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PREPARATION OF WAX CUPS USED FOR RAISING QUEEN BEES.

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Abstract: *This article deals with the artificial preparation of wax cups used in the breeding of queen bees. For this, a template is made from a wooden stick, and its end is smoothed with sandpaper. The flattened end of the mold has a diameter of 8-9 mm and a length of 100-120 mm. Therefore, the diameter of the wax cups should be 8-9 mm, the depth should be 9-10 mm, and other instructions are given.*

Key words: *wax cups, wooden stick, sand paper, length, diameter, cup, wax cup, hot, gauze cloth, board, breeder, welding, automatic, graft, propolis, aluminum mold, bee milk.*

Introduction: Preparation of wax cups used in queen bee breeding is done artificially. For this, a template is made from a wooden stick, and its end is smoothed with sandpaper. The flattened end of the mold has a diameter of 8-9 mm and a length of 100-120 mm. Therefore, the diameter of the wax cups should be 8-9 mm, and the depth should be 9-10 mm.

Artificial wax bowls are prepared as follows - 50-100 g of pure light-colored wax (propolis and other additives should not be present) is melted in a glazed container, then a wooden mold is inserted into cold water, 9-10 mm deep, melting dipped in wax and quickly dipped again in cold water. At this time, it is well known that hot wax hardens quickly when immersed in cold water. This method is repeated 2-3 times, and as a result, the wax cups are ready. 18-20 grams of wax are used to make 100 wax cups. In order to speed up the work process, it is possible to install 5-6 such mold sticks on one board in one plane and prepare 8-10 wax bowls at the same time.

In the following years, in modern beekeeping, an automatic device with 16-18 aluminum molds was developed at the same time. With this tool, even the wax cups are automatically removed with the help of the pistons, making manual cleaning much easier.

Research methodology: Sticking wax cups to welding frames.

Welding frames consist of ordinary honeycomb frames, the length of which is equal to the width of the hive frame, and they are placed next to it at a distance of 70 mm from each other. It is a four-cornered, three-horizontal beam (the upper beam is located 25 mm from the frame) that rotates around its axis. Each of these four-cornered beams can hold up to 30-36 wax cups. The welding frames prepared in this way are given to foster families. The wax cups are individually glued to the beam of the welding frame using special cartridges. Then these wax cups are leveled and cut with a sleeve movement. To attach the cups to the cartridges, the bottom is lightly dipped in hot wax, which helps the cups stick firmly. These cartridges are welded with hot wax and glued to the beams of the frame.

In recent years, narrow and thin welding frames with a width of 15 mm are widely used in the breeding of queen bees. It is very convenient to install wax cups on the beams between such thin welding frames, and it does not interfere with the bees in raising larvae even in the beehive. Also, since such thin welding frames are very close to the brood in the beehive, the air flow is moderate, and the humidity is within the norm, bees gather in this place in large numbers, and as a result, they are more receptive to raising larvae. In addition, it is possible to place such thin welding frames in the place where the most bees gather in the hive.

Preparation of wax cups for larva transfer.

Before incubating the wax cups, they must be placed in a colony of nurse bees to prepare and polish them. Best results are given in the evenings after the bee colony is orphaned for 8-10 hours. During this period, the bees polish the wax cups, make them transparent and give them a unique smell, and they are also prepared for the transfer of larvae. Larvae transferred to such translucent wax cups are quickly accepted by bees for rearing.

It is important to feed the larvae transferred to wax cups in the first days. These nutrients not only serve as food, but they also serve to keep the larvae firmly attached to the cups. The use of bee milk has a good effect on the quality of such feeds, and it is also possible to use pure, high-quality honey.

In order to get enough bee milk, it is good to give the larvae to the rearing bee family a few days before and collect the milk from the young larvae collected in the wax cups up to 5 days old, because the composition of such young larva milk is rich in all vitamins and hormones, and it differs sharply from the milk of older larvae. It is not recommended to use adult bee milk as food for the larvae in the rearing of queen bees.

