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SUCCESS OR FAILURES OF COMMERCIAL ORCHARDING IN WESTERN AND NORTHERN WISCONSIN.

J. J. MENN, Norwalk, Wis.

The subject assigned to me is an important one, every farmer, however small his posessions may be, who lives in the fruit growing districts of the United States, should grow some of the tree fruits, especially the apple, cherry and plum, the apple should be found upon his table in some form every day of the year. The city people and those not having any land to grow fruit upon, we must look to the commercial grower to supply them with fruit.

It is the purpose of this paper to present briefly why commercial orcharding in Wisconsin should be given more attention, and its success or failure.

In dividing the state, I will take the Wisconsin river as a divide going as far north as Wausau then east to Oconto near Green Bay. By looking over the state map we find two-thirds of the area of our state in this western and northern district.

Statistics for 1900 show that we have 40,905 acres of apple orchard in the state, with 1,338,917 bearing trees; the county of Sheboygan in 1900 had 2,665 acres of apple orchards with 92, 123 bearing trees, being the highest out of the 70 counties of the state for bearing trees, the only counties of the state not having any bearing trees are, Forest, Sawyer, Vilas, in all other counties apples are grown, and undoubtedly by this time they grow apples in said three counties. In comparing figures I find at least three-fourths of the apples of the state are grown south and east of the Wisconsin river, although the counties of Crawford, Richland, Sauk, Vernon, Monroe and La Crosse make a very good showing aside from these. In the western and northern part of the state apple growing is in its infancy, with the exception of the counties lying along the Mississippi river to Pierce county. The northern part of the state is comparatively new, having been covered with heavy timber and owned by land companies. The fine pine and hardwood forests have disappeared and in place we find fine farms all over the northern counties, with prosperous cities and villages. With the present rush for Wisconsin land it will be but a few years until all of the land will be occupied.

Now, can we successfully undertake commercial orcharding in the western and northern part of the state? I would say yes and no. I am aware that we have severe winters and probably never will be able to compete with the southern and eastern apple growing states for number of bushels, but for quality and beautiful fruit Wisconsin don't have to take a back seat, and we can safely show our fruit at any fairs, and compete with any state for size, quality and beauty.

The compliment of Prince Henry and Bob Evans in speaking of the beautiful women of the Cream City, if they had traveled over the state they would have found them in every village and city of our state, we have the climate that gives the rosy cheeks, not only to the women but to our fruit.

The remark is often heard that apple growing will soon be overdone and prices get below a paying basis. Never fear this, there may be a season when prices may be low, caused by a very large crop, but this will be only for a short time. Have prices ever been better then at the present time? I think not. There will be a mar-

ket for our fruit at good prices in our northern cities, not this alone, but we can ship to the Twin cities or even farther west.

In starting a commercial orchard, bear in mind that an untimely frost in spring, or a hail storm may ruin our crop for the season, but as to the insect enimies we don't fear them as we used to. We at this time find some that will condemn apple growing in this part of Wisconsin, saying their orchards are a failure. What is the cause? To often it is ignorance, carelessness, and neglect. Through this many trees have been ruined.

Locating the Orchards.

The selection of an orchard site is not governed by any arbitrary rule, all farms do not afford the best soil and exposures for commercial orchards. The best is a high northern exposure, if you can not have this then take the next best you have, high ground well drained is very desirable. If possible the site should be elevated above its immediate surroundings, thus giving a full circulation of air, it will be of aid in guarding against late spring frosts so fatal to young fruit at the blooming season.

Soil.—A clay sub-soil is best as it prevents drying out. Nearly all of the hardwood ridges as we find them in western and northern Wisconsin have the soil for the apple, cherry and plum.

Preparation of Soil.—The most important work to be done for the future success of the orchard is in preparing the soil properly. To often the man going into orcharding is to hasty and sets his trees in unprepared soil, the result is short lived trees, a feeble growth easily affected by drouth and extreme cold, and this man at the end of five years will find if he had taken two years time to properly prepare the ground, and then plant his trees, would find his trees healthier with a large growth, than if planted two years sooner. If the soil is worn out, get it in to clover, use plenty of land plaster on it then turn under this crop and thoroughly work it. If the soil is new, as we find it north, then I advise not to use any ferrilizers, but clean it from stumps and stones and plow deep. The danger in the northern part of our state is in having too rich a soil, and not having enough air drainage, being surrounded by timber, causing to rapid growth and blighting, but this will soon be overcome by the timber being cut and the land cleared. A good plan to loosen the sub-soil

where there is a stiff clay or gravel is to use dynamite and explode a cartridge where a tree is to stand.

From Whom to Buy Trees.

To the young men whose means are limited I would advise to grow his own trees by setting root grafts in nursery rows, which he can buy very cheap, say at $10 per M or less, we have men in our state making a special business of raising them, these will be just right to set when your soil is thoroughly prepared. Every commercial orchardist should grow his own trees. To the one who has the means to buy for cash, I say buy them as near home as possible if you know the trees are O. K.. There is no need of going out of the state for trees. I can show you an orchard in my own county of 200 trees, mostly Duchess, from the Beaver Dam nursery, set forty-five years ago, and down in the valley on a gentle slope facing northwest, that are as healthy and productive as can be found in any state.

Selection of Trees.

This is a very important part of orcharding for upon care and judgment in the selection of trees, depends largely future profits of the investment. Strong, stocky and vigorous, one or two year old trees, called whips, having well developed root systems are preferable.

Varieties.—A comparatively safe guide for the planter to follow or be governed by is, study well his immediate environs, and to take counsel of those of his neighbors who have had practical experience in growing varieties on soils and exposures similar to his own. Our trial orchards at Wausau and Eagle River will aid you. Three-fourths of the varieties should be late fall and winter, such that have keeping qualities, but do not plant too many varieties.

Distance to Plant.

A decision as to the proper distance varies with different plantings and varieties, some advise thick planting, say 16x16, others 30x40. I would plant 20x20, say about 100 trees to the acre. I hope in the discussion that we may bring out the distance best suited for the north and west. Spring is the best time to plant, and have

straight rows both ways, if possible have the rows run towards the 2:00 p. m. sun, by this one tree protects the other from sun scald to a certain degree.

Culture.

Thorough and oft repeated stirring of the soil is absolutely essential to success. Such culture as will produce a good crop of corn and potatoes will keep the orchard in good health and vigor, providing the ground is fertile and kept so; in no case should small grain or grass be grown in the orchard, this mistake is so often made by the inexperienced planter. Keep your orchard in hoed crops until it gets to bearing. Then quit growing crops but continue every season [in spring] to work the soil every two weeks until July, then sow to some cover crop, either oats, barley or peas, never rye. This will hold the snow in the winter and retain the moisture, and I would say right here, lack of moisture has ruined more Wisconsin trees than the severe winters.

