QUEEN BEE BREEDING METHODS

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Abstract: This article provides information on the branches of beekeeping development and methods of artificial breeding of queen bees.

Key words: Bees, beekeeping, mother bee, honey, nectar, food, eggs.

Forage or food supply for bees consists of nectar and pollen of flowering plants between flights. Honey is important to beekeepers as a food source for bees. The off-season should be considered to determine where hives are located for maximum honey production and brooding. If the amount of honey decreases, it is necessary to feed the bees in special conditions. Bees used for commercial pollination are kept in backyards. Forage is also important to manage pollination by other bee species. Nectar contains sugar, which is the main source of energy for the muscles of the bees' wings, and also serves as a source of heat for the bee colonies for the winter. Pollen provides protein and trace minerals that are mainly fed to the offspring to replace lost bees in the normal life cycle and colony functioning.

As a rule of thumb, a foraging area around a beehive is 2 miles (3.2 km), and bees have been observed to forage twice and three times this distance from the hive. Experiments have shown that hives within 4 miles of a food source gain weight, but the energy expended outside is greater than the energy gained during foraging.[1]Foraging over extreme distances damages and wears out the wings of individual bees, shortening the lifespan of foraging bees and thus reducing the number of bees in the colony. The minimum temperature for active beekeeping is about 55°F (13°C). Full forage activity is not achieved until temperatures rise to 66 °F (19 °C). There are small differences in the races of bees in the West, which differ in what temperatures they forage. The main source of nectar and the main source of pollen varies greatly according to latitude, region, season and plant type. Bees can remember the direction and distance of a food source through round dance, flutter dance, and flutter signals. In addition to nectar and pollen, bees can search for honeydew sources in certain conifers and oaks. One queen bee is needed for each hive, as she is the only one who can lay the fertilized eggs needed to raise new workers and new queens, and is therefore essential to the survival of the species. cannot develop and live as a family. When bees feel that there is no queen bee, they can produce queen bee without the help of a beekeeper. But bees can take older larvae from low-productivity families and raise them to raise queen bees. In this case, a good queen bee is not produced. In order to produce a good queen bee, one-day-old larvae of strong, productive families should be

raised, because three-day-old larvae are fed with a mixture of perga and honey. Therefore, in order to produce a good queen bee, the beekeeper must observe the bee families in the field and find out what products (honey, wax, offspring) he should write down what he will give. Although bee families in Arizor are kept the same, their production is different. For queen bee breeding, the best productive (record) bee family is used.

A family that produced a large amount of honey, wax, and offspring is considered a record holder. But if it is found that these families are infected with infectious diseases, they cannot be used. In order to improve the quality of honey bees, the best queen bees are identified, selected and bred in the field, and then they are used to raise queen and male bees. - weather conditions should be good. If nectar and pollen are cut off in the nature during the breeding of queen bees, if the weather is unfavorable, the bees will cut off the queens, stop the breeding of queen bees, or the queen bees produced will be of poor quality. In order to prevent this from happening, the family raising the queen bee is given sugar-juice and the hive is surrounded by a heating pad. Breeding of queen bees should be started only after the emergence of male bee maggots in the bee family. Queen bees produce good eggs in April and May. The quality of newly bred queen bees can be judged by the amount of food left in the queen. The more food is left under the mother, the better the worm is fed and the mother bee is full. If there is no food at the bottom of the queen, the queen bee larvae are not well fed, and small queen bees emerge from the queen. Two families participate in artificial queen bee breeding. One of them is the foster family, and the second is the offspring family. Both families must be strong. One day before giving the larvae to the host family, the mother bee and the open egg-worm frames should be taken out and given to another bee family. Only closed worms should remain in the family. In order for a host family to raise high-quality queen bees, the following must be present:

Having 6-7 frames with closed worms in the family;

a large number of bees in the family;

the hive should contain 10 kg of honey and two frames with perches.

In order to prevent open worms in the host family, the laying of eggs by the mother bee is reduced ten days before. The reduction is that the queen bee is placed in a single-frame lattice "insulator" with a rubber frame. The mother bee cannot move to other frames and lay eggs. Worms in the remaining frames are closed in 10 days.Then the mother bee is put into another apiary with a frame inside the cage and a new family is created. Only frames with closed bees remain in the host family. After the queen bee and open queens of the host bee family are removed, the bees feel the absence of the mother bee within 8 hours and start to get restless. The next day, this family is given maggots to raise queen bees. The age of the maggots taken to raise a good queen bee should be 1-2 days after hatching. It is not possible to raise high-quality queen bees

from maggots that are more than two days old. Worms emerge from the eggs and are folded in the shape of a half-moon. It is more difficult to separate the 1-2-day-old worms in the fall. Worms of the same age are not the same size. Worms located at the edges and bottom of the cotton frames are not heated as well as worms in the middle. Therefore, the worms may lag behind in growth. In order to obtain the necessary maggots, a white fluffy frame made for worker bee maggots is placed in the center of the nest of the record family. After the mother bee lays eggs, 5 days later, the largest maggots are two days old. All the worms in this frame are suitable for breeding queen bees. An isolator is used when a large number of maggots are needed to raise a queen bee. This isolator is single-frame and double-frame, with two walls made of wire mesh. Worker bees pass through the lattice, but the queen bee cannot. In this isolator, a white cotton cage with a cage of worker bees is placed, and then the queen bee is placed. The insulator is covered with a wooden plank. The isolator will be placed inside the family for three days. Trapped there, the mother bee lays eggs within three days. After three days, the cotton frame is taken from the isolator together with the mother bee and put back into the nest and kept in the hive for two days. The maggots in the cells of this frame are two days old. After two days, this frame should be carefully removed, and the bees on it should be swept with a brush and brought back to the hive.

