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EFFECT OF FEEDING DIFFERENT LEVELS OF SUGAR SYRUP ON TRAINING METHODS AND BABY, AND GENERAL BEHAVIOR OF THE BEE INFESTATION VAROUVA

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ABSTRACT

This study investigated the effect of feeding different levels of sugar syrup and is focused on the bee colony. This study is the first of three populations (high, moderate, low) and six different nutritional approach has bee., In this study, four replicates for each breed bees (*Apis mellifera* L.) in field methods is considered. The specific characteristics of the Queen, the rate of infant rearing of bees, the general behavior of bee colonies, bee infestation of ticks Varouva disease has been studied. These comparisons showed no statistically significant differences in any specific traits Queen ($P > .05$). About the impact of population on the means of growing infants hive bee colonies, initial population of the hive from the most powerful type of initial population levels raising babies and raising babies have weak minimum level ($p > .05$) The figures show the effect of initial population hive is the result of the average behavior of bee colonies that the primary strength of the hive, causing the behavior is slower than average, and poor populations ($p < .05$). No significant differences were observed in cases tried Varouva ($p > .05$). Moreover, there is no significant relationship between feeding rate and the specific characteristics of the bees with sugar syrup ($P > .05$).

Key Words: Honey Bee Nutrition, Sugar Syrup, Varouva, General Behavior, Child Rearing, Queen Traits

INTRODUCTION

Whether or omnivorous animals eating a single serving of food, especially is my need. Bees, like all other living things need to survive on sugar and protein (Bonnie and Richard, 2001; Jafari, 1999; Ebadi and Ahmadi, 1990). Bee nutrition scholars are not only addressed but has practical value for beekeepers honey bees flying mainly through the consumption of carbohydrates for energy gain and should always be stored carbohydrate. In other words, honey bees to provide the needed energy for muscle activity during movement and other physical activity, transmission of nerve stimulation and synthesis of organic molecules are used small molecules from the decomposition Carbohydrate (Atallah and Abdel, 1969; Doull, 1994; Gerig, 1979). Muscle contractions caused flight activities, walking, and other activities sting of motion and even help provide heat inside the hive (Crane, 1990; Farrar, 1968). For this reason, Beekeepers for years as complementary foods use sugar syrup to honey bees (Shahrestani, 1983; Gerig, 1979). In this experiment, the amount of sugar syrup (sucrose) intake, feeding bees sugar syrup and used to evaluate the effect of these two factors will affect the performance of bee colony (queen traits, child rearing, Resistance tried Varouva, general behavior) (Jafari, 1999; McLellan, 1978; Soller and Bar-cohen, 1976; Woyke, 1987).

MATERIALS AND METHODS

Mortality of mastic in the city Lali on a farm in Northern Province was conducted. Pilot project at one stage on the European honeybee (desert) conducted the following studies were included.

A- The effect of feeding different levels of sugar syrup on the biological traits of bee colonies :

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- 1- Evaluation of different levels of feeding sugar syrup (sucrose) on survival , storage stability, resistance to the Queen
- 2- Assessment of feeding different levels of sugar syrup (sucrose) on the rate of infant rearing bee
- 3- Assessment of feeding different levels of sugar syrup (sucrose) on the general behavior of bee colonies
- 4- Evaluation of different levels of feeding sugar syrup (sucrose) on the rate of infection diseases bees almost Varouva

B- Effect of initial population and biological traits bees on honey bee colonies

C- Equipment and materials that were used in the field tests included:

- 1- Sugar
- 2- Bee hives in the experiment
- 3- Syrup, fresh
- 4- Balance
- 5- Excellent for measurement breeding babies

D- colonies divided according to population:

Based on the population of each hive (a hive of bees born each) hives were divided into 3 categories:

Group 1: Population strong

Group 2: Medium Population

Group 3: Population weak

E- Tests done on colonies:

In evaluating the effects of treatments (6 treatments): A container of syrup, fresh plates, a dish of syrup, fresh platter, two cans of syrup, fresh platter, Plastic containers with 30 holes, Plastic containers with 50 holes and a control treatment (no feeding) on the characteristics and biological traits hives bees a factorial design with 4 replicates were investigated. Biological characteristics studied in this experiment were as follows:

1. Survival and Sustainability queens
2. Education of children
3. General behavior
4. infection diseases bees almost Varouva

F- Statistical projection:

Since the experimental conditions were the same for all hives in the field test, the test was carried out using a factorial traits in field trials (raising of children, general behavior, level of mite disease Varouva, population) software package SPSS was used. The scheme for the comparison of treatment means by Duncan's multiple range tests was used as adjective software MSTATC general behavior of the data is out and does not follow a normal distribution, Kruskal-Wallis non-parametric statistical analysis was used with this attribute. These experimental designs of 4 replicates (4 replicates per treatment) were conducted.

RESULTS AND DISCUSSION

Results

In this chapter the results in relation to the effects of dietary treatments (six feeding three initial population of the hive) and the relationship of these two factors on some biological and physiological activity of honeybee comparison is discussed. Then general conclusions and recommendations are presented.

1- The effect of feeding treatments and initial population of the hive rearing of infants :

1. According to the data obtained did not differ significantly between treatments (Table 1) in 0.05 (0.05 <p). About the impact of population on the means of growing infants hive bee colonies at the 0.05 of the population of the hive from the most powerful of the babies and the population levels of poor breeding, rearing infants had the lowest level.

