

**COMPARING THE FIELD PERFORMANCE
OF RICE GENOTYPES (*ORYZA SATIVA* L.).**

(COORDINATED RICE VARIETAL TEST YALA/2001).

BY

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ABSTRACT

The ultimate success of a crop-breeding programme depends on adaptability of varieties to a wide range of environments and their acceptability by farmers. Nine rice genotypes (3_{1,2} month age group) were provided by the Rice Research and Development Institute (RRDI), Batalagoda for varietal testing (CRVT Yala/2001). This Coordinated Rice Varietal Test was carried out during the period of May-September, 2001 at the Agronomy farm of Faculty of Agriculture, Eastern-University Srilanka for the selection of suitable red and white pericarp rice varieties for the region. New rice genotypes namely Bg359, Bg357, Bg94-1, At96-19-17, Bw345, Bw346-1, Bw346-2, Ld98-152, and Bw328-1 along with Bg94-1 and Bg 357 were tested for local conditions prevailing in the Batticaloa district in the Eastern region of Srilanka.

These rice genotypes were planted in a Randomized Complete Block Design (RCBD) with four replicates and the trial was conducted as guided by the CRVT trail in instruction of Rice Research and Development Institute (RRDI), Batalagoda. Agronomically important traits were studied both in the laboratory and in the field up to harvest. These include characters of yield component, namely 1000-grain weight, number of panicle per plant, panicle length, number of spikelet per panicle and fertile spikelet percentage and response to pest and diseases.

The collected data were subjected to statistical Analysis of Variance (ANOVA). Mean comparison using DMRT and correlation analysis between the yield and yield components. ANOVA revealed that there were significant differences among many parameters such as 1000-grain weight, number of days to first and 50 percentage

flowering, flag leaf area and leaf area index, spikelet number per panicle, days to 85 percentge maturity, filled spikelet percentage, root to shoot ratio and harvest index and yield.

Mean yield of all varieties under the study was above national average yield of 3.6t/ha. Among the red pericarp genotype, At96-19-17 gave the highest yield of 9.2t/ha which was significantly higher than the standard variety Bg94-1 and showed higher 1000-grain weight (27.04 g). Among white pericarp genotypes, Ld98-152 and Bg94-1 gave high yield of 7.34 and 7.22t/ha respectively and did not differ significantly at $P=0.05$.

The white pericarp variety Bg 94-1, which is predominantly cultivated in Eastern region of Srilanka, in spite of its high yield was affected by insect pests such as paddy bug, leaf folder, gall midge and thrips when compared with other varieties.

There had been positive correlation between yield and yield components and important plant characters, such as days to first flowering, leaf area, leaf area index, spikelet number, fertile spikelet percentage, panicle length, grain length and width, 1000-grain weight, total biomass production, root to shoot ratio, grain to straw ratio and days to maturity. They were contributing to high yield in varieties At96-19-17, Bg94-1 and Ld98-152 which are found suitable for the Batticaloa district in the Eastern region of Sri Lanka.

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