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FROM TREE THAT PRODUCED BUT FEW PLUMS



THINNED TO TWO INCHES APART



THINNED TO ONE INCH APART



NOT THINNED AT ALL

The Wisconsin Horticulturist.

VOL. VII.

JULY, 1902.

No. 5.

THINNING, PICKING AND MARKETING NATIVE PLUMS.

FRONTISPIECE.

The subject of marketing plums necessarily includes picking and a rational discussion of these topics involves considerable of plum culture. In other words we are obliged to follow the directions of the famous cook-book receipt, viz.: "First catch your hare."

We should begin to seriously consider the marketing of our crops as soon as the curculio season is past, at which time we may begin to thin the fruit. In the case of native plums, thinning is nearly always a paying operation. The fruits should be carefully thinned so as to remain not closer than one inch apart. In thinning, remove as far as possible, the fruits injured by curculio or gouger. The thinning may at first seem an expensive operation, but our experience has convinced us that it pays.

The objects sought to be accomplished in thinning are: First. To increase the size and quality of the fruit without materially lessening the total production. Second. To relieve the tree from an excessive production of seed. Third. To destroy the larvæ of the curculio and gouger. We have usually done this work at the station with our regular help but Mr. Marshall employs girls to excellent advantage. Nimble fingers count for much in this work. Although on principle the fruits should be thinned when quite small, the work may be considerably delayed and still prove profitable. In the case of two heavily loaded Hammer trees in the station orchard, one was thinned after the plums were well colored. The plums from this tree were much larger than those from the other tree which was not

thinned, and sold for top price, the others were disposed of as "seconds."

We may often, without resorting to imagination, observe an increase in size of the fruits of the last pickings from a heavily loaded tree over those of the first pickings.

PICKING.

Native plums should be picked for market when well colored but still firm. When soft enough to "eat out of hand," they are too soft for market, in fact, the best cooks tell us that for jelly the plums should be picked still earlier or while still "crackly." It is never wise to allow plums to drop from the tree; such fruits are too ripe for market and invariably "leak." A few leaky fruits will spoil the appearance of an entire package. This also eliminates the too common practice of shaking the tree.

Plums, both native and foreign varieties, ripen well if picked at any time after the typical color has developed. The fruit should be kept in a dry and dark room. Fruits ripened in this way will hold up much longer than those allowed to ripen on the tree, and we have sometimes thought that the flavor of certain varieties was enhanced by this treatment. The period of ripening of most of the native varieties extends over several days, so that it is rarely possible to gather all of the plums at one picking. We pick in baskets of any convenient size and do not grade for market direct from the tree. We pick all fit for sale and grade in the packing house.

If the plums are carefully rolled out on a large table, they may be quickly graded and repacked. We have usually made three grades: "Choice," being the largest plums; "common," a very even grade and "jelly," consisting of small, partially ripe and string plums.

MARKET PACKAGES.

We have tried many different packages, from a berry box to a bushel basket and have finally adopted the one-fifth bushel basket as the most convenient, cheap and desirable package. These cost us last year a fraction more than four cents apiece when made up. This price did not include covers. For shipping it is necessary to use raised, slatted covers. Prices vary as with other fruits. We

have rarely, if ever, sold native plums for less than \$1.00 per bushel. The highest price we received last year was \$2.50 per bushel. Most of the crop sold for \$2.00 per bushel on the ground. Our neighbor, Mr. Marshall, brought native plums to market and took home peaches, one basket of plums bought two baskets of peaches, the size of the baskets being the same in both cases.

A PLUM SOLILOQUY,

W. J. MOYLE

Bretheren of the horticultural faith, whose habitation and life's work may lie within the boundaries of that great tract of country known as the "Northwest." Harken ye, while I deliver to you my latest data on the native plum question.

In the beginning, I am a native plum enthusiast, yet I'll be plumed if I am not more than plum disgusted with many features of the native plum as we have it dealt out to us at the present time. For instance here is a very deserving native fruit; all horticulturists are anxious that it should receive due credit and hold the place that belongs to it in our orchard and garden plantings.

About ten or twelve years ago native plums were quite extensively planted in Racine county, Wis., being sold by a Minnesota firm. What is the result to-day? If you approach the parties who planted these trees and open up on, say page six, with a beautiful illustration of native plums, which in the description reads that they bear themselves to death every year, are tough and hardy as willows, are frost proof, bug proof, and when ripe on the trees, the fruit is fit food for the Gods. This, once taken in, planter will take you out in the orchard and show you a regular wild tangle brake of a plum thicket, the products of his native plum trees. He will then remark: "If you don't make tracks and get off my premises, I'll set you to work grubbing out those blasted plum sprouts." Here the propagator or nurseryman is to blame for using such stock on which to work his trees. But the fruit, was it superior to the wild plums growing along the road? I fear not, at least the contrast was so small that to the ordinary observer it was not observable.

Several years ago I procured an experimental orchard of native plums. I have been watching the capers of the trees with considerable interest ever since. About half of them have never borne a plum, while other varieties right along side hang full year after year, and it can be truly said of them, tough and hardy, frost proof, bug proof, and when ripe on the trees, fit food for the most fastidious epicurean that is privileged to sip the sweetest nectar that nature can give. Here they are: Rockford, De Soto, Quaker and Rollingsstone. On the other hand here are varieties that have not proved themselves worthy a place in the orchard: Wolf, Wyant, Cheeney, Atkin, and many others. I wish in particular to give the Wolf a black eye. The first native plums planted in this vicinity was the Wolf; I have watched those trees but as yet have never seen them mature a crop of fruit. With me it is barren, let it's friends come to its rescue. The Wyant is too shy in setting its fruit and the tree is a poor grower. Atkin and Cheeney are both members of the family, *Prunes Americana Nigra*, and like all the plums of this family that have come under my observation, they are particularly subject to plum pockets, a very undesirable feature. I feel positive that the Rockford plum should be more extensively planted as in the past; it will in the future make native plum growing more popular.

There are many new varieties that will no doubt supplant these old favorites in time, but in the meantime commercial nurserymen should discontinue the propagation of varieties that are unreliable.

I should be very much pleased to see this native plum business get a good airing through the columns of our magazine.

SELLING FRUITS.

GEO. B. SMITH, Green Bay, Wis.

We ship by freight or express, as circumstances require. We have found a great many times, that express and freight trains do not make the connections that they claim to. They have a nominal schedule, but they do not make it, so it is necessary to be very careful about making shipments so as to have them arrive in the best possible condition to the consignee, for their success is our success.

