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Microbiological Characterization and Physico-Chemical Properties of Sudanese Honeys

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Honey is not always a safe product and in some instances it is spoiled by the growth of micro-organisms. In this study Sudanese honey brands were investigated for the presence/absence of pathogenic and non pathogenic micro-organisms as well as the physic-chemical properties of honey. The aim of the study was to characterize honey on biological and physic-chemical basis. Several microbiological tests and the AOAC methods were employed. The results of microbiological tests were negative for *Salmonella spp., Escherichia coli,* and total coliforms (mpn/ml). Few honey brands contained *Clostridium botulinum, Staphylococcus aureus,* yeasts and moulds. The maximum total viable bacteria count was > 6000 cfu/ml. The results of the physical properties of the tested honey were as follows: pH 3.6, specific gravity 1.2, viscosity 120.7 Poise, and refractive index 1.4. For the chemical composition were: moisture 18.2, acidity 54.2 (meq/kg), total sugars 70.5 %, fructose 32.1 %, glucose 32.8 %, and sucrose 5.5 %. These results suggest the needs for improved methods for honey collection, processing and safety handling.

Keywords: Honey composition, Clostridium botulinum, Staphylococcus aureus.