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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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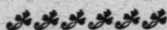
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THE WISCONSIN



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.

Through the kindness of A. W. Latham, secretary of the Minnesota State Horticultural Society, we are able to present to our readers for August a most excellent likeness of H. E. Van Deman, of Parksley, Va., who was at the head of the Pomological department at Washington during Secretary Rusk's administration. We are also able, from the same source, to present the cut and description of the Pearl goose berry as given in the Minnesota magazine for August. This new berry, originated by William Saunders, is highly spoken of by such horticulturists as Silas Wilson of Atlantic, Iowa, and the venerable T. T. Lyon of Michigan.

Have had several inquiries during the past month concerning care of grapes. Have not been able to obtain an article on that subject, but C. W. Sampson, an experienced grower of Minnesota, says: Vines need but little attention during August and September. Later on I will give his article as read at the Minnesota meeting and the discussion following the same.



WISCONSIN'S RESOURCES are attract-

ing 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.

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W. H. KILLEN,
Industrial Commis'r.

C. L. WELLINGTON,
Traffic Manager.

H. F. WHITCOMB,
General Manager.

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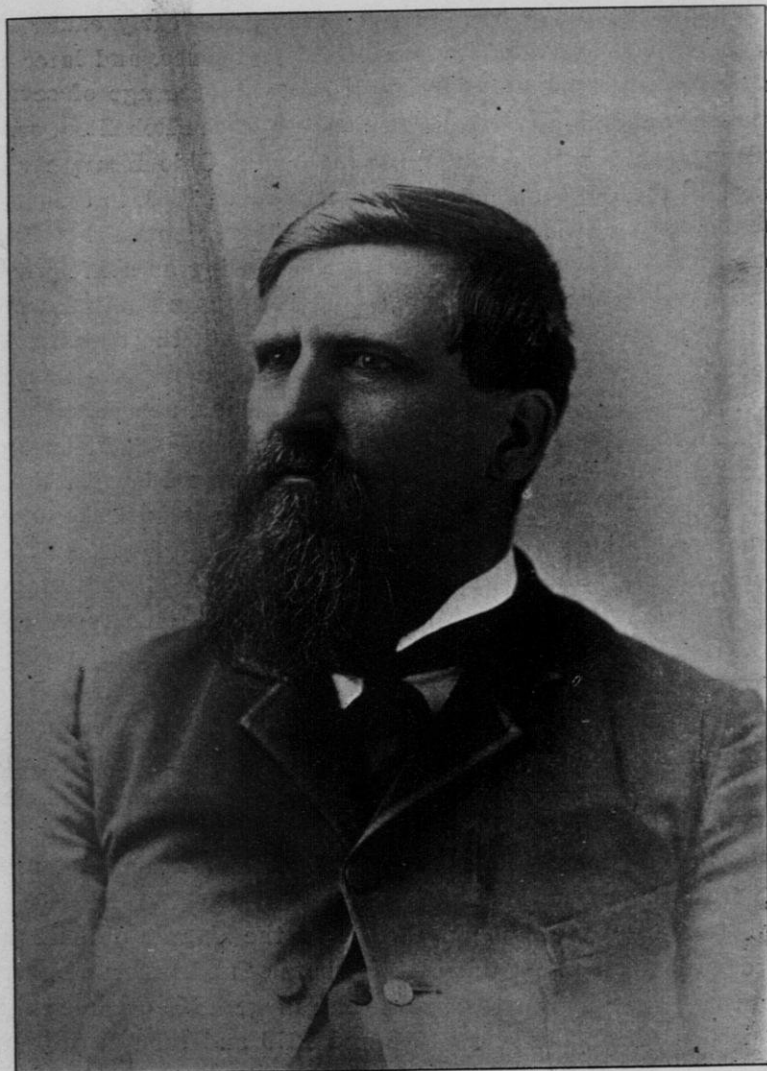
GEO. H. HEAFFORD,
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The Wisconsin Horticulturist.

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NO. 6.



H. L. VAN DEMAN, PARKSLEY, VA.

BIOGRAPHY.

H. E. Van Deman, Parksley, Va.

The subject of this sketch was born on a farm near Frankfort, Ross county, Ohio, Nov. 3, 1845. His early education was received in the public schools of that place, and later he attended an academy at South Salem. At the age of seventeen, he enlisted as a soldier in the War of the Rebellion, serving as a private in Company A, in the 1st Ohio Heavy Artillery, his term of service running from June 5, 1863, to the close of the war in 1865. After his discharge he resumed his studies, but soon decided to follow fruit growing as a life work, and gave up his plans of attending college and found work with a practical fruit grower, in order to get the training he needed under a competent preceptor. For a few months he worked on the famous fruit farm of J. Knox, near Pittsburg, Pa., and afterwards, during the years '67 and '68; under the personal supervision of the noted pomologist, the late Dr. John A. Warder, at North Bend, Ohio. By working with the other laborers in the orchards, vineyards and berry fields, and by pursuing his studies of botany and scientific literature at night and as occasion offered, something like the same end was reached as is now attained by those who take an agricultural course.

He spent the next two years helping a brother clear away a forest and planted a small fruit farm in the wilderness of northern Michigan. Later he went to Kansas and bought an eighty acre farm, which was afterwards increased to 240 acres, near Geneva, Allen county. A portion of this he planted to fruits of all suitable varieties.

After seven years of pioneer life on the Kansas prairies, he received a call to fill the chair of botany and practical horticulture in the Kansas Agricultural College. He occupied this position during the years 1878 and 1879 and then gave it up to renew active work on his farm.

Mr. Van Deman made it a practice to attend the various local, state, national and international meetings and fruit shows, either as member, exhibitor or awarding judge, as oc-

casian required. In 1885 he conceived the idea of the instituting a division of pomology in the United States Department of Agriculture, and after its creation in 1886 was called to be its chief. This required his removal from the farm to a residence in Washington, D. C. He planned and organized the pomological division up to Secretary Morton's administration of the Agricultural Department, which closed his connection therewith.

At present Mr. Van Deman is conducting a fruit farm at Parksley, Va. He is still in the prime of life, and with his qualifications and experience has yet his best years and his best work before him.

THE ROCKFORD PLUM.

The following instructive article on the Rockford plum and its value for the northwest was written for the Wisconsin Horticulturist by Prof. E. S. Goff of Madison. It will be of value to all who contemplate engaging in plum culture.

Of all the native plums that I have thus far tested, I have found none of which the quality pleases me so well as the Rockford, and since this variety has proved one of the most productive in our Experiment Station orchard I have been anxious to learn how far it is proving successful elsewhere. I have therefore corresponded with several parties in Iowa, Wisconsin and Minnesota, who have grown this plum, in order to learn to what extent we may safely recommend it for general planting.

Our orchard contains but a single tree of this plum. This was top-grafted on a Miner sprout in the spring of 1890 with scions kindly furnished by J. S. Harris of La Crescent, Minn. It bore its first crop in 1894, and in 1895, the year that will long be memorable for its severe drought, the Rockford was one of the few varieties in our orchard that matured a crop of fruit. The present season it hangs loaded with fruit, which will mature the latter part of the present month.

