

Abstract

Studies were conducted on essential and toxic elements in the de-oiled tea seed oil cake in the Kenyan tea clones. They were analyzed for calcium, zinc, magnesium, copper, lead, cadmium and manganese by use of Atomic Absorption Spectroscopy (AAS), and sodium and potassium by flame photometry. The phosphorous levels were determined by the use of UV-Visible spectrophotometer using molybdo-vandate method. The total nitrogen content was analyzed by use of Micro-Kjeldahl method. The following values (on dry matter basis) were obtained for the de-oiled tea seed oil cake of six selected tea clones. Nitrogen was in the range of 1.9-2.7%. Phosphorous levels ranged from 1.1-3.8 $\mu\text{g/g}$. Potassium ranged from 0.10-0.17 $\mu\text{g/g}$ and sodium content was in the range of 0.21-0.25 $\mu\text{g/g}$. Magnesium was in the range of 0.17-0.25% and calcium was in the range of 0.50-0.77%. Zinc was in the range of 12-21 $\mu\text{g/g}$. Manganese levels were in the range of 0.14-0.19%. Copper was in the range 4.7-7.9 $\mu\text{g/g}$. Toxic elements i.e. cadmium and lead were not detected in all de-oiled tea seed oil cakes.