EFFECT OF LIGHT INTENSITY ON GROWTH AND YIELD PARAMETERS OF FIVE B.G. RICE VARIETIES GROWN IN SRI LANKA

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Although there are several outstanding rice varieties being released by various rice breeding centres, the special problem like shade tolerance has been overlooked in these breeding programmes. Some of these varieties showed poor yield performance, especially in low country wet zone during Maha season and valley rice fields in the mid country wet zone. This may be attributed to the low light intensity prevalent during the growth period. Therefore, the objective of this study was to evaluate five recommended B.G. rice varieties of short age group (3-3½ months) for shade tolerance.

A field experiment was conducted at the Ramanathan paddy field, University of Peradeniya during the period, December 1987 - April 1988. The main factor was two levels of light (full sunlight and 50% sunlight); five B.G. varieties (B.G. 34/8, 34/6, 276/5, 350, 94/1) as sub factors were arranged in split plot design with three replicates.

Among the growth parameters Tiller Number, Leaf Area Index (LAI) and specific Leaf Weight (SLW) were significantly reduced under 50% sunlight than normal sunlight. The results of Yield Parameters showed that Number of Panicles /unit area, Number of Filled Grain/Panicle and Grain Yield were significantly reduced under low light intensity than full sunlight. The Untilled Grain percentage was greatly increased under low sunlight.

On the basis of growth and yield performance the variety B.G. 350 appeared to be more shade tolerant than any other rice variety tested. The varieties could be ranked according to their shade tolerance as follows : B.G.350, B.G. 94/1, B.G. 276/5, B.G. 34/8, B.G. 34/6.