

Abstract

This study was carried out at Rwerere Research Station located in the highlands of Buberuka, Rwanda. Three local limes (Musanze, Rusizi and Karongi) were evaluated in a randomized complete block design (RCBD) experiment established in September 2011 rainy season. Baseline information was established on soil properties and quality (CCE, Fineness factor, ECCE, Acidity and moisture) of lime materials. Soil pH, exchangeable Al and available phosphorus were monitored at 6, 12 and 16 weeks after lime application (WAP). However, nitrogen and base saturation were analysed at 16WAP. Finding showed that application of 2.8t ha⁻¹ of Musanze unburnt local lime and agricultural burnt lime had a similar effect on soil pH. They increased soil pH by 0.62 and 0.61 units, respectively. A lime application rate of 2.8t ha⁻¹ of agricultural burnt lime, Musanze and Rusizi unburned local limes increased soil available phosphorus by 1.72, 1.71 and 1.65 mg/kg, respectively. On the other hand, agricultural burnt lime and Musanze unburnt local lime had a similar effect on Ca saturation. The application of 1.4 and 2.8t ha⁻¹ of agricultural burned lime and Musanze unburnt local lime increased soil nitrogen by 0.12 and 0.24% of total nitrogen, respectively.