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## Minerals and Nutritional Value Contents in Hen Eggs from Different Sources in Aden Governorate-Yemen

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### Abstract

The egg is an ideal carrier for enriching human diets with some important dietary minerals. It is very rich in minerals and organic compounds in the composition. The minerals contained in eggs have considerable implications, and nowadays, there is increasing interest in serving eggs with several nutrients for human health benefits. The purpose of this study was to evaluate the levels of Na, Mg, P, S, K, Ca, and other determinate nutrient contents in egg samples selected from four different sources in Aden, Yemen. These elements were determined by inductively coupled plasma-optical emission spectrometry (ICP-OES). The most variable range of concentrations and the highest content of elements were determined in hen egg samples derived from Khormaksar and Shaik Othman regions. Whereas, egg samples from the Al-Buraiqeh region mostly contained lower levels of elements. The Macro Kjeldahl method was used to determine protein in egg samples, and the total lipid content was determined by using two techniques: the Soxhlet method and the Gerber method. The high percentage of protein content was found in market hen eggs from Al-Hiswah (12.80%) was the lowest percentage of protein content resulted from street hen eggs of Al-Hiswah was (7.66%). The lipid content in home hen eggs collected from the Khormaksar region was (12.71%), and the percentage of lipid content in market hen eggs taken from Al-Buraiqeh was (9.91%). That can be attributed to hen feed specifics within different regions and the impact of environmental factors. Also, the percentage of ash and moisture was determined in this study. The levels of minerals were significant and safe. Many studies are needed to be done in this field. And people are advised to eat eggs daily to reduce mineral deficiencies.

**Keywords:** Minerals, Nutrient Value, Proteins, Lipid, Hen Eggs, ICP-OES

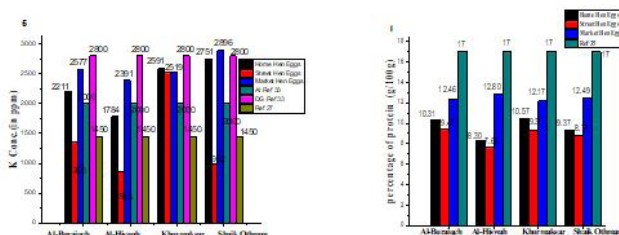


Figure. Some essential minerals and nutrient concentrations in egg samples collected from four different areas

### Biography

He is a motivated, hardworking, enthusiastic, experienced ML and AI engineer & researcher, working in signal processing for audio and smart sensors in bio-medicine and he seeks to expand his work experience in relative fields. Currently, he is involved in the application of deep learning to the detection and classification of TB and COVID-19 coughs in real-world environments as well as monitoring of patient behavior using smart sensors such as an accelerometer.

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