Effect of Different Rain Shading Methods on Seed Germination, Seedling Survival, and Growth Performance of Mulato II (*Brachiaria* hybrid)

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Mulato II (*Brachiaria* hybrid) is a herbage known for its higher digestibility and nutritional quality, and thus, recently introduced to Sri Lanka. This study aimed to determine the effect of different rain shading methods on seed germination, seedling survival, and the growth performance of Mulato II hybrid growing in the up-country wet zone, in Sri Lanka. The experiment was conducted with three treatments for shading: fern (T_2), shade net (T_3) polythene (T_4), and control with no shading (T_1) with three replicates in three blocks. A hundred seeds were planted in each replicate. Seed germination and seedling survival were measured two weeks and four weeks after planting, respectively. Plant height, leaf length, number of leaves, and number of tillers were measured four and six weeks after planting in randomly selected plants (n=12) from each replicate. Soil pH, soil moisture, available N, P, K, and electrical conductivity were measured. Seed germination under laboratory conditions in Peradeniya and Watawala was 84% and 80%, respectively. Collected data were analyzed using two-way ANOVA in Minitab 21. Results indicated that different rain shading methods significantly (p<0.05) affected the seed germination, seedling survival, and growth performance of plants. The highest seed germination (68±5%) and seedlings survival (64 ± 6%) were found in polythene shaded beds but similar to shade net shaded beds. A significant difference was observed between all treatments for plant height and leaf length. The highest average values for plant height and leaf length were 14.3 ± 0.6 cm and 10.1 ± 0.6 cm respectively after one month and 18.9 ± 0.2 cm and 13.5 ± 0.3 cm respectively after 1.5 months in polythene shaded beds. There was no significant difference between the number of leaves and tillers in all treatments. Results indicate that polythene shading is effective to improve seed germination and seedling survival Mulato II.

Keywords: Leaf length, Mulato II, Plant height, Seed germination, Seedling survival

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