Pruning.

Pruning and training are nelessaiy in the successful management ment of the orchard. In looking over the orchards of our state we find that many are brushy, and such cannot grow profitable crops. The objects to be attained are: 1st. Symetrical and evenly balanced heads. 2nd. To admit sunlight and circulation of air, and at the same time maintain density of foliage to protect the trunks, limbs and fruit from the direct rays of the sun.

What to Expect The First Five Years After Planting.

First, a good deal of hard labor. Second, disapointment in not receiving the hard earned dollars you are so anxiously looking for. Third, a trying time and not so smooth a road to travel as you have looked for, but stick to the business, and you will surely receive the reward from this time on and have a yearly income to repay you threefold for the time seemingly lost. Protect the body of the trees at least two feet from the ground before winter sets in so the mice and rabbits cannot girdle them, use either lath, paper or corn stalks. About this time your trees come into bearing and you are away from the city so that you cannot dispose of your crop readily at a fair price, then put up a cold storage plant for your own use, it will pay

you to do so. Our friends, Parson and Loope, put one up last winter, by our next meeting we expect a favorable report from them on the investment.

Gathering the Crop.

Neatness and thoroughness should be insisted on in picking and sorting, and in barreling the fruit grade your fruit; the apples in every barrel should be of uniform quality if you hope to build a reputation for the future. Every barrel should be branded with your name and this should be a guarantee of its uniform contents. Try and grow the fruit by the carload, this will, in shipping to a distance save freight expenses.

To those of the northwest venturing into commercial orcharding I advise to pay a visit to A. J. Philips, of West Salem, one of the pioneer apple growers, who is ever willing to give advise, and who has done more for the advancement of the apple in northwestern Wisconsin than any other man. His experimental orchard will be an object lesson to you.

Whom May we Look for to Take up the Work of Commercial Orcharding?

It will be the young men, the students of our late Professor Goff, whose untimely death we all mourn, whom we expected to greet at this meeting, who was a helper to every fruit grower of Wisconsin. Our State society feels that we have suffered a loss hard to over come; time will tell of his faithful work, done to our society and the horticultural students; although gone he will not be forgotten.

Now the successful commercial orchardist will be the one who takes the step route as I will show in the motto, the others will fail. There are many opportunities in the west and north waiting for the right man to take hold of and be successful, also for those living in the cities, from hand to mouth, to go north into Wisconsin and soon own a fine farm and home.

Motto—"*No elevator in the house of success.*"—You reach success, not by the ease of a luxurious elevator, but by the slow and certain progress of step after step. If success were reached by the easy elevator route it would be worthless and meaningless. Many have tried to reach success by the speedy sky rocket route, and have

fallen like a proverbial stick of the exhausted rocket. Work—just good, plain, old fashioned, honest, persistent, intelligent work—wins its welcome way. Time tests all things, it tests success, separates and winnows out the sturdy wheat from the useless flying chaff. Genuine success, honestly earned by the step route, is a legitimate source of pride.

SUCCESS AND FAILURES OF AMATEURS IN ORCHARDING.

W. S. HAGER, West De Pere, Wis.

Success and failure are relative terms. Perhaps my own experiences would be as useful for a fruitful example as any. What one person might regard as success, another, with higher ideals would consider failure. When this subject was suggested to me the thought came that peshaps a few pages gleaned here and there from personal experience would be appropriate. For, though I have had flattering successes. there have also been bitter disappointments. We will begin with page one:

When a boy of five or six years, my only knowledge of apples being some seedlings grown by my grandfather, I hopefully started an orchard, by planting in nice nursery rows, all the apple seeds that I could come at, many of which were crab seeds. Being tended with care and hopeful patience, many of them came in time, to bearing. Those of you who have any similar experience will know at once whether it was success or failure. Some of those crab seedlings were just simply awful, they haunt me yet.

Next comes an experience with trees grown in the eastern states, of varieties not adapted to Wisconsin, some of which lived to bear a few apples, and all of which gradually faded out. Then removing to the northern part of Shawano county, and still hopeful, I invested with the first agent who came along, paid 75 cents a piece for varieties adapted to the locality, when coming into bearing all were Whitneys, and while being very nice, and what everyone should have a few of, is rather near like a failure for a whole orchard.

Nothing daunted, I then purchased two hundred trees from a reliable Wisconsin nursery, which, owing to press of other work, were planted late in May; a dry spring, followed by an extremely dry

summer, and land being sown to small grain that took up moisture which should have gone to the trees, many failed to grow, others were sun scalded, and as a whole, looked much like another failure.

All of this was experience of value, so that two years later upon removing farther north into Oconto county, I planted, six years ago an orchard of 500 trees, some of the fruit of which, I trust, contributed to the honors Wisconsin won at the Pan American. Modesty would perhaps forbid me to say what I think of this orchard, but I have repeatedly been told by those who ought to know that it is one of the best for its age in Wisconsin. I want also to state that the fruit last year paid the first cost of the orchard. However do not think that all of this time we were making nothing but failures, or were entirely without fruit.

The successes of my neighbors have been usually where trees have been set in some garden plat where they must of necessity be cultivated, and where they were afterward given a reasonable amount of care. Their failures usually came from setting stock not adapted to the locality, and shipped long distances; poorly planted in grass or grain land. If that does not do for them two or three winter's use as a yard for cattle and horses to exercise in, generally will fix the last remnants, then goes up the cry, you can't raise apples in Wisconsin.

Many agents are recomending varieties not adapted and too large stock. Finally, I am firmly convinced that in regard to site, that more depends upon the air drainage than upon the direction of the slope of the land, and that there is very little damage by blight where trees are not protected by buildings or other large trees. In other words, isolated trees, not crabs, rarely suffer from blight.

HOME-MADE HANGING BASKETS.

By Wm. Toole, Baraboo, Wis.

If directed by ingenuity, necessity, or odd fancies, there is no limit to the variety there may be of home-made hanging baskets. Not all used for the purpose are suitable, but even a paint keg, or an empty fruit can, may be glorified by the well grown plants which they support, and a tastefully made hanging-basket may be through neglect of the contents a reproach to the owner.

We sometimes can get from oak trees the covering which has grown over old knots and from them make suitable hanging-baskets. We have such a one at our home which is filled with the variety of sword fern called Boston fern. The basket is almost hidden by the plants which crowd the ceiling with the fronds, while the tips of these are seven feet from where the older pendant ones reach to. The kind of basket which I wish to describe is especially adapted to these ferns, and some other plants, because young plants will grow out of the sides giving an unique and pleasing effect.

