

Maharishi Honey

Laboratory Results

*Quality Services International GmbH
Bremen*

B/MRm/7-04a/VM/MT9

Madhu Taste 9

Item Tested	Range	Result	Comments
Water	13.5-21 %	First test (27/8/04) 18.4%	German Law says it should be less than 21%. 18% is ideal.
HMF (Hydroxymethyl- furfural)	< 80 mg/kg	15.7 mg/kg	Indicator of whether the honey has been heated.
Diastase Activity	3-50	45.4	Indicator of how the bees are working to change starch into sugar. It is influenced by honey storage and heating and is thus an indicator of honey freshness and over heating.
Invertase Activity	0-200	13.9	Invertase Activity is particularly sensitive to heat and storage damage and is used as a freshness indicator. It is an indicator of whether the honey has been heated.
Sugar Spectrum	0.9-1.9	1.16	Sugar spectrum measures the fructose/glucose ratio. Looking at the ratio, one can determine if there is any adulteration, if any artificial sweeteners were added. Reducing Sugars: Fructose, Glucose, Turanose, Maltose, Isomaltose, Maltotriose. Reducing Sugars give energy.
Adulteration 13C isotope-mass		No adulteration	Spectrometry assesses whether there was any adulteration to the honey with cane sugar.
Water-insoluble solids content		0.01 g/100g	
Chloramphenicol		Not detected	
Electrical Conductivity	0.1-1.5	0.59	Measures the mineral content in the honey. The higher the mineral content, the higher the electrical conductivity. The range varies with the different kinds of honey, for example, blossom honey—up to 0.5, mixed blossom/honeydew—0.1-0.79, forest/honeydew—0.8
Antibiotics		Not detectable	Antibiotics tested: Streptomycins, Sulphonamides, Tetracyclines.

Item Tested	Range	Result	Comments
Element Analysis— Vitamins & Minerals			Indicates the nutritional value.
a. Manganese	0.3 mg/kg	7.4	
b. Chromium	0.2 mg/kg	< 0.1	
c. Selenium	0.05 mg/kg	< 0.2	
d. Zinc	3.5 mg/kg	1.2	
e. Copper	0.9 mg/kg	0.2	
f. Potassium	450-500 mg/kg	1400	
g. Calcium	36-60 mg/kg	100	
h. Magnesium	16-55 mg/kg	50	
i. Sodium	20-100 mg/kg	30	
j. Phosphorus	40-200 mg/kg	55	
k. Iron	9-20 mg/kg	4	
Heavy Metals			
a. Cadmium		Not detectable	
b. Lead		Not detectable	
c. Mercury		Not detectable	
Chloropesticides		Not detectable	
Phosphorous Pesticides		Not detectable	These pesticides revolve around Phosphorous functionality.
PH value	3-6	3.8	The pH value gives a measure of acidity or alkalinity. The pH value depends on blossom or honeydew: 3.3–4.6 blossom 4.2–5.5 honeydew
Acidity	10-50	30.5 mmol/kg Table Honey	
HD Elements		few	HD elements measures foreign matter in the honey i.e. wax, fungal spores, yeast, and starch. This honey contained very little or none of these things and was within acceptable range.

Item Tested	Range	Result	Comments
Pollen		Mimosa	The predominant, secondary and minor pollens were tested. The whole sediment is checked. Honeydew is characterized by special sediment components, e.g spores of fungi, hyphae of fungi, which belong to the normal honeydew "Flora". Pollen can only be identified as a source from where the bees collected nectar. Honeydew elements have nothing to do with foreign elements; they belong to the natural sediment of honeydew. Many secondary and minor pollens were also found.
Botanical origin		Blossom	
Geographical origin		Brazil	
Sensory Qualities			The qualities are specific to honey.
Kind of Honey		Blossom	
Amitraz		Not detectable	
Phenol Bee treatment		Not detectable	
Iodine		Not detectable	
Flavonoids		Not detectable	
Vitamins			
a. Vitamin C		<4 mg/100g	
b. Vitamin B1		<0.01mg/100g	
c. Vitamin B2		<0.04mg/100g	
d. Vitamin B6		0.306mg/100g	
e. Vitamin E		<0.5 mg/100g	
f. Vitamin A		<0.01mg/100g	
g. Niacin		<0.25 mg/100g	
h. Biotin		<0.3 µg/100g	
i. Folic Acid		<1.1 µg/100g	
j. Panthothenic Acid		0.305 mg/100g	

Item Tested	Range	Result	Comments
Glycerol	< 300 mg/kg	300	
Ethanol	< 50 mg/kg <20 in Germany	63.8	<p>W.E.J Laboratory in Hamburg, stated that Ethanol is not harmful (2.3.04).</p> <p>Ethanol and Glycerol are alcohols that are produced as a result of microbiological fermentation. This can occur only if moisture content of honey is too high. When the water content in honey is above 22%, the sugars in honey can begin to ferment. However, according to USDA (United States Department of Agriculture) standards, honey may contain between 15-20% moisture (18.6% is the industry average in the USA) and at these low levels, fermentation cannot begin. There are no limits for Ethanol and Glycerol established internationally because the adherence to moisture level precludes the presence of fermentation products. <i>(Comments from consultant for the National Honey Board in USA)</i></p>
Antibacterial activity		Subtilis positive: pH 8 : 5mm pH 7.2 : 5mm pH 6 : 3mm	

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Amino acids			
a. Alanine		28 mg/100g	
b. Alpha-amino butyric acid		< 2 mg/100g	
c. Arginine		8 mg/100g	
d. Asparagine		Not determined	
e. Asparagine acid		40 mg/100g	
f. Carnosine		< 2 mg/100g	
g. Citrulline		< 2 mg/100g	
h. Cystine		< 2 mg/100g	
i. Glutamine		Not determined	
j. Glutamine Acid		< 2 mg/100g	
k. Glycine		21 mg/100g	
l. Histidine		14 mg/100g	
m. Hydroxyproline		< 2 mg/100g	
n. Isoleucine		23 mg/100g	
o. Leucine		37 mg/100g	
p. Lycine		22 mg/100g	
q. Methionine		5 mg/100g	
r. Ornithine		< 2 mg/100g	
s. Phenylalanine		43 mg/100g	
t. Phosphoethanolamine		< 2 mg/100g	
u. Proline		149 mg/100g	
v. Sarcosine		Not determined	
w. Serine		24 mg/100g	
x. Taurine		< 2 mg/100g	
y. Threonine		25 mg/100g	
z. Tyrosine		< 2 mg/100g	
aa. Valine		34 mg/100g	