Detection of mineral nutrients and toxic elements in Yemeni sesame oil by inductively coupled plasma-optical emission spectrometry (ICP-OES)

Faez Mohammed
Sana’a University, Yemen

Abundance and mineralogical residence of 12 elements have been determined by inductively coupled plasma-optical emission spectrometry (ICP-OES) in 120 samples of Yemeni sesame oil collected from different provinces. Over two years of analysis, the results show no significant differences in terms of the physicochemical parameters. Calcium content was found between 3.021 and 9.656 mg/kg, this cation making up 50% of the total mineral content. The two other most abundant minerals were potassium (0.824-4.251 mg/kg) and magnesium (0.811- 4.742 mg/kg). Heavy metal (Cd, Pb, Cu, Sn and Zn) content was very low. The use of chemometrics in this work allowed establishing discriminant models for optimization to determine the trace elements content in oil samples.

faez89@hotmail.fr