We endeavor to prevent the express people from handling our berries, as far as possible, for we have never found any variation to the rule that they are the roughest handlers of packages that we have to deal with; consequently we run a night team on account of the fact that one of our through express trains leaves Green Bay at about 2:00 A. M., and the other at about 4:00 A. M.

We get everything ready at evening, and put the berries in the coolers until loading time, when the night team takes them to the depots and loads them on the trucks, ready for the express, so all the expressmen do is to load them in the car.

When we begin loading cars of vegetables, in the fall, generally about Aug 1st to 15th, we use stock cars, taking great pains to have the cars loaded so that the articles that need the most air will get it, and when it comes to loading full cars of cabbage, we always put in one ventilator, and sometimes two, running lengthwise of the car.

They are made about six inches wide. Set three boards on edge two feet apart, and nail one lath every six inches on each side. This makes a ventilator four feet high, which is enough to make a car of full weight.

After it becomes too cold to use stock cars we use boxes, but still we use a ventilator, for cabbage becomes slippery very easy. After it is too cold to use boxes we use refrigerators, but keep on with the same system of ventilation for the cabbage. After it is too cold for even a refrigerator to stand without freezing, we lay some strips on the floor, lengthwise of the car, and cross boards, so as to form an air space next to the floor, and in extreme weather do not pile the goods against the sides or end of the car while loading. Then put a stove in the car, and keep a good fire while we are loading, only opening the door when necessary. The result is that when we get ready to turn the car over to the railroad, it is not only warm, but the goods and everything in the car, from floor to roof, is well warmed up.

Last fall we went into winter with about 25 cars of produce in storage, and bought steadily all winter, yet we did not lose a pound of goods all winter by freezing in transit, except a little on two or three cars that laid over en route, and a good many of the cars were out from four to six days.

To illustrate the value of the air space next to the floor, one afternoon, just as a refrigerator was set on our siding, a load of sacked onions arrived. I took them in and stood the sacks on the floor of the car, and let them stand there until the next morning. Although I put the stove in the car as soon as the onions were unloaded, and got the car well warmed up, still the onions froze to the floor during the night. Of course they were not badly frozen, but it showed what would happen if all the goods were piled on the floor.

We take great care to have all car ventilators tightly closed, so as to prevent any heat from escaping, and even in this kind of weather, we do not load the cabbage without putting sacks or some kind of package through the center of the car.

We are shipping to-day to some of the same firms that began buying goods of us more than 25 years ago; have several orders to-day from them, so I repeat the statement that their success is our success.

A PLEA FOR MORE EXPERIMENTING AMONG HORTICULTURISTS.

By FRANK STARK, Randolph, Wis.

Horticulture, the higher walk of agriculture as it were, has been and still is to an uncertain extent, one of the most pleasant and sometimes most profitable methods of tilling the soil. Our chief thought seems to be the profits we hope to obtain without due regard for the other fellow's pleasure, or pecuniary interests. We study and scheme, and gather all the information possible to carry out our own plans until the chap whom we might "boost" a little is forgotten. If a neighbor sets nothing but pistillate strawberry plants we feel mighty mean clear down in our boots to think how he should have been told about such little things. We must not sow the seed of charity in the hard-pan of ignorance.

If farmers are to take advantage of the many good things offered by the experiment stations, experimenters at large, nurserymen and seedsmen, they must know they are right, then go ahead. Our little magazine, THE WISCONSIN HORTICULTURIST, would do an infinite amount of good if it had twenty times its present circulation. It

has proven itself a boon to cultivators who were troubled with "horticultural imbecility." It would also increase the membership of the state society. The agriculturists should be educated through the medium of this valued periodical, as well as other publications, so that they would know how to make their bushes bear big berries, raise fine fruit from their unproductive trees and have a good garden. "Oh, that's old," you say, "we have always done that." In many parts of the state where there are good farms, and people appear prosperous, there isn't one farmer in twenty-five who ever saw or heard tell of THE WISCONSIN HORTICULTURIST. We should experiment on how to increase its circulation and how to turn the thoughts of the every day farmer to the best interests of his family and farm. Lots of fruit makes the family happy and keeps the children at home. Can a boy think of a farm where there is plenty of fruit without wishing that he lived there?

While we are "disseminating" information among horticulturists we ought to give some attention to the granger who has neglected his orchard and garden, or has none. The man who sets out trees or small fruits without knowing a blessed thing about what they need (as many do) and thinks to look that up later, is not wise. He generally reaps "a harvest of barren regrets." It's a good thing for the nursery man though—at first—the fruit grower second I suppose.

We have many experimenters in new fruits and improved methods, but want more. The stations are doing a great deal but must not be expected to do every thing. But location and character of soil have such an influence over some varieties of fruits that many reports are unreliable and one must try for himself. There is a wide field for experimenting with seedlings of most fruits. Professor Goff believed in improving the wild cherry by natural selection. He started with them not long ago; we hope it will be carried on and look for good results. Anyone can help in this by sending fruit of unusual size and flavor, or seed from same, to the station at Madison.

There are many questions still unsettled and new ones constantly coming up. If any one has reached a happy or any other kind of a conclusion to them, let your light shine out, let the other fellows in. We can do more for the advancement of horticulture if we try. Let us try.

PROFESSOR SANDSTEN CALLED TO WISCONSIN.

W. A. HENRY.

The regents of the University of Wisconsin have chosen Mr. E. P. Sandsten, associate professor of horticulture, Maryland Agricultural college, to the same position in the College of Agriculture, University of Wisconsin. Mr. Sandsten succeeds Prof. E. S. Goff, who died after a brief illness, June 6th.

Emil P. Sandsten was born in Sweden 35 years ago, coming to America eighteen years since. His first efforts in this country were in a market garden near St. Paul. In the fall of 1887 he entered the Minnesota School of Agriculture, completing his course at the end of three years. Later he registered as a student in the long course in agriculture at the same institution, taking his degree in 1895. At this time he was acting as editor of "The Market Garden," a horticultural paper published in St. Paul. Upon graduating he was appointed gardener and farmer in the Minnesota Training school at Red Wing, holding the position three years. During this time he had charge of 480 acres of farm and garden. In 1897 he returned to the University of Minnesota and received the degree of Master of Science. Later he studied horticulture and irrigation in Colorado. In 1900 he entered Cornell University, registering for the degree Ph. D. At this date he has nearly completed the requirements for this, the highest scientific degree given by any educational institution. In July, 1901, he was called to the Maryland Agricultural college, to work in the horticultural department, his title now being associate professor of horticulture. Mr. Sandsten has a good working knowledge of Latin, German, French and the Scandinavian languages. While his specialty is horticulture, he has given much time to entomology, vegetable pathology, and forestry. Having spent nearly ten years in special training, he is certainly well prepared for his great work at the University of Wisconsin. Mr. Sandsten is another example of what is possible for any ambitious young man. What he has attained was reached through his own exertions, since he had no outside resources whatever.