In size, the fruit is rather large; in form it is slightly ob-

long, truncate at base, with a distinct suture. The skin is purple, sometimes inclining to orange, often a little speckled, with a very thin bloom; the stem is half an inch long, slender, and set in a decided cavity; the flesh is rich yellow, almost free from the stone, sweet and rich and entirely without astringency or acidity; the stone is oval, bluntly pointed, and very obscurely margined.

Mr. C. G. Patten of Charles City, Ia., who introduced this plum, writes: (June 23, 1896) "Replying to yours of the 18th in reference to the Rockford plum: It is an early and persistent bearer. The plums are small unless properly thinned or the land thoroughly enriched. It is then fair size and really best in quality of all of the well known sorts. The fruit is too small to be popular unless well handled. It has a little tendency to scab, but if not allowed to over-bear the scab is diffused over the surface so that it is scarcely noticeable. When well grown in south Iowa it has been preferred to the Sanford and has sold for \$3.00 per bushel. It originated by accident in this county. I bought the original trees and disseminated it. I have it on sandy soil and on common prairie, and it does fully as well on the sandy land."

Mr. O. M. Lord of Minnesota City, Minn., who has grown the Rockford plum for several years, writes: (June 22, 1896) "I know nothing of the Rockford plum except upon my own grounds. Except some young ones I have only bearing trees that Mr. Patten sent me. One year the plums were large and fine but otherwise they have been small and rotted on the tree. He says this is the only case within his knowledge in which the plums have rotted and that the small size is due to over-bearing. I have top grafted some on stock known to be adapted to my soil, which is sandy, to see if I could get better results, but they have not yet borne. The trees hang full this year but I doubt their success on sandy soil."

J. S. Harris, of La Crescent, Minn., writes: (June 22, 1896) "So far, the Rockford plum has not fulfilled my expectations; is not so well adapted as De Soto or Cheney."

Dewain Cook of Windom, Minn., writes in substance: (July 6, 1896) "Two trees of Rockford plum set spring of 1890

have grown thriftily, but have thus far perfected no fruit. The fruit is very much injured by curculio, but the trees have been free from the disease known as 'plum pockets.' The soil is level black prairie, heavily manured and cultivated. I know nothing of the quality of the fruit, but think the tree too unproductive, and the plums too susceptible to injury from curculio and plum gouger to be profitable for market."

Clarence Wedge of Albert Lea, Minn., writes: (July 5, 1896) "The Rockford has proved with me a very prolific bearer of firm, meaty fruit, rather under the usual size of De Soto; very free from 'pockets;' not inclined to rot, but during each of the three years I have fruited it has been very much injured and disfigured by something like the scab, so much so that I have thought it less valuable than some other kinds. In quality it is very free from the usual defects of the *Americana*, but to my taste lacks sprightliness and character. Its remarkable bearing, firmness, and freedom from astringency of skin are its strong points."

Prof. J. L. Budd, of the Iowa Agricultural College, writes: (June 24, 1896) "The Rockford plum was picked up on the Cedar River by C. G. Patten of Charles City, Iowa. It is supposed to be a native variety but gives some evidence of accidental crossing with the European species. During the two past years it has borne no perfect fruit at Ames. It does not stand drouth well."

Prof. S. B. Green, of the Minnesota Experiment Station, writes: (July 14, 1896) "We have fruited the Rockford plum in a small way and think it a very good variety for table use though small in size. We had it on our open clay soil underlaid with gravel. I have seen it fruiting at several places in this state. It is hardy, a good bearer and a good grower."

R. J. Coe of Ft. Atkinson, Wis., writes: (July 4, 1896) "The Rockford plum with us promises to be very valuable. It is a little earlier than any other variety we have yet fruited, and while it is not very large it is wonderfully productive, so much so, that I have had to stake and tie up the trees this season to prevent breaking. It is of extra quality. Has never shown any sign of disease of any kind."

It would appear from the above testimony that the Rockford plum is less successful in Iowa and Minnesota than in southern Wisconsin, hence we cannot feel safe in recommending it for general planting. Its rather small size will doubtless injure it for market, but those of our members who desire a native plum of superior quality for desert use will do well to try this variety. At our experiment station it has not proved more subject to curculio than other varieties, and I have heard no complaint that it is injured anywhere by "plum pockets."

E. S. Goff.

NOTES FROM A. L. HATCH.

The following items and inquiries will be appreciated by our members as they come from our old time member and co-worker, A. L. Hatch, of Richland county, whose health we are glad to report is better. We hope these inquiries will draw out responses to be published in our August number:

First, Fire Blight.—Worst on Yellow Transparent, Alexander, Titonka, Enormous, Tallman Sweet, McMahan's Bloom, Switzer, Tetofski, and crab apple trees. Least on Duchess, Fameuse, Haas, Utter and McMahan.

Second. It is contagious, blowing from tree to tree by winds.

Third. Trees weakened in any way by lack of culture root pruning or plowing are more subject to it than others.

Fourth. Animal manure seems to induce it.

COMMENTS BY SECRETARY.

First. My orchard same as his, adding Hiberna, Swaree, Avista, Moscow and Bret No. 2 for blighters. For least blight same as his, adding Wolf River, N. W. Greening, Paten's Greening, Peerless, Wealthy, Mary, Gilbert, Malinda apples, and No. Twenty Martha, Minnesota Sweet Russet and Sylvan Sweet crabs.

Second. Yes, it is contagious, and on that account I have discarded entirely eight of the worst blighters above mentioned.

Third. Trees cultivated the least and neglected the most have least blight.

Fourth. I am quite inclined to think Mr. Hatch is right, but that is the only manure I have to use unless I buy commercial fertilizers. Bearing heavy crops and being in blossom at the time of the very hot and windy weather in May seems to cause it with me. This is confirmed in a letter just received from Peter Gideon; says, Blossoms burned or cooked on trees.

Mr. Hatch resumed—Raspberries, especially Ohio uncultivated, are giving best crop of best berries they ever gave in six years' fruiting. Heretofore they have set well, grown one-half and then nearly all blighted. Blighting was worse one rainy season like the present.

Query—Did culture heretofore given them injure roots so as to cause blight of fruit?

Inspection to day of one and one-half acres I have left uncultivated shows best crop now in sight ever grown on both red and black. What does it mean?

Grapes. Best crop on Janesville, Concord and some others that we have had for several years. Never knew them so far advanced at this season. Janesville are now about two-thirds grown. Many Concord half grown.

Query—Why don't Delaware bear this year?

Plums. I had to thin my Desoto that fruited heavily last year. Fruit now more than half grown. The best trees are on high ground, cultivated. Cheeney nor Rockford not bearing as heavy as Desoto. Large trees of Weaver have a fair crop, but many limbs that were good last year are now dead. Think I will pollard some of them next spring and bring tops lower. They are eighteen to twenty feet high. Query: How will that do? Hope some one will answer Mr. Hatch's queries for next month.—Sec.

BLIGHT.

By Geo. J. Kellogg, Janesville, Wis.

Eds. Wis. Horticulturist:—

To comply with your request to write on blight is quite a task. Blight is not so well known as it was supposed to be 50 years ago. Downing says caused by freezing of sap in fall and also small insects, "Scolytus pyri" and "Bostrichus bicaudatus."

