

Apiary Department.

Bee Culture.

Among the lesser economies of the farm, the care and culture of bees well deserves to take a more prominent place than is usually assigned to it in this country. In Britain, a farm would be considered incompletely stocked, without a few hives, the busy inmates of which, are expected annually to contribute their quota to the profits. Until of late years, apiculture was a very crude affair. It was usually carried on with straw hives, inside of which everything was "fixed fast in fate," and except to fer an outward indications could be studied, interior arrangements were beyond inspection and control. The bees were left to their own devices, and at the close of the honey season were robbed of their stores by bustling and exterminating the colony. Yet under these circumstances bee-keeping was found profitable, and formed one among the many sources of income and supply on which the husbandman was wont to count.

It was a great step of progress when movable-frame hives were invented. By the use of these, artificial swarming takes the place of natural swarming; and instead of the bee-master having to await the convenience and caprice of the bees, with the risk of losing swarms if watch of the apiary be intermitted, he consults his own convenience, divides the over populated colony, and avoids loss of swarms. Moreover, when stocks become queenless, and are in danger of extinction, a new queen, or brood from which to rear one can readily be supplied; moths can be exterminated; comb, bees and honey can be given to weak colonies; and surplus honey readily taken. The bees, instead of managing themselves under the guidance of mere instinct, are managed by the superior intelligence of their human lords.

It was a still further step in improved apiculture, when that eminent German apiarian, Major Horischka hit upon the happy device of emptying the well-filled honey-combs, by means of the mel-extractor, or as some American bee-keepers prefer to call it, the *melipult*. By the use of this simple machine, the yield of honey, in average seasons, is doubled and even trebled. The application of centrifugal force throws out the honey almost to the last drop, and on replacing the empty combs in the hive, the bees, as in duty bound, at once proceed to refill them. Often when they wholly suspend work and will not put an ounce of honey into surplus boxes, they will toil with might and main to replace the honey of which the extractor has deprived them. Instinct teaches them to keep the hive well filled with sweet stores; but putting into boxes is an overflow, only to be had when honey is very plentiful and hives are full of bees.

The importation and breeding of Italian bees is another progressive idea of no small value. Bees, like larger stock, deteriorate by in-and-in breeding, and there are common and superior tribes of bees as there are of cattle, horses, sheep, swine and poultry. The Italian cross would improve the ordinary black races of bees, even if they were intrinsically no better; but they are better, without question. They are hardier; more busy than "the little busy bee" we have known from childhood; more prolific; more beautiful in appearance; and last, but not least, more pacific—not so easily provoked, and consequently less inclined to sting when meddled with by man.

If, therefore, under the crude appliances of old-fashioned bee-keeping, it was a profitable pursuit, much more is it worthy of attention with the aid of modern improvements. The march of progress has not yet reached its limit; science and skill are busily engaged in experimenting; and it is reasonable to expect that, before many years, apiculture will take a much higher place than it now does among rural industries.

The great difficulty about bee-keeping in this country is the severity of our winters. But this difficulty can be overcome with proper management. Honey forage is abundant in all parts of the Dominion of Canada. The maple, which, when tapped, yields the sweet sap which we hold in sugar, furnishes honey in its early blossoms. The willow gives pollen, propolis, and, some say, honey. Our early wild flowers and fruit blossoms give the bees something to do; and when white clover expanse the fields and roadsides, the honey harvest is in its glory. The late bass-wood blossoms, the raspberries, asters, golden rods and buckwheat, protract the honey season into the fall. Only knowledge of apiculture is needed to make this no mean branch of our productive industry. The bees are the best farm labourers we can have, inasmuch as they work for nothing and benefit themselves.

A single hive of bees intelligently managed, may safely be counted on to yield at least ten dollars per annum. Suppose but one hive on every Canadian farm, and what an increase to the aggregate productiveness of our agriculture. And there is no reason why each farm should not have half a dozen hives at least. We look for the time, at no very distant day, when the apiary will produce as much as the poultry or even the dairy, as ordinarily carried on.

In this new series of the CANADA FARMER it will be endeavored, not only to draw attention to this department of rural economy, and persuade parties to engage in it, but to explain and expound the principles and practices essential to successful bee-keeping, and so while promoting other farm industries according to their relative importance, to advance apiculture. We believe in a system of mixed husbandry. To have more than one string to one's bow is neither safe nor commendable in love, but it is in agriculture. Farmers should never put all into a single venture. They should try all expedients to increase their gains, and if one source of profit fails, another will succeed. Nor should they despise little, for according to the old proverb, "many a little makes a mickle."

The Honey Extractor.

