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NORD MAZEDONIEN

Report date 29.12.2023

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Analytical report

AR-23-TH-013894-01-PTH04



Sample Code

296-2023-00014180

Sample name	Sample 3- Honey - Vrben
Packaging	Plastic cup
Sampler	Client
Number sample tubes	1
Type of seal	Without seal
Amount	approx.290 g
Reception temperature	room temperature
Reception date time	21.12.2023
Start / End of analysis	21.12.2023 / 29.12.2023

Test results

Sensory analysis

THH25	Sensory Analysis of Honey (#)
Method	ICS SOP 520-02 (2018-08)

sensory indication

Color: water-light yellow

Consistency: viscous

Odor: typical for honey

Taste: sweet, bloomy, slightly honey-specific

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Eurofins Food Integrity Control Services GmbH · Berliner Straße 2 · D-27721 Ritterhude
The place of execution and jurisdiction is Walsrode - lower district court Walsrode HRB 206619.

Managing Director: Dr. Kurt-Peter Ræzke

VAT No.: DE301552996

Hypovereinsbank SWIFT-BIC: HYVEDEMM17 IBAN: DE77 2073 0017 7000 0022 00

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Microscopy

THH21 Pollen Analysis - Bot. & Geogr. Origin (ADV) (#)

Method DIN 10760 mod. (2002-05) [ICS SOP 520-11 (2018-03)]

Modification: Sample amount

Microscopic examination of pollen

Number of pollen counted: 500

Number of types of pollen identified: 27

Other components of sediment: elements of fungus, spores, bee hair, crystals, wax particles, plant tissue, vegetable fibers, black particles, raphides

Yeast content / 10 g honey: 10.000 - 100.000 (low)

Starch content: 9/500* Pollen

Amount of honeydew particles: low

Pollen from nectarless plants: 282

Very frequent pollen > 46 %

49% Rosaceae/Rubus spec./Brombeere/Himbeere/Bramble/Raspberry

Frequent pollen 16 - 45 %

25% Fabaceae/Trifolium repens spec./Weissklee/White Clover

Single pollen 3 - 15%

7% Scrophulariaceae/Verbascum/Königskerze/Mullein

5% Boraginaceae/Myosotis spec./Vergißmeinnicht/Forget-me-not

4% Lamiaceae/Thymus spec./Thymian/Thyme

3% Fagaceae/Castanea sativa/Edelkastanie/Sweet Chestnut

Isolated pollen < 3 %

Araliaceae/Hedera spec./Efeu/Ivy

Asteraceae/Achillea spec./Schafgarbe/Yarrow

Asteraceae/Carduus spec./Ringdistel/Plumeless Thistle

Asteraceae/Centaurea jacea/Wiesen-Flockenblume/

Boraginaceae/Anchusa spec./Ochsenzunge/Bugloss

Boraginaceae/Echium spec./Natternkopf/Vipers Buggloss

Campanulaceae/Campanula spec./Glockenblume/Bell Flower°

Cistaceae/Helianthemum/Sonnenröschen/Sun Rose°

Fabaceae/Lotus/Hornklee/Brid's Foot Trefoil

Fabaceae/Onobrychis/Esparssetten/Sainforn

Fabaceae/Parkinsonien/Parkinsonia

Fabaceae/Trifolium pratense spec./Rotklee/Red Clover

Hypericaceae /Hypericum spec. /Echtes Johanniskraut/St. John's Wort°

Lamiaceae/diff. Genera/Lippenblütler/Deadnettle Family

Onagraceae/Epilobium spec./Weidenröschen/Willowherb

Papaveraceae/Papaver spec./Mohn/Poppy°

Poaceae/diff. genera/Süßgräser/Graminea°

Polygonaceae/Polygonum aviculare/Vogelknöterich/Birdweed°

Rhamnaceae/diff. genera/Kreuzdorngewächse/Buckthorn Family

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Salicaceae/Salix/Weide/ Willow
Unknown pollen
°nectarless plant

Physico-chemical analysis

THH05 Electrical conductivity (20 °C) (#)
Method ICS SOP 510-06 (2021-04)

Conductivity at 20°C

Result	Uncertainty	Unit
0.16	(± 0.01)	mS/cm

(#) = Eurofins Food Integrity Control Services is accredited for this test.