We have carefully examined but find no work of either of these insects, but did find in a blighted pear twig a small borer which we do not find named. Perhaps the frozen sap theory is correct; but I believe it is apoplexy in the apple; an overflow of sap in the sultry days of May and June, perhaps electricity has more to do with its development than we imagine. Whatever it is, it is here to stay; now, how can we avoid it, or suffer least from its ravages? Avoid rich soil, poor locations, the varieties we know are inclined to blight, give free circulation of air from south to north, remove all windbreaks on either of these sides, give trees more room, prune out the blighted twigs just as soon as they show themselves and burn them.

Varieties with no blight are Duchess, Peerless, Glass Green, Wolf River, Fall and Flushing Spitzenburg, Haas, Plumb's Cider, N. W. Greening, Peach apple, Lowell, Duchess No. 2 and No. 3 of Springer, and the following crabs: Virginia, Martha, Shields, and Sweet Russet.

Second list, valuable and blight only in unfavorable locations—Hibernal, Wealthy, McMahon, Longfield and Fameuse.

Third list, worst of all—Price's Sweet, May Seek-no-further, Alexander, Mann, Lowland Raspberry, Beautiful Arcade, Long Arcade, Golden Russet, Talman Sweet, Green Streaked, Windsor Chief, Yellow Transparent, Antonovka and a large proportion of the Russians and Transcendent and Hyslop crabs.

There are many kinds that belong to neither class, such as Whitney, Newell, Eureka, Avista, Pewaukee, Tetofski, Red Wine, Lying Bill, Malinda, Good Peasant and a few other of

the Russians, that blight in some places and again are entirely free.

Location and soil have more to do with exemption than perhaps we are willing to admit. Best are high clay ridges with strong soil, with not too much humus, with free circulation of the May, June and July winds. We find less blight on the south side of our orchard than in the center, or north side, and Transcendent, which is inclined to blight badly, is so loaded with fruit this year it has not thought of blighting. This strengthens the idea of an overflow of sap as the cause rather than the frozen sap theory. Blight will follow the pruning knife; in pruning for blight do not prune for anything else.

COMMENTS BY SECRETARY.

I will not join issue with the writer on the subject of blight which has troubled me considerable this season, until he comes to the point where he says in the second list that Hiberna blights only in unfavorable places. With me it has blighted on a high location and clay soil very badly, and several reports from other places confirm this, but I feel as Prof. Hansen of the Dakota College says, its extreme hardiness, standing and bearing where Duchess fails makes it valuable for the extreme north. J. S. Harris reports some blight on his bearing Peerless trees. To the list of non-blighters Mr. Kellogg could safely add the Utter's Red, and with me top worked on Whitney the Haas and Malinda are bearing well and are free from blight. Mr. Kellogg's advice to avoid planting varieties that are inclined to blight is to my mind the best preventive that we can follow.

TREES AND PLANTS IN WOOD COUNTY

The following report of the condition of trees and plants in Wood county after the winter of 1895-6 was written and sent to the secretary by B. M. Vaughan, treasurer of the Wood County Horticultural Society. Mr. Vaughan is a lawyer, but takes great interest in the prosperity and usefulness of their local society. He has collected and is still collecting for

the use of their society quite an extensive library of valuable works and publications on horticulture:

I presume it is in order to report how fruits came through last winter and spring, and how they now look.

Of our two hundred apple trees set in the spring of 1895 all but forty are dead. The trees, when set, looked healthy and vigorous and all but seven started well.

The soil on which they were set was a rich, well drained, deep sandy loam, with clay sub-soil at depth of five to eight feet. Water always stands above this clay to a depth of one to two feet, but nowhere stands within four feet of the surface of the ground.

The trees were cultivated during the season. Potatoes, beans and squash were grown among them. Last fall most of the trees ripened their wood in fairly good condition but did not look as thrifty as I desired. Microscopic examination showed that the cells of the twigs were not as well filled with starch as I thought they should be—were not as well filled as all apple twigs of healthy trees that I had examined in previous years, had been.

This spring the greater part of these trees started new leaves. When the leaves were about $\frac{1}{4}$ to $\frac{1}{2}$ inch long we had a cold night (with frost in some locations) and in a day or two most of these young leaves were dead. Some of the most vigorous looking trees at once grew new leaves and now look well, but most of the trees either failed to start new leaves at all or the new leaves, once started, did not grow to normal size, and these are now all dead but two.

I dug several of these dead and dying trees and found:

1st—That some had roots dead from the graft union down.

2nd—That others had apparently healthy roots and bark but had started no new growth of rootlets, and,

3rd—That others had root, bark and top dead and shriveled.

Quite as large a per cent. of the hardy varieties died as of the less hardy ones. My Minnetonkas all died, also some Duchess and Transcendents.

My tame plums acted in the same manner. Four of the twenty are alive. Ostheim and Early Richmond cherries on

the same soil and location came through the winter in good condition and now look well.

Red raspberries, although well covered with earth, all died. Black raspberries by the side of them, treated in the same way, came through in good condition, fruited fairly well and now look vigorous.

THE PEARL GOOSEBERRY.

The Pearl is a gooseberry grown from seed of the Houghton, crossed with the Ashton Seedling, by Prof. William Saunders, and worthy of special notice because, first, of its good quality; second, its size; third, its productiveness; fourth, its freedom from mildew.

Now, with reference to these points, I will state the result of my observations. The quality was good, very much like the Downing in this respect, as well as in color marking; but in size it averaged nearly double that berry, and that in spite of the prodigious crop under which the bushes were laden. There was a row of some sixty-five bushes one year planted, and most of them were literally bent to the ground with heaps of fruit. The average was eight berries per inch of wood, and on one bush we estimated there must have been 2,500 berries. We have had great loads upon the Smith, the Downing and others, on our own grounds, but we have not seen the quantity of fruit upon the bushes of any variety to equal that upon these bushes of the Pearl. Should this productiveness prove constant, the berry will be of great value for the market. With regard to the mildew, all we can say is what we saw, viz.: it was entirely free from it. One bush stood next a Whitesmith, and, while the berries of that kind were covered with mildew and utterly worthless, no trace of the fungus could be found upon the Pearl.

