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Mineral content and physical properties of local and imported honeys in Saudi Arabia (2014)

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Abstract

In addition to color, ash and electrical conductivity (EC), the levels of 14 minerals were investigated in 23 varieties of honey from Saudi Arabia and six other countries. The quantities of the macro minerals obtained were as follows (in ppm): K (298.60–491.40), Mg (80.70–199.30), Ca (60.75–99.95), P (21.10–33.29), and Na (15.69–26.93). The quantities of trace minerals were as follows (in ppm): Fe (67.18–98.13), I (12.61–94.68), Mn (4.15–6.04), Zn (3.44–5.72), Li (1.15–4.26), Co (1.00–1.32), and Ni (0.15–0.67).

The quantities of the heavy metals Pb and Cd were found to be 0.06–0.23 and 0.00–0.16, respectively. The values of the tested elements—color, ash and EC—varied among the tested honeys according to their botanical origin.

Dark honeys, especially Acacia honeys, had higher elemental content and EC values than lighter ones. Saudi and Yemeni Seder honeys exhibited no distinctive characteristics in their tested parameters. The levels of heavy metals indicated that the tested honeys were safe for human consumption.