



Understanding Phenotypic Diversity of Some Traditional Rice Cultivars

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Abstract

Generally traditional rice cultivars are poor in yield potential and plant architecture. However farmer perceptions, improvement of system sustainability and the higher adaptability to problem soils has created an interest towards traditional rice cultivars in the society. Twenty Sri Lankan traditional cultivars collected from Plant Genetic Resource Center, Gannoruwa and one modern rice cultivar, Bg 379/2 were evaluated at the field conditions at Faculty of Agriculture, Mapalana in *Maha* 2012/2013 and *Yala*, 2013. Experiment was carried out according to A randomized complete block design with three replications and 20 plants were included in each plot. Data were collected on Plant height (cm), number of total tillers/plant, yield/plant (g), and 100 grain weight (g) in individual rice cultivar. Rice cultivars were categorized according to the Standard Evaluation System of International Rice Research Institute. Among them sixty percent of rice cultivars were tall (>130 cm), 25% of rice cultivars were intermediate (110 – 130 cm) and 15% rice cultivars were semi dwarf (<110 cm). Eighty percent of traditional rice cultivars were included in to low tillering (5-9 total tillers/plant) group while the other 20% were very low (>5 total tillers/plant) in tillering ability. *Pokuru Samba* recorded the highest plant height (178 cm) and *Mudukiri* recorded the lowest (108 cm) plant height. The yield/plant of traditional rice cultivars was very low (2.33g - 15.48 g) while that of in modern reference rice cultivar Bg 379/2 was 26.5 g/plant. There was no correlation between number of total tillers and yield per plant but there was a correlation between days to maturity and plant height ($r = 0.716$, $p = 0.000$) in traditional rice cultivars.

Keywords: *Agronomic characters, Field Experiment, Sri Lanka, IRRI Standard Evaluation System, Traditional rice cultivars*

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