The baskets are made of straight grained white cedar fence posts, cut in pieces twelve inches long and split to about three-eights of an inch equare, like samples brought here to-day. The baskets appear better if showing split surfaces to the outside than they do with a planed, sawed, or whittled exterior, so I try to have an even split surface at least to the outside and make the thickness of depth even with either plane or knife. Lay two of these prepared pieces paralelled and nine inches apart on table or work-bench, place across these two pieces about one-half inch from the ends, drive a brad through each crossing, and cross these with two other pieces placed a little closer in from the ends and fasten with brads as before, continue crossing with other pairs of sticks, drawing in a little each time and fastening with brads until you have seven or eight pieces to a side. For bottom of basket fasten thinner pieces of similar material to the last two side pieces and clinch the points of the brads. The basket is now ready for the wires for suspension and to hold the corners together so that the weight of contents shall not pull it apart. Use light copper wire, a piece for each corner, passing inside and out forming a loop at the upper edge of the corner and twisting the ends together at the bottom. Line with either damp

spagmem moss, or green sheet moss, from the woods when you are ready to put in the plants. Pretty effects may be produced by planting small ferns, selaginellas, or other suitable plants between the spaces. Rustic baskets may be made in this way from slender growth of wood, but they are not sufficiently durable to pay for the trouble. Use plenty of leaf mould in making up your soil for the sword fern and other ferns, and don't let them have much direct sunshine. Our native ferns are beautiful grown in this way in the summer, but they will have a rest in the winter.

For large baskets, plants which combine of themselves upright and drooping growth, are the best, like the sword fern, asparagus speengeri, strawberry geranium, and the joint plants, while such plants as Othenea, Moneywort and Kennilworth Ivy, need other plants with them, or else should be only in small baskets.

A COUNTRY HOME.

By CLARA A. LETTS, Appleton, Wis.

We all agree with John Howard Payne when he says: "Be it ever so humble, there is no place like home." He who is fortunate enough to have a home in the country, so closely in touch with nature, certainly ought to enjoy life and consider himself blessed.

It has been said: "The greatest of great men were farmer's sons." They spent their boyhood days upon the farm, among the green fields, wooded dales and our humble friends, the animals, wherefrom they learned many valuable lessons. Let us look at some of these men: Our great Washington, Father of our Country, a man whom all admire; Washington spent his boyhood days upon the farm and when his political work was finished, he immediately moved to his loved Mt. Vernon, to spend his declining years in the practice of domestic virtues. Lincoln spent his early days upon a farm and here was the beginning of a life that will ever be looked upon with honor and love. The great poet, John Greenleaf Whittier, spent the first eighteen years of his life on a farm. Here was laid the foundation of the deep interest, which the poet has never ceased to take, in the toil and fortunes of the common people.

Whittier's poems have been published in many volumes; many of his poems owe their origin to his tender regard for domestic iife.

Years ago it was thought anyone could farm, but to-day there is a change of opinion; the farmer needs as good an education as his professional brother, for certainly farming is a profession, not only does he need an education for one duty, but he must have an ability to do many things. A farmer's occupation is constantly changing. Farming is becoming more prosperous and attractive every year, modern improvements and the rural delivery system, makes farming a pleasing and profitable employment. The farmer who thinks farming does not pay, the unsuccessful farmer, is the careless farmer. One can easily judge the farmer by taking a drive through the country, the successful farmer has a neat place, the fences are well made, his buildings are in good condition, his machinery is in its proper place, his animals are enjoying a clean pasture and his garden and orchard show thought and care, it is such a farm all like to see and where all like to visit, especially do city people enjoy visiting at such a home.

The unsuccessful farmer is easily detected, it is readily seen, he is a careless man, his fences are down, gates are loose, fields are edged with weeds, his machinery uncared for and no doubt his cattle are feasting in his best cornfield or perhaps taking a walk to his neighbor's farm. Ask this farmer if farming pays, and he quickly answers no, it is nothing but drudgery and no profit, he answers thus because he is a careless man and has not the ability to care for his work. The most helpful thing to a farmer is care. A place for every thing and every thing in its place. Order is heaven's first law.

The rural delivery system brings the farmer in touch with the works of our great world and there is no reason that a farmer and his family cannot be able to converse upon the subjects of the day as well as his city brethern. Numerous magazines and papers may be delivered at the farmer's door every day and a few moments spent reading these articles gives one much valuable information.

In the old countries of Europe many families have two homes, a city home and a country home, their greatest enjoyment is taken when they move to their country home, here free from the noisy city, they spend many weeks, enjoying the beauties of the country.

It has been said: "The three sweetest words in the English language are heaven, home and mother." All think of heaven as a place of rest and happiness, the sanctified heart loves heaven for its purity. At some time in many lives the feeling has come: "Take me back to home and mother." An attractive home then should be the ambition of all. A country home may be made attractive in many ways, plant trees and flowers, provide literature and make the country home the admiration of all. Young people enjoy a happy home, if many homes were made more attractive and the young people given more advantages, they would remain on the farm.

"To him who in the love of nature, holds
Communion with her visible forms, she speaks
A various language, for his gayer hours
She has a voice of gladness and a smile
And eloquence of beauty, and she glides
Into his darker musings, with a mild
And gentle sympathy that steals away
Their sharpness, ere he is aware."

REPORTS OF FRUIT CROP THROUGHOUT THE STATE.

A. J. Philips, West Salem: Apple trees blighting and fruit dropping badly. Very few plums set on trees, owing, I think, to poor fertilization. Grapes will be a light crop. Blackberries look promising for a good crop.

W. J. Moyle, Yorkville: Apples in this locality will be a fine crop, but throughout the greater part of the county badly damaged by blight. Every old stump that had life in it set full of fruit last spring and will mature the crop where not struck by blight. Plums will be a fair crop only on Lombard, Rockford and Quaker. Grapes badly mildewed, even on the wild varieties. Blackberry prospects are fine where there are any bearing cane.

Geo. J. Jeffrey, Milwaukee: Condition of apples at present is good. Wealthy too full and want thinning. Duchess bearing and hanging well. Charlemoff very good. Lowland raspberry extra good. Utters fine. Mann is putting forth a good growth in tree

and fruit. Pewaukee, St. Lawrence and others are doing well; as to my own orchard, and as far as my observation extends, the fruit prospects is fine. Plums not an average crop. Grapes are doing well. A good growth of vine and the grapes are hanging fairly well. Pears will be an average crop. Crabs a full crop. Cherries a good crop. Strawberries did well, and currants more than an average crop.

A. N. Kelley, Mineral Point: Wealthy, Longfield, and Fameuse hang on the trees pretty well and are in good condition. Dutchess are poor quality, especially on trees that bore last year. Our crop in general is light, but some young orchards near by that did not bear last year are quite full. Some of our trees are injured very badly by blight. Those most effected are Yellow Transparent and McMahon. Those least effected are N. W. Greening, Ben Davis, Wealthy and Scott's Winter. Native plums such as De Sota and Hawkeye hang to trees well, but Red June and Abundance have nearly all dropped and Lombard had no blossoms.

