

SOME ASPECTS REGARDING THE IMPORTANCE AND USE OF THE ACACIA FLOWERS (*ROBINIA PSEUDACACIA* L.)

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Abstract

One of the most controversial and up-to-date aspects today, on the world, European and local level is the use of the "bio" products, of the 100% natural products, because the genetically modified products, the products with high contents of chemical substances, respectively in acids are harmful to the human health. The current paper presents the variability of the use and potential of the exploitation of the acacia flowers and also underlines the national legislation concerning the apiculture.

Key words: acacia, exploitation, natural products, flowers, nectar, honey

INTRODUCTION

The present paper presents the current importance of acacia, referring to only one products that this sylvan species can provide.

The acacia flowers are a natural product, a natural source of richness for today's mankind, being used in the pharmaceutical products, natural remedies, extraction of dyestuff, beneficial for recreation and last but not least and the most important thing is the fact that acacia, by means of the flowers it provides, is one of the main melliferous sylvan species.

Acacia was brought in Romania via the Turks around 1750 (***)1).

MATERIAL AND METHODS

The acacia flowers can be used in the production of certain medicine, culinary recipes, therapies as well as in obtaining liquor based on acacia flower and honey (according to Akun, 2005). Acacia blossoms in the months of May - June, forming rich inflorescences, hanging, of 10-25 cm in length.

The flowers are white, seldom light pink, are very strongly and pleasantly smelling, melliferous with yellow spot at base (Stănescu, V., 1979).

The fresh flowers contain a complex etheric oil, which is extracted with petrol oil, obtaining the concrete, with an efficiency of 0,15- 0,20%.

The flower harvesting is done during the blooming in the months of May-June, by manual breaking from the axle of the inflorescence. Their transport is achieved in twig baskets planked with paper.

The drying can be done naturally, in well aired spaces in the shade or artificially at temperatures between 35 and 40⁰ C.

A kg of dry product results out of 6-9 kg fresh flowers, these having the cream-white or pink-white color, being separated on the main peduncle, are packed and kept in appropriate rooms (Beldeanu,2004).

Table 1

Importan chemical elements present in the acacia flower

The chemical components of the acacia flowers	Flavonoid glycosides	Robinine
		Acacine
	Organic acids	Caffeic
		Chlorogenic
	Tannins	-
	Glucides	-
	Mucilagins	-
	Volatile, etheric oil	-
	Flavones	-
	Robinosides	-
	Pinene,	-
	Limonene,	-
	Citronellol	-
	Geraniol	-
Linalool	-	

The products obtained from acacia flowers are used in many psycho-somatic afflictions which appear as a direct result of certain emotional tensions: frequent conflictive states, with aggressiveness tendencies and exaggerated criticism; rage attacks and psychic irritability; muscular cramps based on the nervous system; nervous exhaustion, exhaustion of the physical and intellectual force, degrading up to insomnias, anxiety and prolonged psychic depression; uncontrolled reactions to stressful states, headaches and migraines caused by stress; memory, balance, seeing disturbances, reaching in some cases to herpetic eruptions on the skin.

Some countries such as Russia, Bulgaria, Hungary, use the raw material for perfumery based on a large number of aromatic components, such as pinene, limonene, linalool, citronellol, geraniol etc. (**3). The acacia flowers are also used for healing and ameliorating the stomach burns, they combat the pulmonary diseases in the diseases of the respiratory system, the acacia flowers are efficient in combating the convulsive and asthmatic cough, colds, virosis, hoarseness, in acute infections of the respiratory paths, bronchial asthma, etc. Due to the high contents in flavones and robinosides, the infusion from acacia flowers acts with diuretic, anti-inflammatory effects, of reduction of the urea contents in blood and soothing the rheumatic aches or dental neuralgias.

In the dermatological afflictions one uses the dried and pulverized flowers which are placed on the wound caused by burns and on furuncles.

The quantity of nectar that the acacia flower produces in normal years from the point of view of the weather is circa 1-4 mg, and its concentration in sugars is situated between 40-70% (Cîrnu, 1980).

Due to the differences in altitude and microclimate where the acacia is found, the blooming occurs gradually and lasts up to 20 days, taking place first in the plain then in the region of the low hills and finally in the region of the high hills (Beldeanu, 2004). Another very important element for today's and tomorrow's generation represents the honey from acacia flowers, being the only one which does not become sugared.

