

DEVELOPMENT OF TECHNOLOGIES AND STANDARDS FOR CREATING BEE FOOD

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Abstract. *Today, the attention and demand for the cultivation of honey products in the countries of the world is increasing every year. feed samples are mainly prepared in 3 different proportions, i.e., as a control, they are mixed with pre-prepared sugar paste in the amount of 10, 20 and 30% compared to the amount of the original paste.*

Keywords: *food product, melliferous plants, black currant, viburnum and meadowsweet, raspberry.*

INTRODUCTION

Enter. Today, the attention and demand for the cultivation of honey products in the countries of the world is increasing every year. According to statistics, the total volume of honey products produced in the world in 2020 is 1.85 million tons. In addition, among the leading countries in the production and export of honey products produced in the world, China 19%, Argentina 10%, Ukraine 10%, Vietnam and India occupy the leading positions [2].

In particular, great attention is being paid to the production of honey products in our republic. In 2019, 16 tons of honey were exported to the United Arab Emirates by the limited liability company "Pure Honey" as proof of our opinion. In addition, a package of bees worth 700,000 dollars was delivered to Russia and Kazakhstan last year. [3].

In recent years, many presidential decisions and decrees have been adopted on the rapid development of the republic's food industry and the full supply of quality food products to the population, one of them is the Decree of the President of the Republic of Uzbekistan No. PQ-4821 dated September 9, 2020 "Rapid development of the republic's food industry In order to more effectively implement the development of the food industry according to the decision "On measures to fully provide the population with high-quality food products", the main department "Development of the food industry" was established in the structure of the central apparatus of the Ministry of Agriculture.

However, in recent years, the development of beekeeping and the production of honey products has been decreasing throughout the world. If we turn to statistics, it is noted that in 2020, the volume of production of honey products decreased by 4.7% compared to 2016, and it will further decrease if appropriate measures are not taken [2]. This, in turn, may not only make the population unable to meet their demands for honey products, but also cause damage to the ecology of the environment.

The decrease in the size of beekeeping around the world is explained by several subjective and objective factors, and the main one is the decrease in the size of food bases for bees.

The availability of feed products for beekeeping varies from country to country, depending on the location and climatic conditions. We highlight some of them below.

For example, different regions of the Russian Federation

In the Autonomous Republic of Udmurtia of Russia, the type of melliferous plants is very wide. Their value as nectar-producing plants is that their flowering coincides with the spring growth period of bees. In addition, plants rich in nectar and vitamins such as black currant, viburnum and meadowsweet, raspberry, gorse, and annual sunflower grow there and can be food with high and high-quality nutritional value for bees [4].

Today, one of the biggest problems in the field of beekeeping in the Republic of Uzbekistan is the lack of sources of food for bees in the off-season, that is, in autumn and early spring. These problems are solved today by giving the sugar product in the form of an aqueous mixture.

However, it should be noted that according to the information provided by foreign experts, the use of sugar water as a source of food for bees is not only insufficient in energy value, but also has a negative impact on the vitality of bees [5].

Therefore, in recent years, a number of scientists have been conducting research in order to solve the problems that exist for beekeeping in our republic.

Of these, O. For the first time in the scientific research conducted by Makhmadiyarov, the wheat grown in the climatic conditions of Uzbekistan and its juice processed in the grassland state was used as a natural feed for bees [6].

However, this developed natural feed cannot satisfy the demand for feed sources in the whole republic, and the production of new types of feed remains an urgent problem.

In order to find a partial solution to the above-mentioned problems, we are conducting research on the development of ecologically clean natural feed suitable for the climatic conditions of the Republic of Uzbekistan.

The presence of regional varieties of sugar corn plant in our republic, agrotechnologies of their cultivation have been sufficiently studied, and new selective varieties have been developed. Another advantage of this plant is its resistance to the climatic conditions of our republic, i.e., high temperature, water shortage and different levels of soil salinity, and other ecological advantages [7].

A number of studies have been conducted in our republic on the processing of the sugar corn plant and its use for various purposes.

During the experiments, the feeds prepared by us were given in the following order. Sugarcane juice packed in glass bottles was studied by giving the bee family during the periods when they need additional food, that is, depending on the weather, in the second half of September, the beginning of October, and the first half of February and March. (Table 1).

Table 1

Standards for the preparation of feed from a mixture of sugar mash and sugar corn stalk juice
Samples Number Control liter of sugar syrup % Sugar corn juice % Food preparation temperature 0C

Standards for preparing feed from a mixture of sugar mash and sugar corn stalk juice

Samples	control litr	Sugar syrup %	Sugar corn juice %	Food preparation temoarature⁰C
1 samples	5	90	10	30-35
2 samples	5	80	20	30-35
3 samples	5	70	30	30-35

CONCLUSION

As can be seen from the given table, the feed samples were mixed with 10, 20 and 30% of the original amount of the sugar paste as a control. Bee families were selected in 4 cells for the purpose of experimenting with mixed feeds families of bees were selected in the hive. At the next stage, control of the 1st cell of the selected bee families, that is, pure sugar syrup, the 2nd cell family, the composition of 90% sugar syrup and 10% sugar sorghum syrup, the 3rd cell family, the composition of 80% sugar syrup and 20% sugar sorghum syrup, and the 4th cell families were given 70% sugar syrup and 30% sugar syrup. The bees were fed by pouring in special plates prepared for feeding the bees in the hives.

The bees were given and fed by pouring food into special plates prepared for feeding bees. The bees were given and fed by pouring food into special plates prepared for feeding bees. Another goal of our research is to study the level of consumption of food prepared for bees. The following results were achieved during the conducted scientific research experiments. Various samples of sugar corn stalk juice and sugar paste mixtures prepared and offered as organic bee feed were completely consumed by bees and no adverse effects related to bee health were observed during consumption of this feed.

In the conducted scientific researches, it was determined that the creation of additional newsources of organic feed for the beekeeping industry of our Republic is an urgent issue, at the same time, it was proved that the neww source of feed to be created should be an environmentally friendly, resource-savingobject, and it was proposed sugar cornvarieties “Uzbekistan 18”, “Qarabosh” and “Oranjevoye 160” meet all the requirements, in addition, the proposedresearch facilities, juice extraction technology differs from existing analogues, it is an efficient and waste-free technology it has been proven that and the feed prepared by mixing the stem juice produced by the processing technology of different varieties of sugar corn in different proportions in the off-season periods was-well consumed by bees and the resulting side effects it was found that it was not observed.

For this reason, the results obtained during the research conducted in the climatic conditions of our Republic allow the production of stem juice obtained by processing different varieties of the sugar corn plant as natural food for bees, not only creating an additional source of food for bees during the of season, but also we believe that it is promising because it is a safe, ecologically clean, waste-free and inexpensive source of ffod for the bee family.

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