

Physico-chemical characterization of Sri Lankan bee honey

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Bee honey is a sweet fluid produced by honeybees from nectar of flowers and honeydew. Honey has nutritional and medicinal benefits and it is a rich source of free sugars, organic acids, lipids, amino acids, vitamins, minerals and biologically active compounds. Honey presents great variations in composition due to its geographical and botanical origin. There is a paucity of data on Sri Lankan honey, thus this study was aimed to evaluate physico-chemical properties of bee honey collected from eight provinces of Sri Lanka. All physico-chemical characteristics were assessed according to the AOAC (2000) methods. (Table 1)

Table 1: Physico-chemical characterization of bee honey

Most of the samples met with Sri Lankan Standards except in total reducing sugars. The results conformed to the Standard of International Honey Commission for honeydew honey. Sri Lankan Standard value given for total reducing sugars has to be revised after consideration of physio-chemical characteristics of honeydew honey.

Province of Sri Lanka	Total soluble solids %	Conductivity $\mu\text{S/cm}$	pH	Total reducing sugars %	Sucrose %
North	76.8 \pm 0.8 (76.1-77.7)	15.5 \pm 16.7 (2.9- 34.4)	4.0 \pm 0.9 (3.4-5.0)	55.3 \pm 4.2 (50.6-58.5)	5.7 \pm 1.1 (4.4-6.7)
North western	76.1 \pm 1.2 (75.3-77.0)	45.9	4.8	55.8	5.8
Western	77.7 \pm 3.3 (69.2- 82.8)	8.3 \pm 8.8 (0.3- 32.3)	3.8 \pm 0.4 (2.8-4.4)	56.8 \pm 12.6 (44.5-74.1)	6.5 \pm 5.8 (0.2-12.4)
Southern	76.5 \pm 1.5 (74.2-79.0)	18.9 \pm 10.6 (3.0- 46.4)	4.1 \pm 0.5 (3.2-5.3)	60.2 \pm 6.3 (47.4-70.5)	3.2 \pm 2.5 (0.2-6.9)
Eastern	75.7 \pm 0.6 (75.1-76.5)	21.9 \pm 20.3 (4.3- 42.6)	4.5 \pm 0.6 (3.8-5.2)	45.5	1.6
Sabaragamuwa	76.2	15.8	3.5	61.3	3.0
Uva	76.0 \pm 1.3 (74.3-77.5)	36.8 \pm 14.5 (20.4- 52.5)	4.5 \pm 0.4 (4.1-5.3)	53.0 \pm 4.9 (44.4-56.6)	2.0 \pm 1.7 (0.2-4.4)
North Central	75.2 \pm 0.2 (75.1-75.3)	57.3 \pm 26.4 (38.6- 76.0)	4.2 \pm 0.3 (4.3-4.6)	55.4 \pm 10.2 (48.1-62.6)	11.3 \pm 9.1 (4.8-17.8)

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