

Abstract

Farmers in the central highlands of Kenya are experiencing low land productivity due to declining soil fertility. On-farm trials were established at two sites in Meru South district, Kenya in 2004 to evaluate economics of using organic and mineral fertilizer inputs to replenish soil fertility. Net benefit, benefit to cost ratio and return to labor were used as the main economic tools. Relationship between ranking of the inputs based on the number of farmers choosing them and ranking based on calculated economic returns was determined using Spearman correlation. In Mukuuni site, net benefits for the two seasons were highest for tithonia plus fertilizer (USD420.9 ha⁻¹), tithonia (USD410.5 ha⁻¹) and tithonia plus manure (USD393.2 ha⁻¹). Similarly in Murugi, net benefits were highest for tithonia plus fertilizer (USD337.9 ha⁻¹), tithonia plus manure (USD314.5 ha⁻¹) and tithonia (USD294.5 ha⁻¹). Returns to labor were highest for fertilizer, manure and tithonia in Mukuuni while in Murugi, fertilizer, tithonia plus fertilizer and tithonia had the highest returns to labor. Majority of the farmers chose technologies combining organic and mineral fertilizer for further trial with 70.5% in Mukuuni and 54.1% in Murugi. Manure and tithonia were the preferred organic inputs possibly due to multiple benefits perceived, though labor requirements were high. There was a positive correlation between ranking of the inputs based on the number of farmers choosing them and ranking based on calculated economic returns. This suggests that economic returns could be used to predict choice of technologies for adoption by farmers.