COMPARATIVE STUDY REGARDING THE QUANTITY OF ACACIA AND LIME HONEY HARVESTED IN 2008 IN VARIOUS TYPES OF BEEHIVES

STUDIU COMPARATIV PRIVIND PRODUCŢIA DE MIERE DE SALCÂM ŞI TEI OBŢINUTĂ ÎN ANUL 2008 ÎN DIFERITE TIPURI DE STUPI

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the paperwork present the results of a comparative study regarding the production of acacia (Robinia pseudacacia) and lime honey harvested in 2008 in flat, vertical and multi-frame hives. A total of 45 bee families (Apis mellifica carpatica, Banatica ecotipe), divided in three experimental groups, with 15 families on each hive, were examined for every type of hive. During the experiment there were tracked the number of honeycombs with larvae starting from 7th to 10th of April and from 1st to 5th of May, the acacia and lime honey yield.
Keywords: bees, honey yield, types of beehive

Material and Methods

The experiment were carried out in the year 2008 at an apiarian farm from Oloşag, Timiş department at 11 km sout-west of Lugoj. A total of 45 bee families *(Apis mellifica carpatica, Banatica* ecotipe), divided in three experimental groups, with 15 families on each hive, were examined for every type of hive. The organization plan of the experiment is represented in the table 1.

Table 1.

The organization plan of the experiment

Statement	Honeybee family number	Experimental version
Bees mantained in flat beehives	15	LE_1
Bees maintained in horizontal beehives	15	LE_2
Bees maintained in multiframed beehive	15	LE_3

Results and Discussion

During the experiment between 7th and 10th of April and 1st to 5th of Mai we recorded the larvae number, acacia and lime honey yield. At the harvesting time for acacia, bees were not transported for the pastoral sistem since the meliferous source existed near by the apiary as for the lime harvesting honeybees were transported to Crivina (TM). In the table 2 is show results regarding the number of larvae registred at the control 1 (7th to10th of April) and the control 2 (1st to 5th of May) and on the table 3 is presented statistical importance.

Table 2

The number of larvae registred at the first control (7th to10th of April) and the second control (1st to 5th of May), and the statistical importance

Experimental version	Statistical indexes	The number of larvae from 7th to 10th of April	The number of larvae from 1st to 5th of May
LE_1	n	15	15
	$\bar{x} \pm S\bar{x}$	4.267 ± 0.153	5.533 ± 0.165
	s	0.352	0.410
	C.V. (%)	1.91	11.57
LE_2	n	15	15
	$\bar{x} \pm S\bar{x}$	4.733 ± 0.153	5.667 ± 0.126
	s	0.352	0.328
	C.V. (%)	12.54	8.61
LE_3	n	15	15
	$\bar{x} \pm S\bar{x}$	5.60 ± 0.273	15.733 ± 0,483
	s	1.114	1.238
	C.V. (%)	18.85	12.84

Table 3

Statistical statisticalimportance of the combs with larvae existent within the bee families belonging to the studied experimental version

Statement	Experimental version					
	LE_1		LE_2		LE_3	
	April	May	April	May	April	May
LE_1	-	-	NS	NS	**	***
LE_2	NS	NS	-	-	*	***
LE_3	**	***	*	***	-	-

* p<0.05
** p<0.01
***p<0.001

From the analysis of the table 3 it can be seen that there were significant differences regarding the number of honeycombs with the larvae at the April check-up maintained in vertical and multiframe beehive ($p<0.01$) and between the group maintained in vertical and horizontal beehive ($p<0.05$). In May check-up there were registered significant differences for the combs with larvae between groups maintained in vertical and multiframed beehives ($p<0.001$) and between the group maintained in vertical and horizontal beehives ($p<0.01$). Table 4 shows the results regarding the quantity of acacia and lime honey harvested by the bees housed on the three types of hives and on the table 5 the statistical signification.

Table4

The quantity of acacia and lime honey harvested by the bee families taken into study and its statistical signification

Experimental version	Statistic indexes	Acacia honey yield	Lime honey yield
LE_1	n	15	15
	$\bar{x} \pm S\bar{x}$	12.693 ±0.801	11.133±0.482
	s	9.634	3.490
	C.V. (%)	24.45	16.78
LE_2	n	15	15
	$\bar{x} \pm S\bar{x}$	9.507 ± 0.233	10.840 ± 0.406
	s	0.816	2.470
	C.V. (%)	9.50	14.50
LE_3	n	15	15
	$\bar{x} \pm S\bar{x}$	14.040 ± 0.418	12.560 ± 0.463
	s	2.624	3.218
	C.V. (%)	11.54	14.28

Table 5

Statistical significance of the quantity of acacia and lime honey harvested from the studied bee families.

Specification	Experimental version					
	LE_1		LE_2		LE_3	
	Acacia	Lime	Acacia	Lime	Acacia	Lime
LE_1	-	-	***	NS	NS	*
LE_2	***	NS	-	-	***	**
LE_3	NS	*	***	**	-	-

* $p<0.05$
** $p<0.01$
***$p<0.001$

The production of accacia honey registered significant diferences ($p<0.001$) between LE_1, LE_2, and between LE_2, LE_3 ($p<0.01$).

The production of lime honey registered significant diferences ($p<0.05$) between LE_1, LE_3, and between LE_2, LE_3 ($p<0.01$).

Conclusions

1. At the April check-up the number of combs with larvae there were registered significant differences between the group maintain in vertical and multiframe beehives ($p<0.01$) and between the group maintained in vertical and horizontal beehives ($p<0.05$).

2. At the May check-up there were registered significant differences between the groups maintained in vertical and multiframed beehives ($p<0.001$) and between groups maintained in vertical and horizontal beehives ($p<0.01$).

3. The yield of acacia honey registered significant diferences ($p<0.001$) between LE_1 şi LE_2 and LE_2 şi LE_3.

4. The yield of lime honey registered significant differences ($p<0.05$) LE_1 and LE_3 and between LE_2 şi LE_3 ($p<0.01$).

References

1. Bura M., Pătruică Silvia, Bura Vlad Al., 2005, Tehnologie apicolă, Editura SOLANES, Timişoara, ISBN-937-729-029-3

2. Aurelia Chirilă , Silvia Pătruică, 2005, Tehnologii apicole moderne şi stupăritul pastoral, Editura SATUL ROMÂNESC, Bucureşti, ISBN 937-86599-4-9.

3. Pătruică Silvia, 2006, Tehnologia creşterii albinelor curs universitar, Editura EUROBIT, Timişoara, ISBN - 973-620-207-0