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NORD MAZEDONIEN

Report date 29.12.2023

Page 1/3

Analytical report

AR-23-TH-013896-01-PTH04



Sample Code

296-2023-00014182

Sample name	Sample 5- Honey - Sandaktash
Packaging	Plastic cup
Sampler	Client
Number sample tubes	1
Type of seal	Without seal
Amount	approx.240 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, aromatic, typical for honey

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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 Raetzke

VAT No.: DE301552996

Hypovereinsbank SWIFT-BIC: HYVEDEMM33 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: 32/500* Pollen

Amount of honeydew particles: low

Pollen from nectarless plants: 298

Very frequent pollen > 46 %

none

Frequent pollen 16 - 45 %

31% Fabaceae/Trifolium repens spec./Weissklee/White Clover

Single pollen 3 - 15%

15% Scrophulariaceae/Verbascum/Königskerze/Mullein

11% Rosaceae/Rubus spec./Brombeere/Himbeere/Bramble/Raspberry

10% Fagaceae/Castanea sativa/Edelkastanie/Sweet Chestnut

3% Fabaceae/Onobrychis/Esparsetten/Sainfoin

3% Lamiaceae/Thymus spec./Thymian/Thyme

Isolated pollen < 3 %

1% Boraginaceae/Myosotis spec./Vergißmeinnicht/Forget-me-not

Araliaceae/Hedera spec./Efeu/Ivy

Asteraceae/Carduus spec./Ringdistel/Plumeless Thistle

Asteraceae/Centaurea jacea/Wiesen-Flockenblume/

Asteraceae/Taraxacum/Löwenzahn/Dandelion

Boraginaceae/Echium spec./Natternkopf/Vipers Buggloss

Caryophyllaceae/diff. genera./Nelkengewächse/Pink Family

Cistaceae/Helianthemum/Sonnenröschen/Sun Rose°

Dipsacaceae/diff. genera./Kardengewächse

Fabaceae/Genista/Ginster/Greenweed

Fabaceae/Lotus/Hornklee/Brid's Foot Trefoil

Fabaceae/Trifolium pratense spec./Rotklee/Red Clover

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

Lamiaceae/Teucrium/Gamander/Germander

Lythraceae/diff. genera/Weidericharten

Malvaceae/Tilia spec./Linde/Linden

Papaveraceae/Papaver spec./Mohn/Poppy°

Poaceae/diff.genera/Süßgräser/Graminea°

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Polygonaceae/Rumex spec./Ampfer/Sorrel°
 Rhamnaceae/diff. genera/Kreuzdorngewächse/Buckthorn Family
 Sapindaceae/Acer spec./Ahorn/Maple
 °nectarless plant

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

Conductivity at 20°C

Result	Uncertainty	Unit
0.18	(± 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).

Signature



Head of Laboratory / Laborleiter (Dr. Christof Kunert)

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Test results

Physico-chemical analysis

THH01 5-Hydroxymethylfurfural (HMF) (#)

Method ICS SOP 510-08 (2019-09)

5-Hydroxymethylfurfural

Result	Uncertainty	Unit
<2 *		mg/kg

THH02 Moisture (#)

Method DIN 10752-2 2018-09

Water content

Result	Uncertainty	Unit
16.1	(± 0.2)	g/100 g

THH03 pH Value (#)

Method ICS SOP 510-06 (2021-04)

pH-value

Result	Uncertainty	Unit
4.0	(± 0.1)	

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**THH04 Diastase activity (#)**

Method ICS SOP 510-04 (2021-04)

Diastase activity

Result	Uncertainty	Unit
35.1	(± 2.8)	DN

THH06 Free acid (#)

Method ICS SOP 510-06 (2021-04)

Free acidity

Result	Uncertainty	Unit
13	(± 2)	mmol/kg

THH07 Water insoluble substances (#)

Method DIN10743 2013-05

Water insoluble matter

Result	Uncertainty	Unit
<0.01 *		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

Fructose

Result	Uncertainty	Unit
39.4	(± 3.2)	g/100 g

Glucose

30.2	(± 2.4)	g/100 g
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Fructose / Glucose

1.31	(± 0.10)	
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Glucose+Fructose

69.6		g/100 g
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Sucrose

0.1	(± 0.1)	g/100 g
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Turanose

1.7	(± 0.4)	g/100 g
-----	---------	---------

Maltose

1.6	(± 0.4)	g/100 g
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THH11 Glucose / Moisture Ratio (Calculation) (#)

Method calculation

Glucose / Moisture

Result	Uncertainty	Unit
1.88		

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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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