

## **ABSTRACT**

In the present study, some important leafy vegetables were screened for their trace element accumulation using PIXE analysis. A total of 19 elements: Na, Mg, Si, P, S, Cl, K, Ca, Ti, Cr, Mn, Fe, Ni, Cu, Zn, Sc, Al, V and Sr were identified in *Spinacia oleracea* L., *Trigonella foenum-graecum* L. and *Brassica rapa ssp. campestris* L. The seeds of the targeted leafy vegetables were purchased from market under two brands, the local and imported seeds. The seedlings thus obtained were fed with different types of fertilizers, i.e. bio-fertilizer and synthetic fertilizer and irrigated with two types of water, i.e. tap water and river Ravi water. Results showed that Na, Mg, P, S, V and Ca were found in higher concentration while Ti, Cr, Mn, Fe, Ni, Cu, Zn, Sc, Al, V and Sr existed in lesser amounts. Among the vegetables used, *S. oleracea* L., was the richest source of the most of the nutrients containing Fe (182.6-411 mg/kg), Sr (34.5-76.7 mg/kg), Zn (2.6-8.3 mg/kg), Mn (1.21-1.9 mg/kg) and Cr (3.7-11 mg/kg) etc. Most of the elements in higher concentration were recorded in the samples treated with Ravi water. There were no significant differences among the samples treated with bio-fertilizer and synthetic fertilizer. Similarly there were no major differences in elemental composition between the imported and local seeds of *B. rapa ssp. campestris* L. However, some differences existed among the samples of *S. oleracea* L. and *T.foenum-graecum* L. seeds.