THE BLACKBERRY.

W. A. LAWTON, Twin Bluffs, Wis.

Of all our native fruits, for eating out of hand, the blackberry is my favorite. Not the little red berry we sometimes find in the market place, that must be labeled "blackberry," in order that the dealer may not deceive his customers by calling it something else, but the large, luscious, shiny, black blackberry, the one that grows in partial shade, under the bushes, the one that the pickers missed the last time they went over the rows; the nectar from such as this is surely fit for the Gods, even though they were distilling their nectarean beverage from the dried apple when interviewed by our worthy president. If a visitor to my blackberry patch is suddenly attacked with peculiar convulsive movements of the hand and arm, accompanied by a visible depression of both cheeks, I do not summon a physician or diagnose St. Vitus dance. If a picker frequently lifts the hand somewhat higher than is necessary to deposit the berry in the box, I am not frightened. There is something in the atmosphere of the blackberry plantation that gives me the same symptoms.

Perhaps this taste for the blackberry was enhanced, when a mere boy, by its admixture with the pleasure of gathering and eating the wild blackberry, of which the woods furnished an abundance. It was the picnic season of the year when they were ripe; then the father and mother, the boys and the girls, would take each a pail proportioned to his or her ability as a picker, and proceed to the blackberry patch, there to meet with neighbors and friends from far and near, and pick and visit until our pails were full, or until it was time to return home. They did not carry in extra fine shape, but in those days we were in blissful ignorance of the advantages of the Hallock quart box. But such berries, the memory of their taste lingers with me yet. During a residence of about a dozen years in the city, where we had occasion to purchase a great many boxes of blackberries, the question would often occur to me: "Why are not the tame blackberries which are supposed to be an improvement upon the wild ones, their equal in eating qualities? Since growing berries ourselves, we have found that a well grown and well ripened

tame blackberry approaches very nearly to its aboriginal ancestors in flavor and sweetness.

We are advised to set the blackberry on deep, rich, moist, mellow soil. As depth and fineness of soil are but conditions for increasing its capacity for storing water, we might define ideal blackberry soil as that which is in condition to hold the maximum amount of moisture and yet be well drained, either naturally or artificially, so the problem is quite largely a study of means by which to put our soil in this condition, and when this is solved, the fertility question, also the aerating of the soil, will be quite largely provided for.

Anyone should be able to grow blackberries on soil that is perfect, but it requires skill and labor to produce a crop where the conditions are not ideal, and it is from the latter standpoint that we write this paper. I do not know that the blackberry requires a much greater amount of water to mature its crop than the strawberry and raspberry, but it ripens later. at a time when, if we are not blessed with frequent showers, the water contents of the soil is reduced to the minimum by the hot sun and summer winds, so it behooves us to use every effort to not only fit the soil for the reception of water but also to prevent, as far as possible, its undue evaporation. We are told that water is found in the soil as a film of moisture surrounding each particle, and the finer pulverized, and the smaller the particles, the greater will be the amount of moisture contained. We can increase the capacity of our ground for moisture by growing clover, the roots of which penetrate to a considerable depth then by turning under the crop at the proper time, or by plowing under other green crops, or an abundance of coarse farmyard manure, we have, upon the partial decay of same, a quantity of that material called humus, the chemical action of which not only fines the soil, increasing its capacity for water, but also unlocks much fertility that would otherwise be unavailable. I believe we should strive at all times to keep up the supply of humus, especially in our heavier clay soils.

We may retard evaporation somewhat by our choice of slope, thus on a northern or northeastern, or even an eastern slope, we are protected, to a certain extent, from the direct rays of the afternoon sun, and also shield, in a measure, from the south and southwesterly

winds. We may also retard evaporation by mulching. I find it an excellent plan, and where material plentiful, I would mulch my blackberries along the rows, cultivating between. This not only holds moisture, but adds to our supply of humus. Straw, corn stalks and manure with plenty of coarse litter for bedding, would answer the purpose. The most important element however, in the conservation of moisture is cultivation, which we will refer to a little later on.

The ground being thoroughly prepared, I prefer to set by line, as the rows can be made more nearly straight in this way. Would not have the rows nearer than eight feet apart, as I have found by experience that a less distance than this makes it difficult to get through with the horse and cultivator, and the man will need clothing made from some very tough material, likewise the horse will also need an extra garment unless his every day coat is well tanned horse hide.

I have had the best success in setting plants about one foot apart in the rows, forming a hedge row. While this plan requires a great many plants and extra labor in setting, I am not sure that the first crop will not be enough better to cover this extra expense and labor, especially will this be true if one grows his own plants. The berries seem to be larger and better where there is ample room for each cane, than where crowded together, four or five canes to the hill. When set in hills I do not try to keep the plantation growing in this shape but encourage the growth of new canes between hills, and thin out the canes in the original hills.

CULTIVATION.

Formerly we cultivated to kill weeds. The old rule was twice through the corn each way with the double shovel and twice with the hoe. We raised excellent corn and thought it was because we had kept the weeds out. The modern idea is to stir the soil for the purpose of saving moisture, and, incidentally, we prevent the growth of weeds. The weeds have been a schoolmaster to bring us to something better. Like the old time schoolmasters they have been severe and strict in their discipline; they have kept us digging until we have realized, at least in part, the import of the words: "Cursed is the ground for thy sake." They have wielded the whip over us as a

taskmaster, forcing us to make brick without straw, until we have learned something of the object of tillage. As the roots of the blackberry grow quite near to the surface, only shallow cultivation is permissible. We practice, so far as possible, plowing from two to four inches deep, (depending somewhat upon the distance from the row,) with the one horse turning plow, as soon as the soil is dry enough to work in the spring, and before taking the plants from their winter beds. From this time on until the crop is gathered, cultivation should be frequent enough to keep a dust mulch on the surface of the soil.

