

A HINT TO ORCHARDISTS.

It has been truly said that success in anything is attained only by careful attention to detail, and that the thing which we call "luck" naturally arises from an observance of this rule, which is, perhaps, unconscious in some persons. Especially is this true in agricultural work. Carefulness in every phase of labor is always repaid by increased returns. Inattention to detail in fighting the insect enemies of the garden and orchard will, in some cases, almost annul our efforts. Neglected fence corners, piles of rubbish, rotting insect-infested fruit lying about, will greatly lessen the good effects of spraying. Another thing to which too little attention is paid, also, is the matter of the wild or native trees growing around the orchard. Let us notice the dangers of leaving these trees unsprayed around or near the orchard.

MOUNTAIN ASH (*Pyrus aucuparia*, European).—This tree, fortunately, is not native, but, owing to its beauty as a shade tree, is sometimes planted near houses not far from the orchard. An American species (*Pyrus Americana*) also grows northward in cool, swampy places, attaining its greatest size upon the north shores of Lake Huron and Lake Superior. This tree, both forms of which are nearly identical botanically, is very closely related to the apple, and harbors many of its most dangerous insect enemies. Among the insects found infesting it may be mentioned the following: Scurfy Bark-louse, Bud Moth, Case-bearers and Leaf-miners, the Oyster-shell Bark-louse and the dreaded San Jose scale, the American Tent Caterpillar and the Cankerworms. Such a tree as this, planted near the orchard and neglected, as such trees too often are, will harbor large numbers of these insects, which, when they become too numerous for the trees in which they live, will pass without any difficulty to the neighboring orchard.

WILD PLUM (*Prunus Americana*).—This is one of our native trees, and is not uncommon in Ontario. It is attacked by the Plum Lecanium and other scale insects, which suck the juices of the tree; the clover mite, which feeds upon the leaves of the plum; and the two very serious diseases, Plum Pockets (*Exoascus pruni*) and Brown Rot (*Manilia pructigena*). Under the influence of the former (Plum Pockets) the plums develop into useless structures, wrinkled and dry, and without a stone, hence receiving the name, "plum pockets." This disease, once fairly established in a tree, is practically beyond control, as the mycelium of the fungus hibernates in the tissue of the wood, and the fungus is therefore perennial. The only remedy is pruning back the diseased portions, and generally the best plan is to remove the diseased trees altogether and burn them. The other disease (Brown Rot) first attacks the leaves and then the fruit, reducing it to a useless, mummied condition. The fungus does not present such difficulties in treatment as does the *Exoascus pruni*, but is not a desirable thing to have affecting fruit trees. These diseases infest wild and cultivated plums, and the Brown Rot also infests apples, so that they may be only too readily carried to the orchard.

WILD CHERRY.—Black Cherry (*Prunus serotina*); Choke Cherry (*Prunus virginiana*); Pin or Bird Cherry (*Prunus pennsylvanica*).

These three trees are among the most common growing near the orchards on many farms, and are also very dangerous. In some districts there is scarcely a wild cherry tree which is not covered with the webs of innumerable American Tent Caterpillars, which almost defoliate it in many cases, and which spread with extraordinary rapidity through the neighboring orchards. The cherry is also attacked by the Brown Rot of the plum to some extent, and the Shot-hole Fungus (*Cylindrosporium Padi*), which attacks many of our fruit trees, causing circular spots in the leaves, which rot and drop out. Such diseased leaves fall early in the season, before the formation of wood has ceased; consequently there is a poor crop of fruit the following season.

Many other insects and fungous diseases attack the wild trees around the orchard. The Barberry (*Berberis vulgaris*) might also be mentioned in this connection as harboring the æcidium stage of the wheat rust.

Everyone has seen the little golden cups on the leaves of barberry in the spring, and although it is believed that the wheat rust can reproduce without this stage, nevertheless there is enough room for doubt as to how long and how vigorously, that it is well, in any event, to dispense with the barberry, as its removal can be enforced by law.