C. L. Pearsons, Baraboo: Apples gave promise of a heavy crop but owing to blight of the foliage the yield will be considerably curtailed. However, if blight does not continue its ravages we will still have a fair yield of apples. Mr. Tuttle reports the blight the most severe that it has ever been. Franklin Johnson reports blight as being bad, but has not increased any for two weeks. Jay Palmer says "his trees are not badly blighted." He has a large commercial orchard. A few orchards show scarcely any blight. There will be a poor crop of plums, and same applies to grapes. Blackberry acreage small compared with former years. Plantations which received winter protection are in good condition, also a few fields on north slopes with timber belt on the south are all right. Fields in exposed locations were killed either by dry weather of last season or winter killed, perhaps both.

A. L. Hatch, Sturgeon Bay: Apples a full crop. Only a few traces of blight. Plums about a fourth crop. Blackberries promise extremely well. Shipping strawberries now.

W. L. Ames, Oregon: Apples blossomed freely and a good crop set. Doing very well at present. Blight more prevalent than for

years past, marking crab apple trees worst of all. A good and more than average crop of plums. Grapes good.

A. A. Parsons, Omro: Apples as a whole about 50 per cent crop. Some varieties much better than others. Three-fourths of all apples on old trees destroyed by curculio. Plums about 25 per cent crop. Grapes 10 per cent. Blackberries, red and black raspberries, 5 per cent. Longfield badly injured by blight, about 50 per cent. McMahon, Wealthy, Duchess and Fameuse, in the order named, 25 per cent. Old Duchess 50 per cent.

Gertrude M. Cairns, Ellsworth: Crabs very light crop. Duchess medium to good. Other standard varieties poor with some exceptions in the case of trees bearing light crop last year. Seedlings in my orchard, good. Crab trees severely injured by blight where ever exposed to strong sun-light. Leaves marked on standard apples but most varieties more or less effected. My seedlings practically untouched. Plum trees blighted slightly. Blight has appeared where we have never had it before, as on Flowering Almond. No crop of plums as fruit all destroyed by severe weather and east winds while in bloom. Deleware and Rogers grapes setting very well. Concords less promising. All vines appear extremely thrifty. Blackberries promise a fair crop, better than seemed possible earlier in the season.

C. A. Abbott, Appleton: Apple trees well loaded with fruit, but are dropping badly. Trees badly blighted, in my opinion about 75 per cent of them. But a few plums grown here. Grapes are looking well. Blackberries well loaded with fruit at the present time, but raspberries badly winter killed.

Geo. J. Kellogg, Lake Mills: In apples, Fameuse will be a full crop. No scab yet apparent. Yellow transparent a fair crop. Wealthy very heavy crop and fruit fair. N. W. Greening light. Duchess only a fair crop. Crab apples heavy, blight also heavy. Utters very full and fair. Ben Davis very full. Other apples variable. Some orchards have full crops of most varieties, while others have not recovered from the drouth of last year. Plums almost an entire failure, owing to snow storm and chill connected with the long

continued storm at blossoming time. Burbank in some instances full. Grapes very fine show on vines, set since 1899. A few of old vines have recovered and are full. Hail has injured grapes more than other fruit. One large orchard owned by Mr. Tynte bore heavy in 1900, made no growth last year and is in very poor condition. Hail has ruined pears and apples in some localities. Pears on John Schutz's orchards are very full and fair, bending trees to the ground. Some are now ripe.

A FEW THINGS WORTH KNOWING.

Strawberry beds that have fruited this year should be cleaned out and put into condition for next year's fruiting. There are different methods of doing this and each grower has his own way of doing it. About the quickest and least expensive method is to mow the bed as soon as through fruiting. Rake off clean with hay rake and either burn or draw off the refuse. The bed should be mowed immediately after picking has ceased, for by so doing you prevent many weeds from going to seed. After the bed has been well raked, narrow the rows by using an eight inch plow, plowing a back furrow between the rows. Narrow the rows to about six inches. After plowing run through with a cultivator leveling off the ground lengthwise of the row, and drag the bed crosswise to fill up any ditches left by the plow; this will also clean out any old runners and small weeds that may be in the rows between the plants. After the plants have started fresh, give a hoeing, and continue cultivating and hoeing as it may require. Any gaps that may be left in the rows may be filled by the setting of new plants, taking from new settings.

New beds set this year should be gone over frequently with hoe and cultivator. A bed kept free of weeds this year will be much freer of them next year in fruiting time. If any plants set this year have failed to run and gaps are left in the row, fill in with new plants which will be set from runners this month. If one is desirous of obtaining new plants early from this year's setting, throw a little dirt over the tip end of the runners and they will root much faster.

The young, growing plants of the raspberries and blackberries

can be transplanted successfully any time during the season if dirt is left about the roots. This is besr done immediately after a rain, as the soil will adhere to the roots much better. A light mulch of manure placed about them will do much to retain the moisture about the roots.

In picking raspberries and blackberries do not pull from the stem directly, the berries should be picked with the thum and first two fingers, and instead of pulling directly. gradually roll the berry from the stem, they will not break so easily this way. Broken raspberries have a tendency to become soft, making the balance of them in the same condition, and giving a bad appearance to the package when opened. Boxes should be well fiilled, especially corners of the boxes, as raspberries being smaller than strawberries, have a tendency to settle more. Ship to the closest market possible and by the most direct route. Raspberries will not stand too much handling, and care should be taken that they are no- picked too long before shipping. Place in pint boxes and covers should fit tightly so that air will not strike them.

In an article on plant exposures in window gardening Mr. E. Rexford, in Home and Flowers for March, describes the conditions proper for exposure in regard to sunlight, etc., as necessary for the best success. He says: to give a list of plants adapted to the several exposures, the list would be something like this: For eastern windows: Fuchsias, begonias, calla, Chinese primroses, primula obconica azaleas, plumbago, stevias, lobelias and all kinds of bulbous plants.

For southern windows: Geraniums, roses, chrysanthemums, carnations, lantanas, oxallis, oleanders, abutilons, hibiscus, marguerites and most of the plants having richly colored foliage.

For western windows: Bright leaved plants, and a few of the more "accommodating" plants. like the geranium, provided the effect of too strong sunshine is modified somewhat.

For northern windows: Ferns araucarias, English lives, palms, aspidistra, ficuses and seliganellas, Roman hyacinths, primula obconica and Chinese primroses will often bloom well in sunless windows.

THINGS TO DO THIS MONTH.

Clean out the old strawberry bed if not already done. Mow off and burn over the bed. This kills many destructive insects and weed seeds. Narrow the rows by plow or cultivator and drag over thorough both ways, when this is done treat the same as new bed.

Go over the new beds of strawberries and fill in vacancies made by the grub or where plants failed to come. There will be enough new plants by this time to do this.