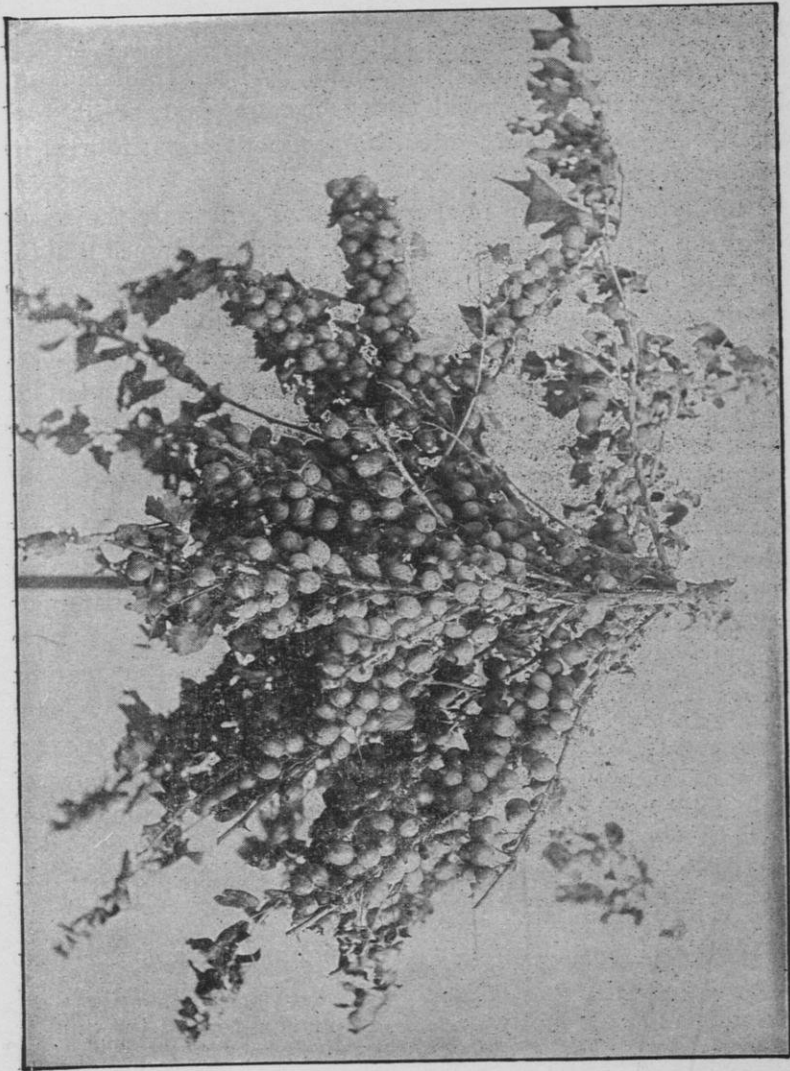
Silas Wilson, of Atlantic, Iowa, a well known authority on horticulture in his state, says:

"The Pearl gooseberry is a great sight. There could be no more berries on the stem without crowding off the leaves. It is wonderfully productive, and I am pleased to find the quality

so good. The best gooseberry I ever saw; nearly sweet. There is no question about its future."

T. T. Lyon, of the Michigan Agricultural Experiment Station, South Haven, Michigan, in a letter to the originator, says:

"I have been testing the Pearl gooseberry here for several years; in my forthcoming report (now ready for the press) I grade it for vigor and productiveness ten and for quality nine, upon the scale of one to ten."—Canadian Horticulturist.



THE PEARL GOOSEBERRY.

A DELAWARE VINEYARD.

As before stated, I solicited some contributions on grapes in answer to several inquiries on that subject. Not receiving any I have concluded to publish the following article read at the Minnesota meeting by C. W. Sampson:

In order to have a successful Delaware vineyard, you must, in the first place, have the right kind of soil and the right kind of location. I consider the location the most important in the raising of the Delaware grape. In this state you should locate your vineyard on or near a lake or other body of water. The reason for this is that the water in the lake will remain warm while the atmosphere is cold enough to freeze, and by locating the vineyard on the south or east of the lake the cold north wind will blow this warm vapor over your vineyard and protect it from the frost, both in late spring and early fall. The severe frosts we had this last spring did not injure my vines in the least.

I consider the best soil for the Delaware grape in this state to be a sandy loam, with a heavy clay sub-soil containing a considerable amount of lime. In preparing the ground for a vineyard, I would plow very deep and pulverize well. Then I would mark off the ground and plant the vines 8x8 feet, always running the rows crosswise of the hill to prevent washing. In setting the vines, I use a spade to make the holes, which are about one foot deep, one end slanting. I prefer good, strong one year vines, and I place them in a slanting position in the hole, so that the vine will easily lay to the ground. I train them in that way, and we have no difficulty in laying them down and covering with dirt in the fall. The first year I set a pole about six feet high, which I allow the vine to run up. I allow only one bud to grow. In the fall I cut back to three buds and cover well with dirt, and if the ground has been kept clean from weeds I put a small forkful of straw or hay over the roots to keep them from killing the first winter. This I consider very important.

The second year I put in my posts and at least one wire, which I train the vines along, allowing only one vine to grow.

In the fall I have from two to three feet of vine, and each year lengthen out the vine according as the vine has ripened its wood. The third year we should have a good strong vine eight feet long and capable of producing eight or ten pounds of grapes. I use three wires for a trellis, and tie the vine to the bottom wire, training the new shoots upright, about four inches apart. When the shoots have grown six inches above the top wire, I pinch the end off and keep doing so until August first, when I let them grow. I also pull out any laterals that may grow out as far up as the grapes grow. This is to prevent too much wood and to keep the clusters from being tangled. When the vines have reached maturity, I allow them to bear from ten to fifteen pounds of grapes, for which I find a ready market in our Twin Cities at five cents per pound. A good Delaware vineyard will clear a net profit of about \$100 per acre.

I find all the work connected with a vineyard very easy and pleasant, and think I would prefer raising grapes to small fruit. I consider spraying with the Bordeaux mixture very important to prevent mildew and keep the vines in a healthy condition. To destroy the leaf-hopper, I use fine airslaked lime, and I sprinkle it among the vines when the dew is on early in the morning. I find this the best remedy, and I have tried a good many.

D SCUSSION.

Mr. A. H. Brackett: What success did you have with the air-slaked lime in driving away the leaf-hoppers?

Mr. Sampson: I had the best success with it; it certainly drives them away. The dust seems to choke them and drive them away.

Pres. Underwood: Are there any other remarks to be made on this subject of grapes?

Mr. Wyman Elliot: Which is of the most value as between the Concord and Delaware in this climate so far as profit is concerned?

Mr. Sampson: In my experience, I found the Delaware the more profitable. The Delaware is not shipped to our market to any extent, while the Concord is shipped here by the car-

load from New York and Illinois and sells very cheap. A few years ago we could get very good prices, but now we can get very little more than eastern grapes are sold for.

Mr. C. Wedge: What do you get for Delawares?

Mr. Sampson: They average us about five cents per pound.

Mr. G. J. Kellogg: You get the price pretty low.

Mr. Sampson: Yes, I put it pretty low.

Secy. Latham: There is another reason why the Delaware is more profitable; it is not so much trouble to take care of them in the summer. They have a tendency of clinging to each other, and with a very little tying they cling to each other, while the Concords have to be tied every time. In pruning the vines there is almost the same difference. The Delaware can be pruned to spurs, and it is almost certain that the buds are fruit buds, while if the Concord were similarly pruned you would not get much fruit.

Mr. C. L. Smith: You do not have to haul so many grapes to market.

Mr. Cutts: Has anyone had much experience with the renewal system? A vine when it becomes old is very hard to lay down.

Mr. Sampson: I find it is a very good plan, where you can, to get a shoot right from the root. The second year you will find it will bear nearly as much as the old vine.

Mr. Cutts: The trouble seems to be that the old vines will not put out any shoots.

Mr. Smith: Girdle the old vines.

