Honey Types

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Honeys Types

Stefan Bogdanov

HONEY TYPES AND STYLES ACCORDING TO PROCESSING AND PRODUCTION

Designation according to production

Extracted Honey is honey obtained by centrifuging decapped broodless combs. This is most of the honey which is marketed in most countries of the world
Pressed Honey is honey obtained by pressing broodless combs.
Drained Honey is honey obtained by draining decapped broodless combs.

Drained honey

Organic honey

Organic honey is produced by apiaries with certified organic beekeeping. The composition of organic honey is the same as normal natural honey. The only difference is that such honey should not contain toxic residues of pesticides used in agriculture and beekeeping.

Honey may be designated according to the following styles according to the processing procedure:
Normal honey which is honey in liquid or crystalline state or a mixture of the two;
Comb Honey which is honey stored by bees in the cells of freshly built broodless combs and which is sold in sealed whole combs or sections of such combs;
Cut comb in honey or chunk honey which is honey containing one or more pieces of comb honey.


Chunk honey


Comb honey

HONEY TYPES REFERRING TO HONEY ORIGIN

The Codex Alimenterius states:

- Honey may be designated by the name of the geographical or topographical region if the honey was produced exclusively within the area referred to in the designation.
- Honey may be designated according to floral or plant source if it comes wholly or mainly from that particular source and has the organoleptic, physicochemical and microscopic properties corresponding with that origin.

This means that honey can be designated according to its geographical and botanical origin.

Botanical origin of honey

Generally there are two types of honey: blossom and honeydew.
Due to different proportions of the possible sources, nectar and/or honeydew coming from a great variety of plants, no honey is completely the same as another one. This variability could be a handicap, given the market requirement for a consistent product, but when properly managed, it also could represent an opportunity for enhancing honey by offering to the consumer a number of typical products with special characteristics, according to the particular botanical origin. Indeed, unifloral honeys are regarded as a more valuable class of honey, and botanical denominations are widely employed on the European market, often achieving higher prices than honey blends. Unifloral honeys have higher prices than blend honeys. Most unifloral honeys are marketed in Europe. In countries like France, Italy and Spain 30 to 50 % of the marketed honey is unifloral.

There are dozens of plants that can produce enough nectar or honeydew, from which the beekeepers can produce unifloral honeys [4] Most of them have only a limited, local significance for the local and only about a dozen are important for the world honey market.

Information on European honeys is compiled in the special Apidologie Issue 35 from 2004. In Europe there are more than 100 plant species that give origin to unifloral honey, most of them having only a local importance [14]. In this issue 15 most important unifloral European honeys were characterized, from sensory, melissopalynological and physico-chemical point of view [15], and also extensive bibliographical review on these honeys was made [16] . This will allow the trade of unifloral honeys on the European market. Presently, a honey specialist can judge the quality of a unifloral honey according to sensory, melissopalynological and routine physico-chemical analysis [13]. This is to some extent subjective, as the sensory analysis has a very big importance. This could be overcome by judging the sensory characteristics by sensory panels.

Recent pubicatons on non-European unifloral honeys and their productsion can be found in: Algeria [8]Argentina: [9, 10]; Australia: [5, 11] ; China: [6]; Morocco: [18-21]; New-Zealand: Tan 1989-90;, 2007; Older publications are reviewed in Crane's monographs on the subject[2-4].

In the table below the properties of the most common unifloral honey species in the world are given. While some honey types, e.g. black locust (Acacia, *Robinia pseudocacia*) and linden are very similar all over the world. Some types, e.g. eucalyptus, thyme, orange blossom can vary considerably in taste and colour, depending on the plant and country of origin. The appreciation of unifloral honey varies in the different parts of the world. While honeydew honey, e.g. fir and pine honey are especially appreciated in different parts of Europe in other parts of the world it is less appreciated.
Further Reading: [1, 13-16, 22]