Frequent cultivation in the orchard and small fruits keeps the soil moist and prevents weeds from growing. Encourage the new growth until frost appears, when cultivation should cease.

Trim out the old canes of raspberries and blackberries as soon as the fruiting season is over, and burn them. While doing this cut out any new growth that appears weakly or seems to be diseased.

Whenever you see a twig in the orchard that is liable to give trouble by crossing another, take it out, whatever the season of year. Do not prune too much. The thicker the head the better, provided it does not get too dense so as to exclude the light and air from the leaves. The form of the tree must also be studied.

Sow the young orchard to buckwheat and plow under when in bloom. This adds much fertility to the soil and keeps soil much freer from weeds.

The cover crop for the orchard should be sown the latter part of this month. The best cover crop seems to be oats.

From a special spray calendar, issued by the Oregon State Board of Horticulture, we take the following: All fruit trees should be sprayed in the fall, as soon as all the leaves have dropped, with sulphur, lime and salt; if no scale are present, full strength Bordeaux mixture will be found sufficient.

For Twig-Borer and Budmoth: Spray in the fall, as soon as all the leaves have dropped, with sulphur, lime and salt solution, followed up in the spring, as soon as the buds begin to swell, with the following wash; Sulphate of copper, 3 pounds; lime, 4 pounds; Paris green, 4 ounces; water, 45 gallons; and, again, with the same wash the latter part of May.

DEPARTMENT OF HORTICULTURE AT STATE FAIR, MILWAUKEE, SEPTEMBER 8-9-10-11-12.

John L. Herbst, of Sparta, will be superintendent of the above department, assisted by L. G. Kellogg, of Ripon. Prof. Samuel B. Green, St. Anthony Park, Minn., will judge the fruits, and Wm. Toole, Baraboo, will place the award on flowers.

RULES GOVERNING ENTRIES.

1. All exhibits in this department must have been grown in Wisconsin.

2. Cut flowers must be properly arranged by Wednesday at 9 A. M. All other articles must be upon the table and properly arranged at 12 o'clock M., Tuesday.

3. Exhibitors, if requested to do so, will be required to make an affidavit that the fruits exhibited by them were grown on lands owned or controlled by them at least six months preceding the fair.

4. Exhibitors are requested to notify the superintendent of the department at least ten days prior to the beginning of the fair of the number of plates desired for their exhibit.

5. All plates to consist of four specimens except crabs and plums.

6. Printed labels will be furnished exhibitors, who will be required to use the same.

7. No article can compete for more than one prize number, except in sweepstakes.

8. Where the premium list specifies the number to compete, exactly the number of each kind necessary to compete must be entered, no more, or no less.

9. Professional florists shall mean those who own or lease greenhouses.

10. No premium will be awarded in this department on inferior specimens or collections.

Those intending making exhibits should advise the superintendent as soon as possible, about the number plates wanted and space, he or she wishes to occupy. Intending exhibitors in flowers and plants should also advise the superintendent, so that ample time will be given him to secure the necessary articles and make preparations. For premium list address Jno. M. True, secretary, Madison, Wis.

STRAWBERRY FIELD NOTES.

Geo. J. Kellogg, Lake Mills, Wis.

From my experimental garden I make the following report for 1902:

The early spring was dry; satisfactory showers through May; plenty of rain in June with rather cool weather; an overabundance of rain in July.

First strawberry blossom was May 1; first ripe berry May 29; picking for market June 4; the last mess for the table July 16.

The first ripe berry was Excelsior, about fifteen minutes earlier than Michael; following close after was Crescent, Warfield, Wood Johnson's Early and Mexican. The last pickings were from Windsor, Rough Rider, Gandy, Parker Earle improved, Margaret and Enormous. While there were a few nice berries on Gladstone, William Belt, Dunlap, Brandywine, Ocean City and Enhance.

The largest berry this year was Jessie, measuring eight inches; one berry of William Belt July 15th measured four and one-half inches.

Of the fifty kinds I have fruited this year I shall discard Excelsior, Mexican Everbearing, Johnson's Early, Brandywine, Seaford, Ocean City, Louis Gaunthiere, Bennett, Carmi Beanty, Gibson, Tubbo, and Pride of Cumberland.

The best all-around berry I have found in the last ten years is Dunlap (Senator Dunlap). It is medium early and holds late, perfect blossom, healthy foliage; it has only one fault—all varieties have more or less faults—it makes too much push, too many plants; this vigor is all in its favor if restricted to a narrow matted row or kept in hedge rows or hills; if allowed to run wild it will soon lose its productiveness.

Parker Earle Improved is so productive it cannot ripen its fruit; it is worthless in matted rows; the only improvement it has over the parent, Parker Earle, is that it makes more plants, but it must be fed and watered or it will kill itself bearing.

Maximus, which I believe was introducud by J. H. Hale, of Connecticut, which I procured of R. M. Kellogg, Michigan, is Jessie pure and simple; if there is any Maximus I should like to know where.

The New York, Emperor and Empress. all bought of Kellogg, of Michigan, and Allen, of Maryland, are all Jessie, pure and simple.

Bismarck of Allen is Enormous and nothing else. If I was to name the one best berry I should say Dunlap. Never before could I name a berry that would fill all requirements; the only fear I have is it may run out and prove unproductive.

The next best perfects for bushels are Wood, Splendid, Lovett, Clyde and Glen Mary. The best pistillates are, for bushels, Warfield, Crescent, Haverland, Sample, Enormous and Windsor. For show berries Glen Mary, William Belt, Sample, Marshall, Nic Ohmer, Monitor, Hero, Jessie, Cumberland, Klondyke, Dunlap, Clyde, Gladstone, Ocean City, Gibson, Gandy and Ruby. Promising for further trial are Schultz Seedling, Kansas, Rough Rider, Michigan, Margaret and Mexican Everbearing, of Rowe, Michigan.—*Wisconsin Agriculturist.*

COVER CROPS.

Cover-cropping is the raising of a crop in the orchard after cultivation ceasts, that will protect the roots of the trees by preventing alternate freezing and thawing of the ground. Some cover-crops also add fertility and better the conditions of the soil. There are two classes of cover-crops: The "nitrogenous" and "non-nitrogenous." Where the soil is hard and tough, rye, oats, buckwheat, or rape, should be used. Buckwheat is particularly very useful on hard soils, but should not be sown too early to allow the seed to form before the frost. The above crops add but little nitrogen to the soil.

The clovers, vetch and cowpeas, should be sown where nitrogen is lacking. Where the soil is mellow, the common red clover seems to be used largely. If your trees are planted on mellow and friable soil, and growing slowly they probably need nitrogen and the nitrogenous crops should be sown. On the other hand if your trees are making a good growth and the soil is heavy, the non-nitrogenous crops should be tried.

