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## ESTIMATION OF BROAD SENSE HERITABILITY AND GENETIC ADVANCE FOR YIELD AND YIELD COMPONENTS OF IMPROVED RICE AT PELWEHERA

W.M.S.P. Wijekoon<sup>1\*</sup>, V.A. Sumanasinghe<sup>1</sup> and S. De Z. Abeysiriwardana<sup>2</sup>

<sup>1</sup>Department of Agricultural Biology, Faculty of Agriculture, University of Peradeniya, Sri Lanka <sup>2</sup>CIC-seed farm, Pelwehera, Dambulla, Sri Lanka \*wijekoonsumedha@yahoo.com

Considering the present status of rice production and future demand for rice (Oryza sativa L.), increase in the productivity is essential. In Sri Lanka, the theoretical yield potential of rice is about 11t/ha, but the actual yield realized at farmer level is very low. This study was conducted to ascertain whether the achievable maximum grain yield of improved rice at field level in the Dry Zone of Sri Lanka could be further enhanced. Estimation of broad sense heritability and genetic advance of grain yield and yield components was carried out. Also, whether the grain yield of present day varieties could be maximized through achieving the optimum combination of yield components was ascertained. The experiment was laid out in a Randomized Complete Block Design (RCBD) with 24 high yielding varieties as treatments and with three replications in Yala season at the CIC seed farm, Pelwehera. All the yield components and grain yield recorded significant (p=0.01) variability among improved varieties. Filled grain percentage and 1000 grain weight recorded high broad sense heritability. Number of spikelets per panicle, number of panicles per square foot and grain yield recorded medium level of broad sense heritability. At the 5 % selection intensity level, high genetic advance was recorded in the number of spikelets per panicle. Grain yield recorded low genetic advance and rest of the yield components showed medium genetic advance. Genetic variability, broad sense heritability and genetic advance with respect to yield and yield components and association between yield components have clearly indicated the possibility of further genetic improvement in grain yield within the improved rice population in Sri Lanka. Achieving the best combination of yield components in further improvement of grain yield in rice appeared to be practical and efficient. Rice breeding programs should aim at maximizing the number of spikelets per panicle and 1000 grain weight while keeping other two yield components at appropriate levels.