ABSTRACT

Influence of Agricultural Lime on Soil Properties and Wheat (*Triticum aestivum* L.)
Yield on Acidic Soils of Uasin Gishu County, Kenya
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A study was carried out to investigate the influence of agricultural lime (21% CaO) from Koru, Kisumu on soil properties and wheat yield on acidic soils of Uasin Gishu county. Field trials were conducted at Chepkoilel University College farm and in Kipsangui area of Uasin Gishu county. Soils were analyzed to determine their pH, available P and other nutrient levels before treatment application. The experiment was a split plot arrangement with two wheat varieties as the main plots and the lime treatments as the subplots. The two varieties compared were ‘Njoro BW 2’ and ‘KS Mwamba’ characterized as tolerant and moderate tolerant to soil acidity, respectively. Phosphorus and nitrogen were applied as a blanket treatment at the rates of 40 kg P2O5/ha and 46 kg N/ha respectively. Lime was applied at the rates of 0.0, 0.5, 1.0, 1.5 and 2.0 t/ha. Soils from the two sites were acidic with low to moderate available P for Chepkoilel and Kipsangui sites respectively. Soil pH and soil available P increased with the increase in the rate of lime addition. Wheat grain yield increased significantly (*p*=0.05) due to soil acidity amendment above the control. There was a high positive correlation between wheat yields and soil available P at both sites at harvest. High cost of inorganic inputs, low wheat grain prices and the effects of the erratic rains made the majority of the treatments economically unviable for adaptation by farmers. However, the most profitable treatment was 2 t/ha of lime in Njoro BW 2 at Kipsangui site. There was no viable treatment at Chepkoilel site. Higher wheat yields may probably be achieved from rates of lime above 2 t/ha.