

Lambton's Indian Agricultural Exhibition.

[CONTRIBUTED.]

It may be explained that there are four Indian Reservations in the County of Lambton, Ont. Two of these are in the Township of Bosanquet, on the southern shore of Lake Huron. A third is on Walpole Island, on the River St. Clair; and the fourth, in some respects the most important, lies along the River St. Clair just below Sarnia, the county town of Lambton. This Reservation originally extended to 10,000 acres, but has been curtailed by sales made during the past years. Prior to 1827 the Indians, in what is now the County of Lambton, roamed over the forest without any settled abode: the Indian in his feathers and buckskin, when in full dress, and the squaw in her everyday blanket and moccasins. In the above year, however, they were settled on the above four Reserves, and although there is room for improvement in the various lines of agriculture, the progress made during the past twenty years is very creditable, and shows that the red man is capable of coping with sterner realities than fishing and hunting. A three days' exhibition was held on the 3rd, 4th and 5th of the month of Oct., on the Sarnia Reserve, and was attended by Indians from the other Lambton Reserves and also Muncey. A pleasant drive of about three miles down the River Road brings you to the Indian show grounds; and as you enter the gate you pass the Indian Council Chamber, a brick building on a substantial stone foundation. This building is also used for concerts and any indoor gathering the tribe may require, while a roomy dining hall occupies the basement. At the distance of a stone's throw stands the agricultural hall, a lofty two-storied frame building. On entering I noticed a good bit of bench space unoccupied, but no more in proportion than I have seen this fall at more pretentious shows. In potatoes the display of the different varieties was really excellent, while in pumpkins, squashes, beets, and other products belonging to the truck class the exhibits were very creditable. There was a great display of beans—white, black, brown, and speckled; but the show of fall wheat was far beyond the highest expectation, and all of a superior quality. One pretty fair sample of spring wheat showed that this generally discarded cereal is not wholly banished from our locality. Samples of oats and barley of a fair quality were also shown. The ladies' work (up-stairs) was much admired. Specimens of bread baking, pies, tarts, and whatever would tempt the appetite, showed that the Indian matron can be either inventive or can closely imitate. A large exhibit of fruit preserves was pronounced by the lady judges (whites) as being superior to what is usually seen even at shows. In ladies' fancy work—in embroidery, Berlin wool, needlework, crochet lace, counterpanes, etc.—the designs and execution were really good.

The cattle were not numerous. There were a few good-looking milch cows, two or three promising heifers, and one very fair Shorthorn bull. Horses were away behind. The Indian idea of a well-matched team is very crude. Several good specimens of penmanship, drawing and composition showed the education of the young is not neglected.

As this is only the third agricultural exhibition held by the Lambton Indians, we anticipate a future for them in agriculture, and would like to see them encouraged in their efforts by a good attendance of their pale-faced brothers and sisters.

JOS. OSBORNE.

GARDEN AND ORCHARD.

Protecting Trees from Rabbits.

BY ELLIS F. AUGUSTINE, LAMBTON CO., ONT.

Every season there are many valuable young trees lost through being girdled by rabbits and mice. These pests are most destructive when there is a covering of snow upon the ground, although several instances came under my observation where young trees have been girdled by rabbits during summer months.

Where mice alone need to be guarded against, a safe protection is to remove all grass and rubbish near the base of the tree, and then form an earth mound about the trunk not less than eight inches in height.

Last winter a neighbor had a number of valuable apple trees nearly a foot in diameter completely girdled by mice. The orchard had been under clover and a heavy second growth remained upon the ground during winter. Had this been removed from around the base of the trees no damage would have been done. Rabbits are much more difficult to guard against than mice, for when there is a crust upon the snow they will reach up and girdle the trees at a considerable distance above the ground. Smearing the trees with blood or grease of any kind serves as a preventive, but as this will wash off through time, we prefer something more durable.

Old newspapers wrapped about the trunks and fastened with binder twine serve as a protection. Tar paper is much preferable, as it is more lasting, and its strong odor is very disagreeable to both rabbits and mice. Bark from bedding after it has become warped partly round by the sun is quite serviceable, as also are cornstalks, but for a large orchard it requires too much time to properly adjust the last named material. We have some 250 trees protected by means of pieces of sheet-iron rolled into the form of a tube four inches in diameter and twelve inches long. These afford

excellent protection, but are somewhat objectionable on account of excluding the sunlight, thereby causing the bark to become rather tender. The most satisfactory material of any is wire netting having a very fine mesh. This can be rolled tightly around the tree when young, allowing it to wrap twice around the trunk. As the tree expands the netting will unroll so that no injury to the bark will be sustained. If the meshes are very fine this will also serve as a protection against the destructive wood-borer. As this protection freely admits sunlight, it is preferable to the sheet-iron tubes we have in use. They should be not less than eighteen inches high, as rabbits will sometimes reach to that height when there is considerable snow upon the ground.

Whatever material is used the work of protecting the trees should not be delayed, as both rabbits and mice will often destroy a whole row of valuable trees before their owner is aware of any damage being done. If the orchards that have been destroyed through being girdled by rabbits and mice which have come under the writer's personal observation are any criterion of the damage done throughout the whole country, the loss from this source is a very heavy one; but as such ready means of prevention are within the reach of all, it is a loss for which the farmer has only himself to blame.

When trees have been girdled close to the ground they may be frequently saved by banking the earth in a heavy mound considerably above the wound.

If the part girdled is too far above the ground to admit of this, they may sometimes be saved by taking scions long enough to reach well across the girdled part and carefully grafting one end into the bark above and the other end into the bark below the wound. It should then be smeared completely over with grafting wax and securely wound with a cloth. But as such treatment is never entirely satisfactory, and prevention is the best remedy, the wise farmer will take precautions to carefully protect his trees before damage has been sustained.

Lessons on the Season's Work at the Ontario Fruit Experiment Stations.

TENDER FRUITS IN THE NIAGARA DISTRICT.

I suppose if one asked a dozen representative fruit growers what the financial results of the past season were, the answers would be pretty much alike. If, however, the additional question were put: "How do you account for the unsatisfactory returns?" there would probably be a dozen different replies. A would curse the rascally commission men; B would blame the transportation companies; C might growl at the "bugs," "blights," mildew and bad weather; D vow that there was a sight too many men in this fruit business; and so on. If a thirteenth man, say a consumer, had a chance to answer, he would probably declare that the whole trouble lay in the fact that there was too much poor fruit on the market and not enough good. Truth is many-sided. Doubtless every man's solution is partially true, but the real answer would be compounded of them all. It will be impossible to discuss now the real evils that exist in connection with the transporting and selling of our fruits. Nor need we rail at that ancient institution—the weather. As for the complaint that fruit growing is being overdone, we may make up our minds that there will be gradual extension of the industry for many years to come. There will, however, be always some room "at the top." But apart from all these things, each successive season brings home the lesson that much money is lost to the horticultural community from the neglecting of vigorous warfare against fungi and injurious insects, and by the cultivation of unprofitable varieties. Unhappily, it takes a good many years to find out what varieties are unprofitable. It is pretty safe, however, to say that it is unwise to plant extensively of any quite new variety, and equally unwise, now that the fruit area is so wide, to plant heavily of mid-season varieties. Growers whose stock of peach trees consisted chiefly of Early Crawford had an object lesson this season in this respect. There are always congested markets during the season of the Early Crawford, and the Lombard plum, and most of us would have been better off if we had not had a tree of those varieties. It is wisdom every time to cover the whole season by a number of good varieties, but taking care to plant few of any kind that comes in during this period of "glut." Of course if everybody followed this practice the glutted periods would shift. But not one man in a hundred will follow it.

If I were to suggest a list of peach trees for intending planters, I do not think I should be far wrong in naming Hyne's Surprise, Yellow St. John, Jacques' Rarieripe, Elberta, Late Crawford, Smock, and Stevens' Rarieripe as profitable varieties. The last one is white fleshed, but a good peach and prolific. These varieties ripen in the order named, and the Crawford season would be missed, just coming in between Yellow St. John and Jacques' Rarieripe.

Cherries were amongst the few paying crops this year, but how many thousands of dollars' worth were lost by "rot" and from the "cherry aphid." In carrying out some spraying experiments for rot on a row of May Duke cherries this year, conclusive proof was had of the value of the work. The spraying was done systematically and up to as late a date as possible, "check trees" being left. Everyone who carries on work of this

kind should satisfy himself of the use or uselessness of the work by leaving test trees unsprayed, and carefully note down all resultant details at the time of fruiting. With regard to the cherry aphid, and all plant lice, it should be emphatically pointed out that aggressive methods must be adopted in time. The ordinary kerosene emulsion—one part to twelve of water for the green species, and one part to six of water for the black aphids—will always be effectual, but if the early colonies are allowed to breed the increase is so rapid that your name will undoubtedly be "mud." Mildew, blights, insects, all these "trials and tribulations" must be fought early and vigorously. No chances must be taken if the grower wants to come out on the top of the heap.

M. BURRELL,

Experimenter Niagara Station.

Lincoln Co., Ont.

THE PEACH.

As this fruit is a native of a southern clime, and therefore somewhat tender, we must give it all the advantage we can in the way of location and culture if we wish to succeed with it in this country. An elevation near a large body of water is preferable, with a light sandy loam, and natural drainage to the depth of ten or fifteen feet. When these conditions cannot be secured we cannot look for any great measure of success.

By planting a tree or two on the north side of a building we can often grow a crop of this fruit in sections where they would fail without the protection thus afforded. Hardy varieties should always be selected when planting outside the "peach belt." Early Barnard, Tyhurst, Longhurst, Golden Drop, Hill's Chili, and Lemon Free are among the hardiest sorts thus far tested, and all of them good kinds. In peach sections the following is a good list, named in their order of ripening: Early St. John, Early Crawford, Fitzgerald, Yellow Rarieripe, New Prolific, Tyhurst, Elberta, Golden Drop, Longhurst, Hill's Chili, Late Crawford, Jacques' Rarieripe, Lemon Free, and Smock.

Cultivation should begin in early spring, and discontinued the first of August. This method of culture will induce early growth of wood, also early ripening of the same, which is very essential to success. At the latter date crimson clover should be sown among young trees to give a covering for the soil through the cold weather, which protects the roots of the trees. Plow under in early spring and cultivate again as directed above.

The black aphid is the worst insect enemy we had to contend with thus far. They do most injury to young trees newly planted. Perhaps the best remedy we have is to treat the young trees before planting by soaking a few minutes in strong tobacco water. We take any refuse tobacco, leaf or stems, for this purpose. When this is done and good culture given there is little trouble after from this cause.

W. W. HILBORN,

Experimenter at South-western Station.

Essex Co., Ont.

COMMERCIAL APPLES AND PEARS.

In giving an outline of fruit growing there are several things to consider. Amongst others, the first and most important is the soil; next, the location; third, the person who takes charge of the work; and fourth, the varieties. In this paper I shall confine my remarks solely to apples and pears, the two most important for commercial purposes. The soil should not be wet, spongy, or have a cold, hard bottom, but all land for orchards should be well drained. Poor soil and wet, cold land has ruined hundreds of acres of orchards, giving poor crops of inferior fruit. A sharp clay loam is generally the best for an apple orchard if well kept up with manures, although clay land will produce fine orchards if well drained and the ground worked annually. The best orchards I have observed are on land sloping to the west or south-west.

The person who starts fruit growing as a business should be patient, thoughtful and observant, and make pets of his trees as he would his horses or sheep. He should be keen to notice when anything is wrong, or have sense enough to effect a cure promptly. A safe rule to guide planters is to select those varieties that succeed best in the vicinity where the orchard is to be located, as we have such a variety of climatic influences in Canada, and even in this Province, that varieties that succeed well in one location are not a success in another. But we are glad to know that there are varieties that succeed in almost all sections of Ontario. I have at present about forty varieties in full bearing, some of which are not profitable, partly because they are early fruit or partly shy bearers. It is a great mistake, as many people have found out, to have too many varieties in an orchard—four varieties in a hundred trees is quite enough, and if I were planting a thousand I would not increase the varieties to any extent. We have found the following to give us good results: R. I. Greening, Canada Red, Minkler, and Baldwin, but I believe the Ontario will be equal, if not superior, to those named, when we are better acquainted with it.

In pears the same attention should be given as to apples. The pear, however, delights in heavy clay land, well drained, and I do not recommend manuring as heavily as for apples, but keep the soil well pulverized and good results will follow. I prune always in the spring, as I consider fall or winter pruning injurious, but any time while the tree is in growing state will answer. Apples should be pruned by sections, and a large branch should never be cut out, if possible to avoid it. Pears require very little pruning after they get to full