The pruning of the blackberry is a subject upon which it is difficult to give specific instructions. Each grower must learn this quite largely from his own study and observations, but a few principles may be laid down which will give us a basis to work from. It is evident that a soil which is ideal in its capacity for holding moisture will mature a larger crop of berries than one that is not thus favored. It is also true that the land that is thoroughly cultivated throughout the season will ripen more crates of berries than that which is allowed to become hard and to grow up to weeds and suckers which compete with the blackberry plants for moisture. Varieties also differ in their tendency to set more or less fruit. Therefore knowing our soil and the varieties we grow, and having outlined our plan of cultivation for the season, we have something to guide us in the operation of pruning, and I would rather err on the side of cutting back a few buds too many than to risk having a picking or two of seedy berries.

The pinching back of the canes during growth I am inclined to think from experimenting in a small way, is a good practice, especially with a tall growing variety like the Snyder. I would pinch them about eighteen inches to two feet in height. The branched, stocky cane is not so liable to injury from heavy winds as the one allowed to grow to considerable height. If we pinch them back too high the branches are liable to come out from near the top, making the cane top heavy, thus inviting, rather than preventing, liability to damage from winds.

We cut out the old canes as soon after the last picking as possible, and cultivate between the rows. We are planning, from this

time on, to sow a cover crop of oats or barley, as one of the means for keeping up the supply of humus.

We have had quite a little difficulty in securing pickers who can tell when the blackberry is ripe. There seems to be a general impression among them that every berry that is black is ripe. There is also more or less color blindness among pickers, many of them thinking that a berry which is half black is ready to pick. It requires practice, and one should learn to tell a ripe blackberry not only by taste, but by sight and touch. Twice per week is as often as we pick our blackberries. Of course, if we ship to a distant market, we must use judgment and pick somewhat less mature than for a home market.

We find that a good way to hold customers, is to allow the berries, especially the first picking, to remain on the bushes until we think they are fully ripe, then when a family eats a box or so of them they want more. Growers are apt to be in too much of a hurry in putting their first picking on the market.

I would not attempt to grow the blackberry without some winter protection. Even the most hardy varieties, I believe, will produce a better crop by being covered, and sometimes we may be ahead the difference between a good crop and no crop at all. If the work is pressing, we sometimes leave them with only as much dirt on as one man can shovel while another lays them down, but prefer having two men who can cover them very nicely as fast as one man puts them down.

The selling and shipping of fruit is to be discussed in a paper to follow, so I will close this paper with only a brief reference to the subject. If we are not so situated as to take advantage of shipping associations, we will need to look up special markets and grow a grade of fruit suited to those markets, but above all things we should make the most of a home market. We must exercise skill in growing the blackberry, care in picking and packing, and when our customers learn that a box of our berries is to be depended upon, from top to bottom, and every time, we will not only hold our own, but our market will expand as the years come and go.

NOTES ON SUMMER MEETING HELD AT WAUPACA, JUNE 25-26.

The attendance was light. The reasons principally being that the session was held at a time when most all the members were busy with the strawberry crop, and it was impossible for them to get away. However, a very pleasant and profitable session was held. The picnic dinner which was to be held at the orchards of A. D. Barnes and C. G. Churchill, was held at the Danes' Hall on account of rain. After the afternoon session, however, a visit was made to the above orchards by those in attendance, and a careful inspection of the orchard followed. Cherries were fruiting and were at their best, although the crop was light. The apple orchards here as well as all over the state, were badly effected by blight. Just what is the cause of this was not decided as there were various opinions on this subject.

The rose garden of Mrs. Barnes was beautiful, showing many different varieties in bloom, and much interest was taken in the various flower-beds and young cherry orchard of C. G. Churchill.

The exhibits at City Hall, where the sessions were held, was light in quantity, but made up in quality. Not a poor specimen of fruit or flowers was on the tables.

Mrs. L. W. Barnes had a beautiful display of house plants, cut-flowers, pansies and roses, and received first premium on best display of all the above. H. C. Christianson, of Oshkosh, received second on display of roses, and M. V. Sperbeck, of Oshkosh, second on cut-flowers. Ray Barnes received first on wild flowers.

In fruits, J. M. Smith & Sons, of Green Bay, and H. C. Christianson, of Oshkosh, shared equally on best display of strawberries. J. M. Smith & Sons received first on plates of the following: Wood, Nich Ohmer, Splendic', Lovette and Wm. Belt.

H. C. Christianson received first on Bubach, Bismark, Clyde, Sample, New York, Crescent, Rough Rider, Queen, Margaret, Dunlap, Brandy Wine and Glen Mary. Second on Lovette and Warfield.

A. D. Barnes first on seedling strawberry, Dayton, Haverland.

Second on Sample, Clyde, Wood, Nich Ohmer and Glen Mary. Also first on cherries of the Early Richmond variety.

W. H. Holmes received first on the Secor and second on Seedlings.

H. W. Carpenter first on Warfield.

Mr. Z. C. Faribanks, of Traverse City, Mich., was in attendance and exhibited a spray pump with the various attachments. He was so much pleased with Wisconsin horticulturists that he became a member before the meeting adjourned.

The various papers and discussions were very interesting, and for the benefit of those who were unable to attend, they will be printed in the HORTICULTURIST as fast as space will permit.

Those who were in attendance returned home highly elated over the short but pleasant and profitable session.

Many resolutions and letters of sympathy were received from local societies and members who were unable to attend, deploring the loss of our co-worker, Prof. Goff, and a memorial session will be held at our winter meeting in memory of him departed.

TO DESTROY ANT HILLS.

By FRED. CRANFIELD, Madison.

Ant hills seem to unusually numerous and destructive this year. Whether in the garden or on the lawn these may be easily and effectually destroyed by the following method: For a large hill dig two or three holes, each about three inches deep, and in each pour a table-spoon full of carbon bisulfid; refill the holes quickly with earth and cover with a wet burlap or blanket. Several large hills on the University farm lawn were successfully treated in this way, early in May. It should be remembered that the fumes of carbon bisulfid are poisonous. It is also highly inflammable and the receptacle should be kept tightly corked when not in use. Never open in the presence of fire.



PLUMS READY FOR MARKET.

SPECIAL BULLETIN.

Wisconsin Agricultural Experiment Station,

MADISON, Wis., July 11, 1902.

APPLE BLIGHT.

Numerous inquiries have recently been received at the station regarding injury to apple and pear trees. Affected twigs have usually been enclosed which were black and shriveled, the attached leaves being browned as if by fire. The injury in every case was caused by "blight."

What is blight? The disease known as "blight," "pear blight," and "fire blight," is a contagious bacterial disease attacking the apple, pear, quince and allied fruits. It frequently attacks the wild crab and is occasionally found on the Mountain Ash.