Secy. Latham: I have never had much trouble. Almost always you can get a cane pretty well back near the ground, near enough for all practical purposes. Renewing is very necessary if you have many vacant places on the old vine, and in renewing you can go back and cover all the vacant places. If I had a vine in bad shape and no shoots coming out from near the ground, I think I should try girdling it.

Mr. Smith: Just put a wire around it, that will answer the purpose.

Mr. Cutts: Mr. Sampson spoke about Delawares being planted eight feet apart each way. A good many recommend to plant them six feet each way.

Secy. Latham: There is a great deal of room wasted in a vineyard. My oldest vineyard is planted in rows six feet apart and the vines eight feet apart in the row. I never had any vineyard bear any more, and it continues to bear. The exhibit of Mr. Loudon, in the other room, is taken from that vineyard. The vines do not seem to be too near. The only difficulty is there is not earth enough to cover them. My latest experience is in planting them seven feet apart each way. A vine seven feet long is also easier to handle.

FROM OUR NEIGHBORS.

C. G. Patten, a former Wisconsin nurseryman and fruit grower, now of Charles City, Iowa, writes under date of July 15th, '96: Blight is the worst here I have ever known it; bad enough last year in nursery and orchard, but worse in this region than last. Nearly all varieties have suffered more or less. My Greening is about as exempt from ravages as is the Duchess.

Mr. P. V. Collins, of the Northwestern Agriculturist of Minneapolis, writes under date of August 6, '96: A. J. Philips, Editor and Manager of Wisconsin Horticulturist—Am much pleased with the cut of the cherry orchard of A. D. Barnes as it appeared in your July issue, and would like very much to secure it for use in our paper. Will give it a good position and publish description of same. The plate has been forwarded.

From the report of the veteran horticulturist of Minnesota, Mr. J. S. Harris, "at their annual meeting, I find the following items relative to Wisconsin fruits:

"At the Wisconsin State Fair there was a remarkably fine collection of Oldenberg seedlings, seven varieties, produced by Joseph Zettel, of Sturgeon Bay, Wis. So fine and valuable a collection from that one variety has never before been produced by one man. The prospect for raising an abundance of the finest apples here in the cold north is growing brighter,

and seedlings of the Russians and crosses with our best and hardiest American varieties are destined in the near future to furnish us the best list of apples known to the world."

The Loudon Raspberry.—A brief account of our visit to the original plantations of this now extensively advertised new fruit at Mr. Loudon's place, Janesville, Wis., was given on page 266 of the magazine for August under the head of "Notes from the Seedling Fruit Committee." We continue of the opinion that it will prove to be the best red raspberry ever up to this time originated, and it should as soon as possible be tested in every part of our state.

The Columbian raspberry is also greatly praised by all who have had an opportunity to try it, but we have not seen enough of it to speak advisedly at this time.

A horticultural writer in a Dakota paper objects to lath protectors because jack rabbits can reach three or more feet high and bite off limbs, but recommends trees headed only two feet high. What a feast for the jacks! He also says borers can harbor under the lath, says he thinks Dakota is not a good climate for the codling moth, as he has never seen a wormy apple in his orchard. I thought perhaps he was like the man who when he read that a certain bank had failed, ran home a mile to see if he had any bills on it, and on reaching his abode found he had no bills on that bank or any other. We in Wisconsin think protectors are all right, or Parsons & Loope would not use 4,000, and L. G. Kellogg & Co. would not ship a car load of lath for protectors and build a machine to make them. Moral—If a tree is worth planting it is worth protecting.

People in southwestern Minnesota are complaining of fruit tree swindlers selling southern trees. They bled one German farmer to the tune of \$80.00, and to show that they are not respecters of persons they gave his American neighbor a similar dose. They gave others the same to the tune of \$10 to \$20 apiece. They contract to do the planting, but at that time they will be scarce. There is plenty of horticultural

reading and there is no excuse for farmers being swindled. Read and let those fellows alone and plant only home grown trees.

Jacob Manning, of Reading, Mass., says he has not missed a meeting of the American Pomological Society since 1860—a record to be proud of, that no other man in America has. He has five sons, three of whom are instructors in landscape gardening. Thomas Meehan, one of the oldest members, is still living, and has four or five sons actively engaged in horticultural pursuits.

FROM IOWA.

From Wauke, Iowa, report comes of a good crop of peaches. This season foreign plums did better than natives at Corning. Fruit prospects good. More Russian apples in experimental orchard at Ames than there was last year. Full crop strawberries, half crop apples, one-third crop cherries, blackberries and raspberries at Storm Lake. Red raspberries a failure; apple crop good. Wolf, De Soto, Forest Rose and Rolingstone plums full at Dubuque. One writer says the sparse setting of runners, short growth of canes, low vitality of bushes, impress the fact that small fruits can only be grown profitably when moisture is normal, but where ground is thoroughly subsoiled one or two seasons previous to planting and high culture given during drouth, partial crops that would pay could be secured. During drouth small fruits did fairly well in shaded locations near or among orchard trees. These facts suggest planting part of the crop among young orchard trees and a part in open ground. In orchard they enjoy some shade which they usually have in their native places. As a rule small fruits need a cool, moist location. Some seasons the north and some the south slopes do best, so if you have them plant on both. C. Steinman wants a Russian apple that will keep till May, hardy as Duchess, not subject to blight, showy as Ben Davis, that will bear good crops eight years from graft, and if he had said as good in quality

as Jonathan, he would have had near perfection. This is asking a great deal, and I hope he will find it. A. F. Collman, who is good horticultural authority, believes the coming apple will be produced by crossing the best American apples with the best European varieties.

FROM MICHIGAN.

At mid-summer meeting Prof. Taft of agricultural college advocated the using of arsenic instead of paris green for spraying, with the condition that it must be properly applied. Mr. Graham thought all fruits were being planted to excess. Prof. Wheeler of the agricultural college said that nourishment for the tree should not be placed near the trunk which is sound. Prof. Taft said the North Star currant is the best and most promising variety, as the borer does not trouble it. E. C. Reed, secretary of society, said that the gooseberry crop pays poorly because the berries are forced on the market too early; thinks all fruits are liable to be marketed too early. Stephen Cook of Benton Harbor favored growing cherries, and urges the using of the Mahaleb stock, in which opinion he was backed by Prof. Taft and Mr. Hamilton. Warns people not to plant near woods or old fence rows. Near close of meeting they were favored by the presence of Prof. H. E. Van Deman, of Virginia, who said he had no fears of the markets being glutted with fine fruit. Urged using better packages and even wrapping the fruit as the California growers do, as it not only helps the appearance but retains the flavor of it. He urged thinning severely and cultivating thoroughly in defiance of droughts, and thereby produce the highest grade of fruit. Mr. Dunlap spoke favorably of cold storage, especially for apples, and cited instances when apples were bought at seventy cents a barrel and after being in storage for a few months sold for six dollars. Capt. Augustine is of the opinion that not half enough trees are being planted to keep pace with increase of population. At this meeting some favored mixed planting, but the majority favored small fruits and trees in lots by themselves.

RENOVATING THE OLD STRAWBERRY BED.

