

are weak in numbers and poor in spirits in this locality.

Borodino, N. Y., May 20th, 1892.

WM. McEVoy writes: My bees are in fine condition. Every one came through in great shape. Good prospects for honey harvest.

Woodburn, May 11th, 1892.

MR. D. ANGUISH writes: I am at De Cewsville, and will be for a week. Please send C. B. J. Bees in this part of Ontario have wintered well, very few lost. Everything looks favorable for a good flow of honey. A wet May is what we want, and apparently we are going to have it.

The outlook for the season has a rosy tinge, and with the copious showers of recent date indicate a good growth of the sages for the year. Southern California has need of a good honey yield, as the last season did not pan out well, and the year before was not rated as an average. Swarming has commenced and attention to business is now the order.—Rural Californian

MR. F. L. MOORE, of Addison, writes us that his bees have wintered well. The cold spring so far has been against them. I had over three tons of extracted honey last year, and about 500 lbs. of comb. I have disposed of it all.

I. N. FORWARD, Iroquois, Ont., writes us:—The season is very late here for bees, expect a good flow of honey during the summer.

Comb Foundation.

AMONG the indispensable articles of use in modern bee-keeping, none is of greater importance than comb foundation. Its use is of comparatively recent origin. So far as we have been able to learn, the invention is due to a German named Kretschmer, who, about the year 1843, used strips of tracing linen, which, after being dipped into melted wax, were passed between engraving rollers. Our own experiments with similar material lead us to conclude that this form of foundation could not have been much of a success. We have found that where any fibrous material, especially of vegetable origin, is used to strengthen the sheets, the bees invariably tease it out.

Another German, Mehring, invented, about the year 1857, wooden moulds in which the wax was cast. These subsequently gave way to metal plates, between which soft sheets of wax were pressed. These plates impressed only the actual mid-rib of the comb and gave no side walls to the cells. The sheets formed by them were neither regular in thickness, nor were they strong enough to support the adhering bees in a swarm, except when used only an inch or two

in depth. Yankee ingenuity added the side walls and then invented the present method of impression by means of engraved rollers.

It is mainly owing to the strength imparted to the sheets by these side walls, those of each hexagonal cell forming two arches inverted, that we are now able to use sheets of the full depth required for combs in any ordinary hive. A kind of foundation is made with flat bottomed cells, but this lacks the rigidity which the corrugated form of mid rib in a natural comb exhibits, and can only be used for brood combs when strengthened by wires. Wired foundation of whatever make, has however two great disadvantages; it is troublesome to fasten, and so far as our experiments have gone is fatal to all the grubs that chance to be in the line of the wires. Various other kinds of foundation have been tried and all even that with square cells, have had some success, but none is now so universally approved as that made with natural-shaped cells, provided the material and manufacture be right.

Our own experience with comb foundation commenced with that pressed between metal plates, and we remember how delighted we were to find how straight and regular our combs became compared with those formerly guided by strips of old comb glued to the bars. Being favored with a few pounds of Root's early make of rolled sheets which the late John Hunter kindly sent us about 1875, we at once saw the superiority of the latter, and the year after we became the happy possessor of a machine of our own, the first of the kind we believe on this side of the Atlantic. After using several newer forms of machine, we still prefer the original machine, that gives us the true hexagonal cell with rhomboidal mid-rib. Weight for weight it gives us the strongest sheets, those we generally use running seven to the pound, standard size.

For the body of the hive, only strongly made worker foundation is used, and that of good yellow color. The darker the shade, provided it be not the result of burning or of dirty admixture, it seems if anything to be the stronger, and as acceptable to the bees as the lighter-colored. For use in surplus boxes, or supers, where the comb is meant to be eaten, only the finest quality should be used, as thin if possible as the natural comb and almost as white. Even then it is well to be sparing of its use, as in certain circumstances the bees do not take pains to thin it down, and it becomes observable when the comb is cut up for table. Some prefer drone-cell foundation for supers, but it presents so strong a temptation to the queen to set brood in, especially when drone comb in the body of the hive is almost entirely excluded, that more than ordinary risk is run of having the supers spoiled by brood. Besides, it is only in special circumstances that the bees will build it out at all; that is, when they either wish it for breeding purposes or for a honey-glut. In the case of a season rich in bees but poor in honey, breeding in supers is the rule, and we decidedly prefer workers to drones when it is a necessity to have either.

(TO BE CONTINUED.)