What it does: Blight assumes two different modes to attack, known as twig blight and blossom blight, the cause of the two being the same. In the former the new shoots, growth of the current season, are affected; in the latter the blossoms and fruit spurs are destroyed and commonly a portion of the adjoining main branches.

The conditions that favor blight: A wet season favors blight; a dry season hinders it; a very dry season entirely checks it. The blight microbe soon perishes when exposed to drying conditions. Unfortunately, conditions that favor growth of the tree favor blight. Heavy pruning during the dormant period induces a strong growth of new wood and favors the development of the blight germ. Trees heavily manured with barnyard manure are apt to be more affected than those not so well fed. Trees that are well cultivated often blight more than those growing in sod.

How distributed: Blossom blight is undoubtedly distributed by bees and other insects that collect honey and pollen. The blight germs find lodgment in the nectary where they multiply rapidly and are carried from tree to tree at blossoming time. The blight microbes are held together by a sticky substance and are not therefore readily disseminated by the wind. In the case of twig blight they presumably remain within the affected tissues until set free by some agency that ruptures the bark. The mode of infection in this form

of the disease is not well understood but presumably occurs through the agency of insects. Several species of minute insects inhabit the terminal buds of growing shoots.

Remedies: As the blight organism works wholly in the inner tissues of the plant, it is not possible to control it by spraying. The only remedy, at present known, is to remove and destroy, by burning, the affected twigs. As the blight does not, presumably, live over winter in the ground, it may be checked if not eradicated by this method. Usually the blight progresses most rapidly during the period of most rapid growth of the trees and generally stops at the end of the growing season. At this time there is usually a distinct line of separation between the live and dead wood. All parts below this line are healthy and may be preserved. In some cases, however, especially those that appear late in the season the line of demarcation is not distinct and the field of injury blends gradually with that of uninjured bark. It is probable that the blight is carried over winter by these cases as the germs are not susceptible to cold and receive sufficient moisture for their maintenance from the sap of the tree. It is essential then to exercise great care in cutting to remove these cases of "hold-over" blight. In removing blighted twigs it is advisable to cut far enough back to insure the removal of all affected tissues. The removal of six inches of sound wood below the line of separation is not too much. This work is best done in the fall before the leaves have fallen as the blighted twigs may then be more readily observed. The shears or other cutting instruments should be dipped frequently in an antiseptic solution to guard against transferring the disease to uninfected branches. A five per cent. solution of Formalin will answer the purpose. A cloth moistened with this may be carried and used to wipe the shears. In the case of blossom blight on old trees nothing of value can be done as the disease extends through the fruit spurs to the main branches. It does not follow that such trees will be killed, as the disease may not progress far enough to girdle the main branches, only affecting the portion adjoining the spurs, in which case recovery may be expected with no further damage than the loss of the fruit spurs.

F. CRANFIELD, Assistant Horticulturist.

THE COTTONY MAPLE SCALE.

By FRED. CRANFIELD.

Many valuable maple and box-elder trees in Milwaukee and vicinity are being surely injured by the Cottony Maple Scale (*Pulvinaria Innumerabilis*). The life history of this insect is as follows, briefly told: The young lice appear early in spring spreading rapidly over the tree; after the several changes peculiar to scale insects, the female attaches herself to a twig and commences egg-laying, continuing until about the middle of June when the large cottony egg-masses become evident. About July 1st the eggs hatch and the young spread again over the tree soon to complete another life cycle. Like other scale insects it feeds by sucking the sap of the tree and although their spread is not very rapid, in time, eventually destroy the tree, unless preventive measures are taken. If observed in time while but a few twigs are affected these may be cut off and burned. If the pest is generally distributed, the trees must be thoroughly sprayed with kerosene emulsion. This treatment will probably be effective. I have not used this remedy but all authorities agree that it is efficient. I have known Prof. Goff to recommend it frequently.

The ordinary kerosene soap emulsion may be used, but a more satisfactory method of applying kerosene is by means of one of the improved spray pumps which form a mechanical mixture of kerosene and water which may be sprayed directly on the insects.

Remedies for insects of this class in order to be effective must be applied to the insects themselves, not on the foliage of the hurt plant, as they do not eat but suck the juices as a mosquito draws blood.

PLANTING AND CARE OF A FIELD OF RED RASPBERRIES.

F. J. EMPENGER, Bederwood.

In planting red raspberries for profit, three things are necessary: first, soil; second, good thrifty plants, and third, cultivation and care of plants.

Select a piece of well drained ground, and if the soil is not rich enough apply about twenty loads of well rotted barn manure per acre. If fresh manure is used, it should be applied a year before

planting. Plow deeply, smooth down, and mark both ways. Some varieties can be set closer than others. I plant mine 5x5 feet. They should stand apart far enough to give them plenty of air and sun. This will make larger and firmer fruit.

I use plants only from young plantations, not over five years old. I would not use plants from old fields if they were given to me, and I were paid for taking them. I tried it once years ago, to save a few dollars, and that once fixed me. I prefer root-cutting plants, as they have more fibrous roots—but where can we get them? Small sized plants will do if they are from young parents. I take about fifty plants in a bushel basket, wet the roots, and if it is windy weather keep wet moss or a gunny sack over them. I insert a spade in the ground the full length of the blade, push forward and upward, so as to leave a hole of about eight or ten inches back of the spade, hold the spade with my right hand and foot, insert the plant with my left hand, release the spade and dirt, and the plant is set. In this way I set from 1,200 to 1,500 plants per day alone, and if I use a smart boy to drop plants for me I can set double the amount in the same time. I lose very few plants.

When the planting is completed, we start to cultivate at once; we do not wait for the weeds to start first. I use a five tooth cultivator twice in a row, and the same in the cross rows, once a week. Every third week I change to a two-shovel plow, and keep on plowing until the last of August, when plowing should stop for the season, to allow the wood to ripen for winter.

The second year, after the last picking of berries is completed, the old wood should be all cut out and gathered in heaps and burned up. At the approach of freezing weather, the tender varieties should be buried in earth deep enough to cover the bushes to keep them from winter-killing. This may be done by bending the bush as far down to the ground as is possible without breaking it off, throwing a few shovelfuls of dirt on the tops, enough to hold them secure, and when the field is tipped down, taking a common plow and plowing a furrow against the row on each side. This will leave but very little work for the man with the shovel to do.—*Minnesota Horticulturist.*

SELLING AND SHIPPING FRUIT.

