



Note 2.10
(Previously Note #18)

REQUEENING

Maximizing honey production depends on bee management that produces a strong colony at the beginning of the main honey flow. One component of successful bee management is requeening, the replacement of a colony's mother queen by a younger queen. Requeening is recommended when the queen is two years old. The age of the queen can be recorded by marking her with a small drop of paint on her thorax.

Why Requeen?

Requeening by the beekeeper is an important part of bee management for the following reasons. Younger queens lay more eggs than older queens. The increased egg production results in stronger colonies and increased honey production. Colonies with younger queens are less likely to swarm, and swarming weakens the colony which greatly reduces its honey production. Requeening also allows the beekeeper to have some control over the stinging temperament of the colony. Colonies that are less likely to sting are easier to manage. Requeening also breaks the brood cycle and tends to disrupt the production of tracheal mites.

Natural vs. Managed Requeening

Natural requeening occurs when worker bees in the colony sometimes replace a defective queen, a process called queen supersedure. However, when managing colonies for honey production, natural requeening should not be relied upon for several reasons. Sometimes the bees will let the queen become too old which can result in a weaker colony because of reduced egg production. If supersedure occurs during the spring, the colony may swarm.

When to Requeen

Although many beekeepers requeen in the spring, requeening is generally recommended for the fall, with enough time remaining in the season for the new queen's worker bees to populate the colony. Fall requeening has several advantages over spring requeening. With fall requeening, the younger queen winters with the colony and is less likely to die during the winter than older queens. Fall queens generally cost less than spring queens. Fall requeening can disrupt the growth of tracheal mites populations, which

can increase dramatically during this time. Spring requeening causes a break in the brood cycle just when the colony should be rapidly building up its worker bee population for honey production.

Requeening Techniques

Managed requeening involves introducing a new queen into the colony. There are many queen introduction techniques, one of which is described below. Before introducing a new queen into a colony, that colony **MUST** be queenless. Bees will not accept a new queen while their mother queen is in the colony. Even when queenless, initially, the bees will try to kill their new queen because she is not a member of their colony. Requeening techniques are designed to reduce premature queen death by limiting the bees' access to their new queen during the introduction period. Once the bees have become accustomed to their new queen, she is released into the colony.

Requeening with the Standard Queen Bee Shipping Cage

The requeening technique described here is a standard and fairly reliable method of queen introduction. Most queens are shipped in a standard three-chamber shipping cage. When using this cage the steps in the introduction process are as follows. Dequeen the colony several hours before introducing the new queen. Remove the cork from the end of the cage without the candy and carefully release the attendant worker bees without releasing the queen. In case the queen accidentally escapes, the attendant bees should be released in an enclosed area such as a car. Remove the cork from the candy-end of the cage. With the candy-end up, wedge the cage vertically between the top bars of two frames in the brood nest. Make sure the bees have access to the queen through the screen. The cage can also be wedged horizontally, screen side down, between the bottom bars of the super frames immediately over the brood nest. The bees will eat the candy and typically release the queen in about 2-3 days. Reinspect the colony briefly for the presence of eggs or young larvae in about a week. The presence of young brood indicates a successful introduction.

Guide Lines for Successful Queen Introduction

The likelihood that a colony will accept a new queen depends partly on the conditions present during the queen introduction period. To enhance queen acceptance, remember these guide lines.

- Younger bees accept queens more readily than older bees.
- Smaller colonies of bees accept queens more readily than larger colonies of bees.
- Bees accept queens most readily during a nectar flow.
- Bees are less likely to accept queens when colonies are trying to rob each other.
- Bees are more likely to accept a new queen that is similar to their old queen i.e., replace a laying queen with a laying queen.

References for Additional Reading

The Hive and the Honey Bee ed. by J. M. Graham. 1992. Dadant and Sons, Hamilton Il, pp. 625-627.
Queen Rearing by H. H. Laidlaw Jr. & J. E. Eckert. 1962. University of California Press, pp. 104-109.

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