RESEARCH ON THE EFFICIENCY OF SOME COMMERCIAL PRODUCTS UTILIZED IN VARROOSIS CONTROL IN COLONIES OF APIS MELLIFERA
-the first part-

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Abstract

The present work presents an analysis of the efficacy of some commercial products used in fighting mite 'Varroa destructor' honey bee. Were chosen those products that are on the market in Romania, and are accessible to all breeders. Over the course of the experiment it was observed the fall of mites after treatments.

Key words: Varroa destructor, honey bee, commercial antivarroa products, treatment.

INTRODUCTION

The present work presents an analysis of the efficacy of products used in fighting mite 'Varroa destructor' honey bee. Were chosen those products that are on the market in Romania, and are accessible to all breeders. Varroa destructor is increasingly present in the apiaries in the country all beekeepers, but also reported the entire globe, affecting colonies of bees and reducing them full productivity.

There are many trade products that are used in the fight against Varroa mite, of which some are other synthetic, organic products, herbal extracts, etc.

MATERIALS AND METHODS

The experiment took place in a bee with a flock of 97 families of bees. The hives were kept on throughout the duration of the study, there were no moved to the pastoral. It is well known that temperature during transportation from hives can reach temperatures higher than 35 ° c. At this level of temperature fall of mites is more intense.

The experiment was conducted on a total of 97 honeybee colonies split into 5 groups of the experimental group and a control group. Experimental batches were composed of 18 colonies, while the control group from 7 colonies of bees. It was watched in batches as they are more homogenous, while taking into account the age, the amount of brood, respectively the number of frames covered with bees.

Experimental batches were known as:

• hives in the batch treated with oxalic acid have been denoted with 'ao'
• the hives in the batch treated with Beevital Hive Clean were denoted be "
• the hives in the batch treated with Bayvarol were denoted by '
• the hives in the batch treated with Thymo Varo San were denoted 'ty'
• the hives in the batch treated with Varachet Forte have been denoted with 'vr'

Three series were made: treatments in March, April and June. The administration has been made according to recommendations from the prospectus for the use of each product. In each experimental batch were elected five colonies in which was recorded the mite mortality by using control spreadsheets.

Oxalic acid was applied in the form of liquid by means of a manual sprayer. The solution was prepared from 200 grams of sugar and 35 grams of oxalic acid and water to 1 litre of solution. The amount used was between 30-50 ml of solution, depending on the level of development of each family.

Product Beevital Hive Clean initially was heated slightly up to approx. 35 degrees Celsius, after which it was choppy container well. It was splashed approximately 15 milliliters of the solution for every seven or eight frames.

Bayvarol bands were put into the central areas of frames, using two or four lanes depending on the size of the family. Bands remained in the nest 6 weeks. The worksheets have been changed more times during this time, because the bees present a tendency to fray the inspection sheets.

Thymo Varo San product has been applied according to the prospectus, using an smoked with a cover in which to put a Kindle tablet. Apply 30 puffs every family. With a pill you can treat between 11 and 15 bee colonies.

In the case of Varachet Forte instead of wicks which are in the package with the solution, he used a fogger for use in apiculture.

RESULTS AND DISCUSSIONS

Table 1.

The results of the natural varroa mortality of the untreated group

Bee hive	m1	m2	m3	m4	m5	m6	m7
march 24 h	5	3	4	3	6	2	3
march 48 h	9	7	6	5	11	4	5
april 24 h	7	5	8	4	9	2	6
april 48 h	12	11	15	6	16	3	13
june 24 h	11	12	14	10	15	8	18
june 48 h	23	20	21	17	31	14	35

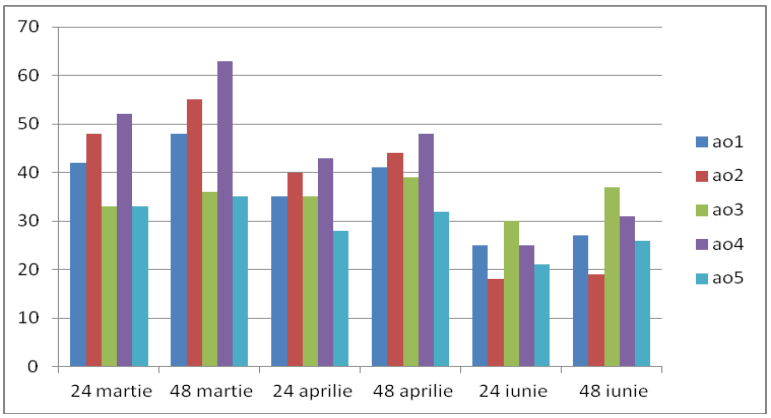

Fig. 1. The result of the treatment with oxalic acid, representing the number of mites mortality

Figure 1. shows that the number of mite mortality was great, despite the fact that the previous year were carried out systematic treatments antivarroa. Mix effect was felt not only in the next day, but with 48 hours after treatment. The number of mites fallen decreases with each treatment carried out in June, so we have a lower number of mites who died at each colony.