The following cover-crops are given by John Craig:

Non-nitrogenous: Rye, two bushels per acre; buckwheat, ½ bushel per acre; oats, 2½ bushels per acre; corn, broadcast, 1 bushel per acre; rape or turnips, 3 pounds per acre.

Nitrogenous: Crimson clover, 16 pounds per acre; red clover, 14 pounds per acre; sand vetch, 1½ bushels per acre; Soy beans, 2 bushels per acre; cow peas, 2 bushels per acre; field peas, 1½ bushels per acre.

IMPROVEMENT IN ORCHARD FRUITS.

C. G. PATTON, Charles City, Iowa.

Whenever I approach this subject it is with a sense of delicasy, because for more than thirty years my life has been so inseparably inter-woven with the effort to improve our fruits, and outside of the nursery and orchard, work has occupied so much of my time and thought, that I cannot well treat upon it without appearing to be more to it, and in it, than I could wish.

Coming to Wisconsin at the age of sixteen, and having lived in the state for sixteen years; being always especially interested in fruits, and then moving a hundred miles west of the Mississippi, in the same latitude and in an open prairie region, gave me better opportunities for comparison then fell to the lot of most of the northern horticulturists.

The drier climate and soil conditions that existed there soon forced the conclusion upon me, that original and thorough experiment work was a necessity, and in my early efforts to reach a correct estimate of the work before us I was greatly indebted to the men of Wisconsin like Peffer, Plum, Tuttle, Stickney and Wilcox, and I would not forget to add to the number the name of C. S. Abbot, whom some of the older members of this society will remember as a writer for the Wisconsin Farmer, to him I have felt especially indebted for the more scientific character of his writings. Before moving from this county to my present home, in 1864, I had begun to reckon with climate influences on plants and trees, and after observing the different varieties in Dane county, Wis., and Floyd county, Iowa, I was fully convinced of the necessity of more than merely collecting and testing the then present varieties.

In the summer of 1869 I visited Wisconsin and received from my brother-in-law, Mr. P. S. Eastman, a few very fine Duchess and Lowell apples grown by his father, Mr. Daniel T. Eastman, nine

miles north of Portage, from the seed of these Duchess grown in an orchard of eastern varieties, sprang the Patten Greening, now thirty-one years old and in strong bearing condition. Beside it the same spring were planted three Wolf River trees received from that most generous and enthusiastic horticulturist, Wm. A. Springer: two of these trees have long since died and the third is a broken wreck, never having borne one twentieth as much as the Greening. I present to you a photographic view of these trees as they now stand. Standing on medium prairie soil twentyone years, beside the McMahon, its productiveness is more than ten to one of the latter, and markedly superior to it in every respect. In a like number of years of the former and latter planting, Mary, Martha and others of Mr. Springer's distributions have all failed as root grafts, and Scott's Winter, Magog Red Streak and others from Vermont, have either died or are nearly valueless, and varieties from Canada have proven no better. Compared with a large number of Russian sorts for a like period, nothing approaches it in bearing and value except the Longfield, and that is not as hardy.

In 1874 seeds of the Golden Russet were planted producing a tree that is far hardier than its parent, and of which Mr. L. G. Clute a large orchardist near Greely, Iowa, said that the fruit brought him one dollar a barrel more than that of any other variety. Again seeds of the Famuse planted the same year gave a sort of which Mr. J. L. Hartwell, of Dixon, Ill., said that his wife would not allow him to bring in any other apple for sauce so long as it lasted. and others praise it highly. It bears young, is fifteen per cent. more hardy than its parent Famuse, a third larger, and a good desert apple. Seeds of the Perry Russet have given similar results. With such evidences pressing upon my attention, almost from the very beginning, do you wonder that I became an enthusiastic advocate of planting the seeds of the best adapted varieties, and in large quantities, in all the varing climatic divisions and sub-divisions of the great northwest. The evidence to my mind was conclusive, that upon this practice hung the future prosperity of horticulture in all the region to which I have referred.

The first comparative test was made thirtyone years ago of Duchess and Lowell seeds from Mr. Eastmans farm, of large Red Siberian

seeds grown at Fox Kake, and some seeds of eastern grown apples, I think the Baldwin, the Greening was the resulting success. Lowell seedlings only half hardy, eastern seedlings very tender, Siberians nearly all hardy and nearly all top grafted to Pewaukee at three years old, uniting freely and growing with great promise until the winters of '83 and '84 to '86 and '87 killed every one of them.

I scarcely need say to you that the confirmation of my theories was altogether too practical for my purse. But it taught me a lesson in the breeding of the apple, and while other presumed hardy sorts from every source were tried, the lesson that it taught was never forgotten. It taught the lesson that eastern Wisconsin was not likely to produce new fruits that would be adapted to the prairies of northern Iowa, but would produce new sorts suited to its own climatic conditions. And henceforth Famuse, Talman Sweet, Golden Russet St. Lawrence, Walbridge and trees of like hardiness were sparingly planted either in orchard or nursery.

It is well known to breeders of animals that one out of several has better form, better constitution, better disposition, in fact is an all round superior animal to scores of others equally well bred. The same law holds good in the varying grades of perfection in a hundred seedling apples. And while making a few more statements in reference to the Greening apple, let no one think that I would advise them to dig up other varieties and plant this tree, or do anything that would redound to other than the true interests of horticulture.

Adaptation to especial climates is the rule, and widely adapted varieties, like the Duchess apple and the Concord grape are the extreme exceptions. Breeding trees and plants from the "survival of the fittest" or most perfectly adapted varieties, is the key that will unock the door to success. With Charles Darwin I believe that varieties develop into families, sub-species and species. Acting upon this thought seeds were gathered from the orchard that once stood here on your university farm, and from my own small orchard planted in the spring of 1871, from the inter-locking limbs of Famuse, Golden and Perry Russet, surrounded by Duchess and Wealthy, and also from Duchess top grafted with Grime's Golden and Golden Pippin. The result has been some distinctly well marked crosses of good quality and increased hardiness.

It so happened in the process of natural selection that this Patten Greening is one of those units of plant development that combine more of hardiness, perfection of leaf, vigor of tree, adaptation to varied soils, large and uniform size of fruit, excellency of cooking qualities and early and abundant fruitage, surpassing in this last respect any apple known to the writer. In one instance, about fifty miles from St. Paul, the past year, there was gathered from each of several trees between five and six bushels to a tree, from trees only six years planted. Longfield about three bushels, Wealthy scarcely a bushel, and Ben Davis two bushels. In one other respect this apple is most remarkable. While Prof. John Craig was superintendent at the experiment station at Ottawa, Canada, he tested forty-seven varieties of apples for drying purposes. The Wealthy made 4 lbs. 8 oz., Longfield 5 lbs. 15 oz., Malinda 8 lbs. 7 oz., Famuse 6 lbs. 14 oz., McMahon 8 lbs. 2 oz. and Patten Greening 16 lbs. It made six pounds to the bushel more than any other of all the varieties tested, and nearly double the amount of any apple at all adapted to our climate.

