Trace elemental analysis of rice grown in two regions of Tanzania

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Abstract

The concentrations of elements in rice, locally cultivated in two regions of Tanzania (Mbeya and Morogoro), were determined using Instrumental Neutron Activation Analysis (INAA) for Na, Mg, Al, Cl, K, Ca, V, Mn, Cu and Br, and Particle-Induced X-Ray Emission (PIXE) for P, Fe and Zn. There were no statistical differences in concentrations of the essential elements Fe, Zn, Cu and P in rice from both regions. There was also no significant correlation between grain P and Fe content, suggesting the possibility of growing Tanzanian rice with low phytic acid and high Fe contents.

Keywords: Trace element, Rice, INAA, PIXE, Phytic acid