

## The Apiary.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

### Bees.

BY R. F. HOLIERMANN, BRANFORD, ONT.

When purchasing a colony of bees the novice is often at a loss to know which is the best. His object is generally to receive a large yield of honey. If it be the pleasure derived from watching the work in the field and on the combs, and the beauty of the bee, the Italian is the best to secure. They are more gentle, can be handled with greater pleasure, and examined with less liability to become irritable. If bees are purchased with the object to rear queens, the Holy Land, Palestine, and Cyprian workers will raise more and larger queen cells than any bee that I know of. Aside from that, I have in my experience found them to be a failure for pleasure and profit. They are very prolific and will continue brood rearing after the honey flow has ceased, when workers in large quantities are of no use, and honey is consumed in raising the brood and afterwards by the fully developed insect. They are notoriously irritable, handled with extreme care. The slightest accident, which will occur even to the experienced, will cause them to attack the bee keeper, and the only way to do is to retreat for the time being. So they would be discouraging stock for the beginner. Fertile workers will appear shortly after the loss of a queen, with these races, and when they have once gained possession of the combs they are difficult to dispose of, even by an expert.

For all purposes the Italian, with a slight mixture of black or the German bee, answers well. They are not expensive, in fact amongst the cheapest, and have vim and energy enough to defend their hives, fight successfully the miller moth, and store and rear brood successfully. They are more irritable than the Italian, however, and in that way are a disadvantage. The Black or German, of which there are, however, but few in Canada, being more or less crossed with Italians and others, build the straightest, and the best comb honey. Their incapability to fight millers, defend their homes, etc., make them an undesirable bee. Purchase, then, Italian hybrids, but let them be with the greater part Italian.

Next as to the hive. There are many movable frame hives, and there is more in the mode of management, success in springing and locality than in the hive. To secure the best results, however, a hive should be managed on the tiering up plan, and the body of the hive not used to extract from, as it causes frequent disturbing of the brood chamber, and the honey secured must be either taken unripe or the bees unduly crowded for room. There are a number of hives used with the Langstroth frame, and bees in these can be sold more readily than any other. In any case purchase bees in the hive you contemplate using, and have only one size of hive and frame throughout.

As to numbers, bees should not be purchased until May. They are better left in the hands of the experienced until fruit bloom, and after that there is but little danger of loss. Many will go about picking up the heaviest hives, and when this has been secured, take it. This is a very serious mistake. The honey at this season and in this condition is worth but little, the bees much. The weight is an almost certain indication that the brood-chamber was unduly contracted the previous season, and for want of cells to rear young, but few bees went into winter quarters, or but little honey was consumed by few bees during winter, and comparatively little in raising young bees in the spring. What should be noted is the strength

of the colony as to bees. Those the liveliest at the entrance, the colony having the greatest number fly out and in per minute, is the colony to be desired. To note this the purchaser should visit the apiary whilst the bees are at work on a warm sunny day. Bees should be prepared for moving during the day by nailing the frames to their place, then at night they should be closed at the entrance by means of wire cloth; they can then be removed at any time. The top covering should be cotton or wire-cloth, as night and morning is the best time to haul bees. They should have plenty of ventilation; be moved when warm enough for them to fly, but not extremely warm, and colonies very strong, almost ready to swarm, cannot be moved without risk in hot weather. Prime colonies in movable frame hives should not cost more than eight dollars this spring; anything above that is a fancy or unnecessary price.

P. S.—In speaking of the tendency of the Holy Land, Palestine and Cyprian bee to produce fertile workers, it may be well to give a brief description of such.

The queen and workers are both female. The experienced stockman knows that food plays an important factor, especially in youth, in the sexual development of his stock. With the honey bee this is the case to such an extent that the worker and queen bee are both produced from the same egg; that is, when first deposited in the cell, a worker or a queen may be produced, all depending upon the nature of the food given. The cell is constructed about the egg in adaption to the food and insect which it shall contain. This is all the more strange when we know the difference in appearance, function and disposition of the two insects. The queen is a fully developed, the worker an undeveloped female. When the queen is lost the colony begins to feel its lost condition, and appears to become desirous of producing bees to take the place of the aged and dying. The undeveloped females in some strange manner appear to have the power of producing eggs which invariably produce nothing but drones, and such workers are called fertile workers. They lay often six to twelve eggs in one cell, and the eggs are generally laid in worker cells; and when the brood is capped can readily be detected by having the cells elongated and oval. The progeny is of no use, and only hastens the destruction of the colony.