Looking into this question of plant breeding a little further let me ask who ever heard of a Baldwin, a Roman Stem, a Spitzenberg, or a Jonathan Seedling of any value? Is there not great significance in the fact that nearly every one of these apples, including Northern Spy, Rhode Island Greening and other valuable eastern varieties were so stamped by their climatic environments in their constitutions and sexual organs, that they never could succeed at all west of the great lakes, or if enduring are unfruitful? And is it not of more significance to us who are struggling with this problem of originating varieties suited to our needs, that Wine Sap, Ben Davis, Talman Sweet, the Russets, Perry and Golden; Seek-no-Further and the Famuse. The first originating in New Jersey, the second in Kentucky, the third in Rhode Island, the fourth in New York and England, the fifth in Connecticut and the Famuse in France—that these varieties have gone from three to five hundred miles beyond the lakes, and have spread over a wide stretch of latitude into the prairie regions? Should we not be attracted by the fact that the beautiful winter Wine Sap, originating on the eastern shore of the continent, should be at home in Tennessee, in Arkansas, in Missouri, in parts

of Iowa and Nebraska, and that it has become the parent of large, good and highly colored apples? Can we possibly ignore the fact that the excellent, aromatic and highly colored Famuse, originating beyond the ocean, is at home in nearly all the apple growing sections of this country, and that it has a wider range of latitude than any other dessert apple, and that it has already produced several most excellent varieties, the McIntosh being one of them, and of decidedly superior quality and more beautiful? Again a seedling of this sort originating with your speaker and shown at the Iowa State Fair in 1896, was readily accorded the first premium for the best seedling. The tree is ten to fifteen per cent. more hardy than its parent, is a third larger and hangs well to the tree, has a mingling of sweet and acid something like Grime's Golden, and is of the most brilliant color. Again another seedling of the Famuse originating with me in 1874, to which reference has been made, is of fine color an early and continuous bearer, large in size and of dessert and cooking quality. These and other sorts stamp the Famuse as a prepotent variety to which our northern State Experiment Stations should look for improvement.

Crossing with nearly allied varieties, or with hardy and distinctly marked ones is a well recognized law of advancement, and there is no longer any reason for the haphazard breeding of fruits. Even the farmer horticulturist by taking note of the opportunities in his orchard, and selecting the very finest specimens of the very best adapted varieties for his planting, can be almost as sure of success as can the intelligent breeder of animals, and with the added chance that he may secure a Western Baldwin, an improved Wealthy, or possibly a delicious Northern Grime's Golden.

BLIGHT.

OLIVER GIBBS, Prescott, Wis.

Commenting on the Wisconsin Agricultural experiment bulletin on blight, Mr. Gibbs, says: "It is good as far as it goes, but it should be added that the best remedy is to avoid planting the Transcendant and to root that variety out where ever it is all ready grow-

ing in the vicinity of other apples, and next, to avoid all other varieties that show a bad tendency to blight when standing where it appears to originate with them. In a long period of observations on this subject in Minnesota, Wisconsin and South Dakota, I have never known a fruit grower, who followed this rule, to have much trouble with blight, unless it came from neighbors' trees near by.

The Transcendant, it is true, is one of our best crab apples, but there are others of the same season, or later, of equally good quality, that have not this inveterate blighting habit.

Next winter it will be a good thing if our State Horticultural Society, after a full discussion as to those on trial, make up a list of the best crabs as a substitute for all the blighting sorts.

My own choice from experience is the Gibb, originated by the late George P. Peffer, of Pewaukee, and named after Charles Gibb of Canada. Virginia has long been recommended and Lymans Prolific is coming into great favor. I saw the original tree on Mr. Lymans' grounds last winter. It has a spread of forty feet, is near a lot of old Transcendants and has never itself blighted."

FREDERIC CRANEFIELD.

FRONTISPIECE.

Frederic Cranefield whose portrait appears as the frontispiece in this issue, was born near Madison, Wis., July 23, 1865. His early life was spent on the farm. After finishing the common school he spent three and one-half years in the Madison High school and graduated with the class of 1884, the following four years were spent in teaching the common and graded schools in the vicinity of Madison. Following this he served as an apprentice to a florist, in Milwaukee, and after this was employed by many of the largest green house establishments in the northwest, principally St. Paul and Minneapolis. At the request of Prof. Henry, Dean of the Agricultural college, at Madison, he returned at the time when the construction of the present Horticultural building at the University had not progressed further than the foundation walls, and has been connected with the horticultural department since that time as assistant Horticulturist.

His associations, formed in his high school career, were not wholly forgotten and he was married in 1894 to one of his classmates. They have two boys that they expect to train in the horticultural pursuits.

Our late Prof. S. E. Goff, whose timely articles and bulletins have done much for the horticultural interests of the state and northwest, was ably assisted in this work by Mr. Cranefield.

Mr. Cranefield has written many articles for this and other periodicals, which have been a great aid to the fruit growers of our state. At the present time he is at work on a bulletin (to present later) that will treat of the blight, which seems to be prevalent more than usual, the past year, to the apple trees of our state.

EDITOR'S NOTES.

The article on Thinning, Picking and Marketing Plums, printed in the July number of HORTICULTURIST, should be credited to Mr. Frederic Cranefield, who is connected at the University as assistant Horticulturist. His picture appears as frontispiece in this number, and his articles written for this and many other papers are very interesting and instructive.

Do not forget to make the preparations to attend our State Fair the coming season, which will be held at Milwaukee, September 8, 9, 10, 11 and 12th, 1902. This will be the 5th annual exhibition under the auspices of the Wisconsin State Board of Agriculture. Many new and promising features will be added. The exhibits should be bigger and better than ever. The past season has been quite favorable for the production of the various fruits, vegetables, flowers and plants, and this department should eclipse all previous years, in size, quality and number of entries. Parties intending to make exhibits in the horticultural department should speak in time for space. Those who have not received a premium list should address this office or write to Jno. M. True, Secretary, Madison, Wis.

This office is in receipt of the proceedings of the first annual meeting of the Iowa Park and Forrestry Association, held at Des Moines, Iowa, December, 1901. It contains the constitution, by-

laws, and list of officers, as well as all the papers and discussions with many half-tones. Prof. T. H. MacBride, of Iowa City, is president of the Association, and L. H. Pammel, of Ames, Iowa, secretary.

The firms of Coe & Converse, F. C. Edwards and J. M. Edwards & Sons, of Fort Atkinson, have combined and hereafter the firm name will be The Coe, Converse & Edwards Co. R. J. Coe is president; F. C. Edwards, vice-president; A. J. Edwards, secretary; D. C. Converse, treasurer, and J. M. Edwards, director. They have 120 acres devoted to the growing of choice nursery stock.

