

AN EASY METHOD OF MANAGING BEES, IN THE MOST PROFITABLE MANNER TO THEIR OWNER.

The above is the title of a neatly printed manual, which was lately presented to us by Mr. David Kellar, of Churchville, Home District. Mr. L. informs us that he has followed out in detail the directions of the author, and his efforts have been crowned with success.

If the Canadian farmers would turn their attention largely to the management of Bees, the article of honey would very shortly become a considerable item on our list of exports to England. Immense quantities of honey is imported yearly into the Mother Country from Holland and other continental countries, all of which might be supplied from this country if the people would only turn their attention to the business.

In the hope that the management of Bees will receive more attention than formerly by the Canadian population, we shall publish the manual before us in the present and four subsequent numbers of the Cultivator.

RULE I.

On the Construction of a Bee Hive.

A Bee-Hive should be made of sound boards, free from shakes and cracks; it should also be planed smooth, inside and out, made in a workmanlike manner, and painted white on its outside.

REMARKS.—That a Bee-Hive should be made perfect, so as to exclude light and air, is obvious from the fact, that the bees will finish what the workman has neglected, by plastering up all such cracks and crevices, or bad joints, as are left open by the joiner. The substance they use for this purpose is neither honey nor wax, but a kind of glue, or cement of their own manufacturing, and is used by the bees, to fill up all imperfect joints and exclude all light, and air. This cement, or glue, is very congenial to the growth of the Moth, in the first stages of its existence.

The moth-miller, enters the hive, generally, in the night—makes an incision into the glue, or cement, with her sting, and leaves her eggs deposited in the glue, where it remains secure from the bees; it being guarded by the timber on its sides. Thus, while a maggot, (*larva*.) the moth uses the cement for food until it arrives so far towards a state of maturity as to be able to spin a web, which is more fully explained in remarks on Rule 10.

The size of a hive should be in accordance with the strictest rules of economy, and adapted to the peculiar nature and economy of the honey-bee, in order to make them profitable to their owner.

The lower apartment of the hive, where they store their food, raise their young bees, and perform their ordinary labors, should hold as much as a box of thirteen inches and one-half or fourteen inches square, or one bushel.

Nature has fixed certain principles in the peculiar instinct of the honey-bee, which are unalterable by human wisdom.—(See General Observations.)

If the hive is much larger than the one already described, the bees cannot work to advantage, and will not be likely to fill the drawers in several years if they swarm, and their prosperity depends principally on swarming, for it is their nature to do so, and any management which counteracts their natural habits, impedes them in their labors, and renders them of little profit to their owner; and they finally run out, or come to an end in a few years.

Bees in large hives never swarm; and those in hives much less than the one already described do but little else than raise young bees, and lay up a sufficient quantity of food to supply them through the coming winter, and are more liable to be robbed.

All hives of bees that swarm, are liable to swarm too much, and reduce their colonies so low in numbers as to materially injure them, and is

frequently the cause of their destruction by the moth, which is more particularly explained in remarks on Rules 2 and 10.

The chamber of the hive should hold about two-thirds as much as the lower apartment, and be made perfectly tight, so as to exclude all light from the windows of the drawer, and also to protect them from the chilly night-air:—otherwise, the cold air of night so alters the condition of the animal in the drawer, that the bees are compelled to lie in idleness until an equilibrium can be formed in the box the following day. Bees make comb in the night, and fill up the cells with honey in the day-time. Comb is made of honey, ruminated in the stomachs of the working bees: it exudes from the interior of its abdomen, and forms in little flakes betwixt its folds, and is taken by the bees in their mouth from thence, and weaved on to enlarge the cells and fill up their tenement with comb. Now, as it requires an exact uniformity of heat in all cases to make comb and enlarge the cells of a colony, we are able to account for the fact that bees will store much more honey in drawers than caps, which are more exposed to the cold and damp air of night.

Drawers should be small, like No. 2, 4, and 8, for all purposes except such as are used for multiplying colonies and transferring swarms, which should always be large, like No. 1.

Hives should have cleats on their sides, so as to suspend them in the air, some distance from the floor of the apiary, the better to secure the bees from destruction by mice, reptiles, and other vermin.

The back side, or rear of the lower apartment of the hive, should slant forward so as to render the same smaller at the bottom, the better to secure the combs from falling when cracked by frost, or nearly melted in hot weather.

No timbers or boards should be placed very near the lower edge of the hive, because it facilitates the entrance of *depreda* ors. That the back side should slant forward, is obvious from the fact, that bees generally rest one edge of their combs on that side, and build towards the front in such a manner as to enter upon the same sheet where they intend to deposit their stores, when they first enter the hive, without being compelled to take any unnecessary steps.