As soon as the bed is done fruiting, mow with an ordinary mowing machine, and allow the plants to lie for three or four days, until the leaves become thoroughly dry. Stack up the straw or mulch between the rows, being careful not to scatter it too heavily on the rows. When all is well dried, and a good breeze is blowing from the proper quarter, set it on fire. The fire must run rapidly over the patch, so as not to kill the roots of the plants. As soon as it has burned over, begin cultivating between the rows. Narrow these rows down to one foot in width. After cultivating, thoroughly drag the field. Loosen up the soil about the plants and level the ground. After this, cultivate once a week, the same as plants set in the spring. A top-dressing of well rotted manure is also very beneficial at this season of the year, as it promotes a good healthy growth of vines for the next season's crop. Remember to cultivate at once after burning, as the ashes are still on the ground and will aid beneficially in fertilizing the next year's crop. If neglected for some days, the ashes may be blown off.—Allan D. Manwell.

AN EASY WAY TO IRRIGATE.

I am a believer in shallow and continuous cultivation for all hoed crops. In dry weather there is no other way in which we can lock up so much moisture until the roots are able to appropriate it. Keep off the ground when it is wet, but just as soon as it is in condition to work, cultivate with the best tool you have at hand. Last spring I purchased a weeder No. 4, with curved teeth, and I must say that I never used a tool that pleased me so much, or that saved so much labor. My strawberries were taken care of with this tool up to July with only one hand hoeing, and I never had strawberry fields so free from weeds. I haven't felt the need of irrigation on strawberry fields the first season, as by shallow cultivation in dry times the plants can be kept growing.—(J. C. Eddy.)

SUMMER CARE OF THE CHRYSANTHEMUM.

Amy J. Brown (Orange Judd Farmer, Illinois).

When the shoots of the young plants have attained a height of six to eight inches nip off the tip. It will bear no malice and will shortly send out three or four new shoots from the top. When these in turn are four or five inches long, nip again. This done about four times should give a strong, stocky plant, quite unlike the tall, scraggly growth of the unwatched chrysanthemum.

Do not pinch after August 1 except to take off weak or superfluous shoots, still keeping the bush symmetrical. A liberal addition of bone dust will help matters now, and if you can get some dried and pulverized sheep manure to be used as a liquid fertilizer after the buds begin to form, you will have done all required in that line. Make the tea weak and use moderately. The chrysanthemum has an almost unlimited capacity for water if the drainage is perfect. In drouth they should have all they can drink and in intense heat the shade of even an old sheet, stretched above them, will be gratefully rewarded. In damp, hot weather, especially if crowded, a fine mildew or mealiness sometimes appears on the leaves. Flour of sulphur, applied promptly and liberally, will restore their rank greenness. Dust in the morning by handfuls. Again, all at once and nothing first, a tiny black aphid may cover the tips of the shoots. For a dozen plants Persian insect powder will rout them; 1-4 of a pound gives a cheap victory, but for a large collection tobacco tea, or kerosene emulsion, made weak at first to test, will be preferable. Whale oil soap-suds, too, are valuable.

SECRETARY'S NOTES.

Prof Goff has been spending his well earned vacation at the new fruit farm near Sturgeon Bay.

The great yield of early apples in the western states has flooded the markets to such an extent that prices have ruled

very low. Duchess from Missouri to Minnesota have been freely offered. Crabs, though plenty, have brought fair prices. The later apples such as McMahon, Wealthy, Utter, Fameuse and Haas will probably do better, but in sympathy with the times and the bountiful crop we can not look for very high prices, and it makes the necessity of a cold storage plant all the more apparent.

State Fair Entries.—Be sure and begin to save your early apples so as to make a good exhibit. Bring what you have. Make your entries before the Fair to avoid the rush. Send to T. J. Fleming, Madison, Wis., for a premium list containing rules. Order the number of plates you will need of the superintendent before the Fair and they will be ready. If you have anything new or nice be sure and bring it. Your exhibit will be set up and cared for if sent to superintendent, care of secretary, to Fair grounds but we much prefer all to bring and set up their own exhibits. The fruit and flower shows promise to be very large at Milwaukee.

About the tenth of this month I had a pleasant but unexpected visit from Prof. N. E. Hansen of the South Dakota Agricultural College. Though a young man he has had quite a wide range of experience, having spent last season investigating the horticulture of the old world, where he saw and examined the famous so-called Bismark apple which has been sold to western people at fabulous prices. Prof. Hansen's visit was mainly to investigate top working as practiced by the writer, and examine the results of the same for fifteen years' duration. He took careful notes and seemed interested and pleased with many things he saw. The growth made in three years by the Cook apple of Oconto and the Utter surprised him. He saw the Utter bearing here on seven different stocks, but the heaviest on the Virginia. I am indebted to him for valuable information regarding the budding of the plum and the apple. He was quite interested in examining my new Duchess tree, which I will refer to later on. I have also enjoyed a visit from Mr. J. J. Menn, a member of our society, and a very successful apple grower of Monroe county. He reports some blight and a large yield. He has a fine location on a ridge near Norwalk.

DUCHESS VS. PEERLESS.

At the first session of the summer meeting our report made Mr. G. J. Kellogg say that the Peerless was the peer of the Duchess in nursery and in orchard. While no doubt this may be true in nursery, the Peerless will have to produce many thousands of bushels of apples in Wisconsin and Minnesota before it can justly be called the peer of the good old Duchess in orchard. I believe this is stronger than Mr. Kellogg intended to say it, and I speak of it because it would mislead planters until the Peerless has had a more extensive trial.

Trial orchard For several reasons I have had a growin interest in this new adventure, at the close of the summer meeting I went to Wausau and inspected every tree. Found nearly all growing, and the failures so far cause by previous drouth. Affected trees will be replaed next spring by the parties who furnished them. As a rule fall dug trees are making the best growth. N. W. Greening is making a vigorous start. Patton's Greening and Okabena both seem satisfied with their new home, though they came from neighboring states and are growing well. One Superior plum sent by the Jewell Nursery Company I found by actual measurement had made an aggregate growth of eighty-seven inches. Of course I trimmed some of it off but is very vigorous. As I have stated in another place, owing to effects seen in other orchards caused by weak roots or loss of vitality, the effects of the past season's drouths, I cut back and trimmed closer at this visit than I had previously done, to give the struggling roots a chance to push the top and as the season so far has been favorable I have faith they will do it. The neighbors are watching this new orchard with anxiety.

Budding. I see some horticultural writers are recommending that it be done in June, owing to the very early season. I am well aware that the buds are two to three weeks in advance of ordinary seasons with me, still I am of the opinion that it is best to wait as long as the stocks are growing vigorously and bark opens freely, for the reason that early buds

are quite liable to start in the fall, and while that might do farther south where those papers circulate it is about fatal in the cold north for the bud to make any growth in fall, at least that is my experience. I have buds and grafts both that have made fifteen to twenty inches' growth already this season, which perhaps is not more remarkable than to know that many of our farmers had their haying done and had field corn in tassel before the fourth of July, which is unusual for this climate.

Several inquiries have been sent to me regarding the Okabena apple. Shall endeavor to have a description of it prepared for the September magazine.

The crop of apples in Minnesota is very large, some orchards reporting as high as two thousand bushels.

