Evaluation of Improved Varieties of Teff in West Belessa, Northwest Ethiopia

Daniel Tadesse¹ --- Teferi Alem² --- Tesfaye Wossen³

¹,²,³Department of Plant Sciences, College of Agriculture and rural Transformation, University of Gondar, Ethiopia

Abstract

An experiment was conducted at West Belessa district of Northwestern Ethiopia during 2013 main cropping season in order to identify and promote well adapted and promising genotypes of teff. The experiment was laid out in a randomized complete block design with three replications. The data recorded were plant height, spike length, number of tillers per plant, grain yield, biomass yield and harvest index. The data was analyzed using SAS software and means were separated using least significant difference. The analysis showed that varieties varied significantly for plant height, spike length (P<0.001), grain yield, biomass yield (P<0.01) and harvest index (P<0.05). Varieties were not significant for number of tillers per plant. Dukem was shown to be high yielder variety followed by the varieties Boset and Mechare with the values of 1963.7, 1772.0 and 1743.7 kg ha⁻¹, respectively. The varieties Dukem, Kunch and Mechare were found to be having high biomass with the values of 6111.3, 5833.3 and 5555.3 kg ha⁻¹, respectively. Dukem was superior in almost all the agronomic traits evaluated while the local varieties Awra tef and Bunign were out performed by most of the improved varieties of teff tested. The varieties evaluated had a wide genetic background for the studied traits, thus showing grain yield ranges from 1012.0 to 1963.7 kg ha⁻¹. Therefore, based on objectively measured traits, the variety Dukem was found most promising having the potential to increase the average yield of tef in West Belessa district and is therefore recommended for general cultivation.

Keywords: Tef, Variety, Grain yield