A. L. HATCH, Sturgeon Bay, Wis.

The first thing required is to have the fruit in good condition. This means solid, just ripe fruit, clean and bright, it also means packages well filled. Fruit that is over ripe or soft is not fit to ship, and should be sold at home. A strawberry half green is better for shipping when it cannot be used in less than two days from picking, than one fully ripe. No shipping market wants soft fruit, and leaky berries are always sold at a loss. Berry boxes partly filled and carrying less than they should are never at a premium in any market. The jolts and jars of transportation will settle the fruit till it becomes solid in the boxes, and if partly full when finally used there is not only a discount on the fruit itself but on the package as well. One of the points needing attention is the careful filling of the box corners. All fruit should be kept cool, out of sunshine and heat as far as possible.

The ideal and practical unit of business quantity is the car load. That quantity permits of the greatest economy in all the operations incident to the movement from producer to consumer. Where fruit growing is pursued as a business and shipments are necessary to reach good markets it is essential to aggregate the output of several growers into car loads. This will not only secure better shipping facilities, quicker transit, and cheaper freights, but will also make it practical to use refrigerator cars and reach the great distributing markets of the large cities. Where car loads of fruit can be had, there cash buyers can be secured to pay spot cash for the goods and thus eliminate the uncertainties of commission business. To aggregate the products of many growers it is only necessary to have the growers join together as an association, appoint a salesman and shipper, then let him do the rest. Four years experience here as salesman for the Sturgeon Bay Fruit Grower's Association has now placed our business upon a firm basis. Although we have had to sell a great deal on consignment to commission men, we have been so fortunate as to collect every cent on sales so far, and have now the promise of cash buyers for our present crop. Our expenses are

shared pro rata by all growers according to the quantity sold for each one. The best large fruit growers of Michigan pursue about the same plan, and have succeeded in marketing their crops to good advantage and also in getting cash buyers. For fruit selling we believe emphatically in this statement, the car load is the unit of business.

Where sales cannot be made for spot cash, it is often necessary to make consignment to commission firms. Probably no class of business men are more thoroughly condemned or more fully trusted. Millions of dollars worth of produce are sold by them upon honor, with scarcely a restraint or check upon their actions except such as may be dictated by policy or their own consciences. It is little wonder then that selfish and dishonest men enter this field of business, to the constant annoyance of decent men, and that such suspicion as may be engendered by rascality will often attach to the best firms in the same line of business. Good, strong, honest firms may be found in most all cities by inquiry in the proper channels. Let the best be selected for patronage.

In shipping under refrigeration, it is best to have cars well cooled before loading and to re-ice before the car starts. In very hot weather 450 cases are enough in a car, and every case is nailed in with strips of lath between the tiers of cases so as to prevent movement in transit. If haste in cooling is needed, then use salt on the ice in the tanks.

While no man can create a market, most markets can be cultivated to increase consumption, and in any case the seller should find the places where fruit is wanted. In these days of electricity, the use of the telephone and telegraph play an important part in making sales. I have sold several cars by telephone and received pay by telegraph. In making such sales it is important to look well to a good understanding in regard to inspection, invoice, delivery and acceptance, lest the party purchasing claim shortage on receipt of goods, when they reach a dropping market. This rule applies also to sales made on the spot, as it is better to close a transaction fully at that time.

THE CARE OF THE NEW STRAWBERRY FIELD.

H. H. HARRIS, Warrens, Wis.

The strongest incentive to care for anything, comes from having something worthy of our care, that will respond to the care bestowed upon it. We have this thought in view when selecting a site for our strawberry field, in the preparation of the soil, the marking of the rows, the choice of the plants and when setting the same. Our best success has been on forest land that has been cropped just enough times to subdue it, one crop of wheat and one of potatoes generally leaves it in fine condition for the strawberry field, and the nearer we can approach such a condition of the soil by turning under green clover or some such growth, the better. It has been our custom to plow our ground in the fall, then as early in the spring as the soil will permit we work the same over with the disc, always lapping one-half to avoid ridging, and follow with the smoothing harrow and plank float, until thoroughly pulverized. Where the size and shape of our plats will permit we mark both ways, as we can keep the soil more mellow where our new plants are to be by cross cultivation the early part of the season until the runners get well started than we are apt to by hand hoeing. If we get our rows perfectly straight it adds beauty to the field and makes close cultivation easily accomplished with the fine toothed implements we now have, and there is part of the care that is repeated every week throughout the growing season. We use the hoe, but we like as easy hoeing as possible so we can do most of it ourself (for should we try to do it by proxy, as Judge Biggle says he does, we will probably admit the wisdom of the resolution of the political parties, declaring that a proxy does not properly represent us). In selecting our plants we discard everything that does not appear healthy and give promise of fruitfulness, and later if any plant fails to respond to cultivation, we dig it out, preferring to take our chances of filling our rows with the runners from thrifty healthy parent plants. In placing the runners is another time we like to be there in person and see that they do not all take root on one side of the parent plant. If left to themselves the early runners are very apt to set in clusters, leaving vacancies to be filled with later runners that will not likely make as good plants as the

earlier ones. We strive to get these first new plants started as evenly as possible along the line of our rows, removing the weaker runners if too many start, and also the little suckers that branch out evenly before a single plant is formed. As soon as we have sufficient plants well established, we dig out the parent plant and the weaker of the new if too many have rooted, cut off the runners and allow no more to form. This has been our practice on a limited portion of our fields for several years, and the difference in the quality of the fruit where so thinned in comparison with rows of the same varieties thickly matted in the row, is so pronounced that we have no hesitation in saying that it pays, especially with such vigorous plant-makers as Warfield, Dunlap, and the like. Where so thinned it gives us another chance to stir the soil in the row which is impossible where the row is matted and overrun with plants and runners, and frequent and continued cultivation of the entire surface is what we desire. We do not get all of our fields thus cared for every year, but have practiced it enough to demonstrate to ourselves, at least, the advisability of decreasing our acreage and giving what we do raise the best care we know how to give. We have heard other growers when viewing a field we have so cared for exclaim: "I wish my field looked like that and had such berries," but when the way they were made so was explained, they would say: "Oh, I can't spend so much time on our large fields," but it is idle talk, not to say covetous, to wish for anything unless we are willing to pay the price.

We omitted to mention in the proper connection, the importance of removing all blossoms or fruit buds as soon as they appear, but we never neglect to do this, as they weaken the plant if left to develop fruit. We keep the cultivator going until late in the fall, and as soon as the ground is frozen we cover the entire surface with straw or wild hay to protect the plants from freezing and thawing with every change of the weather during the winter and early spring. Most of this covering we rake from immediately over the row into the paths as soon as growth starts in the spring.



MARKETING CELERY.

