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**Changing pattern of plant height in rice cultivars with increased fertilizer**

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**ABSTRACT**

*One hundred rice cultivars with plant height range from 70 cm -150 cm was used to study the changing pattern of plant height with fertilizer application. A field experiment was carried out during 2011-2012 Maha season and 2012 Yala season at Faculty of Agriculture, University of Ruhuna, Sri Lanka. Germinated seeds were planted in rows with 15 cm X 20 cm spacing. Four plots were arranged and plots were separated from bunds to prevent mixing of fertilizer. Four fertilizer levels were provided to separated plots as no fertilizer, half of the recommended dose (x ½ RD), recommended dose (RD: Urea 50 kg ha–1, TSP 62.5 kg ha–1, MOP 50 kg ha–1) and doubled the recommended dose (x 2 RD). Experiment was conducted with four replications according to the randomized complete block design and each replicate consisted of three lines. Twenty plants were included in to each line. Data were collected on plant height (cm) at maturity stage. Rice cultivars were grouped according to plant height at no fertilizer level: 70-79 cm, 80-89 cm, 90-99 cm, 100- 119 cm —139-149 cm, >150 cm etc. Changing pattern of plat height in different plant-height groups at different fertilizer levels was plotted. It was found that at shorter plant height groups (70-119 cm), plants increased the height with increased fertilizer while in 120-129 cm plant-height group, changing pattern of plant height was nearly in normal distribution. However the changing pattern of plant height in all the other plant height groups (> 130 cm) was*

*sigmoid. It can be concluded that the elongation pattern of leaves or culms of rice plants with increased fertilizer depends on the*

*initial plant height of rice cultivars at no fertilizer level.*

***Keywords*:** Plant height, MOP, TSP, Urea