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عنوان مقاله:

Physicochemical Properties and Antioxidant Activity of Honey Brands Distributed in Tehran City, Iran

محل انتشار:

فصلنامه طب دامی ایران, دوره 18, شماره 2 (سال: 1403)

تعداد صفحات اصل مقاله: 10

نویسندگان:

.Atiqullah Miakhil - Department of Food Hygiene and Quality Control, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran

.Abolfazl Kamkar - Department of Food Hygiene and Quality Control, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran

.Sayed Attaul Haq Banuree - Department of Food Hygiene and Quality Control, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran

خلاصه مقاله:

Background: Honey, a naturally sweet food product, exhibits several health beneficial effects. The quality of honey differs by its microbiological, physicochemical, and antioxidant properties, which can significantly vary from brand to brand and country to country. Objectives: This study aimed to assess the physicochemical properties and antioxidant activity of honey brands distributed in Tehran City, Iran, and compare these parameters with national and international standards. Methods: Five brands (Shakelli, Khansar, Golagin, Shafi, and Kral) of honey in Tehran were selected, and ۵ samples of each brand were collected from supermarkets and analyzed by standard methods for physicochemical properties and antioxidant activity. The collected data were analyzed using SPSS software, version ۲۰. Results: The results depicted significant differences among studied honey brands in all physicochemical properties (except for ash, total reducing sugars, and sucrose content) and antioxidant activity (P<۰.۰۵). The moisture, ash, pH, free acidity, total reducing sugars, sucrose, diastase, and ۵-hydroxymethylfurfural (HMF) contents of honey brands ranged within ۱۶.۳۰%-۱۵.۳۴%, ۰.۲۴%-۰.۴۰%, ۴.۲۷-۴.۳۹ units, ۹.۱۵-۱۰.۶۸ meq/kg, ۷۷.۸۴%-۷۹.۷۴%, ۳.۶۶%-۴.۵۷%, ۲.۲۸-۳.۲۸ DN (diastase number), and ۶.۶۷-۱۱.۸۴ mg/kg, respectively. Thus, the physicochemical properties of studied honey brands, except for diastase activity, were within national and international legal ranges. Moreover, total phenolic contents (TPC) and radical scavenging activity (RSA) of ۱,۱-diphenyl-۲-picrylhydrazyl (DPPH) of honey brands ranged within ۲۸.۷۲-۳۹.۳۶ mg GAE/۱۰۰ g and ۶۳.۸۳%-۷۳.۹۱%, respectively. In addition, a highly significant positive correlation was observed between TPC and RSA of DPPH of honey samples (r=۰.۷۹۸, P<۰.۰۱). Conclusion: The studied honey brands were of good quality and met national and international standards.

کلمات کلیدی:

Antioxidant activity, honey, Honey brands, physicochemical parameters, standards

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