Response of Fertilizer of some Sri Lankan Traditional Rice Cultivars during the Vegetative Phase

U.G.S. Amarasingha[†], A.L. Ranawake and S.G.J.N. Senanayake

Faculty of Agriculture, University of Ruhuna, Sri Lanka
[†]ugashamila@gmail.com

Abstract: Traditional rice cultivars in Sri Lanka conserve different abiotic and biotic tolerant traits but the yield of traditional rice cultivars is not as much of improved cultivars. Abiotic stress tolerance of some traditional rice cultivars were evaluated in previous studies at Faculty of Agriculture, Mapalana, Sri Lanka and this study attempted to understand the possibility of enhancing the yield and yield components of traditional rice cultivars by altering the fertilizer dose. A field experiment was carried out from October 2011 to April 2012 at the Faculty of Agriculture. There is a fertilizer recommendation suggested by the Department of Agriculture, Sri Lanka for modern rice cultivars. Traditional rice cultivars are considered to be weaker in response to fertilizer. Four different fertilizer levels namely No fertilizer, half the recommended dose, recommended dose and twice the recommended dose were evaluated with forty Sri Lankan traditional rice cultivars to understand the response of them on different agronomic parameters. Germinated seeds were planted in rows with 15cm×20cm spacing. Twenty plants were managed for each line and three lines were maintained for one replicate of cultivar. Experiment was conducted with four replicates. Effect of fertilizer on the plant height, number of tillers/plant and number of leaves/plant were measured at three weeks after transplanting. These parameters were significantly differed with the fertilizer doses. The highest number of tillers and highest number of leaves were observed under the half the recommended dose. Plant height was significantly increased under the recommended dose while the lowest plant height was recorded under twice the recommended dose. Correlation of these parameters and other yield components with the final yield is yet to be computed.