Assessment

According to the pollen-analysis, organoleptic properties, and corresponding physical-chemical parameters (electrical conductivity) the above-mentioned sample may be called "Blossom Honey" (Honey directive 2001/110/EU, Article 2 from June 23rd, 2014, in connection with Annex I and relevant literature: BMEL (2022). Neufassung der Leitsätze des Deutschen Lebensmittelbuchs für Honig. GMBI 2022, S. 429-430).

Based on the current scientific knowledge, the analyzed pollen spectrum indicates "Southeastern Europe (Macedonia possible)" as regional origin (Honey Directive 2001/110/EC; Article 2 in connection with Annex I and relevant literature).

The determined starch content of the above-mentioned sample lies within the naturally occurring range for honey. Any addition of starch-containing products could not be proven. Therefore, this sample corresponds to the legal regulations (Honey directive 2001/110/EC from Dec. 20th, 2001; Article 1 in connection with Annex II).

The organoleptic properties lie on the edge of the naturally occurring range of a Blossom honey (Honey directive 2001/110/EU, Article 1 in connection with Annex II from June 23rd, 2014, with relevant literature: BMEL (2022). Neufassung der Leitsätze des Deutschen Lebensmittelbuchs für Honig. GMBI 2022, S. 429-430).

Signature



Head of Laboratory / Laborleiter (Dr. Christof Kunert)

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Sample name Sample 3- Honey - Vrben
Packaging Plastic cup
Sampler Client
Number sample tubes 1
Type of seal Without seal
Amount approx.290 g
Reception temperature room temperature
Reception date time 21.12.2023
Start / End of analysis 21.12.2023 / 29.12.2023

Test results

Physico-chemical analysis

THH01 5-Hydroxymethylfurfural (HMF) (#)

Method ICS SOP 510-08 (2019-09)

5-Hydroxymethylfurfural

Result	Uncertainty	Unit
2.4	(± 0.3)	mg/kg

THH02 Moisture (#)

Method DIN 10752-2 2018-09

Water content

Result	Uncertainty	Unit
16.4	(± 0.2)	g/100 g

THH03 pH Value (#)

Method ICS SOP 510-06 (2021-04)

pH-value

Result	Uncertainty	Unit
3.8	(± 0.1)	

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**THH04 Diastase activity (#)**

Method ICS SOP 510-04 (2021-04)

	Result	Uncertainty	Unit
Diastase activity	33.1	(± 2.6)	DN

THH06 Free acid (#)

Method ICS SOP 510-06 (2021-04)

	Result	Uncertainty	Unit
Free acidity	16	(± 2)	mmol/kg

THH07 Water insoluble substances (#)

Method DIN10743 2013-05

	Result	Uncertainty	Unit
Water insoluble matter	0.013	(± 0.002)	g/100 g

THH08 Sugars in Honey (LC-ELSD) (#)

Method DIN 10758 (1997-05) mod. [ICS SOP 510-02 (2021-03)]

Modification: ELSD Detection; Downscaled sample preparation; LC flow rate

	Result	Uncertainty	Unit
Fructose	39.8	(± 3.2)	g/100 g
Glucose	31.7	(± 2.5)	g/100 g
Fructose / Glucose	1.26	(± 0.10)	
Glucose+Fructose	71.5		g/100 g
Sucrose	<0.1 *		g/100 g
Turanose	1.6	(± 0.4)	g/100 g
Maltose	1.6	(± 0.4)	g/100 g

THH11 Glucose / Moisture Ratio (Calculation) (#)

Method calculation

	Result	Uncertainty	Unit
Glucose / Moisture	1.93		

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* = below indicated quantification level

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Assessment

Regarding the examined parameters the sample corresponds to the legal regulations (Honey directive 2001/110/EU, Article 2 in connection with Annex II and relevant literature: BMEL (2022). Neufassung der Leitsätze des Deutschen Lebensmittelbuchs für Honig. GMBI 2022 S. 429-430).

Remark:

Values in brackets: expanded measurement uncertainty ($F = 2.58$; 99%).

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