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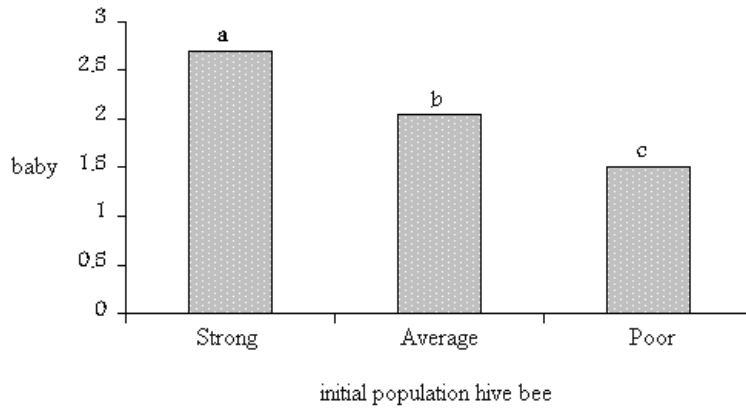


Figure 1: Comparison of mean babies grow at different levels of the base population

2. The effect of feeding treatments and initial population hive bee colonies on public behavior: Facts about the effect of dietary treatments on mean general behavior of bee colonies is presented in Figure 2. As a result, this graph shows that there are significant differences between treatments. ($0.05 > p$). Indicating the highest degree of colonies is slow; slow is the nutritional treatment of plastic with 30 holes, while the control (non-feeding), the general attitude is one of the most volatile treatments.

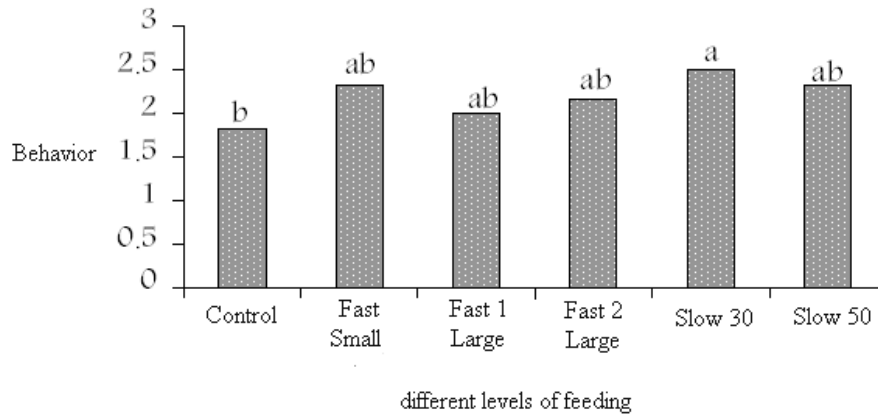


Figure 2: Comparison of mean a hive of public behavior at different levels of feeding

The effects of initial population statistics indicate a bee hive colonies on average general behavior is the result of a strong primary cause hives treatment is slower than average, and poor populations (Figure 3).

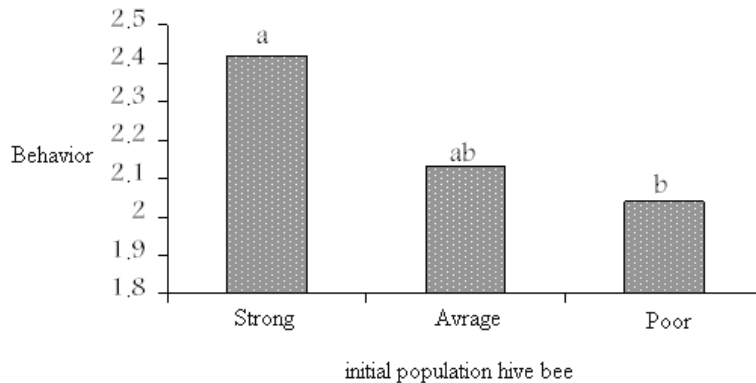


Figure 3: Comparison of mean levels of behavior based on kendo public

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3. Effect of dietary treatments on the survival and stability of the hive queen and the initial population: Visited during the feeding period of the project took place from the hive, no differences were seen between treatments were found breeding queen. It was known that honeybee colonies fed through the treatments cause abnormal behavior in the breeding of queen bees is not as a result of the treatments can cause.

4. Varouva destructor in honey bee colonies:

Generally sampled twice during the feeding treatments done by design, was carried out of the hive, contamination was observed in any of the treatments.

Discussion

Given the above analysis of the results of all field tests and concluded that the effect of feeding different levels of sugar syrup physiological and biological characteristics of the above and bee and taking personal observations (intake, storage, and loss rate) for some of the characters had a significant effect on the level of 0.05. Attribute the survival and stability of the queen, there was no significant difference between the methods. There was also a trait of the breed Babies no significant difference. Obtained information about the characteristics of behavior implies that diet control slowest general behavior and feeding slow feeding containers, plastic-containing 30 pierced as most unsafe hives were significantly different. That this could be due to lower levels of contact with the honey bees sugar syrup. And the lack of a control group fed bees (honey bees under stress and irritation caused by not opening the door hive) were the most relaxed. No significant differences were observed in cases tried Varouva. Data on the effect of different levels of initial population characteristics bee hives have been some significant characteristics. Survival trait stability in population levels did not differ significantly between any queens. Trait in breeding populations of newborn infants grows stronger with the highest and lowest rates of poor populations, significant differences in the level of 0.05, respectively. Obtained information about the general behavior trait was that quiet represents the most powerful and the most unsafe behavior, the initial population of the original hive poor. No significant differences were observed in cases tried Varouva.

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