Integrating Farmers and Scientific Methods for Evaluating Climate Change Adaptation Options in Embu County

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Abstract

Potential for promoting sorghum crop as a climate change adaptation strategy for rain-fed agriculture in Embu County, Kenya was evaluated using farmer perceptions and scientific methods. Three hundred and sixty six smallholder farmers participated in the evaluation. The treatments which were overall rated as 'good' are tied ridges with a mean score of 2.9 and mean rank (2,873.87). Under this treatment sorghum grain yield of 3.7 t ha^{-1} was recorded with application of 40 kg P ha^{-1} + 20 kg N ha^{-1} + Manure 2.5 t ha^{-1}. This was closely followed by tied ridges and contour furrows overall rated 'good' best three under the same soil fertility management options with a mean score ranging from 2.65 to 2.8 and yielding 2.7–3.7 t ha^{-1}. However, the treatments which were rated as 'poor' were experiment controls with a mean score below (1.43), mean rank (1,101.24) and yielding as low as (0.7 t ha^{-1}). Therefore, integration of organic and inorganic inputs under various water harvesting technologies could be considered as an alternative option towards food security under climate change for semi-arid areas of Embu County.

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