Harvest and properties of the main world unifloral honeys

Common name	Botanical name of plant	Place of harvest	Colour, Pfund scale	Granulation: speed, crystals form	Flavour
Acacia	*Robinia pseudoacacia*	temperate Europe, Asia, America, Oceania	light water-white to extra-white	slow coarse	weak floral, fresh
Eucalyptus*	*Eucalyptus spp.*	S. Europe, Oceania, Africa, S. America	yellow to brown white to amber	rapid to medium fine to medium	medium-strong caramel
Fir Spruce	*Abies alba Picea abies*	Central and Southern Europe	dark brown amber to dark amber	very slow coarse	medium-strong, woody-resinous
Heather	*Calluna vulgaris*	Europe	brown-reddish amber to dark amber	medium gel consistency coarse crystals	strong caramelised, floral-fruity
Lavender	*Lavandula intermedia*	temperate Europe, Asia and N. America	lightwhite to extra light amber	rapid fine	medium warm, refreshing
Lime, linden	*Tilia spp.*	temperate Europe and Asia, temperate and subtropical N. America	white to yellow, white to amber	rapid to medium fine to medium	strong, fresh, pharmaceutical
Orange blossom	*Citrus spp.*	Europe, temperate and subtropical, N.America, S. America	very light white	rapid, fine	medium floral, fruity
Pine	*Pinus spp.*	temperate Europe, Asia, Oceania	brownish amber-dark amber	slow coarse	medium-strong malty, resinous
Rape	*Brassica napus*	Europe, North America,	white to yellowish white	rapid, fine	medium vegetable
Rosemary	*Rosmarinus officinalis*	temperate Europe, Asia, Africa	lightwhite to extra light amber	fastfine	floral, fruity
Sunflower	*Helianthus annuus*	temperate Europe, S. and N. America, Asia; subtr. Asia, Africa, Oceania; trop. Africa N.America.	yellow to goldenlight amber	rapidfine	weak vegetable, warm
Sweet chestnut	*Castanea sativa*	Europe	redish-brownamber to dark amber	slow coarse	strong mouldy, caramelised, bitter
Thyme	*Thymus capitatus*	Mediterranean and temperate Europe, N. America, Oceania	yellow-lightbrown amber to amber	fast to mediumfine to medium	strong woody-aromatic, resinous
White clover	*Trifolium repens*	Europe, N. America	lightwhite to light amber	rapid, fine granulation	weak vegetal

HONEY FROM OTHER BEES

Meliponae combs Brazil

Meliponae honey Brazil

A. dorsata bees in a forest tree from India

A. dorsata honey from India

The honey referred to in this book is mostly from *Apis mellifera*, the European honeybee species which has now spread all around the world. This honey is undoubtedly the most widely collected and marketed around

the world. However, regionally there are honeys made by other bee species which are sometimes collected in considerable quantities especially from *Apis cerana* in China.

In tropical Asia there are three Apis species which can make honey: *A. cerana, A. dorsata* and *A. florae*, *A. cerana* producing by far the largest quantities of honey. This honey very similar in composition and taste similarly to the *Mellifera* honey (see table below). Generally, these honeys have only a local significance and are not marketed world-wide. A notable exception is the *A. cerana* honey from China, which is produced in large quantities, as about 1/3 of the Chinese bees belong to that species. Indeed, experience has shown that *A. cerana* honey fulfils the Codex quality requirements.

Honey from Asian honey outside China are reviewed. Their main peculiarity is the higher water content lying between 21 and 23 %. Invertase activity is similar or higher to that of Melifera honeys. On the other hand, the pH, the sugar content and composition are very similar to the Melifera honey ones. Another peculiarity is that many of the *Cerana* honeys seem to originate from honeydew [7].

There is a variety of stingless bee species or so called Meliponae, producing honey, mainly cultivated in Africa, Middle and South America and Oceania. The honeys have a local significance and have been investigated increasingly in recent years, especially those from Latin America. A recent publication summarises the research in stingless bee honey in Latin America [17]. In table … the compositional criteria of a number of stingless bee honeys has been summarised. In comparison to Melifera honeys stingless bee honeys have: a higher water content, acidity and electrical conductivity and a lower diastase activity and sugar content. Stingless bee honeys are reputed to have a high healing power. In a recent publication it was found that their antioxidant activity is particularly high, equal to that of Melifera honey with especially high antioxidant activity (Persano et al., 2008).

Average composition and quality parameters in honey of stingless bees [17,12] and Asian honeys [7].

Bee species	Physico-chemical parameters[1]										
	pH	Free Acidity (meq/Kg honey)	Ash (g/100 g honey)	Diastase activity (DN)[2]	Electrical conduct. (mS/cm)	HMF (mg/Kg honey)	Invertase activity (IU)[3]	Nitrogen (mg/100 g honey)	Reducing sugars (g/100 g honey)	Sucrose (g/100 g honey)	Water (g/100 g honey)
Stingless bees											
Meliponini	3.81	44.8	0.34	6.7	2.34	14.4	48.7	58.3	66.0	2.3	26.7
Melipona spp.	3.82	41.8	0.20	3.1	2.62	16.0	56.3	40.8	69.1	2.2	27.2
other Meliponini	3.80	49.6	0.60	16.2	1.88	11.9	37.4	110.9	63.8	2.5	26.0
M.asilavai	3.27	41.6	41.6		3.63	2.4			68.9	4.7	29.5
M. compressipes	3.27	36.6	0.26	4.5	8.77	17.1		33.2	70.5	2.5	23.8
M. favosa	3.67	49.9	0.22	1.9	2.06	9.1	90.1	55.8	71.2	1.7	26.0
M. mandacaia	3.27	43.5			3.52	5.8			74.8	2.9	28.8
T. angustula	3.93	49.7	0.38	20.5	3.07	13.3	50.1	99.3	63.1	2.3	24.7
T.carbonaria	4.0	124.2	0.48	0.4	1.64	1.2	41.9	202.3	64.1	1.8	26.5
Asian bees											
A. dorsata	3.68				0.96		373.4		73.5	0.33	21.5
A. cerana	3.62				0.65		218.2		75.4	1.39	20.2

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