowers attain in autumn in other fruit plants, buds were taken on Oct. 16th, of the Gregg and Cuthbert raspberries, Bonanza blackberry and Red Dutch currant; on Oct. 23 of Clyde strawberry, Downing gooseberry, Crandall currant, and Dwarf Rocky Mountain cherry, and on Oct. 30 of the Worden grape and a seedling Russian apricot. These were prepared and sectioned in the usual way. The flowers in the raspberry, blackberry and grape could be located without difficulty, but were only slightly developed; those of the Dwarf Rocky Mountain cherry and Russian apricot were developed to about the same extent as in the plum, though in the apricot the flowers were much larger. Those of the currants showed the stamens and pistils but no ovules; those of the strawberry showed all parts very clearly, except that no ovules were apparent, and the flowers were very much larger than in any other plant examined. Only in the gooseberry were the ovules unmistakably formed. How generally the ovules were formed in this plant cannot be stated as but two buds were sectioned.

As the present autumn has been unusually mild, it is probable that the flowers are as far developed as they are likely to become in the autumn in this climate and we may infer therefore, that with the exception of the gooseberry, the flowers in our fruit plants usually do not form their pollen or their ovules before winter.

This investigation throws no light on the primary cause or causes of the formation of the flowers. It only discovers when the formation takes place. It is instructive, however, as pointing out more clearly than we knew before the time of the year when these causes are probably acting. We are in better condition to investigate the conditions that affect the formation of flowers than we were before. It now appears that the environment of our fruit trees during early summer may be quite as potent in determining what the fruit crop of the following year is to be, as that during the late summer. Whatever the primary causes may be, we now know that in our climate at least, they are operating during June and early July, and with the possible exception of the plum, they probably do not act much later than this.

Our treatment to produce flowers for the following year, in the cherry, plum, apple, and pear must be given very early in summer, to be operative. There is at least so much of practical application for my summer's work. I now feel prepared to outline definite experiments in treatment for the production of flowers.

MATCHES.

It is a curious sort of economy for housekeepers to buy cheap matches and ignorance or carelessness that prevents them from teaching every member of their household how to use them properly. The really safe matches are those that can be lighted only on the box, and these should be used. Every child should be taught that a match must never be thrown away while burning, and never shaken to extinguish; it must be held still in the fingers and blown out. Many valuable lives have been lost and property destroyed from the careless using of matches. An unlighted match dropped on the floor may be as dangerous as a loaded revolver. Matches are so common that their danger is overlooked, but the statistics of every Fire Department in the country will attest to their deadliness, unless carefully used.—N. Y. Post.

ANSWERS TO MR. HATCH'S QUESTIONS.

A. J. Philips, Sec'y Wis. State Horticultural Society.

1. How are Garfield, Gano and Salome apples behaving in Wisconsin? I know nothing of the Garfield. Salome has done fairly well in the south part of this [La Crosse] county. The Gano is doing well with me, top-grafted.

2. Shall we plant more Northwestern Greening? YES. From what I know of the Northwestern Greening and from what I have seen of it in Wisconsin, Minnesota and Iowa we ought to plant more of them for a winter apple, and at the same time try top-grafting them on a good-ripening stock which I find ripens the late growing wood two or three weeks earlier.

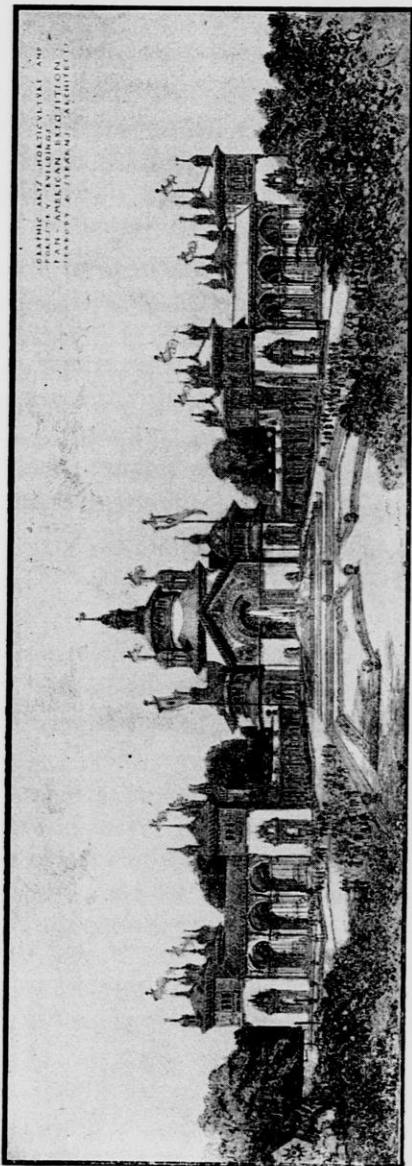
3. Is the Wolf River worthy of further planting? YES. The hardiness of the tree and the size and beauty of the apples make the Wolf River worthy of limited further planting.

