

## **RESEARCHES CONCERNING OF THE MINERAL CONTENT OF ACACIA HONEY DERIVED ON DIFFERENTS COUNTRY**

### **CERCETĂRI PRIVIND CONȚINUTUL IN MINERALE AL MIERII DE SALCÂM PROVENITĂ DIN DIFERITE REGIUNI**

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*The paper presents the results of the research concerning chemical composition of acacia honey from the differents region. Analisis concerning the mineral content were made in 14-19 march 2008 in the molecular and atomical spectroscopy laboratoriy of the Faculty of Agro-Food Tehnology and Processing from USABMV Timisoara, through spectroscopy with atomic absorbability in flame with the spectrometer. Contr AA 300 with continous surce. There were anailzted 3 honey samples made in 2007 from Domasnea and Farliug (Caras-Severin) and Bala (Mehedinti). The ash contain in Na, K, Ca, Mg, Cu, Zn, Mn, Fe, Pb, Co, Cr was determined.*

**Key words:** acacia honey, mineral composition

#### **Introduction**

The honey mineral content is influenced by the nectar mineral content used to produce it, the content of the minerals in the soil, climatic factors (temperature, humidity, wind) and also by the degree of pollution in areas visited by bees. The chemical analysis of honey harvested from a certain area can be an important factor to determine the degree of pollution appreciation of the certain area.

#### **Material and Methods**

Analysis regarding the mineral content of the soil was made in 14-19 march 2008 in the molecular and atomical spectroscopy laboratoriy of the Agro-alimentary Produce Faculty from USABMV Timisoara, through spectroscopie with atomic absorbability in flame. the device used to determine minerals in honey was the Contr AA 300 spectrometer with continual source. Three samples of honey, production 2007, were analised from Domasnea and Farliug (Caras-Severin) and Bala (Mehedinti).

## Results and Discussions

The ash content was determined, Na, K, Ca, Mg, Cu, Zn, Mn, Fe, Pb, Co, Cr. The results concerning the mineral content of acacia honey from the different regions are presented in table 1.

Table 1

Concerning the mineral content of acacia honey from the different regions

Nr. crt.	Mineral elements	Honey from the Domasnea region	Honey from the Farliug region	Honey from the region Bala	Honey from the Banat region (Härmănescu and co. 2007)
1	Ash (%)	0.051	0.082	0.049	-
2	Sodium (ppm)	26.060	28.080	27.165	34.4-45.2
3	Potassium (ppm)	95.95	116.00	100.90	148.0-223.5
4	Calcium (ppm)	185.80	197.10	195.05	2.7-8,2
5	Magnesium (ppm)	20.350	21.260	21.005	10.6-23.2
6	Copper (ppm)	0.1435	0.1885	0.0955	0.104-6.536
7	Zinc (ppm)	<0.125	0.2305	0.4200	1.104-22.400
8	Manganese (ppm)	0.2635	0.5515	0.3855	0.079-20.68
9	Iron (ppm)	2.7955	3.7795	4.8055	1.467-33.187
10	Lead (ppm)	-	-	-	0.273-0.052
11	Cadmium (ppm)	-	-	-	0.245
12	Chromium (ppm)	-	-	-	-

From the data in table 1 it is clear that the macroelements (Calcium, sodium, potassium, magnesium) from the analysed honey record close values although they come from different regions. In comparison with the results obtained by HARMANESCU and co. (2007) we can observe that the values on sodium are

smaller 26.060-28.080 ppm in comparison to 34.4-45.2 and the calcium values higher 185.8-197.1 ppm compared to 2.7-8.2 ppm identified by these people.

Regarding the microelements, in all the samples were recorded values that fit those identified by HARMANESCU and co. (2007) to acacia honey.

### **Conclusions**

1. The macroelements (Calcium, sodium, potassium, magnesium) from the analysed honey record close values although they come from different regions.

2. In comparison with the results obtained by HARMANESCU and co. (2007) we can observe that the values on sodium are smaller 26.060-28.080 ppm in comparison to 34.4-45.2 and the calcium values higher 185.8-197.1 ppm compared to 2.7-8.2 ppm identified by these people.

3. Regarding the microelements, in all the samples were recorded values that fit those identified by HARMANESCU and co. (2007) to acacia honey.

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