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WINTERING OF BEE FAMILIES AND ITS ORGANIZATION

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Abstract:

In this article, the secrets of the winter of the bee family and how to bring them out of winter, and additional feeding, the strength of bees, the results of wintering are given.

Keywords: Honey, poultice, protein, control, stimulation, larva

INTRODUCTION. In the climatic conditions of our republic, despite the fact that many pollen plants bloom in spring and autumn, there are few flowers. The bee colony uses the early spring food to feed its larvae. Rapid changes in climatic conditions sometimes slow down bees' flight activity and honey collection, sudden warming of the air or heavy precipitations stop plants from releasing nectar. During this period, the development of the bee family stops, the mother bees reduce egg-laying, and the number of young offspring in the same family decreases. All this has a negative effect on the growth and development of the bee colony, and it requires providing additional stimulating mineral nutrients to the colony in spring and summer.

Sugar juice given to the bee family does not contain vitamins, amino acids, minerals, microelements. Therefore, the addition of the most important mineral substances to the composition of sugar syrup greatly accelerates the spring development of the bee colony and ensures the successful transition of the colony.

THE PURPOSE OF THE STUDY. Proper organization and efficient transfer of bee colonies.

RESEARCH METHOD. On the basis of the uniformity style in the experimental beekeeper farm beekeeper, 2 experimental and 1 control groups of any of the 3 boxes, a total of 9 boxes were formed in September – October 2023, the internal structure and composition of the formed control and I, II experimental groups were studied.

Table 1.

Composition of formed research groups

Groups	Amount of bees, (kg)	Amount of closed dome, (square)	Nutrition - honey quantity, kg
I	1,31	72,6	5,40
II	1,32	72,9	5,41
III	1,32	72,8	5,40

Studies have been conducted on bee colonies in this condition.

From these 9 box families, we created control and experimental groups in September and created families of young queen bees. These young queen bees serve as a reserve, that is, they provide queen bees for the hives and nuclei formed in the coming spring months.

EXPERIMENTAL RESULTS. In order to have a successful winter in our conditions, it is possible to prepare beehives for winter from mid-August to the end of November. It is necessary to choose places rich in pollen and aphids and move the apiary there. Intensive autumn development work is carried out in different ways: it is necessary to provide protein, vitamin, macro-microelement, sugar nutrients and move the apiary to a place with a warm climate.

At the beginning of January, it is necessary to provide the families in the apiary with food made from various protein medicines - medicinal substances, honey and sugar. When the first spring plants bloom, the worker bees begin to increase the live weight of the colonies by taking turns.

In our experiment, 2 experimental and 1 control groups were formed, selected in March, and young queen bees were released from these groups in different ways. Breeder families were fed different foods and the effects of these foods on young larvae, queen bees, and the family as a whole were studied.

Table 2.

Carrying capacity of foster families

Groups.	Indicators	Number of larvae	Number of larvae received	Number of queen bees hatched
I	(100% sugar substitute)	56	39,6	33,21

II	Sugar and mineral protein mixture, 1%	56	44,0	38,44
III	Sugar, mineral protein, mixture, 2%	56	49,0	37,10

As can be seen from the table, groups II and III produced the highest number of queen bees, because they were fed additionally. At the end of April and at the beginning of May, foster families were formed again and the mother bees were released again.

Table 3
Results of conducting the village of bee families

Indicators	I - control group	II - control group	III - control group
The strength of bee families in the autumn season, kg	1,50	1,52	1,51
Death of bee colonies in winter, kg	0,20	0,18	0,19
The strength of the bee colony on March 12, kg	1,30	1,33	1.31

In the analysis of table data, the strength of bee families was much higher in experimental groups II-III, because those were additionally fed with mineral nutrients.

The following activities are performed in beekeeping farms during the winter season:

1. Observation of bees during wintering.
2. Watching the bees live as a swarm.
3. Feeding bees in winter.

Among most insects, bees successfully hibernate, providing sufficient temperature for family life at the expense of living as a family. The bee family prepares for hibernation by filling the cavities at the top of the soft combs in the outer parts of the hive with recycled honey from the time of the main juice separation, and from the period of gathering food for winter nutrition. When the juice is processed, it thickens and does not turn sour if stored for a long time. When the juice thickens and the content of sugar reaches 80-82%, fermentation fungi cannot develop. If bee colonies prepared for wintering are placed on piles in places where there is no dust, bee colonies do not work during the winter season.

In the first half of winter, the beekeeper comes to the apiary once or twice a month and takes news from the bees. In the first half of winter, bees keep quiet. In the second half of the wintering season, bees begin to be disturbed by the accumulation of waste in the hindguts of bees and the appearance of larvae in soft frames. At this time, the beekeeper receives information from the apiary 3-4 times a month. As soon as spring approaches and the snow on the ground begins to melt, news is received twice a week, every day at the end of February and at the beginning of March. During this, the bees' diet is checked, extra warm pads are placed in weak bee families, nest holes are made smaller, families without queen bees are sent to families with queen bees. Deficiencies in the apiary and work to be done initially in the spring are recorded in the apiary journal.

In winter, they open the top of the honey in the covered soft cups and feed. When the top of the container is opened, the stored honey quickly absorbs moisture from the air and becomes ready for bees to consume.

It depends on the temperature of the bees' external environment, where the hive is located. For example, bees wintering in the open air or in the basement, where the temperature is close to 0°, consume 2-3 kg of excess food.

In order to ensure a successful wintering of the bee family, in most regions, 6-8 kg of honey left over for the winter is replaced with sugar syrup. Sugar juice is of great importance when the winter is long and the bees cannot clean their hindguts for a long time.

SUMMARY. It is necessary to provide a strong bee colony before the main honey collection period, which is considered as the main requirement of production, to increase the productivity of high honey and agricultural crops.

It is necessary to restore a solid food base in beekeeping farms, develop bee families in the first days of using stimulating food additives, produce a large number of young queen bees and package families, and form auxiliary queen bee colonies until the main honey collection period.

Bees winter well when the top and bottom vents are open. All indicators of bee families in experimental groups II and III were much better than in group I.

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