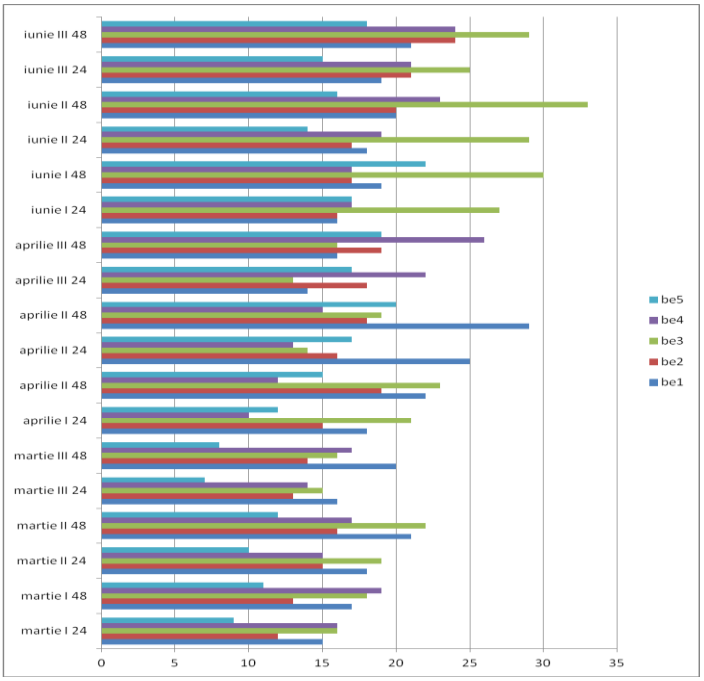

Fig. 2. The result of the treatment with Beevital, rezprezenting the number of mite mortality

The action of Bee Vital Hive Clean, reflecting especially the treatments in April and June, where the fall was more obvious.

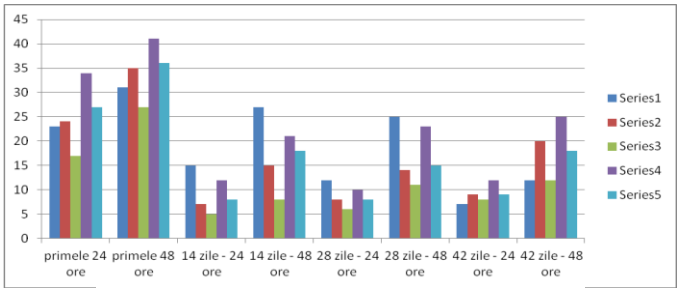

Fig. 3. The results of treatment with Bayvarol

The results obtained with Bayvarol bands are not surprising. Duration of treatment being 6 weeks, flumetrin be issued gradually during this period, so the development is impeded on a longer term. Massive breakdown of mites can be seen within the first 48 hours after the application of strips.

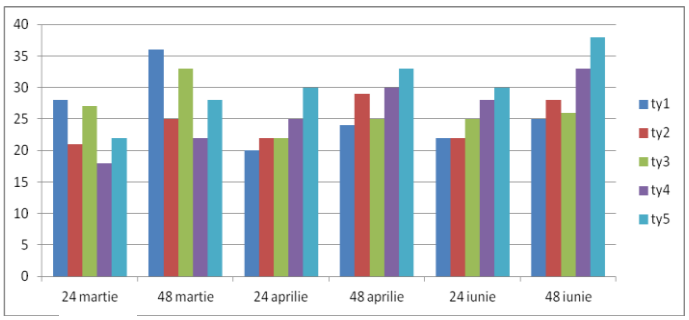

Fig. 4. The results of treatment with Thymo Varo San

Thymol treatment took effect relative to each constant. Even if it does not affect the quality of honey, the number of parasites who died after the treatment has not been diminished in the course of the experiment.

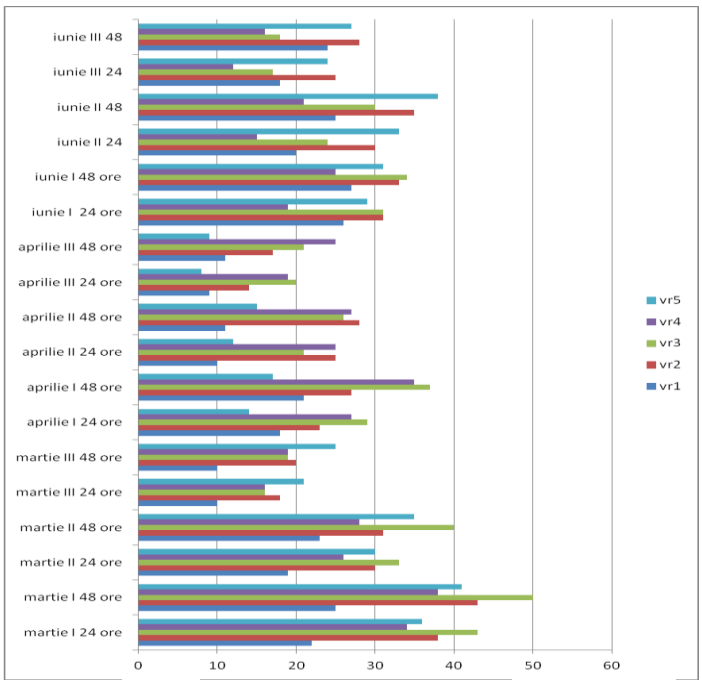

Fig. 5. The results of treatment with Varachet Forte

Figure 5. shows the effect of Varachet Forte (amitraz and taufluvalinat) after 24 and 48 hours post treatment. The treatment of June it is noticed a decrease in the number of mites who fell in March compared the treatment.

CONCLUSIONS

As you can see the results are visible from each batch after performing experimental treatments. The largest number of mite mortality can be seen at the colonies treated with oxalic acid, Varachet Forte. Bayvarol bands represent a good opportunity to reduce the number of mites in treatments in the fall. The other two products (Bee Hive Clean and Vital Thymo Varo San), which can be used also in organic apiaries, are an opportunity in reducing the number of mites per colony, without leaving harmful residues in bee hive products.

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