It is not recommended to shake off the bees on the frame, because the maggots may be damaged.

For example:

1. The easiest way for amateur beekeepers is to give the host family the cages in which there are more maggots. A one-two-day-old mumkatak is cut from the bottom of the cells in the part where there are many worms. The worms in the cages cut from the bottom are killed and thinned out one out of every three worms and placed in the foster family. Bee queens look on the left worms. Most of the worms prepared in this way are wasted as a result of dilution.

2. When it is necessary to raise a large number of queen bees in Arizor, the method of cutting and moving the cells with worms is used. When this method is used, all maggots can be used to raise queen bees. To raise the queen bee, the worm cells are cut from one row and separated separately. Then each cell is cut to half its depth. The worm cage is glued to the cartridge with melted wax, and the cartridge is glued to the frame and placed in the host family.

Before gluing the cell to the cartridge, the cartridge is leveled with melted wax and the cell is glued to the opposite side. The cartridge consists of a small, smooth four-sided piece of wood (brusok). The frame to which the cartridge is pasted is without foam, and three rows of wooden beams are installed in it, 7 cm apart. Cartridges are attached to these beams. The end of each beam is nailed to the frame with a single nail so that the beams can be rotated.

3. The method of transferring maggots to an artificial tray can be used in the breeding of queen bees. An artificial plate (misochka) is made of wax. A wooden mold is made for this. The diameter of the tray with the mold should be 8-9 mm, and the depth should be 9-10 mm. To prepare trays, melt 100 g of clean wax, first dip the mold in cold water, then 9-10 mm deep in the melted wax, and put it in cold water again. After repeating this process 3-4 times, the plate will be ready. The tray is removed from the mold and glued to the frame like a cut-out checkerboard. Then, the trays are given to the bee colony for 4-5 hours to grind. Then, with a special device (spatula), the worms are removed and placed on plates. After the bees begin to raise the maggot in the tray and feed it with mother's milk, if the maggot inside is taken out and a day-old maggot is given for the second time, this maggot will produce a good queen bee due to a lot of food. Currently, ready-made trays (misochka) and spatula can be bought at a beekeeping store. When breeding queen bees, it is impossible to keep maggots outside the bee family for a long time. Worms are neglected. They should be moved in a clean, bright room with an air temperature not lower than 25 degrees for no more than an hour.

4. If the Jenter cage frame is used in the breeding of queen bees, it makes the beekeeper's work easier and ensures that the larvae can be taken for a day and transferred to the host families without damage.

The jenter grid frame is made of plastic and consists of separate grids and trays. The frame of the jenter cage is closed with a mesh that the queen can't get through. Genter is given to the breeding family by applying honey to the frame of the cage for 2-3 hours. Then a queen bee is placed in the frame of this cell and the bee family is placed in the middle. The mother bee lays eggs in Genter's cells without moving from the lattice to another honeycomb frame. Worker bees can get through the fence. After the mother bee lays eggs, the cell containing the eggs is separated, put on a prepared tray and given to the host bee family.The mother bee matures in 16 days. But if a worm is raised for a day, it takes 12 days to produce a queen bee. It is necessary to prepare nuclei for the creation of a new family on the day of the queen bee's release. The eaten food is distributed to new families. For this, it is necessary to make new families orphans one day in advance. If the fed queen is not removed in time, the first queen to emerge will kill the queen in the other queen. If the nuclei are not ready to distribute the fed queens, the queens should be placed in a cage and left in this foster family until the nuclei are ready. Nucleus are small two- or three-frame families for breeding queen bees with seeds. In Uzbekistan, it is possible to breed queen bees even in autumn. Experiments show that families with queen bees taken in the fall are less likely to divide into new families. Our experience shows that October is the last time to get queen bees in our area. Our experienced beekeepers begin to create a breeding family after the pest

birds fly away from our country. It is good to organize such families using the method of expanding the nest with eaten offspring at one time.

References:

1. Faegri, K., & van der Pijl, L. (1979). Fundamentals of Pollination Ecology (3rd ed.). Pergamon Press.[1]
2. Heinrich, B., & Raven, P. H. (1972). Energetics and pollination ecology. Science, 176(4035), 597–602.[2]
3. Nabors, M. (2004). Introduction to Botany (1st ed.). Pearson Education.[3]
4. Picó, F., Rodrigo, A., & Retana, J. (2008). Demography of plants. Population dynamics, 2811–2817.[4]