

heat from escaping, and shuts off air. This causes a great deal of perspiration or moisture to be given off by the bees, which makes them damp. We have seen colonies which had every comb packed solidly with bees on top of the frames a half an inch or more deep, and half way down between the frames. In lifting the combs apart, one would almost imagine that these bees had been drowned, so wet and closely packed were they. Now, how can we prevent this? Well, we will tell you what we have done and how we do it. It will never do to ship bees when they are strong in warm weather, unless there is plenty of room given on top of the frames. We think it better to give them too much than too little ventilation. We find that the bees will always stay on the brood during cold weather and keep it covered and warm, but if it should turn hot, they then try to get above the brood instead of below it, and for this purpose we usually put a rim from four to six inches high, on top of the hive, allowing the bees to cluster on the wire cloth that covers it, leaving the top open, if the colony is very strong. Should the weather become cold, they will leave this cluster on top of the frames and go right down and take care of the brood, so there is less danger in giving too much than too little ventilation. We do not think there is any more risk, or perhaps not as much, in shipping bees at the height of the swarming season, if proper precautions are taken to give them plenty of clustering room above the frames. We have sometimes shipped them so strong that we have had to put a second story on top. Seldom ever had a loss of bees when shipped in this way. Of course if the combs are new and not well attached to the sides of the frames, or if too heavily filled with honey, there is danger of them breaking down, but we usually select combs attached all around, or as strongly attached to the frames as possible. Old combs are better than new ones to ship bees in.

The Lifetime of the Bee

SOME think that bees that have a queen do not live more than 45 days, during the swarming season. Old bees may not live more than 45

days. If, however, we set a comb of hatching Italians, that will come out inside of 5 days in a black or Carnolian colony, they are not likely to die in 60 days. Some seasons bees die more rapidly than at others. It depends greatly on the amount of labor necessary for them to perform their ordinary duties. For instance, in very windy weather, or in a windy locality, bees wear out much faster than they do when the air is still. The same thing is true if they have a long way to go to gather their stores. What veteran bee-keeper has not frequently noticed how quickly the hives will depopulate on windy days in spring? The bees become worn out when they have to put on extra efforts to fly against the wind; and this is a point that should guide people in situated their apiary. As far as possible, they should select a sheltered locality, and the shorter the distance the bees have to go to gather their stores the longer they live. Take two colonies of equal age and strength, one having to gather its stores from two to four miles in an unprotected locality, while the other is selected in a protected spot and gathers its stores around in a radius of a mile, the one would live about a third longer time than the other. The amount of exertion the bees have to make indicates, to a great extent, the time they will live, and the less work they have to perform the longer their vitality lasts. For instance, bees will live 6 or 7 months in winter quarters, and when set out be apparently as young and lively as when put in in the fall. Locate your bees as favorably as possible, and they are likely to live a great deal longer. We believe 50 colonies favorably situated, will produce as much as 100 unfavorably situated.

Mr. S. Macdonald, of Muirkirk, among other things, in a letter to us, says: "My bees are nearly ready to swarm, they are so strong and wintered out doors without any protection or care whatever, except to be left alone. One hive has come through four winters in that way and I wish you could see it, two ends split and bottom board open about 2 inches all the time. I think people must handle their bees too much when so many die."