Mr. C. W. Sampson of Eureka, Minn., writes: My Loudon plants all grew and are the finest lot of new set plants I ever saw. Shall increase the plantation until I have five acres of them fruiting.

A Day in the Orchard.—July 28th I enjoyed a visit from Mr. J. S. Harris of La Crescent, Minnesota, a pioneer horticulturist and fruit grower of that state who has probably done more in an experimental way in bringing out, looking up and testing the new fruits of the northwest than any man in that state. For a number of years he has served their society as committee on seedling fruits, and never fails to make an interesting and instructive report. After alighting from the carriage and leaving our coats in the house the first tree we visited was the Dominion Winter, which is bearing. It is a hardy tree obtained from F. W. Chappell. Winter fruit, but rather small; it originated in Canada. It was well spoken of at their winter meeting in 1886, and since that time but little has been said about it. Next we visited a top worked tree of the Peerless. It is bearing a few nice apples and is entirely free from blight. Next we visited the trees of the Dudley Winter I set last spring. Mine as well as those set in the trial orchard are all growing fine; in fact, we found some of mine with three feet of new growth, which shows vigor in

first season's planting, but when I said the originator, Mr. Dudley of Maine, says of this tree, hardier than Duchess, fruit finer in appearance, better in quality and keeps six weeks longer than the Wealthy, Mr. Harris shook his head in a doubting way and made another examination of the leaves, which he pronounced good. Then we left it, and will report further after it weathers some of our Wisconsin winters. Next we visited an Utter's Red bearing a heavy crop top worked on a McMahon. Our next stopping place was at my new Duchess tree, which Prof. Goff and Prof. Hansen both claim must be a Duchess sport. I discovered it last season when it fruited for the first time, the crop being one peck. This year the crop is one-half bushel. Its peculiarities are these: The cions I cut from my own Duchess trees. Set the root grafts made by myself, and when the trees were dug and transplanted or sold I left at intervals in the row fourteen of the trees, and this is one of them. It is a Duchess tree to all appearance in foliage and bark. I thought last season it was four weeks later than the Duchess beside it but this season we conclude on comparing it with the nearest Duchess, ten feet away, that it is from two to three weeks later. When ripe it is a deep red, and when we examined it we found it very firm. The fruit is still on the tree though its neighbors are mostly gone. Its size and beautiful red color bring words of admiration from all who see it. I have sent specimens to Prof. Goff and to Mr. Harris, and Prof. Hansen took some with him. I have put in a number of the buds this fall and shall save all the cions for my own use in the spring, as I am quite interested in its future and shall wait anxiously for the decision of those who have the fruit on probation. We next stopped to see a Malinda top worked tree in bearing three years from the grafting. Next we visited the Utter, bearing quite heavy, top worked on Transcendent. Saw Northwestern Greening top worked on both Whitney and the Peach apple, bearing and entirely free from blight. Mr. Harris is quite interested in this Wisconsin variety. Our next examination was two trees of the Rose or Duchess No. 2 from Waupaca county. Uncle Springer is the foster father of this tree. The tree is hardier

than its parent, the Duchess. The fruit is better in quality and very handsome; foliage excellent, but three days after Mr. Harris was here it began to drop badly, which is much against its being strongly recommended. The Cook apple from Oconto on Virginia next attracted our attention. Its wonderful growth is a sight—eight to nine feet in three years—but the fruit is too early to make it valuable. It is evidently a seedling of the Tetofski, which it resembles in leaf and fruit. Next we visited bearing trees of the Wolf River and Wisconsin Spy. Both are somewhat tardy. The next trees to which I called my visitor's attention were two of the Thompson seedlings from Iowa and the Okabena, all bearing. The latter Mr. Harris thinks very favorably of as it is a good tree, a handsome apple and keeps quite a while longer than the Duchess. He thinks it a profitable apple to plant and places it in the list of the six best for planting for profit. Next we saw the Utter bearing heavy, and fruit fine on both the Peach apple tree and on the Whitney No. Twenty. To give a description of all the young top worked trees we examined would take too much time. Mr. Harris was much pleased with a new top of Mr. Zettle's Sevastopol which I have persuaded to grow on a Virginia. He also admired my row of the Loudon raspberries, and was surprised at the wonderful growth of my Columbians, this year's growth as large as a broom handle, and before stopping to rest we visited some top worked trees of the Haas which was done in nursery by Uncle Wilcox of La Crosse. They are large and bearing heavy, while others set at same time of same variety on their own roots are dead and gone. Last but not by any means least we visited my first top worked tree of Whitney No. Twenty on a Transcendent stock. It is from twenty-five to thirty feet high and is carrying about fifteen bushels of apples. The next tree visited, which Mr. Harris said amply repaid him for his trouble in coming, and with which I will endeavor to close this narrative, was my first top worked tree on the Virginia crab. It is bearing its tenth crop, consisting of about a barrel of McMahan over a barrel of Wolf River and about three barrels of Utter's Red. It is a sight but none of the limbs have yet

broken. I intended saying that my Avista is bearing a fair crop but blighting more than I like, and the Eureka trees are bearing quite heavy and scarcely any blight. Mr. Harris said he had three varieties I ought to try, to-wit: the Shockley, which is bearing heavy with him and not blighting; the Daisy, that is bearing well and blighting a little. and the Sops of Wine, a beautiful apple he had brought with him, and thinking his judgment good I told him to send the buds, which he did, and they are now growing and my already too large list is increased a little.

KEEP PLANTING.

A garden is valuable in proportion to what it yields, but not one in ten produces one-fourth of what it ought to. A succession of planting should be kept up until the first of September. Beets, radishes, beans and corn should be planted weekly and in small quantities. This will keep the ground all occupied, and the garden will present as attractive an appearance in September as it did in July. There should never be idle ground in the garden. Wherever there is room to plant anything, plant it. Radishes do not do well in the extreme hot weather, but a short row of beans may be planted as often as once a week. If there is nothing else to occupy the ground, sow spinach. If this is not wanted for the table, it serves an excellent purpose as a fertilizer. By all means keep the ground well covered.

A LONG REST FOR CACTI.

Do not be in too great haste to bring these forward. The longer they are kept dust-dry, as a general rule, the better will be the bloom. To bring them out too early may be to hurry them into blossoming before they are ready. And a too eager hand with the water, when the buds are first swelling, may cause them to blast, even though Cacti are said to like any amount when blooming.

SEASON'S NOTES FROM RACINE COUNTY.

By W. J. Moyle—Written July 25th, 1896.

One of the finest crops of the apple ever known now hangs on the trees of Racine county. Red Astrachan and Tetofsky

No spraying is done yet this season. The fruit is remarkably free from insects, with no scab to speak of. Thousands of bushels of No. 1 fall and winter apples will be made into cider here this fall as the farmers never make a practice of properly harvesting the apples for the market.

A hot week the first of April caused a large per cent. of the pear blossoms to fall, still at present the trees are dotted over with beautiful specimens.

Strawberries were a paying crop and sold readily at from 80 cents to \$1.40 a crate. In the vicinity of Racine, however, early spring droughts were the cause of a very poor stand of plants set out for '97.