We have received the last annual report of the Michigan State Horticultural report. It is a cloth-bound copy of 200 pages containing the papers and discussions of both their summer and fall meetings and is well illustrated. Mr. R. M. Kellogg, of Three Rivers, is president, and Charles E. Bassett, of Fennville, is secretary.

A. T. Erwin, assistant professor in horticulture at Ames, Iowa, has just returned from a trip through northern Iowa and Southern Minnesota and reports the plum crop as being very light, in fact, almost a total failure in many of the best orchasds.

CANKER OF APPLE TREES.

BULLETIN NO. 70—ILL. AGR'L. EXPERIMENT STATION.

By HEINRICH HASSELBRING, B. S., Assistant in Vegetable Pathology.

CANKER DISEASES.

Throughout the fruit growing region of Illinois bark diseases of fruit trees are common. These diseases are popularly known as "cankers." Their injury consists in destroying more or less extended portions of the bark of living trees. thereby causing serious wounds which interfere with the nutrition of all parts 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 destroy all or a part of the affected trees.

The term "canker" has long been used in England to designate the irregular and knotty excrescences resulting from the continued struggle of an injured part of a tree to heal up wounds caused by various agencies as sun-scald, frost, or parasites. In the last case the struggle between the tissues and the parasite continues for many years and large knotty growths are formed at the wounded spot. The European canker caused by *Nectria ditissima* is an example of this kind. In America the term "canker" has come to be a general name applied to all diseases involving more or less extended areas of the bark, although these diseases differ widely in cause and in the effects produced on the host. It is, therefore, a generic term covering a wide range of injuries. So long as this is borne in mind there can be no objection to its use. Moreover it is difficult to replace popular names by others arbitrarily chosen. When, however, it becomes necessary to distinguish between different cankers, more precise names, as "New York apple tree canker" may be used.

Some of the common cankers caused by parasites are described below in order to enable fruit growers to distinguish them and acquire a more accurate knowledge of these diseases. This report is chiefly concerned, however, with a new canker disease which is doing serious damage in the apple orchards of Illinois. This canker is caused by a fungus, *Nummularia discreta*, Tul., which has not been reported as a parasite. In order to distinguish this canker from others it may be designated as the "Illinois apple tree canker."

The best known of the canker diseases is that caused by *Nectria ditissima*. This parasite is common in Europe on beech, apple and other trees. The mycelium kills a part of the bark, forming cracks which are partially grown over by the neighboring tissues. The rapid development of the mycelium prevents complete healing and as the process is continued year after year large knots or cankers are produced. In these the wood is laid bare and shows the concentric thick ridges caused by the healing tissues. This canker is not common in the United States.

In New York, Paddock investigated a bark disease which he designated as the New York apple tree canker.* By a long series of careful investigations and cross inoculations he showed this disease to be due to the fungus, *Sphæropsis Malorum*, Peck, which causes the Black Rot of the apple. The appearance of the limbs injured by this fungus is various. Paddock describes the diseased limbs as having dark enlarged sections with roughened bark and portions of the wood laid bare. The dead bark clings tenaciously to the decaying wood. This canker is very common in Illinois. The fungus attacks nearly all parts of the tree from the trunk to the youngest twigs. The bark on the diseased limbs at first assumes a dingy brown color and is closely appressed to the wood. It may remain in this condition for a long time, sometimes until the canker spot is nearly a foot in length. Around the margin of the spot the diseased bark is slightly depressed and is separated from the sound bark by a distinct line and often by a narrow crack. Cracks and rifts appear later over the diseased surface and the bark assumes the dark charred appearance characteristic of the canker.

The white grub (Lachnosterna Sp) has been reported as quite common throughout the state. It is found generally in sod land and in manure. It is a larva of the common "May-beetle" and feeds upon the roots of strawberry plants. The eggs are laid in the ground and hatch into white grubs which feed upon the roots of plants.

The best remedy is rotation of crops, only growing the strawberries for two years on the same ground. If sod land is to be used for the bed it is best to grow other garden crops on the land for one or two years.

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*Paddock, W. The New York Apple Tree Canker. N. Y. Agr. Exp. Sta. Bul. 163 (1899) "The New York Apple Tree Canker" (second rep.) do. Bul. 185 (1900).

STATE HORTICULTURAL MEETINGS, 1902.

Wisconsin State Horticultural Society—Madison, Wis.....Date not Decided
J. L. Herbst, Secy.
Minnesota State Horticultural Society—Minneapolis, Minn.....Dec. 2—5
A. W. Latham, Secy.
Iowa State Horticultural Society—Des Moines, Iowa.....Dec. 9—12
Wesley Green, Secy.
Illinois State Horticultural Society—Champaign Ill.....Dec. 17—19
L. R. Bryant, Secy.

STATE FAIRS AND EXPOSITIONS, 1902.

Iowa—Des Moines .....August 23—30
J. C. Simpson, Secy.
Nebraska—Lincoln.....August 29—September 5
Robert W. Furnas, Secy., Brownville, Nebraska.
Minnesota—Hamline.....September 1—6
E. W. Randall, Secy.
Ohio—Springfield.....September 1—6
W. W. Miller, Secy.
New York—Albany.....September 8—13
S. C. Shaver, Secy.
Indiana—Indianapolis.....September 15—21
Charles Downing, Secy.
Missouri—Sedalia.....September 22—27
J. R. Rippey, Secy.
Illinois—Springfield.....September 29—October 4
W. C. Garrard, Secy.
Texas—Dallas.....September 27—October 12
Sidney Smith, Secy.
St. Louis Fair.....October 6—11
John Hachmeister, Secy.
New Jersey—Trenton .....September 29—October 3
M. R. Margerum, Secy.
West Michigan—Grand Rapids.....September 29—October 4
C. A. French, Secy.
Central Canada—Ottawa.....August 22—30
E. McMahon, Secy.
South Dakota—Yankton.....September 8—12
Walter B. Dean, Secy.
Milwaukee Industrial Exposition.....September 6—27
A. Trumpff, Secy.

OMRO, WIS., June 13, 1902.

Tne Omro Horticultural Society begs leave to report that their membership continues about the same and the attendance at the meetings is large, with a good deal of interest manifested. We intend to hold another Chrysanthemum Show and Fair next Nov.

Strawberry crop not very plentiful in this immediate vicinity, but very large and fine where there is any. Fruits in general were badly damaged by a severe hail storm and apple trees are badly affected with a blight; there is scarcely any exception either in variety or location.

Mrs. R. T. Darrow was elected as our delegate to the summer meeting, and Mrs. George Buck as alternate.

MRS. JOS. D. TRELEVEN, Secretary.