

## **Izatizon application for bee treatment and prevention from viral and fungal diseases**

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Beekeeping in modern market conditions is impossible without high profitability of bee-gardens. The complex of different conditions creates high profitability. Bee health occupies far from the last place among them. Healthy bees – this is one of the conditions for a good wintering, fast spring development and high honey yield.

Izatizon preparation was tested during 1997-1999 and 2005 in the bee-garden of the Carpathian department of the Institute of Health Promotion and Rebirth of people of Ukraine (IRRPU)

Institute's bee-garden was formed, during previous years, from different families with various diseases. First, we faced European helomyzid flies in 1997. Traditional treatment with antibiotics is difficult, expansive and ineffective.

Izatizon was used for the treatment of sick family as it was used in the veterinary as an antiviral preparation. Brood frames were removed from the ill family and all the other frames, hive walls and bees were sprayed, two times in three days, with izatizon solution with sugar syrup addition. This solution is based on 0.3 ml. of pure preparation for 15 ml. of the solution for a one-bee frame. Taking into consideration the hive, for 10-frame family – 200 ml. of the solution and 4 ml. of pure preparation. Helomyzid flies were not observed more in this family, but frankly speaking, the family has lost its progress rate and did not give any benefit in the given season. The conclusion is simple: beekeepers have to prevent diseases instead of the late treatment.

Ascophereose appeared in the bee-garden in 1998. The treatment was held in spring (the end of April). All the families – both sick and healthy were treated with izatizon solution two times. For 1 litre of 20% sugar syrup 20 ml. of the preparation was added. The quantity of infected larvae decreased but still the disease did not pass.

The disease visualized itself slightly and only in particular families during the summer period. The each family condition was recorded in the journal and the conclusions were made later. Wintering has passed successfully.

In spring of 1999, ascophereose again appeared in two families of 30 and in spite of the further treatment, these families have not recovered. The conclusion was made in 2000, and at that time the only thought was that izatizon is not enough effective against ascophereose. Families entered in winter without izatizon prevention treatments, were feed with converse sugar syrup and were some another delays (in September). The results were unfavorable. All provines and small families (6-7 frames) have survived until the spring flight but they could not fly around and died. The other families, even strong one, had a big deviation and ascophereose has appeared again.

The decision was made to change the method of izatizon treatment. Water solution spraying in spring is ineffective. Medicinal- albuminous paste was prepared:

Fluid honey – 1 litre;  
Sugar-powder – 7,5 kg;  
Milled pollen 0,9 kg;  
Izatizon – 50 ml;  
Water – 0,5 litre.

Izatizon first was dissolved with water and the pollen was mixed with sugar. 300-350 grams of pollen or 1,5-1,6 ml. of izatizon were feed to the families. Nearly 0,3 ml preparation was applied for a frame. Two families have not received the paste; they were control examples. These were families of the medium strength and disease condition during the last year. Another one family has not eaten the paste because of bad condition and in the end died as well. For the rest of the families the results were more then satisfactory.

Ascophereose was not observed during the whole season in the families that have eaten medicinal paste. We can say this for sure because bee pollen was collected using tank that was placed in the hive. All bee problems were apparent in the tank trays, which were controlled every other day. There were not any infected larvae!

In addition, we have to mention that some families contacted with ill families and instruments and were not infected by ascophereose. One of the queen bees from those families was taken from bee farm in Mukachevo.

### **Conclusions**

1. Prevention from ascophereose and helomyzid flies with izatizon is more effective than curing.
2. The most effective izatizon application against helomyzid flies and ascophereose is making of medicinal paste with it. The paste is better to give in early spring until the brood hatching. In this case, bees, that will feed larvae, will certainly eat some doze of the medicines before. If the paste is eaten faster than two weeks, it is necessary to give again the same paste portion or to feed 30 ml. of izatizon for a family with not less than 1 litre of sugar syrup, honeyed solution or converse sugar (if natural conditions allow feeding with fluid syrup).
3. Autumn prevention will insure bees from bad winter and whims of early spring. For this 3-4 ml. of izatizon must be added in one of the last syrup portions during feeding for winter for a family.
4. All these recommendations do not replace but supplement all the other measures that must be done for beekeeping during the autumn-spring period.