IRVING C. SMITH, Green Bay, Wis.

We will presume that you are thoroughly posted in the art, yea, the science, of growing and storing celery. You know just when and how to plant the seed. You know when and how to set the plants. You know when and how to cultivate, bank, harvest and store. You know how to construct the storage pit, etc. Knowing all these points and having produced a crop of fine celery, gotten it stored for the late fall and winter trade, we come to the point of marketing.

Of course, when you put your stock into storage, you considered the amount of your trade so as to have it ready at the proper time. You must have sufficient control of the temperature of the storage pit, to be able to keep certain parts of it warmer or cooler as you may find necessary to ripen the stock.

The dressing should be done in pit to avoid breakage in handling and save moving the waste at a time when it is neither cheap or convenient to do so. Remove all yellow or decayed stalks, then cut the root to a point, being careful not to cut too high so as to cause the leaf stalks to fall from the root. This takes five or six strokes with a six-inch butcher knife. Hold the stock or plant with the root from you and cut with a motion as if you were whittling shavings.

The washing room should be in a warm basement or other room where water is convenient and a boiler or caldron at hand to warm water. A square cornered tub is most convenient. Use plenty of water and have it quite warm, 90 to 100 degrees. This gives a gloss to the celery not obtainable with cold water. Dump a box of celery into the tub with the butts towards you, then with a common soft scrubbing brush give each stock two or three downward strokes of the brush. This takes all the dirt out of the creases and gives it a bright shinning appearance.

The tier stands at the table and ties it up, four bunches to the dozen, using common white wrapping twine for the purpose, running string twice around each bunch.

All decayed leaves or tips should be carefully clipped off and it is ready to pack for shipment or home delivery. There is a marked advantage in tying four bunches to the dozen, instead of one dozen

in a bunch as is done in many places. No ordinary family wishes to buy a dozen at once, so the retailer must open bunches, which subjects stock to the inevitable sorting and breaking process. On the other hand, if tied three in a bunch the retailer can sell by the bunch and save continual work and waste. An expert tier will make the bunches so nearly uniform in size and value that there will be little chance to choose. Another point is gained by having stock appear in better condition and so the sale is better.

If you have a stock of very large celery, it is sometimes well to grade it, making a fancy grade of the largest and a standard grade of the balance. We sometimes even make three grades, selling at 20, 25 and 35 and 40 cents per dozen. Now, if you have handled things rightly, Kalamazoo and Milwaukee may as well bid the trade good bye as they will be no longer needed.

Do not think because Kalamazoo sells at 12 to 15 cents per dozen you must do likewise. It is entirely unnecessary. Drive them out on the point of quality. Respectfully, but none the less forcibly turn them out. The same may be true of your shipping trade within reasonable limits. Do not try to bring your trade to the size of your packages, but make packages the size of your trade. Put up any size package your customer desires, up to the limit of safety in carrying. We have found that a case to hold about one bushel is as large as it is profitable to use. This size will hold about ten dozen good sized celery. Line cases with paper to avoid drying in warm weather and freezing in cold. Ship by express after cold weather sets in.

REVIEW OF EXPERIMENT STATION LITERATURE.

FREDERIC CRANFIELD.

The following is a brief summary of the experimental work in horticulture as reported in various bulletins issued since Jan., 1902.

Mich. Agr. Exp. Station, Bulletin 195, Jan., 1902.

STRAWBERRY NOTES FOR 1901.

One hundred and seventy varieties are described. Stone Early and Excelsior are recommended for early to replace Michel Early and Beder Wood. Marshall, Wm. Belt and Sample are selected as

the best of the large sorts; "but for market berries where quality is desired, Excelsior for early, followed by Warfield, Haverland, Clyde, Sample, Wm. Belt and Bubach, will, with good culture, give desirable results."

Bulletin 196, same Station, Notes on Vegetables. Of thirty-five varieties of peas, Scorcher, Prolific, Early Market and Earliest of All are given first place when quantity and earliness are desired. For quality Gradus and Thomas Laxton are recommended.

Second Experiment Station.

Illinois Agr. Exp. Station, Bulletin 70, April, 1902.

CANKER OF APPLE TREES.

Various bark diseases of fruit trees popularly known as "canker" are described. "Their injury consists in destroying more or less extended portions of the bark, causing serious wounds which interfere with the nutrition of the affected limbs above the canker spot, finally resulting in the death of the limb, unless the tree is able to heal over the wound." These diseases are especially dangerous inasmuch as they do not restrict their injury to a single crop or to one season, but threaten the life of the trees themselves. The diseases are mostly perennial, and having once gained a foothold they progress steadily until they cover all or a part of the affected trees."

* * * "It produces extended blackened areas within which the bark cracks and finally crumbles away. The fungus causing the canker is a wound parasite, gaining entrance through wounds caused by pruning or accidental injuries.

The best means of preventing the disease is to avoid, as much as possible, all injury to the bark, to prune properly, and to paint wounds with an antiseptic solution. Badly diseased limbs should be cut and burned."

Third Experiment Station.

New York Agr. Exp. Station, Bulletin 212. (Extract.)

THE PERIODICAL CICADA. (17 year Locust.)

"Misled by the name 'locust' many persons have suffered needless anxiety from the announcement that the 'seventeen year locust' is due this summer. The insects will appear, undoubtedly but they

are not greatly to be feared. They do not, as stated by some newspapers, 'appear in such countless numbers as to darken the sky, and consume every green thing in sight.' The 'seventeen year locust' is not a locust, not even a grasshopper, but is very much like our common 'harvest fly,' and like it, eats little or nothing during its visit above ground. The only real damage it does, is to the tender twigs of vines, fruit trees and deciduous forest trees, in which the female deposits her eggs.

These cicadas are the longest lived of all known insects, for the same insect emerges from the soil this year that was hatched in a punctured twig in 1885. The whole period of nearly seventeen years has been spent beneath the ground."

Fourth Experiment Station.

New Hampshire Agr. Exp. Station, Bulletin 91.

KILLING WOODCHUCKS WITH CARBON BI-SULPHIDE.

Uniform success is reported from treating woodchuck burrows with carbon bi-sulphide, by pouring a small quantity of the chemical on some old cotton and rolling it into the hole, afterwards closing the entrance with earth. "One special advantage of carbon bi sulphide is that its vapor is more than twice as heavy as air, so that in a woodchuck burrow it will follow along the hole until it reaches the bottom, crowding the air above it to the top. As the animal is likely to be in the lower part of the burrow it is almost certain to inhale the poisonous vapor and be killed."

