EFFECTS OF SPACING AND NUMBER OF PLANTS PER HILL ON GROWTH AND YIELD OF RICE (*Oryza sativa* L.) IN SYSTEM OF RICE INTENSIFICATION IN THE DR Y ZONE OF SRI LANKA

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System of Rice Intensification (SRI) is a possible alternative to conventional low land rice cultivation in Sri Lanka, which consumes high amount of water and chemical inputs. An experiment was conducted to evaluate the effects of spacing and number of plants per hill on growth and yield of rice under SRI during 2012/2013 *Maha* season at research farm of the Faculty of Agriculture in Anuradhapura. Six treatments namely, 1 plant (pt)/ hill by 25 x 25 cm spacing (T1), 1 pt/ hill by 30 x 30 cm spacing (T2), 1 pt/ hill by 35 x 35 cm spacing (T3), 2 pts/ hill by 25 x 25 cm spacing (T4), 2 pts/ hill by 30 x 30 cm spacing (T5) and 2 pts/ hill by 35 x 35 cm spacing (T6) were arranged in a Randomized Complete Block Design (RCBD) with three replicates. The highest number of tillers/ plant was observed in T5 at panicle initiation stage. Shoot to root ratio and plant height were significantly higher *(P<0. 05)* in T2 than the other treatments. The effect of spacing was significant on Leaf area index (LAI) and the highest LAI was observed in T2. The effect of number of pts/ hill on yield was

significant *(P< 0.05)* and the highest yield was reported in T3 (4.43±1.2 t ha^{-1}) and followed by T2 (4.39±1.1 t ha^{-1}). There was no significant yield difference between T2 and T3 (LSD=0.45). The study indicates the possibility of enhancing the growth and yield under SRI using 1 pt/hill at 30 x 30 cm spacing in comparison to other treatment combinations in dry zone of Sri Lanka.

Key words: Growth, Plant number per hill, Spacing, SRI, Yield