

enough is coming in from the fields so that no robber bees are about looking into hives as I open them. I do not feed, only for the first ten days, but feed at all times when nothing can be obtained from the fields.

Then there is a bare possibility that the deeper Gallup frame has something to do with it, but I think not. I have never tried so rearing queens at the out-apiary, for I use only the one colony at home, bringing brood from the out-apiary, if I wish to breed from any queen there.

If I have failed to make all plain, don't be afraid to ask questions, for on good queens hangs the greatest success in apiculture.—Gleanings in Bee Culture.

Borodino, N. Y., Dec. 30th, 1898.

Strengthening Colonies.

The plan of strengthening weak colonies of bees by exchanging hive containing such colony with one having a strong colony in it, putting each on the stand formerly occupied by the other, is one which is quite generally adopted with good results, and I am asked what time of the day is the best to do this exchanging. Some claim that it matters not when the exchange is made, for if made at midnight the bees come out in the morning without realizing any change has been made, and upon returning from the field go to the old location the same as if nothing had happened; hence the weak colony will receive as many bees in this way as they would if moved when the bees were at full flight.

Perhaps a little looking into this matter would do no harm. When a colony is in a normal condition the young bees go out to take their first airing at the age of six days, if the weather is favorable; and in doing this they mark their location to a certain extent, but not to an extent great enough that subsequent flights have an impression on their memory, for we find them taking these markings anew at every flight until they become field workers, after which they take no more markings during the working season unless it be in the case of a swarm, or some very rude disturbance of their home.

If the hive is moved at midnight, on the coming morning all the bees over six-

teen days old, upon going to the field leave in a straight line, and having the location established in their memory, and not taking any markings that morning, come back to the spot where the old entrance used to be; consequently they go into the hive of the weak colony (if such has been placed on the old stand) or are lost, if no such provision has been made.

But suppose we wait till about two o'clock in the afternoon, at which time all the bees under sixteen days old and over six days old will fly if the weather is fine, and we will find that these young bees head toward the hive the same as they did the last time they were out, hence they notice the change which has been made, and instead of going to strengthen the weak colony which has been placed on the old stand, they return to the spot last marked, hence do nothing toward the desired strengthening. Now, had we waited about this changing until these young bees were in full flight, and moved the hives when the most of these young bees were in the air, we would have caught these also, in addition to all those which were over sixteen days old. Then ten of these young bees are worth thirty or forty of the older ones for strengthening weak colonies, inasmuch as they are just commencing life instead of being near its close, as many of the field bees must of necessity be.

Thus it will be seen that if we wish to secure the best results from this exchange of colonies, it should be done when the greatest number of young bees are flying from the hive, for we shall get the old ones in any event.—G. M. Doolittle, in *The Rural Californian*.

Bees in the Orchard.

Many fruit growers do not thoroughly appreciate the value of bees in the orchard or there would be more orchards with bees in them. Their value in an orchard was demonstrated in a most practical way at the Oregon Experiment Station some years ago. A few peach trees were forced into bloom in November and a colony of bees was placed in the house when the trees began to bloom. For some days, however, a heavy fog prevented the bees from working, although the flowers were open not a bee was seen upon them. The first bright day the bees set to work at once and remained at work so long as there was anything for them. The result was that not a peach dropped at the stoning season, the time