I saw the man at the Minnesota meeting who traveled with Mr. Springer and saved the seeds and afterward cut the first cions from the original Wolf River tree. His name is Parks.

I saw fine trees of this variety in Minnesota over thirty years old, in good condition.

“My uncle grows strawberries so big that six will fill a quart box.” “I’d be ashamed to have an uncle who would use that kind of quart boxes.”—Chicago Record.

Y.:—“Do you think Ike ever lies about the fish he catches?” C.:—“No, I don’t; but I think he lies about the fish he doesn’t catch.”—Yonkers Statesman.



GRAPHIC ARTS, HORTICULTURE AND FORESTRY BUILDING, PAN-AMERICAN EXPOSITION, BUFFALO, N. Y., 1899. ARCHITECT, J. W. REYNOLDS.

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HORTICULTURE, GRAPHIC ARTS AND FORESTRY.

PAN-AMERICAN EXPOSITION.

We have the pleasure of giving our readers a picture of three of the beautiful buildings which are being erected for the great Pan-American Exposition to be held in Buffalo, N. Y., in the summer of 1901.

The largest of these, the Horticulture Building, stands between the other two. The Forestry Building is on the north side; the Graphic Arts on the south, adjoining the Lake. Arcades connect the three buildings, forming in front a semicircular court. Between the arcades the ground rises slightly to the level of the Fountain of the Seasons.

The area of the Horticultural Building is 45,000 square feet. The Graphic Arts and Forestry buildings each cover 30,000 square feet, and are similar in design. In plan the Horticultural Building is square, with central lantern, rising to a height of 240 feet at the intersection of the four arms of a Greek cross, which includes in its angles four small domes. On the center of each facade is a deeply recessed arched entrance.

The Graphic Arts and Forestry buildings have four corner towers, and on the east facade a vaulted loggia of three arches forms the main entrance. Above the red roofs of Spanish tile numerous lanterns, pinnacles and Venetian flagpoles, from which float gaily colored banners, add a festive picturesqueness to the skyline.

The broad white wall surfaces are ornamented with colored bas-reliefs. Arabesques of twining vines of fruit and flowers, among the branches of which are children and birds, decorate the numerous pilasters of the facades and arcades.

Above the eastern entrance of the Horticultural Building are two colored compositions representing Ceres, the goddess of the harvest, bearing in her arms a sheaf of golden wheat. Her chariot is drawn by three lions led by Flora and Primavera.

THE CHRYSANTHEMUM.

B. S. Hoxie.

"Please write an article for the December number of the Horticulturist." Well, by some mistake this request made its appearance on my desk just about the time I was expecting that number of the magazine.

But what can I write about for profit to the readers? Building modern houses,—my profession? No, that won't do for horticultural literature.

All of my hardy Waupaca County apple trees in the garden died last winter and every grape vine of six varieties and most of the rose bushes. So try again, is my motto.

But Oh! the chrysanthemums! and we have some nice bouquets on the table this 22d day of December and have had some variety in bloom for more than two months, and what other flower is there with such gorgeous beauty of form and colorings, that stays by its friends so long?

There is a passion for flowers with some and a fascination in flowers for others. The first class are the only ones who will, or can have success in cultivating them. In the growing and propagating chrysanthemums there is something different from most other flowers. They vie with the rose in number of varieties and out-rank it in size of flowers, as well as in color and beauty of form. As to size, we cannot tell where the limit may be for I have seen them from six to twelve inches in diameter.

But these are for the professional experts, who will tell you that there is more profit in the market to have eight or ten blooms on one plant than the one plant for a single bloom. For myself I am content with smaller flowers and more of them, and a good, strong plant can take care of a dozen or more to the amateur's satisfaction.

