Extended Abstract

Soil Test and Tissue Analysis Based Nitrogen and Phosphorus Fertilizer Applications on Teff [*Eragrostis tef* (Zucc.) Trotter] Cultivars in North Shewa Central Highlands, Ethiopia

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Abstract

Soil fertility studies and crop improvement have brought remarkable change in crop production particularly in teff in Ethiopia. Differences in soil status affect productivities of various cultivars in which their nutritional demand is different and increasing. This elucidates that fertilizer rate studies are dynamic and increasing time to time across crop cultivars. Fertilizer rate recommendations need to be specific soil and tissue test based and should be done repeatedly for any cultivar to maximize the inherent potential yield of the crop. Field experiment was laid out to test teff cultivars to a soil and tissue test based NP fertilizer applications. Soil samples were collected and subjected to a soil test in respective methods employed to determine the physicochemical property of a soil.

High available P, medium organic carbon content moderately low total N content and pH of 7.57 were obtained from the experimental site. Plant tissue samples were collected from a 2 × 2 m^2 plot and subjected to analysis to determine tissue nitrogen and phosphorus contents. N application significantly increased the concentrations of nitrogen and phosphorus in shoot tissue and grain yield. However, application of P at different rates did not significantly affected any of the parameters. This might be due to unavailability of P for the plant due to fixation and hence examination must continue to identify real causes.