



PROBEE

CNPJ:31.260.732/0001-44

Consultoria e Controle de Qualidade de Produtos Apícolas e Naturais
Rua Hudson, 449, Bairro Jardim Canadá, CEP.: 34007-640, Nova Lima, MG
(031) 99941-6572 probec2018@gmail.com

ANALYSIS CERTIFICATE

1- GENERAL INFORMATION

MATERIAL:	Honey in natura
SAMPLE NUMBER:	2022/0711
BATH NUMBER:	SUEB570BO
REQUIRED ANALYSIS:	Certification of Botanical Origin, physicochemical
APPLICANT:	ETHIKABIO
DATE OF ANALYSIS:	21/02/2022
ANALYSTS:	Dra. Esther Margarida A. F. Bastos, Biologist, Master in Food Science (UFMG), PhD in Entomology (USP)

2- ANALYSIS TECHNIQUE

- AOAC - Association of Official Analytical Chemists (1998). Official methods of analysis of AOAC International: AOAC official method. Washington: AOAC.
- BARTH, O.M. Melissopalynology in Brazil: A review of pollen analysis of honeys, propolis and pollen loads of bees. Sci. Agric. (Piracicaba, Braz.), v.61, n.3, p.342-350, May/June 2004.
- Codex Stan. (2001). Revised Codex standard for honey. Codex Stan 12-1981, Rev.1(1987), Rev. 2 (2001). Italia: World Health Organization, Food and Agriculture Organization of United Nations.
- Instrução Normativa nº 11, de 20 de outubro de 2000, Ministério da Agricultura e do Abastecimento, Brasil.
- Louveuax, J.; Maurizio, A.; Vorwohl, G., 1970, 1978. Methodik der Melissopalynologie. Apidologie 1: 193-209.
- Laminario Reference grains of pollen PROBEE Ltda, Database Database of bee plants from the State of Minas Gerais (digital).

3- OBJECTIVE:

Certification of origin and quality control



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4- RESULTS

4.1 - ORGANOLEPTIC CHARACTERISTICS

Light amber colored honey with a characteristic aroma.

4.3 – PHYSICOCHEMICAL CHARACTERISTICS

Determination of	Unit	Results	Levels required by legislation
Color	nm	0.320 (ambar)	Dark amber / > 0,945 Absorbance to 560nm
Reducing sugars	m/m	68%	Minimum 60g/100g
Apparent sucrose	m/m	0,1%	Máximum 6g/100g
Moisture	(m/m)	18%	Máximum de 20g/100g
Solids insoluble in water		0%	
Ash	(m/m)	0,2%	Maximum de 1,2g/100g
Acidity	mEq/kg	26,4 mEq/Kg	Maximum de 50 mil equivalentes/kg
Hidroximetilfurfural (HMF)	m/m	30,69 mg/Kg	Maximum 60mg/kg Minimum 1mg/ KG
Phenolic compounds	min	63.5 mg/ml	9min

4.3 - BOTANICAL ORIGIN

Pollen type	Numeric count of pollen grains	Percentage%
Familia- Anacardeaceae Especie- Myracrodum urundeuva	28	15,9
Familia- Fabaceae Especie- Schrankia sp	127	72,15
Familia- Fabaceae Especie- Abadenanthera sp	1	0,56
Familia- Fabaceae Especie- Mimosa sp	5	2,84



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Familia- Sapindaceae Especie- Serjanea sp	6	3,4
Familia- Lamiaceae Especie- Hyptis sp	1	0,56
Familia- Asteraceae Especie- Eupatorium sp	3	1,70
Familia- Amaranthaceae Especie- Alternanthera sp	3	1,70
Familia- Myrtaceae Especie- Eucalyptus sp	2	1,13
Total	176	100

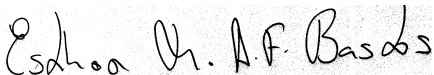


Photomicrograph of the sample analyzed with a predominance of *Schrankia* sp (400x).

5. CONCLUSION

The analyzed sample is a honey of *Schrankia* sp (72.15%), with aroeira contribution (15.9%), the sample is in accordance with the current legislation, Normative Instruction MAPA (2000), Codex 1981.

Nova Lima, 21 de fevereiro de 2022


Dra. Esther Margarida Alves Ferreira Bastos
CRB 30190/ 4-D



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