The Honey Extractor has become so well known that it is hardly necessary to give a description of it. No bee keeper who desires to obtain large quantities of honey, can afford to be without it. We are quite certain that two stocks properly managed with the honey extractor may be made to produce as much honey as six stocks in the ordinary way. Yet the bee keeper may easily overdo the thing, and ruin his stocks. To realize largely by the use of the honey extractor, the bee keeper should keep his hives very populous, with plenty of room for storing honey. If hives are small, they may be enlarged by adding a second story containing movable frames, the same as in the body of the hive; or if new hives are constructed they may be made larger so as to receive more frames. As soon as these frames are filled with honey they should be removed and the honey extracted and the frames replaced, if the stocks are populous and the honey harvest good, the frames, or rather combs, will be filled again very rapidly, when the honey should be extracted again; and this may be repeated as long as it is safe to do so. Here, however, the bee keeper must exercise his judgment, and not allow his greed for honey to cause him to rob his bees by extracting too late in the season. Even those who are more careful may miss it sometimes, as in the fall we sometimes have a sudden falling off in the honey harvest, and the bee-keeper finds that his stocks are unable to lay in a sufficient store for winter use; caution is necessary, therefore, that too much honey be not taken. In another way also, the bees may be injured by the use of the extractor, by taking combs containing larvæ. There is no danger after the larvæ has been capped, but at times before it is sealed over it is liable to be injured, as the force required to extract

the honey may also throw out the larvæ. Great care should therefore be exercised when extracting honey from combs containing uncapped larvæ. In case the honey harvest should suddenly cease, and stocks are likely to fail to lay in sufficient stores, they may be fed on syrup made of white sugar, which for food for winter use is fully as good, if not better, than the best of honey. If honey extracted from the combs be immediately strained through coarse linen or cheese cloth, and put into self-sealing fruit jars, and sealed, it will keep any length of time without candying. It should be heated to nearly a boiling heat before putting into the jars.

Bee Keeping in 1872.

The Spring of 1872 opened under very unfavorable circumstances. The "bee malady," for we can call it nothing else, had made sad havoc during winter, and continued through the early part of spring, and in some sections till as late as June.

Many who had gone into winter quarters with a large number of stocks found they had lost all; some were more fortunate, but nearly all throughout the Dominion and the greater part of the United States, suffered more or less. Those who did not lose all, found most of the stocks that survived greatly reduced. Though in some instances stocks were not at all affected, yet such instances, we think, were rare. The consequence was, there was a greater demand for bees than could possibly be filled, and many who would gladly have purchased were obliged to do without. It will take several years to replace the stock that perished, even if the disease does not again appear. The honey season has been a very good one, and in some sections large quantities of honey have been obtained. The honey extractor is coming more into demand, and it cannot be long before all leading bee-keepers will have one. This invention is likely to revolutionize the bee-keeping system.

The quantity of honey taken in some apiaries in the United States is almost fabulous. Where the honey extractor is used, the hives should be enlarged either by adding more frames or adding another story, and stocks should be large and populous. As a whole the bee-keeping interest is increasing, especially in the United States, where it is greatly promoted by State Conventions and agricultural journals.

The severe cold weather through which we have just passed, was very unfavorable for bees that are not housed, and bee-keepers would do well to look to all such stocks.

How to Winter Bees.

Many are the enquiries we receive as to how we winter our bees. We have many times given our plan, but for the benefit of those who may not have seen it, we will give it again.

We prefer to winter in-doors rather than on the summer stands; and we have never found a better place than a large, well ventilated cellar. As soon as the severe cold weather commences we prepare our bees for their winter quarters in the following manner:

We first make for each hive a frame of inch-square stuff, the size of the honey board. On this frame we tack firmly wire cloth. We then remove the honey board and put this frame on in its place; over this frame we spread one or more layers of cloth, thick coarse cloth is best. If the stock is strong in numbers, one layer of thick cloth is sufficient, but if weak in numbers, several layers are necessary. The object of the cloth is to retain the heat, while it absorbs the moisture or allows it to pass off. The entrance to the hive should be closed and the caps may be left off. We consider stocks prepared after this manner in the best possible condition for wintering in-doors, where the temperature is just above the freezing point.

Of course, all stocks should be well provided with stores for winter use, and though we do not think it advisable to attempt to winter weak stocks by feeding, unless the feeding be done before cold weather sets in; yet if some stocks appear short of supplies at the time of preparing for winter quarters, and the bee-keeper thinks there is any risk, two or more pounds of candy-sticks, made of white sugar, may be spread over the top of the frames before putting on the frame covered with wire cloth. If the bees consume all their honey they will make use of the candy given them. We have always been most successful when we followed closely the above plan. When there is no disease among the bees, nearly all stocks carefully prepared according to the above plan will winter safely.