

inlet to exit. A seven-inch stove-pipe runs up from the cellar into the kitchen, there connecting with the pipe on the cooking stove. A flange three feet in diameter, supported on bricks, makes a large draught area, and the current of air is strong. A couple of wooden box pipes on either side of the cellar, are carried outside, with two joints at right angles. These are high up in the walls, and afford means of letting off warm air, if the cellar becomes too hot. The temperature has varied from 52° to 58° all winter, never going below the former figure. I was surprised to find the air so fresh, and yet the place so comfortable. There was no cellary smell whatever, and the place is so dry, that a wet cloth suspended in it quickly dries. There were comparatively few dead bees on the floor, far less than I have usually seen in cellars containing upwards of two hundred stocks, and their remains gave off no perceptible ill-odor that I could detect. Instead of rotting, as in a damp cellar, the dead bodies appeared to have dried and shrivelled up. When you stepped on them, there was a slight crackling sound. The cellar had not been swept or cleaned out. It was just as it was left at the completion of the wintering process.

I find here the solution of that hibernation problem which I have been studying so long. Convinced that wintering is mainly a question of temperature and ventilation I have been seeking the right conditions. Here they are. Those bees have evidently hibernated. Here they are at the close of a long winter, apparently as contented as they were at the beginning of it. What satisfies me that this is an instance of genuine and successful hibernation, is the moderate quantity of stores consumed. Mr. McInally does not think his bees have averaged more than five pounds of honey per hive, since they went into winter quarters in the middle of last November. One pound of food per month for a strong colony of bees is about as convincing proof of hibernation as any reasonably common-sense man, not overly scientific, could desire. Those bees did not take much exercise, or they would have eaten more honey.

I confess that I have not come anything like so near solving the hibernation problem by any system of outdoor wintering that I have tried. I can winter bees well on their summer stands, but they consume more than twice the stores that these bees did, and I must own that this is a strong point in favor of cellar wintering. But there are cellars, and cellars.

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Read at the meeting of the Maine Bee-keepers' Association held at Mechanic Falls.

HOW TO IMPROVE OUR BEES.

WHAT the bees of the present time are capable of improvement, no one will deny. But just how to go to work to improve them is a very important question, and worthy of our consideration.

Having for several years given considerable thought to this matter of improving our bees, I will briefly outline a method that, if carried out by a majority of the bee-keepers, would undoubtedly in a few years give good results.

In order to go to work understandingly, the bee-keeper must have in view certain points of excellence, which must be first obtained and then retained and improved upon. For the bee-keeper to know what good points are already possessed by his bees, a record must be kept with each colony, and good judgment used in deciding upon their wintering qualities, disposition, etc.

I shall take the ground that the first and principal object in keeping bees is the production of honey, but there are several minor points that must be taken into consideration therewith.

I will here introduce a scale of points, imperfect, I am well aware, but it will serve to illustrate my meaning. To every colony of bees that gathered sufficient stores for winter, I would allow one point; then for every fifteen pounds of box honey, or every thirty pounds of extracted honey, one more point.

The next desirable quality to be taken into consideration is hardiness and ability to withstand our unfavorable winter and spring weather. Colonies that winter perfectly and come through the spring without dwindling should be allowed three points.

Next would come character and disposition. If a colony can be handled during the flow of honey without stinging, spread out evenly upon the combs and remain quiet while being examined, good to repel robbers and moths, and not meddlesome, that is, not attempting to rob out weak colonies or putting out their keeper's eyes when unmolested, I would allow them three points.

Thus, a colony having perfect disposition wintering perfectly and gathering forty-five pounds of box honey or ninety pounds of extracted honey, and having sufficient stores for winter, would score ten points. I think excessive natural swarming should be discouraged, consequently would not allow any credit for swarms cast, but would commence a new account with the new swarm. The bee-keeper