I find that the chrysanthemum is quite exacting, for it

requires a good rich soil and at all times plenty of water and in later stages of growth, as it approaches bloom, artificial fertilizing with the water. Everyone can grow them in the garden in summer and transplant them into large pots most any time they choose even up to blooming time, for they will stand much abuse and will equally respond to good treatment. But except in pure white, dark red and golden yellow, you hardly know what to expect in the lighter colors from year to year,—I will not say disappointments but surprises.

My manner in growing is to start slips as early as possible in the spring—transplant to the garden when danger of cold nights is past, pinch back during season of growth up to the first of August to form plants to your liking, and about this time I transplant to large pots or to the greenhouse. If one wishes for single blooms for small pot plants, strike your cuttings from the first pinching back from thrifty plants. Do not be afraid to disbud for this is the only way to have fine flowers, or to have them even in time of blooming. Do not expect complete success the first year but try again.

The Sunday school of the Baptist Society in this city held their second chrysanthemum show in the city hall some weeks since. It was much better than last year and I am sure the boys and girls have learned very much as to the care of plants and in many ways are better for the effort.

I did intend to say something about a cheap greenhouse and how to build it but I fear this now calls for more space than I am entitled to.

Evansville, Wis.

[Let us have the green house another time.—Editor.]

After most women pass forty their idea of a hilariously good time is to go as a delegate to a church convention in some other town.—Atchison (Ks.) Globe.

SOME IMPORTANT SUGGESTIONS.

By Irving C. Smith.

EDITOR WIS. HORTICULTURIST:—

Perhaps a few thoughts and suggestions may not at this time be out of place, as the writer had the honor of being a delegate from our Society to the Minnesota Society's Convention at Minneapolis, Dec. 5th to 8th.

The convention opened promptly as announced, with Mr. Pendergast in the chair. The program was followed as closely as possible thro' the convention. There are some points which your delegate thinks we might copy with profit.

In seven sessions devoted to horticultural subjects, there were forty-two papers and addresses delivered by as many different writers, an average of six to each sitting. This does not include papers sent in, but not read, or reports from committees and experiment stations. Most of these papers were from five to ten minutes long, and when it was desired, a short discussion followed the reading of each, the president confining the discussion to the lines followed in the paper.

These papers were divided as follows: Eleven on Apples, six on Plums, six on Blackberries, six on Vegetables, six on Ornamental Trees and Shrubs, four on Ornamental Horticulture (flowers, etc.), two on the State Fair and one on Pollination of Flowers.

This variety of subjects gives, of necessity, a much wider range of thought than if the topics were confined to a comparatively few subjects, even if the few are discussed by the ablest of our number.

Let us at our coming meeting have our papers short and run through the whole list of subjects from the kitchen garden to the commercial orchard, not forgetting the flower garden. We set our fruit gardens and orchards in the spring, so let us have a discussion and review of the year's

work at our winter meeting that we may know what to set in the spring.

One of the most beautiful papers was given by Mrs. Underwood on "Nature Study." It was a plea for more of the study of nature, plants, birds, insects, the rain, etc., by the children when they are at the age to ask questions. The writer hopes Mr. Philips will think over carefully the thoughts herein expressed, and try the experiment in making up the program for our coming meeting.

Your delegate's report will be delivered more in detail at our annual meeting.

IRVING C. SMITH.

Green Bay, Wis.

IMPRESSIONS AT AND AFTER THE MINNESOTA ANNUAL MEETING.

Taking it for granted that our delegate to that meeting will furnish you, or furnish for our annual meeting, a full report of the papers, discussions and an account of the large fruit exhibit of the Minnesota Society, I will only give you a few outside items, which may be of some value to your readers.

Tree fruits were in the ascendancy on the bill of fare for the Horticultural feast. The first course on Tuesday was Plums, and with me the discussion on that fruit continued, for it was my good fortune to sleep, or try to, with Martin Penning, the originator of the Surprise plum, and a history of its origin was very interesting to me, even if it was told in the dead hours of the night, and kept Richardson of the Mankato Plum and Andrews of Peerless Apple fame awake.

The last course on Friday afternoon was seedling apples, closing with seedlings at our Wisconsin trial orchard.