"It should be distinctly understood by everyone who uses carbon bi-sulphide for any purpose that it is *highly volatile, inflammable and poisonous*, and when mixed with air it is also *highly explosive*. Any reasonable care in its use outdoors, however, can lead to no ill results."

Fifth Experiment Station.

U. S. Dept. of Agr. Farmer's Bulletin 146.

INSECTICIDES AND FUNGICIDES.

A report on the composition of Paris green and the common adulterants of the same. The bulletin gives analysis of various substitutes for Paris green, now offered for sale, among which are the

following: "Green arsenvid, a compound very much like Paris green in its composition and effect on insects. As a whole this is a very good compound and has given excellent results in the various state stations, especially when mixed with a little lime."

"Slug Shot." An analysis of this substance shows that it is composed almost exclusively of crude gypsum with a small amount of arsenious acid and copper oxide added, probably in the form of Paris green.

"Black Death." It is composed of about—

Sand and charcoal	- - -	23.00	per cent.
Gypsum and limestone	- - -	75.00	" "
Arsenious acid	- - -	.97	" "
Copper oxide	- - -	.59	" "

ORCHARD PLANTING IN MINNESOTA IN 1902,—An extraordinary amount of nursery stock has been planted in Minnesota this season, and probably nothing approaching the amount has ever been distributed in our state in any one season before. Quite a number of orchards of a thousand or more trees have been set out, to the personal knowledge of the writer, and undoubtedly there are many more of which he has not heard. With fifty nurseries in the state, most of them employing agents, from one to 200 each, the opportunity for purchasing nursery stock has not been lacking. The success of the past few years has stimulated and is stimulating planting to a great extent. Outside nurserymen have contributed liberally to this result. One pleasant feature of this year's business is the large proportion of ornamental stock being planted, which indicates an advance on the part of our people, not only in ability to purchase, but in an increasing interest in this equally important branch of horticulture, which contributes so much to the development of our higher nature. A word of advice at this time when orchard planting is so rapidly extending would be to plant very sparingly of new varieties and stick to the kinds that experience in your locality, or the advice of reliable planters, indicates to be successful. Let the other fellows do more and you do less experimenting. Each planter should do some experimentation, but if restricted the losses will be less and encouragement to further experimentation will be greater.—A. W. LATHAM.

EDITOR'S NOTES.

Secretary of Agriculture Wilson pleads thus for the country school garden: "Flowers should abound in the schoolhouse grounds. They are among the best of educators, for they develop taste and a love for the beautiful, and make men sensitive to the attractive and lovely, in town or country, in field or forest. * * * The young farmer attending the district school could readily be taught what a plant gets from the soil and what it gets from the air. The several grasses could be planted and their office in filling the soil with humus, enabling the soil to retain moisture, could be explained. "The legumes—peas, beans, clover and alfalfa—could be grown in the schoolhouse yard, and during the recess or at the noon hour the teacher could interest the students by digging up a young pea or clover root and showing the nodules, whose office it is to bring the free nitrogen from the atmosphere and fix it in the soil.

The strawberry crop in the region of Sparta was exceptionally large this season and fruit of good size and quality. The Warfield was the leading variety, although some fine Buback, Haverland and Splendid were shipped this season. Prices were high and growers are delighted over the outcome, and next year will see many new fields being planted. Enhance and Gandys are the leading late varieties and both bring good prices. The Klondike is gaining much favor as a late variety. It is large, similar in color to Gandy, and a good shipper. The trouble, however, with the Gaudy and Klondike is that they are light yielders compared to many of the earlier sorts. About 45,000 cases were shipped this season, averaging about \$1.30 per case to the grower.

A very fine seedling strawberry was received at this office from Frank Stark, of Randolph. From the appearance of the sample sent it looks very promising. Good size and color, very fine flavor, and quite firm. We will hear more from this later on.

From observations and reports received, the blight seems to be doing serious damage to the apple orchards of our state the present season. It is prevalent throughout the state. Next winter we shall have a paper on the subject presented by one who is making this a special study this season, and all who attend the winter meeting, at

Madison, should come prepared for a lively discussion on this subject.

Albert Reis, proprietor of the Pioneer fruit farm, at Ithaca, this state, reports the apple crop will be medium. Trees are fairly well filled with fruit, and on account of even and excessive rains and cool weather, fruit is quite large for the season of the year. There will be but few plums and practically no grapes in his section.

Mr. A. A. Parsons wishes to inform all his horticultural friends of the change in his postoffice address. Hereafter all correspondence should be addressed to him at Omro, Wis. Mr. Parsons is proprietor of the Omro Small Fruit and Nursery Garden.

The premium list of the Wisconsin State Fair which will be held at Milwaukee, September 8th-12th, has been received. Liberal premiums have been offered, and many new and attractive, as well as interesting and instructive features will be added this year. The horticulturists of our state should make special efforts this year to make the horticultural department a grand exhibit of fruits, flowers and plants. Begin now and take advantage of every opportunity of selecting fruit for exhibition. Notice any particular specimens and keep these in mind. Where fruit hangs too thick, thin them out, and give your trees the best care and protection you know how. Liberal premiums are offered this year in this department. This part of the state fair has always been a leading attraction, and it is hoped this year will eclipse them all. If you have not received a premium list send to this office or to John M. True, Secretary, Madison, Wis.

FEEDING BIRDS ON CHERRIES.

I have made it a practice in planting cherry orchards to put in a quantity of trees of the early varieties of sweet cherries, such as Coe's Transparent, Governor Wood and May Duke. These trees are given up entirely to the birds. We never pick them and never allow a bird to be frightened from the trees. They live upon these, and by the time our more valuable cherries, such as the Black Tartarian, Black Eagle, Napoleon and Windsor are ripe we have no trouble from the robins. There will not be even two per cent. of these fine cherries picked or damaged by the birds. If everyone would make it a point to put in a few extra trees of these early, juicy, sweet cher-

ries they would have little trouble with their more valuable varieties. Rather than kill off the birds I would plant cherries and give them the entire crop. It is one of the great draw backs to fruit culture to-day, that we have so few birds inhabiting our orchards, in consequence of which we are forced to carry out the expensive process of spraying, without which, comparatively little fruit of value could be produced. It is a great mistake on the part of fruit growers to kill off the birds, and I find it not only economical to plant cherry trees for them, but I find that it brings larger numbers to my place, and they are very helpful in keeping down many insects that are not destroyed by spraying.

GEO. T. POWELL.

THOS. THOMPSON COMPANY, WHOLESALE FRUITS.

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