REPORT OF SECRETARY AS SUPERINTENDENT OF FIELD WORK.

This report will be confined to the briefest possible statements of facts and policies as the report of the chairman of the visiting committee covers in detail the general conditions of the orchards.

WAUSAU.

Orchard now in sod; grass cut three times during season and left on ground; crop fair for "off year;" varieties fruiting—Duchess, N. W. Greening, Longfield, McMahan, Patten, Wealthy, Dudley, Okabena, Hoadley, Dominion—in addition to many in the experimental plot.

Yield of apples estimated at 350 bushels. Cherries 406 qts. Plums fair crop.

Canker almost entirely subdued although an occasional case is discovered. 12 Duchess planted to fill vacancies next to highway.

MEDFORD.

Orchard in good condition, losses of trees very slight; a few trees bore for first time; orchard enclosed with woven wire fence and turned posts.

BARRON.

In the three acres set, (one acre 1906, two acres 1907,) 95 trees died during 1907 as follows:

One McMahan, 1 Wolf River, 7 N. W. Greening, 5 Longfield, 2 Tolman Sweet, 5 Fameuse, 3 Wealthy, 3 Gem City, 7 Early Richmond, 1 Iowa Beauty, 10 Utter, 10 McIntosh, 4 Scott Winter, 10 Patten Greening, 4 Rockford, 4 Hawkeye, 14 Montmorency.

The high percentage of loss of native plum, Patten Greening, McIntosh and Utter may be attributed to poor stock set 1907,

Two acres were set May 16th to 20th, 1908 as follows: 50 Duchess, 50 Hibernal, 60 Patten, 60 Wealthy, all from C. G. Patten & Son.

Stock excellent, ground rather dry but followed by good rains.

In addition several trees of South Dakota Hybrid plums were planted. These were sent by Prof. N. E. Hansen, Brookings, S. D.

MAPLE.

In the 2 acres set spring of 1907, 30 trees were found to be dead and were reset.

Three Wealthy, 1 Fameuse, 1 Iowa Beauty, 1 Dudley, 3 Utter, 9 Hammer, 5 Surprise, 5 DeSoto, 2 Ey. Richmond.

One acre was planted as follows: 25 Patten Greening, 15 Hibernal, 20 Wealthy, 18 Duchess, all from Geo. J. Kellogg & Sons.

Trees set 20 by 22 ft.

Weather good, soil in excellent condition.

Date of planting May 21–22.

POPLAR.

Planted 300 trees as follows:

One hundred Hibernal, 100 Duchess, 50 Patten, 50 Longfield, all from C. G. Patten & Son.

The total number of trees which died during 1907—426.

Of the following varieties all or nearly all of the trees have died.

Gem City, McMahan, Golden Russett, Tolman, Plumb Cider, Red Astrachan, Ben Davis, Pewaukee, Fall Orange, Seek-No-Further, Utter, Scott, McIntosh, Willow Twig, Lily, Ray Seedling, N. W. Greening, Wolf River, Pound Sweet, Windsor. All Cherries.

Of the above nearly all were 3 or 4 years planted. The heaviest and most surprising loss was in the case of the N. W. Greening and McMahan. These were extra large trees when planted and grew fairly well for a year or two but all died outright last year. This taken with the loss of the N. W. Green-

