

# Study of some heavy metals in honey produced in Chahar-Mahale-Bakhtiary province

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## Abstract

Honey is the nectar of living flowers which produced by honey bees (*Apis mellifera*). Honey could be used as an environmental pollution indicator and because of developing and industrialization of cities, levels of three metal elements were investigated in five regions of Chahar-mahale-Bakhtiary province. The amounts of cadmium, lead and mercury of 75 honey samples were analyzed by potentiometric analyses. According to the results, mercury was not detected in any of the samples. Cadmium level was determined significantly higher ( $P < 0.05$ ) in Lordegan honey (6.58  $\mu\text{g}/\text{kg}$ ) compared to other honeys. Honeys of Ardal and Arjenk contained higher levels of lead with amount of 23 and 22.11  $\mu\text{g}/\text{kg}$  respectively. The lowest amount of cadmium and lead were reported in Ardal (0.08  $\mu\text{g}/\text{kg}$ ) and Lordegan (8.90  $\mu\text{g}/\text{kg}$ ) regions, respectively. Due to lower levels of lead, cadmium and mercury in the honey samples produced in the Chahar-mahale-Bakhtiary province, compared to international standards, it could be concluded that consumption of these honeys is safe, in terms of heavy metals. However, by industrialization of Chahar-mahale-Bakhtiary in recent years, more attention must be given in controlling the metal contaminations.

**Key word:** Honey, Lead, Mercury, Cadmium, Potentiometric analysis

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