The larvae of the mothers whose mouths are not yet closed are gently taken out with the help of a milk scoop (spatula) and placed in another bottle. Bee milk is

collected in small glass bottles. A drop of milk the size of a millet is dripped from the obtained milk into each wax cups with the help of a pipette. (p. 55-57)

Results of the study: Before transferring the larvae to the wax cups, all the necessary equipment, i.e., a day-old rum with larvae, wax cups, welding frame, a special spatula-shovel, a clean robe, hot water, a towel, and a sharp knife should be prepared. should be warmed.

Special laboratories are built in breeding farms specializing in the breeding of queen bees, and these works are carried out. Transfer of larvae is carried out in a specially prepared room with a temperature of 20-250 degrees and humidity of 70-75%. When natural light is not enough, daylight lamps are used.

Larvae no older than 1 day are selected for transfer to wax cups. The use of adult larvae results in the production of poor quality queen bees, which means that queen bees are physiologically similar to normal bees. 2021 (28-33-b)

To transfer the larvae to the wax bowls, special spatula-shovels made of aluminum wire are used. The spatula-shovel is made of aluminum wire with a diameter of 1.5-2 mm, its tip is slightly bent, like a transparent spoon, and is flat. The tip of the spoon should not be damaged while picking up the larvae. To make it easier to hold the spatula-shovel, you can install a wooden handle on its handle. In addition, plastic, goose or chicken feathers can be used as a spatula. To do this, their triangular top should be bent and smoothed, and the three parts should be about 1.5 mm wide.

Before transferring the larvae to the wax bowls, a drop of bee milk is added to the bowl with a pipette stick, or diluted feed milk is dripped onto the bottom of the bowls using a pipette. If the feed milk is slightly thickened, in this case, diluting the milk with 30% distilled or boiled water also gives good results. but it is suitable if it is fresh and liquid.

To get a better view of the bottom of the cells, take the frame from which bee larvae are taken and bring it closer to the light. The larva floating in the milk is gently removed from the back with a spatula-shovel, without damaging the larva, and transferred to wax bowls.

When placing the larva in the wax bowl, its tip is slightly pressed to the bottom of the bowl, and the shovel is gently pulled out from under the larva, and at this time the larva settles well into the bottom of the bowl. It is necessary to try to get the larvae once, in the second attempt it can be damaged, it is better to try to get the next larva without getting such larvae. Larva transfer should be done in a warm room for 15-20 minutes, otherwise the larvae and bee milk may dry out. after all the work is done, the welding frames are placed in the beekeeper’s portable box, the lid is closed and placed

in the rearing bee family, and the time, day and hour of feeding the larvae are written on the top of the frame.

Conclusion: The method of double migration of larvae has been widely used in the breeding of queen bees in large specialized beekeeping farms of many countries in recent years. The advantages of this method are that the quality of the reared queen bees is much better compared to other methods, the weight is heavy, and the number of egg tubes in the ovary is much higher.

In addition, honey can also be used as food for wax cups in the breeding of queen bees in this way. 10-12 hours after the larvae are transferred to the wax cups, the grafting ram is brought from the rearing family to the laboratory, and the larvae floating in the milk in the wax cups are removed. In its place, new young larvae are transferred and returned to the foster family. After that, the time and hour of feeding the larvae are written on the upper shoulder of the frame of the welder.

In this way, in the breeding of queen bees, the larvae do not go hungry, the larvae taken from the mother's family receive ready-made food with a very rich composition directly from the hive. During the breeding of queen bees with two transfers of larvae, it was found that the highest quality queen bees were obtained when the first larvae were removed after 10-14 hours and a new one was transferred. This method produces the best queen bees, but it is very complicated and rarely used in our country. 2021 (paragraphs 28-33).

Transfer of bee eggs to wax cups - transfer of bee eggs in queen bee breeding is a very complicated process. Bee eggs can't be taken with any tools, eggs can be taken only with a special tool. This tool cuts the egg lying at the bottom of the cell with wax, and the waxed bee egg is transferred to the wax cups and into the food, just like the larvae. After all the eggs have been transferred to the wax cups, the brooding rum is given to the family of rearing bees. After that, on the top of the frame, the time and day of egg laying are written.

But when bee eggs are given to raise, the rearing bee family rarely accepts them. Due to the low production of eggs, these eggs produce the largest and best quality queen bees.

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