Yield Enhancement of Rain-fed Finger Millet by Adopting Simple Agronomic Practices: A Case Study in Southern Dry Zone

D. P. P. Liyanage[1*] L. M. Abeywikrama[2] and S. D. Wanniarachchi[3]

[1] Grain Legume and Oil Crops Research and Development Center, Department of Agriculture, Angunakolapelessa, Sri Lanka
[2] Department of Agricultural Economics, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya, Sri Lanka
[3] Department of Soil Science, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya, Sri Lanka

Abstract

Finger millet is one of traditional favorites of Sri Lankans and considered as healthy food used for preventing diabetes and coronary diseases. The farmers in southern dry zone are cultivating finger millet mostly under rain fed condition. Majority of them practice random broadcasting for crop establishment. The yield obtained by the farmers is considerably lower than the researcher levels. Even though there already exist a number of low cost approaches to enhance the yield of finger millet cultivation in a sustainable manner such as Excellent scientific cultivation techniques and improved varieties giving positive yield effects that are not being taken by the rain fed farmers in the southern dry zone of Sri Lanka. The average yield of finger millet under rain fed farming in the dry zone is less than 1000kg/ha, but existing high yielding improved varieties have potential of more than 3000kg/ha under good management. This study was carried out to identify the possibility of enhance the finger millet yield by introducing some agronomic practices to the farmers. Introduced package of practices was consisted with a high yielding variety (Rawana) recommended by the Department of Agriculture, Sri Lanka (DoA), seed treatment (Imidacloprid) to prevent thrips damage at seedling stage, row seeding in 30cm apart rows for crop establishment, application of half of basal fertilizers recommended by DoA (Urea, Muriate of potash and triple super phosphate each at the rate of 25kg/ha) with compost at the rate of 2mt/ha and practicing 2 weed removals. Farmer field demonstrations were conducted in Thanamalwila and Angunakolapelessa in *Maha* 2016/2017 and *Maha* 2017/2018 seasons. Farmer trainings were carried out to educate farmers on yield benefits of introduced practices before establishment of demonstrations. Introduced package of practices was compared with traditional farmer practice during the demonstration to show yield benefits. Twelve demonstrations were carried out for analysis in both seasons. Results revealed that the yield increased by 36.4% to 102.3% in introduced practices. This study revealed the significance of farmer awareness on existing technology. Wild elephant damage was identified as a critical constraint faced by finger millet farmers in Thanamalwila area.

Keywords: Enhance yield, Finger millet, Package of practices, Rain-fed

[*] ***Corresponding Author:*** deepanippl@yahoo.com