ABSTRACT

This study assessed soil fertility in potato farms of Birunga and Buberuka highlands agro-ecological zones (AEZs). It compared nutrients levels (N, P, K, Mg, Ca, Na, S, Mn, Cu, Zn and Fe) and other parameters (pH, organic carbon [OC], cation exchange capacity [CEC], base saturation [BS], bulk density [BD] and texture) of soil samples. ANOVA revealed that pH of soils (5.53-6.50) varied from slightly to moderately acidic, BD fell below optimum for plant growth (< 1.8gcm-3), texture was sandy loam to sand clay loam. Soil fertility for OC (3.33-5.53%), N (0.15-0.31%) and CEC (10.08-18.60 meq/100g) varied from low to medium; and medium to high for BS (34.78-61.91%); was qualified medium for P (5.75-9.20 ppm), K (0.21-0.54 meq/100g), S (6.46 - 8.15 ppm) and majority of micronutrients. Values from Birunga AEZ were higher than ones from Buberuka AEZ except for BD, CEC, clay, silt, Na and Fe. There were significant differences between farms within locations for all parameters and significant differences between locations for all parameters except Na and Mn.

KEYWORDS

Potato

Rwanda

Soil Fertility

Soil Properties