CHART

OF

DRAIN TILE

LAID IN

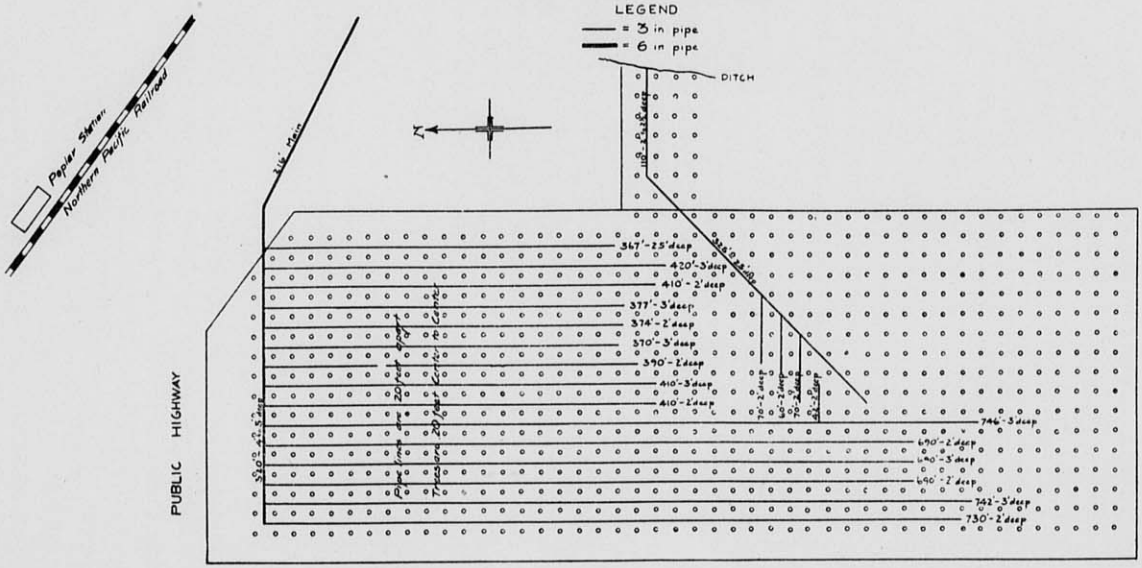
POPLAR ORCHARD № 4

SCALE: 1 in = 50 ft SEPT. 12, 1908

LEGEND

— = 3 in pipe

▬ = 6 in pipe



ing at Maple and Barron would seem to place it in the undesirable list for northern latitudes.

Of the following 40 to 50 per cent have died each year: Fameuse, Haas, Malinda, Newell, Yellow Transparent and Martha Crab.

The following may be placed in the first order of hardiness: Duchess, Hibernal, Longfield, Okabena, Patten, Wealthy, with these crabs, Hyslop, Brier Sweet, Sweet Russett, Transcendent.

During the past year five additional acres have been released, leaving but seven acres in the Poplar Orchard.

Following instructions of the Trial Orchard Committee all but the upper part of this seven acres was tile drained. In all *8,807* ft. or *534* rods or 1 2-3 miles of tile were laid consisting of one 6 inch main *536* ft. in length laid at a depth of 5 ft. and 16 laterals, averaging *517* ft. in length of 3 inch tile. Of these one-half, alternate rows, are 2 ft. deep and the others 3 ft. The cost of tile and freight was $175.00; cost of labor and superintendence $387.19. The cost per rod including unloading and distributing, tiling and covering was a trifle over 73c. In this work we were aided very materially by the department of soil physics of the Agricultural College. The thanks of the Society is due to Prof. A. R. Whitson and his assistant Mr. Delwiche for assistance which was freely given at all times. It is to be noted that no charge was made by them even for expenses incurred.

The general condition of the Poplar orchard is now most excellent and the outlook is decidedly encouraging. Many of the Duchess, Wealthy and Hibernal trees bore for the first time this year, some of them carrying fully a bushel of fruit. For trees planted but four years and within the sight of the North Pole this in the language of the day is "going some."

STURGEON BAY.

The work of renovation was pursued diligently this season under the direction of Mr. Bingham. The trees were carefully pruned, sprayed as needed and the orchard thoroughly tilled. All this should serve to insure a profitable crop next year.

New Work: Two new orchards and one grape station were

planted in the spring of 1908, viz., at Gays Mills, Manitowoc and Sparta. In addition two other orchard sites have been selected by the Trial Orchard Committee to be planted in the spring of 1909. One of these is on the County Farm of Trempealeau Co. at Whitehall and the other 1½ miles from Lake Geneva.

GAYS MILLS.

This orchard is located on the farm of J. A. Hays about 300 ft. above the Kickapoo river.

Three hundred seventy-five trees, 24 by 24 ft. Seventy-five each of Wealthy, N. W. Greening, McMahan, Newell and McIntosh.

Wealthy, N. W. G. & McMahan from C. G. Patten & Son, Charles City, Ia. Newell from Geo. J. Kellogg & Sons, Janesville. McIntosh from E. S. Welch, Shenandoah, Iowa.

Stock all first class except McIntosh which was very light and poorly rooted.

Soil clay loam with little gravel, part entirely new land just cleared, remainder in good condition following corn.

Trees planed May 5, 6, 7, 1908. Weather cool. Ground moist. Good rains followed.

This the first year of the Gays Mills orchard was marked by success in every particular. But two trees were lost and one of these made a good start being killed late in the season by fire blight.

MANITOWOC.

Five acres. Three hundred seventy-five trees. One hundred fifty Wealthy, and 75 each of N. W. G., McMahan, and Fameuse.

Wealthy, N. W. G. and McMahan from Patten. Fameuse from Stark Bros.

Trees 24 by 24 ft.

Weather very wet, trees planted in mud.

Planting done by G. W. Riegle.

Stock all reported good, especially Fameuse.

Owing to bad weather and very wet soil at planting time the

further fact that the tops were not sufficiently pruned about 50 trees failed to start. The extremely wet spring followed by an unusual draught was especially hard on this orchard. Owing probably to the unpruned tops a large part of the trees started but feebly until late in the fall. The outcome is problematical but with a favorable season next year the orchard may recover.

SPARTA.

One acre of grapes planted as follows: Four hundred Moore's Early, 200 Worden, 20 Moore's Diamond, 20 Delaware, 20 Campbell's Early, 20 Agawam.

All but 200 Moore's Early from E. S. Welch, Shenandoah, Iowa, these from T. S. Hubbard Co., Fredonia, N. Y.

Planting done by G. W. Reigle.

Welch stock reported very poor. Hubbard stock reported very good.

For some reason the growth of the vines was less than it should have been and the losses greater. The vineyard was well cultivated and next year should be well on the way to success.

QUESTIONS AND ANSWERS.

Ques.: (1) Will a heavy mulch of stable manure put over the roots of apple trees before the frost goes out have a tendency to hold the bloom back?

A Member: It will not.

Mr. Muhlenkamp: I think it will not. I have tried it four or five times and find it does not amount to anything.

Mr. Melcher: If it is put on the ground after it is frozen hard, I think it will.

Mr. Geo. J. Kellogg: I do not think it will. If you put it on where the influence of the sun comes up, the sun will bring the tree to blossom while the frost is on the ground.

Prof. Sandsten: I think Mr. Kellogg is entirely right. A number of experiments have been performed to test this question. It has been found uniformly that mulching will not retard blossoming in the spring, and if all food material for the leaves is already in the tree above ground, it is simply a question of sunshine and warmth to start the tree growing.

Mr. Geo. J. Kellogg: The pruning in June should be done after the sap thickens, just about the 15th or 20th of June; a better time to prune for the producing of extra fruit buds is in March. That covers the ground, I guess.

Question (3): Is an old orchard just as well in grass as in cultivation?

Mr. Muhlenkamp: I do not think it is. I think an old orchard ought to be plowed anyway every three years. I have plowed my orchard now for the last twenty years regularly about every three years, seeded it in clover and it will naturally run into June grass in two years again and I always plow in the fall; generally do a great deal of pruning in November just before I plow. I like to plow in the fall, because the bark is tight to the tree, you can hardly rub it off with a whiffletree and I find the wounds will heal quicker if pruned in the fall than in the spring. I have pruned in June and after that I have done all my pruning in the fall.

Mr. Spurbeck: What depth do you plow?

Mr. Muhlenkamp: Well, I plow about four to five inches, have to plow deep enough so as to hold the plow solid to the ground. Years ago I planted my orchard too close, I have to cut out a good many trees now on account of that, and I plowed again last November and the ground was perfectly gray, you might say with roots that keep growing all the time and I kept cutting the roots, but I had plowed that way before and it did not seem to injure the trees at all.

The President: Would you prefer late fall pruning or late winter pruning?

Mr. Muhlenkamp: I think I prefer fall pruning, I prune in November, paint them over pretty heavy and the limbs made a bigger growth, covered the wound more than any other time of the year. If you have to prune in the summer, if a limb breaks off, you have got to cut that smooth with a saw, but I find they make the biggest growth by pruning in November.

Mr. Bingham: I think all who have had any kind of experience in pruning orchards realize that fall pruning, if done late, is considerably injurious to the tree, causing them to winter-kill where we have severe winters, where, if pruned in late winter we avoid all that trouble. You will find any nursery-

man that prunes late in the fall and does not leave a stub on that limb to protect from the body of the tree, that the tree will be injured in the body, causing considerable injury to the tree, and I think it would not be safe for us in Wisconsin to advocate late fall pruning, or summer pruning. Summer pruning has the disadvantage of taking considerable foliage off the tree and we know that is injurious. I think that there is only one proper time to prune for our commercial orchards and that is in the late winter, say March or April, before the sap begins to flow.

Mr. Hey: I am new in the business as an orchardist. I have a young orchard which I cultivate constantly with the disk harrow and other tools in the fore part of the season. They talk about running an orchard to grass or clover, how long ought I to continue to cultivate that orchard before putting it into grass or clover?

Mr. E. A. Smith: We have several thousand trees, and our experience may be of some worth to you. We plow very early in the spring, then we use a disk harrow and it is the very best means of cultivation; you can set it one side or the other if the trees are headed low, you can get under the trees all that is necessary and growing apples in a young orchard or an old orchard without cultivation is folly. One object of cultivation is to conserve the moisture, shallow cultivation will not do this, and a large tree needs all the moisture it can possibly get in this climate, and unless it is cultivated it will dry out quicker. We have one large orchard on a side hill so steep that we cannot cultivate; we dig around it some six feet in diameter, that is forked after every shower so that we save all the rain and the trees did fine and the fruits makes well, but in orchards that we did not cultivate, we have experimented extensively, they are comparatively a failure, because the fruit is very small and sour.

Prof. Sandsten: The question of cultivation is an individual question after all; it is a question of location of your orchard, a question of your soil. Young trees should be cultivated, but there are times when you cannot cultivate older orchards, especially if they are located on a hillside. The question of cultivation or no cultivation is certainly a question of individual orchards, yet as a practice on good, level land, cultivation of course is the ideal method of growing.