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Annotation: Stimulating food additive ("carbohydrate feed"), when feeding bee colonies by the main honey harvest period, the number of bees increased by 25-40% compared to the control group, and their honey productivity increased by 31-33 kg/ha, and profitability increased by 35-44%. When feeding stimulating food additives, the net profit in experimental groups I and II amounted to 7,500,000 and 8,250,000 soums, respectively, compared with the control group

Keywords. Bees, Chlorella, Carbohydrate feed, Pollen, Sugar, Vitamins, Autumn, Spring, Top dressing, feed mass, Honey .

Introduction. Relevance of the Topic. Feed mass is a mixture of honey and sugar. To prepare it, ready-made powdered sugar or finely ground and sifted sugar is mixed with heated honey to make a dough. Flat cakes are formed from the dough, placed into cellophane bags, and small holes are made in the bottom of the bags with a nail. These cakes are then placed on top of the hive frames. Bees feed on this dough-like food through the holes. The cakes can also be wrapped in gauze or newspaper.

Our wise people say that the bee is one of the seven treasures. This is indeed true. In addition to producing large quantities of medicinal honey, beeswax, propolis, and pollen, bees make a significant contribution to the development of agriculture, especially cotton production, by pollinating crops. Therefore, beekeeping is considered one of the most profitable branches of agriculture.

Beekeeping is one of the sectors of agriculture in which bees are raised to obtain honey, wax, and other products (royal jelly, bee glue/propolis, bee venom, etc.), as well as to improve the yield of agricultural crops through pollination.

Literature Review. According to O.S. To'rayev and O.A. Maxmadiyarov (2023), another method of supplementary feeding for bees is the preparation of a dough-like candy feed made from honey and powdered sugar. To prepare it, one part diluted honey and four parts powdered sugar are required. The honey should be heated to 40°C and mixed with the powdered sugar. Cakes weighing 0.8–1.0 kg and 2–3 cm thick are then prepared from the resulting dough and placed on top of the frames inside the hive.

To'rayev O.S. and Maxmadiyarov O.A. also recommend a mixture consisting of 78% sugar, 18% water, and 7.4% floral honey for winter bee feeding. The mixture

should be maintained at a temperature of 35–40°C for 10–12 days and stirred twice daily.

According to Yu.S. Suchkov and N.E. Ladukhin (2003), when bees were fed at night with a solution containing 1 kg of sugar dissolved in 1 liter of skimmed milk, at a rate of 300 g per colony, the queen bee's fertility increased.

O.A. Maxmadiyarov (2022) noted that one of the methods used to encourage bees to visit a desired plant is training. For this purpose, flowers of the target plant are placed into a syrup prepared from one part sugar and two parts water and left in the syrup for some time. Early in the morning, before the bees begin flying, 200 g of this syrup is provided to each colony through feeders.

As shown in Table 1, bee colonies that received chlorella paste produced 3–41% more honey than the control group. The best results were obtained with a mixture containing 55–56% sugar, 10–12% chlorella paste, and the remainder water.

Thus, chlorella suspension can be used as a substitute for pollen in bee colonies because it grows rapidly, adapts well to changing environmental conditions, accumulates protein in its cells, and does not produce compounds harmful to living organisms. Chlorella suspension can be obtained from large livestock farms, silkworm-rearing facilities, poultry farms, and livestock-fattening enterprises.

Autumn feed should be replaced by half with honey obtained from nectar and cotton plants. In spring, during the flowering period of plants, supplementary feeding with sugar does not affect the development of bee colonies (Table 1).

Table 1

Effect of Late Spring and Summer Feeding of Bee Colonies with Chlorella Paste on Brood Production (Group Mean Values)

Calculated day	Control group M ± m	Experimental group M ± m	Compared to the control group (%)
2024- Year			
May 20	847,0± 136,0	806,0 ±6,0	95,1
June 2	1108,0 ±144,0	1211,0± 184,0	110,1
June 11	1304,7± 103,0	1617 ± 7,1	123,1
June 26	1768,2± 263,0	1948± 206,0	110,2

July 8	4864,6± 409, 0	5398± 417,0	110,9
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Disadvantages of Chlorella. One of the disadvantages of chlorella is that it can spoil rapidly if it is not properly mixed or processed. Currently, methods for preserving chlorella paste are being developed. It should also be noted that continuous supplementary feeding with sugar over many years (when natural honey is completely replaced by sugar) may lead to vitamin deficiencies in bee colonies. As a result, bees do not emerge from the wintering period in good condition, their vitality decreases, their productivity declines, and they become more susceptible to wax moth infestation.

The ecological conditions of Uzbekistan, their variability, and favorable climatic characteristics provide suitable conditions for beekeeping. The early onset of spring creates opportunities for the development and multiplication of bee colonies.

Research Results. In apiaries, management practices are carried out according to plans for pollination of flowering plants and spring honey production using bee colonies.

After all spring management measures have been completed, bee colonies are relocated to nectar-rich areas for honey collection.

Nectar-producing plants contain abundant nectar in their flowers. Bee colonies are transferred to forested and wooded areas containing willow, acacia, hawthorn, apple, pear, wild pear, and other nectar-producing trees.

During the second half of spring, alfalfa, raspberry, Ivan tea (a tall herb with pink-purple flowers), fireweed, and various herbaceous plants such as dandelion, blue-flowered herbs, geraniums, and aromatic herbs provide additional nectar sources for bee colonies. At the same time, bees pollinate the flowers of spring-blooming fruit trees and shrubs.

Conclusions

1. To increase the profitability of bee colonies, weakened colonies emerging from the wintering period were strengthened through supplementary feeding with stimulating feed additives. As a result, an increase in the egg-laying capacity of queen bees was observed.

2. Establishing a strong feed base in beekeeping enterprises and using stimulating feed supplements to enhance colony development before the main honey-flow season create favorable conditions for producing a large number of young queen-right bee colonies.

References.

1. Yamaltdinov, Sh.G., & Muxitdinova, G.A. (1994). *The Effect of Pollen Substitute Mixtures on the Production of Highly Productive Bee Colonies*. Collection of the Uzbekistan Scientific Research Institute, Surkhandarya, pp. 100–103.
2. Maxmadiyarov, O.A. (2022). *Methodological Manual for Practical Training in Beekeeping*. Surkhandarya: Fan Ziyosi Publishing House.
3. To‘rayev, O.S. (2006). *Chemical Composition of Bee Feed*. *Agriculture of Uzbekistan Journal*, No. 5, p. 46.
4. To‘rayev, O.S., & Maxmadiyarov, O.A. (2008). *Beekeeping (Textbook)*. Surkhandarya: Tafakkur Avlodi Publishing House.