The examples given will serve to show the danger of leaving these trees neglected in the vicinity of the orchard. The usual spraying—Paris green for biting insects, Kerosene emulsion for sucking insects, and Bordeaux mixture for fungous diseases—may be used upon these trees when infested, but by far the best plan, when they become badly affected, is to cut them down and burn them, thus effectually removing one of the most dangerous harbors for insect pests on the farm.

WASHING TREE TRUNKS.

Am thinking of "scraping" my trees (apple) and then washing the trunks with lime or whale-oil soap. Would you mind telling me if there is still time for these operations, and which material is best for the wash? Or could the lime and whale-oil soap be prepared in one mixture together, with advantage?

F. P. W.

I would like to ask what is your object in scraping and washing the trunks of the trees? I am afraid too many of the growers put more emphasis upon this than it really deserves, and neglect the more important operation of spraying the whole tree. Scraping off loose bark and washing the trunk with lime may be beneficial in destroying the hiding places for a number of insects, but it will not keep in check a number of more injurious ones which work upon the smaller branches, such as oyster-shell bark-lice, aphides, etc. There would be nothing gained by combining the lime and whale-oil soap; either one or the other should be sufficient for a wash for the trunks, but better than either would be to spray the whole tree thoroughly with the lime-sulphur wash. This mixture is one of the most effective in destroying the oyster-shell bark-louse, and is also good as a fungicide in destroying spores of apple scab which may be resting upon the branches. About this time there is no doubt thousands of barrels of this wash is being applied to orchards in the Niagara District. The formula for the lime-sulphur wash is 20 lbs. fresh stone lime, 15 lbs. sulphur, and 40 gallons water. The sulphur is made into a paste with a little warm water, and the lime is slaked and added while hot to the sulphur, and the whole made up to about 15 gallons. This should be thoroughly boiled for about one and a half hours, either over a fire or by means of live steam turned in from a boiler. After it is thoroughly boiled, the mixture can be made up to 40 gallons, and should be applied with a spray while warm.

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ONION CULTURE.

The onion crop is one which, when everything is favorable, will give larger net returns per acre than almost any other that can be grown on the farm. A dollar a bushel used to be thought the standard price, and is sometimes exceeded even now, but the average price has fallen to about sixty or seventy cents. Still, even at sixty cents per bushel, a crop of three or four hundred bushels per acre gives a large money return. In some localities, where a specialty is made of this crop, and large quantities are grown, sales are easily made. If buyers can pick up car lots, they will be on hand. But in most country places, except in the neighborhood of large cities, the marketing of the crop is a serious problem. Two other objections to their culture as a farm crop ought to be considered before anyone goes in for raising onions. First, the labor involved is very great, being estimated at about \$65 per acre; and second, land needs to be specially suited or fitted before they can be grown profitably. The onion requires a liberal amount of plant food in the most available form. The quantity and quality of manures which would make potatoes, cabbages or many other garden crops profitable, will not give even a fair compensation in onion culture, unless favored by soils highly fertile in their natural state. Beginners fail more frequently, perhaps, from lack of appreciation of this fact than from any other cause.

Soils abounding in decomposed vegetable matter are generally most valuable for the cultivation of onions. Heavy clays or sandy and especially gravelly soils should be avoided. The ideal soil is one that is rich, not liable to bake, and that will withstand drought well. Where weeding is such an expensive item, as it is in onion culture, it goes without saying that weedy ground should not be used until it has first been cleaned by successive hoed crops. As a preparation of the soil, a favorite practice in some sections is to sow clover, cut the first crop for hay, allow the second to rot on the ground, and apply a heavy coat of manure and plow under in the fall. The following spring plant potatoes, and the next year grow onions.

Fall-plowing is recommended, especially for clay soils, and in all cases a heavy coat of barnyard manure should be turned under. Rotted manure is better than fresh, and too much can scarcely be applied. Seed should be sown as early in spring as the ground can be worked. If the ground has been fall-plowed, surface-working in spring is sufficient. The cultivator, disk harrow, smoothing harrow and roller or clod-crusher should be freely used until the seed-bed is very fine and smooth. Seed is generally sown with a hand drill in rows twelve to fourteen inches apart, if cultivation is to be done by hand. If horse cultivation is intended, the distance should be increased to sixteen or twenty inches. About four pounds of seed per acre should be sown. Many growers never thin the plants, regulating the thickness of the crop by the amount of seed used, the aim being to have one plant to every inch. It is probably better to sow a little more thickly, and thin to an inch and

a half. From half to three-quarters of an inch is the proper depth for the seed.