Now a speaker might think, if he saw his name on as

the tenth man the last day in the afternoon, that his audience would be small, but such is not the case. Those Minnesota fellows like their meetings so well that even the poor quality of the average seedling apple will not drive them away; they are bound to stay and hear it out.

The Minnesota orchard was well planted, trimmed, mulched and cultivated Wednesday afternoon, and on Thursday afternoon the bushels of Wealthy apples exhibited by the Jewell company, and afterward eaten by the large crowd who had assembled to listen to the memorial service of its originator, was the leading feature, and to me this was the most interesting session of the meeting. The writer was asked to pay a tribute to Wisconsin's departed noted horticultural experimenters, to-wit, F. W. Loudon, J. C. Plumb and M. A. Thayer, in connection with Mr. Gideon, which he did as best he could in the short space of time allotted to him for the purpose.

This feature, the memorial service in honor of these four great men in the horticultural world, at our next annual meeting on Wednesday afternoon, ought to fill the senate chamber to overflowing with those who have heard and seen so much of their work. Enlarged pictures of all three will be there and noted speakers from abroad have promised to take part.

Blackberries, beans, peas, asparagus and onions were side dishes, while other small fruits seemed to have been forgotten by those who arranged the programme.

Tree planting and ornamentation of home grounds came in for a share, and that seems to be a necessity in that beautiful city of parks, Minneapolis. Hon. S. M. Owens gave a very interesting talk on Forestry as he saw it in the old world last summer and has kindly promised to repeat it at our joint meeting with the Wisconsin State Forestry Association on Tuesday evening of our meeting.

Saturday, and part of Monday, after the meeting, I

spent at Excelsior looking over the three orchards left by Mr. Gideon and the experimental orchard of F. M. Lyman at that place. The latter is the originator of the Lyman's Prolific, the finest crab tree I ever saw. Your readers will remember a picture you published of it some two years ago. Prolific is rightly attached as it has borne twenty bushels at a time for several seasons. It is hardy and free from blight. Mr. Lyman's modesty has kept it from being pushed, but he has thought so well of it that at present he has over one hundred handsome young bearing trees of it. I have been growing it at my place for three years, and have engaged some trees to plant in our trial orchard, which is on a line directly east of Mr. Lyman's orchard.

On looking over Mr. Gideon's seedlings and other handiwork—and I might add Mr. Patten's and Mr. Lyman's (of both of which I shall write more at some future time), I am strongly impressed with the fact that as horticulturists north we should be making a greater effort to find and grow some better, hardier, more vigorous—and better shouldered stocks for top-grafting winter apples on, than we now have. Already I have secured some cions and the work should be pushed, not only in our trial orchard but also in those of Iowa and Minnesota. I consider this, from my own experience, of great importance to the orchardist of the twentieth century.

The Minnesota Society did three commendable things at this meeting. They placed Patten's Greening on their list of hardy apples, they made its originator a life member of their society in honor of his useful work, and they raised their secretary's salary \$100 without his asking for it, making it \$900.

A. J. PHILIPS.

West Salem, Wis.

HOUSEHOLD PAGE.

An Emergency Dinner.

How to get up a "company dinner" when unexpected guests arrive, is a perplexing problem to the housewife who lives miles away from a source of supplies. It is well to keep "canned goods" on hand for such emergencies. Here is the "menu" of an excellent dinner which can be quickly prepared by the aid of a can of salmon, a can of greens peas and a can of peaches, in addition to the ordinary farm supplies: Salmon loaf, mashed potato, green peas, celery (if you have it), currant jelly or pickles, peach shortcake.

SALMON LOAF.—Mince one can of salmon (not using the juice), add one cup of stale bread crumbs free from crust, two beaten eggs, one-half cup of milk. Season to taste with salt and pepper, adding a little lemon juice if you like. Pack firmly into a narrow bread pan and bake about half an hour, covering the top if it browns too fast. Or you can pack it into a cake-tin with a tube in the center and steam for half an hour, placing a cloth under the lid of the steamer to absorb the moisture. Serve with a white sauce.

WHITE SAUCE.—Melt in a saucepan a piece of butter the size of an egg, stir into the hot butter two even table spoons of sifted flour; stir until perfectly smooth, then pour in slowly one pint of milk, let cook a few minutes, stirring constantly; add salt if the butter does not salt it sufficiently.

GREEN PEAS IN CREAM.—Drain off all the juice from your can of peas, cook the peas for awhile in a VERY LITTLE hot water, salting to taste. Just before serving pour in a half cup of thick, sweet cream and let boil up once.

PEACH SHORTCAKE.—Make a soft dough as for baking powder biscuit, using a little more shortening. Roll out

a circle about half an inch thick and fit into the bottom of a deep pie-plate. Brush it over with melted butter, then lay on another circle just like it, bake in a hot oven until thoroughly done, probably twenty minutes or more. When done pull the layers apart, cover the bottom one with sliced peaches from which the juice has been drained, sprinkle with sugar, put on the other layer top side down, cover with peaches over which sprinkle sugar, then serve with cream and sugar.

Don't bake this and the salmon in the oven together.

M. C. C. J.



NEW YORK SMALL FRUIT PACKAGE LAW.

A law concerning small fruit packages in the State of New York took effect January 1. It defines the capacity of standard measures for buying and selling small fruits thus: The quart, when even full, shall contain 67 cubic inches; the pint, when even full, shall contain $33\frac{1}{2}$ cubic inches, and the half-pint which, when full, shall contain $16\frac{3}{4}$ cubic inches. It also provides that all manufacturers of small fruit packages, such as quarts, pints and half-pints, that are of less than the standard size or capacity, shall mark each such quart, pint, or half-pint with the word "short" on the outside, in letters not less than one-half inch high. The penalty for selling or offering for sale fruit packages of less than the standard capacity, that are not marked as above, or for selling or offering to sell fruit in smaller-sized packages that are not so marked, is that each such person shall be deemed guilty of a misdemeanor, and upon conviction thereof in any court of competent jurisdiction, shall be fined not less than \$5 and not more than \$25, and shall stand committed to the county jail until such fine and costs are paid. The writer of the above, in the Rural New-

Yorker, goes on to speak of

THE EFFECT OF THIS LAW UPON OTHER STATES.

He says: "Unless our adjoining States speedily come to a realization of the situation, it is certain that the markets in their cities will be flooded with fruit in dishonest packages. For while the law prevents anyone from selling or offering to sell small fruit in packages of less than standard size in this State, there is nothing to prevent a sharp fruit-grower from purchasing snide packages of a manufacturer or dealer in New Jersey, filling them with his fruit in this State and shipping them to Boston or Philadelphia. Of course early strawberries from some parts of the southern States, that have for several years been shipped in notoriously small packages, will be diverted from New York, and be offered for sale in our neighboring cities.

The fruit growers, dealers and consumers of fruit in New England, and all adjoining States, are particularly interested in this subject. If they would promote honest dealing, by compelling the growers and dealers to furnish the full amount of produce they profess to sell, all should unite in securing in each of these States the enactment of a law with the same provisions as that of the State of New York."

"The facts above stated make it reasonably certain that the only way to protect the markets in neighboring States from an immense quantity of snide packages of small fruit next season, will be to make an early and decided effort to secure the enactment of a law similar to ours in each of the New England States, and in New Jersey and Pennsylvania."

The Horticulturist advocates a National Law, regulating the size of small fruit packages and barrels also. This would give uniformity and protect the whole country from "snide packages."

Let Wisconsin horticulturists discuss this matter at their coming annual meeting.

Program of the Annual Winter Meeting

OF THE

Wisconsin Horticultural Society

To be Held in the Senate Chamber,

MADISON,

Monday, Tuesday, Wednesday, Thursday, Feb. 5, 6, 7, 8, 1900

All are Cordially Invited to Attend.



The Wisconsin Cheese Makers' Association, the Wisconsin Bee Keepers' Association, the Wisconsin State Forestry Association, and the annual meeting of the Alumni of the Short Course School will meet at Madison during the same week.

As usual the headquarters of the Horticulturists will be at the Capital house, where delegates from abroad will report and all members will please register as HORTICULTURISTS and be entitled to reduced rates.

REDUCED RAILROAD RATES.

Please Read Carefully!

A reduction to one-third railroad fare for the return trip has been secured on condition that one hundred certificates showing that full fare has been paid coming to the meeting are presented to the joint agent at Madison on Thursday, February 8th. It is certain that we can secure this reduction if each person attending obtain such a certificate from the railroad agent at the time of purchasing each ticket, at starting and ALL TRANSFER POINTS ENROUTE. The certificate secured with the last ticket bought is the one that counts in making up the one hundred (100). Have

the certificate read, "To the Joint Convention of the Wisconsin State Horticultural Society, Wisconsin Bee Keepers' Association and the Wisconsin Cheese Makers' Association, to be held in Madison February 4 to 10, 1900," and be sure to hand all such certificates to A. J. Philips, Secretary, as soon as you reach Madison; also be sure to be at the meeting in the senate chamber on Thursday, February 8th, and have your certificates stamped and returned to you personally by the joint agent, or they will be of no value for reduced rates. Certificates good three days before and three days after meeting.

Now read the foregoing carefully and act accordingly—and be sure to come as it will be your loss if you stay away.

This program will be published in the Wisconsin Horticulturist, and state papers will please notice it, and if any one desires programs for distribution or desires further particulars about the meeting, Address,

A. J. PHILIPS, Secretary,
West Salem, Wis.

Important Announcement.

One of the interesting features of the meeting will be the memorial services on Wednesday evening—for J. C. Plumb, F. W. Loudon, M. A. Thayer and Peter M. Gideon, horticulturists that have passed away during the past year—who had national reputations. Noted speakers from abroad have promised to be present and take part in the services. Citizens and students of Madison especially invited.

Another interesting feature will be the session on Thursday evening, the program of which is made up of papers and music by the short course students. On Friday the alumni will hold their annual meeting at the agricultural college and all in attendance will have a chance to visit and see the different departments of the school.

All are cordially invited.

PROGRAM.

The executive committee of the Horticultural Society will hold their first session at the State Board of Agriculture rooms on Monday evening, February 5th, to examine secretary's and treasurer's financial reports and attend to other business of importance. All having accounts against the Society are requested to hand or send them to the secretary prior to this meeting.

The editor's report on Magazine will be given at this meeting.

Tuesday Morning, 9:00.

1. Greeting by the President, Franklin Johnson.
2. Appointment of Committee on Reception of Delegates.

Special Subject—Nursery Session. Five six-minutes papers.

1. Best Plan to Conduct a Correct Nursery Business—F. C. Edwards, Fort Atkinson.
2. Best way to Sell Nursery Stock after it is Grown—Hon. Chas. Hirschinger, Baraboo.
3. Shall the Nurseryman Buy Stock to Fill his Orders from Eastern and Southern Nurseries?—L. G. Kellogg, Ripon.
4. Suggestions to Wisconsin Nurserymen—A. D. Barnes, Waupaca.
5. Best Plan to Protect the Planters from the Tricks of Fraudulent Tree Agents—A. L. Hatch, Sturgeon Bay.
6. General Discussion.

Be sure and renew your membership, or become a member by paying \$1 to the Secretary.

Tuesday Afternoon, 1:30.

Subject—Small Fruits. Young Men's Session. Six six-minutes papers.

1. Planting and Care of Strawberries—M. S. Kellogg, Janesville.

2. Small Fruits at Sparta in 1899, and Prospects for Same in 1900—Jno. L. Herbst, Sparta.

3. Culture of Small Fruits in Connection with Other Farming—Frank Stark, Randolph.

4. Small Fruits at the Experiment Station in 1899, and outlook for 1900—Frederick Cranefield, Madison.

5. Best List of Small Fruits for the Wisconsin Family Garden—A. J. Edwards, Fort Atkinson.

6. A Beginner's Experience in Orchardng in Dane County—S. H. Marshall, Madison.

General discussion on the foregoing, and appointment of Committees.

Tuesday Evening, 7:30.

Forestry Session.

1. The subject of Forestry will be opened by B. S. Hoxie of Evansville, President of the State Forestry Association.

2. Forestry of the Old World as Compared with American Methods—Hon. S. M. Owen, Editor of Farm, Stock and Home, Minneapolis.

3. What Progress Have We Made in Forestry Legislation?—Ernest Bruncken, Secretary of State Forestry Association, Milwaukee.

4. In After Years—W. H. Holmes, Waupaca.
Discussions.

Wednesday Morning, 9:30.

Tree Session. Six-minutes papers.

1. Plum Growing from a Commercial Standpoint—Prof. E. S. Goff, Madison.

2. The Surprise Plum and its Origin—Paper by Martin Penning, Sleepy Eye, Minnesota.

3. Improvement in Native Plums—O. M. Lord, Minnesota City.

4. Report of Trial Orchard to date—A. J. Philips, West Salem.

5. What Benefits Have I Observed from Top Grafting Apple or Plum Trees—G. J. Kellogg, Lake Mills.

Wednesday Afternoon, 1:30.

General Subjects.

1. What We Can Do to Make Trees and Plants Live, Grow and Bear Fruit—A. L. Hatch, Sturgeon Bay.

2. Growing Vegetables for Market—Frank Yahnke, Winona, Minn.

3. The Farmers' Institute; its Relations to Horticulture—R. J. Coe, Fort Atkinson.

4. What I Know About Bees and Their Connection with Horticulture—O. W. Babcock, Omro.

5. My Impressions of Horticulture from What I Have Seen of the New Trial Orchard in Marathon County—Hon. A. L. Kreutzer, Wausau.

General Discussion.

Hand in your certificates if not already done.

By paying \$1 you can become an annual member; or paying \$5 makes you a life member.

Wednesday Evening, 7:30.

MEMORIAL.

J. C. Plumb. F. W. Loudon. M. A. Thayer. Peter M. Gideon.

Prayer.

Music.

Short Addresses Given by Prof. E. S. Goff, Geo. J. Kellogg, Pres. Whitford, Frank Yahnke, B. S. Hoxie, Hon. S. M. Owen, A. J. Philips.

Close by singing the Doxology and prayer.

Thursday Morning, 9:00.

1. Signing and Stamping Certificates.

2. President's Annual Address.
3. Report of Secretary.
4. Report of Treasurer.
5. Election of Officers.
6. Reports of Delegates to Other Societies in Minnesota, Iowa and Illinois.

Thursday Afternoon, 1:30.

1. Report of Delegates from Minnesota, Iowa and Illinois.
 2. Reports of Delegates from Local Societies—Grand Chute, Omro, Eureka, Appleton, Ripon, Sparta, Waupaca, and any others.
 3. What to Plant to Beautify Our School Grounds—Wm. Toole, Baraboo.
 4. The Desirability of Cultivating the Chrysanthemum—B. S. Hoxie, Evansville.
 5. Orcharding and Revision of the Apple List. General Discussion led by Hon. Charles Hirschinger of Baraboo.
 6. Unfinished Business.
- Be sure and call for Certificate before joint agent leaves.

Thursday Evening, 7:30.

1. Double Quartette—Short Course Students.
2. Paper by W. H. Hanchett, Sparta.
3. Snap-shots in Massachusetts by a Wisconsin School Girl—Leila T. Johnson, Baraboo.
4. A Selection by Willard Abbott.
5. A Selection by Mrs. N. Kronkheit, a short course student from Nebraska.
6. Horticulture in Maryland—H. C. Bell.
7. Double Quartette—Short Course Students.

A special session will be called by the President if deemed necessary for unfinished business on Friday morning.

EDITORIAL NOTES.

Come to the Annual Meeting. We want a chance to shake hands with our readers.

See program of Annual Meeting in this number of the Horticulturist. Notice that the meeting is shorter than usual, thus reducing hotel expenses. Railroad rates have also been reduced. If you have been planning to attend a meeting of the State Horticultural Society "sometime" now is your chance.

Read carefully the directions in the program about getting a certificate when you buy your railroad ticket. No certificate, no reduced rates.

R. C. Preston, a former "Short Course boy," asks to have the Wisconsin Horticulturist sent to him at the Osage Agency School in Pawhuska, Oklahoma. We hope to have an interesting account of Mr. Preston's work in a future number of the magazine.

All will regret that Mr. J. S. Stickney was compelled by ill health to decline a place on the program this winter.

The manly little boy whose picture appeared in the Horticulturist for April, 1898, recently lost his father. While driving a team over a dangerous railroad crossing he was run over and killed. The gentleman was a son of Mr. Henry Lyman, originator of Lyman's Prolific Crab.

The last chapter of "Hygiene in the Home" by Mrs. Vie H. Campbell reached the office too late for this month's issue. Look for it in the February No.

We are glad that several have responded to our request for "one new subscriber from each old subscriber." Will not more respond this month? Send the address and forty cents in postage stamps to

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Note—Frontispiece of Dec. issue of this Journal illustrates
our "NEW PROCESS" plates.