The bottom of the hive should slant downward from the front, so as to afford the greater facility to the bees to clear their tenement of all offensive substances, and let the water, which is occasioned by the breath and vapor of the bees, run off in cold weather. It also aids the bees very much in preventing the entrance of robbers.

The bottom board should be suspended by staples and hooks near each corner of the hive, in such a manner as to afford a free entrance and egress to the bees on all its sides, which will better enable them to keep their tenement clear of the moths.

There should be a button attached to the lower edge of the rear of the hive, so as to enable the apiarian to govern the bottom board in such a manner as to give all the air they need, or close the hive at pleasure.

The hive should have two sticks placed at equal distances, extending from front to rear, resting on the rear, with a screw driven through the front into the end of the stick, which holds it fast in its place, and a ventilator near the top of the lower apartment of the hive, to let off the vapor which frequently causes the death of the bees in the winter by freezing.

The door to the chamber should be made to fit in the rabbings of the same against the jams, in such a manner as to exclude the light from the windows of the drawers, and also to prevent the entrance of the little ants. It should also be hung by butts, or fastened by a bar, running vertically across the centre of the door, and confined by staples at each end. The under side of the chamber floor should be planed smooth, then scratched with a sharp scratch, so as to raise little ridges, to enable the bees to hold fast, otherwise they may fall suddenly upon the bottom board, which may induce them to leave the hive and flee to the woods. That the inside of the hive should be made smooth is evident, from the fact that comb

adheres much more firmly to a smooth board than it does to the small fibres, or splinters which are left by the saw, and the comb is less likely to drop.

Some good managers of bees, have recommended rubbing the inside of the sides of the hive with bees-wax, to enable the bees to hold fast until they had secured the comb at the top of the hive, where they always commence their labors. The old custom of washing the hives with salt and water, sweet herbs, and other substances, to give them a pleasant effluvia, should be speedily abolished.

When bees die, the hive should be cleared of its contents, and scraped out, and the chamber rubbed with a cloth wet in clear water, then set in its place in the apiary, and there let it stand until wanted for use. An old hive thus prepared, is better than a new one for the reception of a swarm of bees. The task, which is arduous and difficult in attaching the comb to the new wood, in this case, has been accomplished by the previous swarm.

Note.—It is found by experiment that the combs in all hives, under two years old, that are robbed, die of starvation, or otherwise, may be preserved for a new swarm, which forwards the labors of a new colony, nearly half, if the combs remain in a good state of preservation. The apiarian should examine before using, to see that the hive is clear from spiders and cobwebs.

There should be three sheet-iron slides, which answers for a whole establishment. One of which should be nearly as wide as the chamber, and one or two inches longer than the length of the chamber. The other two should be the same length of the first, and half its width only.

All hives, and all their appenlages, should be made exactly of a size, and shape, in the same apiary. The trouble of equalizing colonies is far less than it is to accommodate hives to swarms. Much perplexity, and sometimes serious difficulties occur, where the apiarian uses different sized hives, and drawers. But this part of the subject will be more fully discussed under its proper rule.

A perfect snow-white is the best color for a bee-hive. All shades of colors are conductors of heat and cold, in proportion to their proximity towards a perfect black. It is better to let the hive remain the color of the wood than paint any shade of color, which may be the cause of melting the combs in summer, or freezing the bees in winter. To preserve the greatest uniformity of temperature in the hive, both summer and winter, the apiarian will find it for his interest to make all his hives of plank at least one and a half inch thick, or boards three-fourths of an inch thick, doubled in such a manner as to exclude insects from the joints.

RULE II.

On Swarming and Hiving.

The apiarian, or bee-owner, should have his hives in readiness, and in their places in the apiary, with the drawers in their chambers, bottom up, so as to prevent entrance.

When a swarm comes forth, and has alighted, cut off the limb, if convenient, (unless the hives is used)—shake it gently, so as to disengage the bees, and let them fall gently on to the table, board or ground, (as the case may be.)—place the hive over them before many rise into the air, taking care at the same time to lay one or more sticks in such a manner as to raise the hive so as to give the bees rapid ingress and egress. If the bees act reluctantly in taking possession of their new habitation, disturb them by brushing them with a goose-quill or some other instrument not harsh, and they will soon enter. In case it is found necessary to invert the hive to receive the bees, (which is frequent from their manner of alighting,) then first secure the drawers down to the floor, by inserting a handkerchief or something above them: now invert the hive and shake or brush the bees into it: now turn it gently right end up to the table, or other place, observing the rule aforesaid.

REMARKS.—Bees swarm from 9 o'clock in the morning to 3 o'clock in the afternoon on a fair day, differing in the season according to the climate. In Vermont, they generally swarm from the middle of May to the 15th of July: in late seasons come later. I have known them to swarm as early as 7