Gooseberries were a good crop, many bushes of the Houghton yielding a 16-quart crate which found a home market at 80 cents.

Raspberries were never better. Ancient Briton blackberries are now lying on the ground, so loaded are they with beautiful specimens. Snyders also hang full, but too sour. Minnewaska no good; too tender.

Of the grapes Concord, Delaware, Diamond, Pocklington, Moor's Early, Champion, Lindly, Massasoit and Missouri Ressler hang full as they can hold, while Moyer, Salem, Aganam, Martha Wilder and Vergennies make a good showing. I find Empire State, Niagara and Vergennies too tender in bud and vine, as even when laid down and covered with earth they winter kill.

The curculio took all the tame plums, but in the wild thickets there is a great crop.

If you have a good home market do not seek a market that requires shipment of fruit, unless you are sure you have something fancy and can find the customer who is willing to pay for it.

The Wisconsin Horticulturist.

MRS. VIE H. CAMPBELL, EDITOR.

A BIT OF WILD WOOD.

Written for the Wisconsin Horticulturist by B. S. Hoxie.

Yes, why not a bit of wild wood near every farm house? Is land so dear that the owner cannot afford it, or is there no aesthetic or utilitarian use for such a piece of extravagance and waste of land?

We frequently see articles favoring wind-breaks around farm buildings, but these are stiff rows of trees, one, two or three rows perhaps to break the force of our prevailing western winds. Now this is all right and I wish there were more of these wind-breaks in this western country, but around how many homes in the country do you ever see a bit of wild wood?

To one who looks on the wide expanse of prairie and field as the place to coin the dollars in corn and grain, there may perhaps be no beauty in living trees and climbing vines; and there are some even who see no beauty in flowers until a dear friend dies, and then sometimes they are the most lavish with floral offerings.

For my wild wood I do not ask for a large plat of ground, because I want it near the house. One-fourth of an acre, or even less, is better than nothing, and in planting this out I would have no set rule, but would put in every kind of tree, bush or shrub about as nature would plant them, for I have seen in Wisconsin more than twenty different varieties of trees and shrubs growing on less than one acre, besides almost an innumerable number of little plants. Collect all the varieties you can from your nearest wood lots and make the beginning with those varieties of larger growth, that need the sunlight and air, that can stand the storms and winds, and when these are established then do the other planting. The work, you will see, does not all want to be done in one year, and it is best that it should not be; get it started and

the birds will help with some of the wild fruit, such as cherries, raspberries, blackberries, etc. When this work is once commenced it is surprising how many varieties of trees, shrubs, wild plants and flowers you will discover in the course of a year or two in your travels in your own neighborhood, or county, and surely your friends in other parts of the state will be glad to contribute of what is growing in their vicinity.

We have, here in the west, a great many wild plants, flowers and shrubs and with these varieties there is an almost constant bloom from early spring-time until late in the autumn.

Many of these wild flowers are fast disappearing, why not rescue some of them in your wildwood?

Some one has said, "A home without children is only half a home," and to me a home without trees, plants and flowers would be a desolate home indeed.

I know of one man who has near his buildings a grove of three or four acres, mainly of evergreens with a few larch and other deciduous trees, which was planted out more than twenty years ago, and is now quite a forest, but no amount of money could buy it from the farm while he lives.

The late Geo. P. Peffer, of Pewaukee, Wisconsin, that man who so loved nature and liked to study her varying moods, had close to his house, or rather at one corner of the orchard, a small grove of evergreens, and I have often heard him speak of it as a home for the birds, and of one particular time when an untimely snow storm compelled thousands of them to seek shelter in its hidden recesses. Perhaps the bird mind warbled its thanks to the kind benefactor.

Can you think of any place where the small children would so delight to make their play-houses as under the shade of some tree which skirted this bit of wild wood? And as they grow older how they will study to improve the grounds by making mounds of stones and grottoes where ferns and climbing vines grow as nature would have them. And then the curious shapes which can be formed in time by some of these trees and wild vines will ever be a source of delight to the grown up boy and girl. You see this bit of wild wood grows in beauty every year, and perhaps the love of nature may be so inbred in the boy that he will save the money which some

of his friends spend for cigars, and maybe for liquor, and use it to add, to the attractions of the wild wood, a fountain supplied from the wind-mill tank. This will be a beauty spot and a pleasure resort for the entire neighborhood, and thus by this wild wood, lessons of nature, with love of home and love of country, will be taught quite as effectually as by burning fire crackers and the noise of gun powder.

The duties and realities of life may take young men and maidens from the old home but they will never forget the sacred memories, and the return visits will be the more frequent because of this "Bit of Wild Wood."

NOTES ON FLOWERS.

By Frederic Cranefield.

The hose and watering can are in great demand about this time of the year. The lawn is sprinkled, the flower beds are sprinkled and all is sprinkle, sprinkle! How grateful the grass and flowers would be if they could be watered just for once!

If a flower bed is thoroughly watered once a week more good will result than from a daily sprinkling that only serves to wet the surface to the depth of an inch or less, encouraging the growth of rootlets near the surface. The surface of all beds should be level.

Supply a quantity of water that would be sufficient to cover the bed to a depth of three inches. Do not be alarmed if the surface becomes muddy but keep on until the soil is wet about the roots of the plants. The surface should be broken as soon as it begins to get dry.

Many other points about the garden culture of flowers occur to me but nothing to my mind is of as much importance as this. Water thoroughly or not at all. The same is true of watering grass.

The black aphid is quite sure to be paying close attention to chrysanthemums at this season. The "filthy weed" is very effective in driving them away. Very fine tobacco dust sprin-

kled over the plants once a week is generally sufficient, but in extreme cases use tobacco water. Pour one gallon of boiling water over one pound of leaves or stems and let it stand 24 hours. Then add five gallons of water and thoroughly sprinkle the plants with the solution.

From the middle to the end of August is a good time to sow pansy seed. The seed may be sowed in the open ground and the plants covered with straw or leaves in November. A better plan is to construct a small frame near the kitchen door or well and fill it with at least four inches of rich soil. Sow seeds in this and keep constantly moist. When cold weather comes cover the frame with boards and these with straw or manure. The plants may be transplanted next spring and will produce bushels of blossoms before the burning weather comes. This reminds me to remark that the pansy is a cool and moist weather plant. Plants that have blossomed freely until July should be cut back close to the ground and new shoots will start that will give another crop of flowers in September and October.

If you want hollyhocks that will bloom next summer sow the seed now. This is an old fashioned flower from "grandmother's garden," but grandmother never dreamed of the beautiful forms of the present day. For a border nothing can be finer than groups of hollyhocks with flower stem six feet tall, thickly set with rosettes of white, yellow, crimson or the softest shades of pink.

Callas that have been in retirement since last spring should now be started into growth. Shake off all the old soil and repot in very rich soil with an abundance of crocks, pebbles or charcoal in the bottom of the pot. Callas require an immense amount of water and the soil is apt to become "soggy" or "water logged" unless sufficient drainage is supplied. If it is desired to increase the stock save the little offsets that will be found in repotting and put them into small pots. A year from now if well grown these will be flowering plants.

This is an excellent time to shift begonias into larger pots so that they may become well established before winter.

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