## Horticultural.

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### Insects Injurious to Fruit.

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#### APPLES.

One of the insects most injurious to the apple is the *borer*, of which there are two species, the round-headed and the flat-headed. The former is not so prevalent as the latter, and confines its operations chiefly to the base of the tree, whilst the latter attacks the trunk and larger branches. In the latter part of June or early in July the eggs are deposited under scales of bark or on the outside of the smooth bark. These are quickly hatched by the warm rays of the sun, and the tiny larva proceeds at once to cut its way through the bark, where it remains until full grown, eating the sap-wood and inner tissues of the bark. It may be observed by the sawdust-like castings that are pushed out from time to time, and in the fall by the dark spots on the bark which has been killed by the borer beneath. These pests attack trees even if healthy, but prefer diseased or sickly trees apparently,

and especially those leaning to the north and sun-scalded.

A wash made of the consistence of thick paint, and composed of soft soap and a solution of washing soda and water, applied early in June, and again early in July, will prevent the parent beetles from laying their eggs on the trees, as they do not appear to like the mixture. If this has been neglected, then the trees should be examined in the autumn, and if any trees are found infected, cut away the bark and kill the borer beneath, or if not there punch a piece of wire up a hole bored into the tree, if one is found beneath the bark where the borer has been, as the larva has probably retreated into its den in the heart of the tree, where it becomes transformed into the parent beetle, which, if left unmolested, will emerge in due time to lay eggs in turn upon other trees.

Woodpeckers destroy many of these borers, also the Ichneumon flies. Trees will soon be ruined by borers if attacked, unless remedial measures are taken to prevent their ravages.

Another enemy to the apple tree is the *oyster-shell bark louse*. It appears in the form of minute scales on the bark, of a brownish or grey color. Oftentimes the trunk and limbs are almost completely covered with these scales, under each of which a louse is sucking away at the sap of the tree, during most of the summer. Towards the middle of August the female louse commences to deposit eggs, and by the end of the season has converted herself into eggs. These remain under the scale until warm weather the following spring, when they are hatched about the end of May, and a little later issue forth to seek pastures new. As soon as they find a favorable location at the base of a twig, usually they settle down to work and never move again, but go on sucking sap and secreting a scale over their back, same as the parent did the previous season. The only time it is of any use to apply anything to kill them is when they are young, before the scale is secreted over their backs. A wash same as that prescribed for the borers applied at that time, which is the same time as required for the latter, viz., first of June and again towards the end, will usually be effectual. These pests can scarcely get from one tree to another themselves, but a wise provision of nature provides a means by the feet of birds or the larger insects, by which they soon become spread over the orchard unless exterminated.

The *tent caterpillar* needs but a passing notice, as they are easily seen and may easily be destroyed if watched. They do not leave the tent until eight or nine o'clock in the morning, so that if their tents are torn down and the inmates destroyed at this time, a pretty clean sweep will be made. The hard glistening rings of greyish eggs seen on the twigs are the eggs of the tent caterpillar.

The *canker worm*, that has for the past two years stripped several orchards near Hamilton, Ont., destroying their usefulness for the year, and permanently injuring them to a very great extent, can be overcome by the use of Paris green. Many devices have been proposed to prevent the parent moth or the young worms from ascending the tree, such as gummy substances, inverted tins or bands close around the tree, etc., but these are not likely to be put on carefully enough; in fact, it is almost impossible to do it, to prevent the young worms from getting up the tree. A force pump fastened on the top of a coal-oil barrel, or, better still, a hoghead, is at present an essential for the fruit-grower. I gave my orchard a good dose of poison in 1885, and saw no canker worms in 1886. These destructive pests do not travel quickly, and once you get rid of them they will not come back for a few