As soon as the rows can be seen cultivation should be commenced, and, until the bulbs are well grown, can hardly be overdone. For garden culture, the wheel hoe is indispensable, but where a horse can be used, the spike-tooth cultivator, after the plants are of thinning size, does a better job, and is very much quicker. With all that can be done by implements, one or two weeding by hand, or with a hand tool, will be necessary. This is what takes time, but one has just to pad the knees, straddle the row, and go at it. Boys come in most useful at such a job, and, in the vicinity of towns, can generally be hired.

When the onion-tops are mostly brown and drying, pulling should be done. Three or four rows are thrown together, and, if the weather is dry, are ready to be gathered in ten days. If the weather is unfavorable, some growers find it profitable to cure them under cover.

Onions, by liberal fertilizing, can be grown year after year upon the same ground, with increasing yields. Rotation is generally advised, however, particularly where the onion maggot and onion smut are prevalent. For the former, nothing else seems as yet to be an effective remedy.

Some enormous yields of onions have been reported. From five hundred bushels per acre up to eight hundred, and even a thousand, are claimed to have been raised. A yield of three hundred bushels per acre is, after all, a pretty fair average crop.

T.

APIARY.

VICTORIA CO. BEEKEEPERS' MEETING.

The annual spring meeting of the Victoria County Beekeepers' Association was held at Little Britain on Good Friday, and was much enjoyed by all who were present, a number of very interesting discussions following the several papers and addresses which were on the programme.

Mr. R. F. Whiteside, the retiring president, referred to several matters concerning the local Association which he hoped to see settled in the near future. One subject he touched on is of interest to all county associations. It was the idea of having several neighboring county associations arrange to have their meetings near together—within a day of each other—and having them club together to have some noted beekeeper brought to their district to address their meetings, giving an address each day for perhaps three or four days. In this way the expense would not be nearly so large as if each association brought in a man of its own account. The subject is worthy of consideration by the members of every county association.

Mr. J. L. Byer, of York Co., Ont., who is an honorary member of the Victoria Association, spoke of his success (or failure) in outdoor wintering during the past winter. He had bought some bees in hives with double walls with several thicknesses of paper between them, and left the bees without further protection, as these hives were supposed by their builder to be sufficiently warm for wintering. The loss, however, was about forty per cent., the hives showing little better results than if they had been single-walled. Mr. Byer is more than ever convinced of the importance of plenty of packing both on the sides and top of hives to be wintered outdoors. He also considers the Langstroth frame too shallow for best results in outdoor wintering, unless filled solid with honey, so that the bees may have enough to keep them through the winter without being under the necessity of moving across the frames, which they cannot possibly do in very cold weather. Others who had had experience in the matter were of the same opinion.

Mr. John Timbers, of Ontario County, was present by special invitation, and read an excellent paper on the "Production and Selling of Honey," a paper which, if followed to the letter by every producer of honey, would make a big improvement in the honey market in a very few years. The chief points referred to were: Good body (having the honey well ripened by the bees); good color (using only white comb in the supers); flavor (clean comb, and no mixing of honey from different sources); finish and aroma. He urges the cultivation of the local market, and thinks beekeepers should never sell honey on commission, backing up his statement by telling of the condition in which he saw a prominent beekeeper's product brought before the eyes of the public in a big commission house in Toronto—the cans looking more as if they contained axle grease than honey.

Mr. E. G. Hand, Victoria County, described the system practiced by him for handling bees through the honey season, without much work and no watching, a course made necessary by lack of time to spend with the bees.

These papers were discussed at considerable length, and a number of good ideas exchanged.

The officers elected for the ensuing year were: