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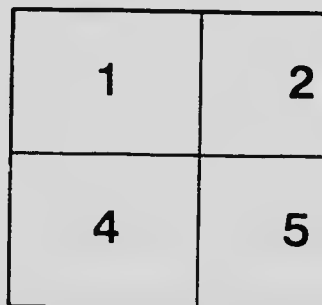
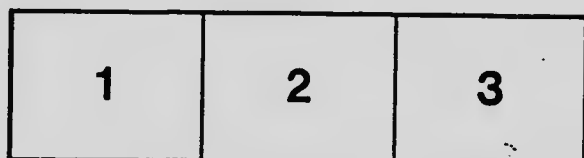
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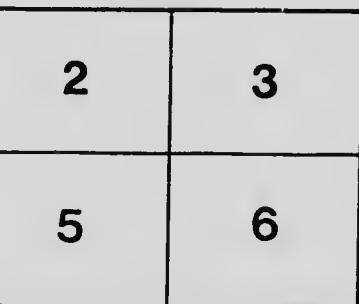
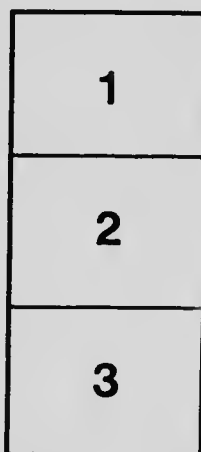
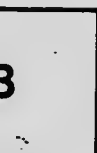
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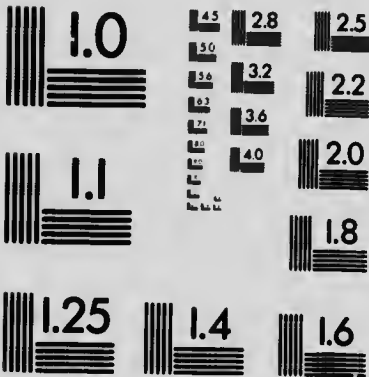
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Toronto, July, 1903.

ONTARIO DEPARTMENT OF AGRICULTURE.

HOW TO EXAMINE APIARIES AND CURE THEM OF FOUL BROOD.

By Wm. McEvoy, INSPECTOR OF APIARIES, WOODBURN.

Before opening any colony go from hive to hive and give each colony a little smoke at the entrance of their hive. This will check the bees for a time from coming from other colonies to bother you when you have a hive open and are examining the combs. When you take out a comb to examine it, turn your back to the sun and hold the comb on a slant, so as to let the sun shine on the lower side and bottom of the cells, and there look for the dark scales left from the foul matter that glued itself fast when drying down; for where you find punctured cappings and ropy matter you will find plenty of cells with the dark stain marks of foul brood on the lower side of the cells. Every bee keeper should know the stain mark of foul brood, as it is more important for him to learn to tell it at a glance than to have to use a pin and lift a little of the matter out of a cell by the head of a pin to see if it will stretch three fourths of an inch. Dead brood of other kinds often have pin hole cappings, and several cells in the same combs will be found with scales in them; and for this reason every bee keeper should learn to tell the one class of dead brood from the other, because we often find both classes of dead brood in the same colony with very little foul brood in the same comb, that the bee keeper did not notice; and after testing the other kinds, and not finding any to stretch he felt sure that that colony was not diseased when it was, and in time it would get worse, and get robbed out by the bees from other colonies, and then the disease would be spread all through the apiary. I have often been called to come at once by parties feeling sure that their colonies had foul brood, and when I got there I sometimes found that it was not. In some cases I found a very sudden loss of the most of the old bees, and nearly all the brood dead and decaying. This was the result of some foolish people spraying fruit trees while in full bloom, and the bee keeper, not knowing what caused the sudden loss of nearly all his old bees, and finding so much decaying brood, felt sure that his colonies had foul brood. The only sure way for those people that cannot tell foul brood at a glance is to

put the head of a pin into the matter in the cells and lift it out, and if it stretches they can depend on it that it is foul brood; but, as I have often said, the most important thing to learn is to know the stain mark of foul brood, and then it never will make much headway in any apiary or cause much loss, because the bee keeper would spot the disease at a glance and head it off at once. Honey to become diseased must first be stored in cells where foul brood matter has been dried down, and it is the bees feeding their larvae from the honey stored in these diseased cells that spreads foul brood. More brood dies of foul brood at the ages of six, seven, eight and nine days than at any other age.

The disease is spread by bees robbing foul broody colonies, and they carry the disease just in proportion to the amount of diseased honey they convey to their own hives.

Every diseased apiary should be treated according to the exact condition in which it is found, so as to not only drive out the disease, but to make considerable increase in colonies, and end by having every colony in first class condition. In the honey season when the bees are gathering freely, is the only safe time to make increase in a diseased apiary, and I make this increase by tiering up two hives full of the best brood with about a quart of bees until the most of the brood is hatched. By that time I will have a very large swarm of young bees just in the prime of life, and when these bees are all shaken into a single hive and treated I will have a first class colony made out of them. In every apiary that I had treated in the honey season I always had increase made by having the best brood tiered up with about a quart of bees, and left until most of the brood was hatched, and then had these bees treated just the same as the old bees that I shook off the brood and treated first.

HOW TO CURE THE APIARIES OF FOUL BROOD

In the honey season when the bees are gathering freely, *remove the combs in the evening* and shake the bees into their own hives; give them frames with comb foundation starters on and let them build comb for four days. The bees will make the starters into comb during the four days, and store the diseased honey in them which they took with them from the old comb. Then, *in the evening of the fourth day*, take out the new combs and give them comb foundation to work out, and then the cure will be complete. By this method of treatment all the diseased honey is removed from the bees before the full sheet of foundation is worked out. Where you find a large quantity of nice brood with only a few cells of foul brood in the most of your colonies, and have shaken the bees off for treatment, fill two hives full with these combs of brood, and then place one hive of brood on the other, and shade this tiered up brood from the sun until the

most of it is hatched. Then *in the evening* shake these bees into a single hive and then give them frames with comb foundation starters on and let them build comb for four days. Then, *in the evening of the fourth day*, take out the new comb and give them comb foundation to work out to complete the cure. After the brood is hatched out of the old combs they must be made into wax or burned, and all the new combs made out of the starters during the four days must be burned or made into wax, on account of the diseased honey that would be stored in them.

Where the diseased colonies are weak in bees, put the bees of two, three or four together, so as to get a good-sized swarm to start the cure with, as it does not pay to spend time fussing with little weak colonies. All the curing or treating of diseased colonies should be done in the evening, so as not to have any robbing done or cause any of the bees from the diseased colonies to mix and go in with the bees of sound colonies. By doing all the work in the evening it gives the bees a chance to settle down very nicely before morning, and then there is no confusion or trouble. When the bees are not gathering honey, any apiary can be cured of foul brood by removing the diseased combs in the evenings and giving the bees frames with comb foundation starters on. Then, also in the evenings feed the bees plenty of sugar syrup, and they will draw out the foundation and store the diseased honey which they took with them from the old combs. In the fourth evening remove the new combs made out of the starters, and give the bees full sheets of comb foundation, and feed plenty of sugar syrup each evening until every colony is in first class order every way. Make the syrup out of granulated sugar, and put one pound of water to every two pounds of sugar, and then bring it to a boil.

Where you find the disease in a few good colonies after all honey gathering is over, do not tinker or fuss with these in any way just then, but carefully leave them alone until an evening in *October*, and then go to the diseased colonies and take every comb out of these colonies and put six combs of all sealed or capped stores in their place, taken from sound colonies, and on each side of these all-capped combs place a division board. This will put these colonies in first class order for winter with little or no bother at all, and the disease crowded clean out at the same time. But some may say that the disease cannot be driven out so simply in the fall by taking away the diseased combs and giving the bees six combs that are capped all over right down to the bottom of the frames. It can and does cure every time when properly done, and if you will stop to think you will see quite plainly that the bees must keep the diseased honey they took out of the old combs until they consume it, as they cannot find any place in all-capped combs to put it, and that will end the disease at once. Many bee-keepers will no doubt say that this fall method of treatment

will not work in their apiaries at all, because they would not have enough of the all-capped combs to spare from the sound colonies, even if they could find some all-sealed. Very true; but you can very easily secure abundance of all-capped combs by putting miller feeders on your sound colonies in the evenings in September, and feeding these colonies all the sugar syrup you can get them to take; and then in October each of these fed colonies can spare the two outside combs, which will be nicely capped all over right down to the bottom of the frames, and with these all capped combs you will be provided with plenty of good stores to carry out my fall method of treatment. I finished the curing of my own apiary in the fall of 1875 by this sealed comb treatment, when I had foul brood in my own apiary. All of my methods of treatment are of my own working out, and none of them ever fail when properly carried out.

Empty hives that had foul brood in do not need any disinfecting in any way.

In treating diseased colonies never starve any bees, because it unfits the bees for business and makes them thin, lean and poor, and is also hard on the queens. I never starved any bees, but always tried to see how fat I could make them while treating them by feeding plenty of sugar syrup when the bees were not gathering honey.

If you have nice, white combs that are clean and dry and that never had any brood in them do not destroy one of these, as they are perfectly safe to use on any colony of bees just as they are, and are very valuable to any bee-keeper. I have always saved this class of combs for every bee-keeper. I once got a bee-keeper in the State of Vermont to save over two thousand nice white combs, when he wrote to me for advice, and the saving of this class of combs must have been worth fully three hundred dollars to him. But I have always advised bee-keepers to convert into wax all old combs that ever had one cell of foul brood in them, and the only article that will take all the wax out of the old combs is a good wax press; and as these will pay for themselves many times over their cost, I urge the bee-keepers everywhere to buy one. Every bee-keeper should also obtain the "A B C of Bee Culture," published by the A. I. Root Company, of Medina, Ohio. It is a very valuable book of nearly 500 pages with everything right up to date.

NOTE: Any bee-keeper desiring to know whether his bees are affected with foul brood may send by mail a sample of the diseased comb, enclosed in a pasteboard box, to William McEvoy, Woodburn, Ont. Please see that the sample is free from honey so that other mail matter will not be injured.





