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THE MASS OF POLLEN POLISH BROUGHT TO THE HIVE FOR GROWING BROOD

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Key words: pollen mass, pollen, brood rearing, pollen collectors, plastic wrap, nest sealing, stimovite, bee chitin extract

For the decision the problem of food security and the further development of agriculture, the rational use and reproduction of honey bees is of particular important. The vital activity of honey bees takes place in close ties with the honey flora of the Republic of Tajikistan. The special geographical location of the Republic of Tajikistan is characterized by the fact that it is located in Central Asia. Or in the so-called center of the Eurasian continent. On the territory of the Republic of Tajikistan have got herbaceous and semi- shrub vegetation.

In the Republic of Tajikistan conditions, for the profitability of incision, it is necessary to maintain strong bee colonies adapted to climatic conditions and types of honey collection.

Bees are the best crop pollinators. The main nutrients of honey bees are honey and pollen. The source of energy is honey and the pollen is the source of plastic substances for the growing organism (Taranov G.f. 1987; Lebedev V.I., Yakovlev A.S., 1995).

It is known that the sources of energy for bees are not only honey, but also the fat contained in pollen, consumed by bees thought the year. This indicator for any bee colony in an condition cannot be the same. Since, the consumption of feed depends on the number of working bees in the family, the age and the fertility of the queens, the intensity of honey collection, the methods of keeping the bees, as well as a natural and climatic conditions.(Lebedev B.I.,1993; Lebedev B.I., Bilash Sh., 1991; Mannapov A.R. with so-author 2011).

The research which carried out for many years in the Republic of Tajikistan has showed that it has a rich natural forage base and crops of agricultural crops, including cotton, alfalfa, sunflower and others used for the constant development of beekeeping (A. Sharipov, 2012).

It has been established that bee colonies must always be strong, capable of bringing nectar whenever it is in nature. At the same time working bees and queen bees raised in strong families. These individuals from weak families prevail in terms of body size and weight, proboscis length, level of musculature and fatty body development, content of macro and microelements, volume of honey walkers, flight range, resistance to diseases and life expectancy.(Chernishev E.G. 1983: Manapov A.G. 2004). However, bees must eat a variety of foods that have a sufficient amount of proteins, fats, carbohydrates, vitamins and minerals. As a consequence, the development of targeted drugs began. One of these drugs is stimuli, which in addition to micro and microelements, contains essential amino acids. Also interesting is the use of extract chitin bees in the sugar syrup. It contains a lot of micro and macroelements, as well as polysaccharides necessary for worker bees during their preparation for wintering and in spring when rearing brood. In the periodical literature on beekeeping, there is very little information on the use of these preparations in preparation for wintering and during the spring development of bee colonies in the regions of developed beekeeping of the Republic of Tajikistan.

The aim of the work was to study the pollen load of worker bees when sealing the nest with plastic film against the background of stimulating feeding.

Research methodology and methods. The methodological and theoretical main research about the work of domestic and foreign scientists in the field of studying issues aimed at obtaining maximum production from bee colonies: the formulation of the goal, research objectives, setting up scientific and economic experiments, statistical processing of experimental data and analysis of research results. Scientific research work had been carried out of using zoo technical, biological and economic methods. The safety and productivity of bee colonies depend of the quantity and quality of feed left for the winter. With an abundance of good- quality feed, bee colonies develop better they tolerate wintering well and develop early in spring.

Experiments of using bee colonies of the Carpathian breed were carried out in three series. In the first series in cage experiments and in apiaries, the effect of stimulating feeding and various methods of sealing the nest on the biological and economically useful characteristics of bee colonies was studied. According to the experimental scheme for stimulating feeding we used: skim milk, extract chitin bees.

The medicine stimuli as well as its compositional form with extract chitin bees. The medicine stimuli contains amino- acids, micro and macroelements, vitamins. It was used during

the period of increasing the strength of bee families. For this purpose the medicine was dissolved in warm (35-40) sugar syrup, prepared in a 1: 1 ration at the rate of 10g of stimuli per 1 liter of sugar syrup, using ceiling feeders, 400ml every 2 days, twenty times. Skim milk was added to the sugar syrup at the rate of 200 ml per 1 liter, which was fed at 400 ml, after 2 days, 20 times.

ng feeding against the background of sealing the nest with plastic film ($M \pm m$, mg: Cv, %)

Options dressing	Groups and method of sealing the nest		
	1. Control of bee colonies With traditional insulation	Plastic film	
		2. Basic family	3. layering main family
On supporting honey collection during the flowering period of fruit delights in the gardens			
Sugar syrup (CC)	18,0 ± 1,12	20,8 ± 1,24	19,4 ± 1,17
	Cv= 1,5	Cv= 1,20	Cv= 1,18
CC+bee chitin extract	19,2 ± 1,10	21. 5 ± 1. 30	20.3 ± 1.20
	Cv= 2,57	Cv= 3, 29	Cv= 4,51
CC + stimovit	19,7 ± 1,26	22,3 ± 1,32	21,4 ± 1,15
	Cv= 3,27	Cv =3,65	Cv= 4,12
CC + stimovit + bee chitin extract	19,8 ± 1,06	23,2 ± 1,00	22,6 ± 1,32
	Cv= 3,24	Cv= 2,30	Cv= 2,25
At the main honey collection			
Sugar syrup (CC)	10,2 ± 1,15	12,0 ± 1,22	12,4 ± 1,20
	Cv= 1,20	Cv= 1,18	Cv = 1,10
CC+ bee chitin extract	11,5 ± 1,20	13,4 ± 1,31	13,9 ± 1,18
	Cv = 4,15	Cv = 3,37	Cv = 2,42
CC + stimovit	13,3 ± 1,19	15,3 ± 1,08	14,4 ± 1,00
	Cv= 2,69	Cv= 2,48	Cv= 3,25
CC + stimovit + bee chitin extract	13,4 ± 1,17	16,0 ± 1,15	15,3 ± 1,07
	Cv= 2,26	Cv= 2,71	Cv = 2,84