The genuine acacia honey has a specific smell, of acacia flower, but not exaggerated. The acacia honey is indicated in the treatment of asthenia, neurosis, in the recovery after disease. It is beneficial to children in the learning process, fortifies the immune system and is very good for pregnant women also. Plus, it also has antiseptic properties and those who suffer from hyperacidity will be helped if they take one spoon of acacia honey with water one hour before meal.

The acacia honey has over 40% more fructose than other types of honey, has saccharose and lactose in proportion of up to circa 10% and circa 30% glucose. It also contains the vitamins B1, B2, B6, B12 and many other substances which contribute to the proper functioning of the organism. The acacia honey becomes sugared very slowly in over a year, due to the large quantity of fructose. A smell that “strikes you” is a clear indication of the falsification of the honey by mixing with acacia flower infusion. It stimulates the appetite and facilitates digestion, improves heart and liver activity and increases the hemoglobin percentage in blood. Plus it has antibacterial properties (**2).

The acacia honey constitutes an unequaled delight, being highly appreciated for its savor, for the high energetic value (300 kcal per 100 grams of product) and for the multiple therapeutic properties. The fact that it is the only type of honey which only becomes sugared after a very long time constitutes an advantage that is taken into account by the consumers.

The nectar production for acacia is 1-4 mg/flower with a sugar contents between 40 and 70% (Bura, 2005).

The gastronomical experts have integrated the acacia honey and flowers in many culinary preparations with calming effects, especially in bakery products, jam, fruit jelly, marzipan with almonds, entrees, doughnuts with pancake dough, salads, syrups and drinks (hydromel, tonic wine and liquor).

RESULTS AND DISCUSSIONS

The natural aroma and the therapeutic qualities are kept better in the honey from the honey comb than in the centrifuged honey as the honey comb contains a certain amount of wax, pole and propolis, constituting an ideal mix for the treatment of many lung and heart diseases, for colitis and enterocolitis, liver afflictions, gynecological diseases, anemia and for maintaining the active physiological functions until old age. It is used in the following afflictions: burns, hyperacid gastritis, insomnias, whites, migraines, neuralgia, pyrosis, pulmonary tuberculosis, asthmatic cough, ordinary cough, convulsive cough, gastric-duodenal ulcer.

In an equal measure, the Romanian legislation stimulates the beekeepers. one of the facilities provided by the Law 89/1998 is the free placement of the hives in the pastoral for the valuation of the nectar-pollen sources in the wood stock (Art. 16).

Art 17 of the above-mentioned Law foresees the fact that the incomes accomplished from practicing beekeeping are spared of paying taxes, thus, it is a great help for the beekeepers.

CONCLUSIONS

The diversity of the products obtained from the acacia flowers is pretty large and their use is beneficial for obtaining some pharmaceutical, culinary products.

The anti-cough, anti-spastic effects of the respiratory tract, emollient of the bronchial secretions, antiseptic, anti-neuralgic, calming, slightly sedative effects are well-known. The healing effects of the acacia flowers apply to all persons regardless of age.

Apart from the above mentioned beneficial factors of the acacia flowers they also have the ability to appease, to calm and tone up the body that is in various neurotic states acting upon the entire nervous system.

REFERENCES

1. Akun, P., 2005, Foloasele mierii[The Uses of Honey]. Lucman Publishing House, Bucharest.
2. Beldeanu, E., 2004, Specii de interes sanogen din fondul forestier[Species of Health Promoting Interest from the Forest Fund]. University Transilvania of Braşov Publishing House. 190-192
3. Bura, M., Pătruică Silvia, Bura, A., 2005, Tehnologie apicolă[Apiarian Technology]. Solness Publishing House, Timișoara. 276-277
4. Bojor, O., Popescu, O., 2001, Fitoterapie tradițională și modernă[Traditional and Modern Phytotherapy]. IInd Ed. - revised, Fiat Lux Publishing House, Bucharest.
5. Cîrnu, I.V., 1980, Floră meliferă[Melliferous Flora]. Ceres Publishing House, Bucharest.
6. Nicoleta, Ion., 2006, Arbori și arbuști meliferi[Melliferous Arbors and Shrubs]. ALEX – ALEX & LETI PRESS Publishing House, Bucharest. 97-113
7. Stănescu, V., 1979, Dendrologie[Dendrology]. Didactic and Pedagogic Publishing House, Bucharest. 366 – 367
8. *** Legea nr. 89 din 28 aprilie 1998, Legea apiculturii, M.Of. nr. 170/30 apr. 1998
9. ***1 Pădurea și Viața[Forest and Life], 2007, no.2., 47 – 47.
10. ***2 www.ecomagazin.ro
11. ***3 www.farmacia-verde.ro