The chitin extract was prepared from well-dried bodies of worker bees. They were first ground on a coffee grinder, and then a tablespoon was dissolved in 200 ml of alcohol placed in a dark place for 8 days. Then filter through cheesecloth, the obtained extract of bee chitin containing polysaccharides micro and microelements was added to 1 liter of sugar syrup prepared 1: 1 in an amount of 5 ml. bee colonies were fed in spring and autumn using ceiling feeders at a dose of 400ml of syrup at interval of 2 days 20 times.

The mass pollen polish brought was determined by the method of selection with tweezers. For this arriving bees were caught with pollen on the arrival board.

Table 1. -Pollen load of workers raised in bee colonies with stimulatiAn economically useful indicator that ensures the full value of the growth and development of bee colonies is the pollen load recorded in worker bees by the weight of the brought flower forage (table 1). Usually, the level of this indicator should be higher on the supporting honey harvest, during this period in bee colonies there is active feeding of open brood and adjustment framework with foundation. Analysis of the data presented in the table shows that when simulating a supporting honey collection with stimulating of feeding with a more full- fledged flower edging, workers return from the main bee colonies and their layers grown when giving stimulating of feeding against the background of sealing the nest with plastic film.

Thus the mass of the flower poll of workers of the 2-nd group was minimal when the families were fed with sugar syrup and the maximum was when the compositional form of the preparation stimuli with the extract chitinbees was stimulated. Here the described indicator (the weight of the foot) was 20.8 and 23.2mg. In the 1st control group it was less by 2.8 and 3.5mg.

Accounting for the pollen load in workers according to the variant of the experiment during the main honey collection period showed that the level of its mass in all groups decreases. However the digital values of the described parameter remain higher compared to the control in the 2- nd and 3-rd experimental groups. At the same time the frequency of decrease in pollen load was 1.48-1.73 times in the 2-nd group and 1.47- 1.56 times in the 3rd group. At the same time the maximum indicator recorded in the 2-nd group was maximum 1.19 times higher than the same value in the 1-st control group and 1.14 times in the 3-rd group.

Thereby presented the data that bee colonies actively bring pollen to the hive during brood rearing. The most complete by weight flower pollen brought in baskets by worker bees are recorded in the second and 3-rd groups.

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АННОТАЦИЯ

ВАЗНИ ГАРДИ ГУЛИ БА КАНДУ БАРОИ ПАРВАРИШИ НАСЛ ОВАРДАШУДА

Дар мақола оид ба таъсири гарминигоҳдорандаҳо ва хӯрокаҳои нумуъбахш ба вазни лӯндаҳои гарди гули дар давраи парвариши насл овардаи занбӯрони оилаҳои асосӣ ва оилаҳои навташқил маълумот чамъ оварда шудааст. Хангоми таҳлили маълумоти ба даст омада муайян гардид, ки дар давраи шахдҷудокунии муваққатии растаниҳо хӯронидани хӯрокаҳои нумуъбахш ва гарм кардани оилаҳо занбӯрони ҳам оилаҳои асосӣ ва ҳам оилаҳои навташқил лӯндаҳои вазнинтари гарди гулро ба лона меоранд. Ҳамин тавр муайян гардид, ки дар давраи парвариши насл занбӯрони парвозӣ фаъолона гарди гул чамъоварӣ мекунад ва афзалиятро оилаҳои гурӯҳи 2-юм ва 3 –юм доро мебошанд.

***Калимаҳои асосӣ:** вазни гарди гул, лундаи гарди гул, парвариши насл, занбӯрони гардҷамъоваранда, плёнкаи полиэтиленӣ, гарминигоҳдори лона, стимовит, экстракти хитини занбӯр*

АННОТАЦИЯ

МАССА ПЫЛЬЦЕВОЙ ОБНОЖКИ ПРИНОСИМОЙ В УЛЕЙ ДЛЯ ВЫРАЩИВАНИЯ РАСПЛОДА

В этой статье приводятся сведения о влиянии применения, стимулирующих подкормок и герметизации гнезда разными способами. Анализ данных показывает, что при имитировании поддерживающего медосбора стимулирующими подкормками, с более полной цветочной обножкой возвращаются рабочие особи из основных пчелиных семей и их отводков, выращенных при даче стимулирующих подкормок на фоне герметизации гнезда полиэтиленовой пленкой. Таким образом, представленные данные свидетельствуют о том, что пчелиные семьи, при выращивании расплода, активно приносят в улей цветочную обножку – пыльцу. Наиболее полная по массе цветочная обножка, приносимая в корзиночках рабочими пчелами, регистрируется во 2-й и 3-й группах.

***Ключевые слова:** масса пыльцы, обножка, выращивание расплода, сборщицы пыльцы, полиэтиленовая пленка, герметизация гнезда, стимовит, экстракт хитина пчел*

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