

Category	: International Rice Research Conference
Select Theme	: Genetic improvement
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Keyword 1	: Germplasm Enhancement
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Title of Entry	: Assessment of Genetic Variability and Diversity of Myanmar Local Rice (<i>Oryza sativa</i> L.) Germplasm
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: Forty-two local rice genotypes were evaluated to estimate the magnitude of genetic variability, relationship of some agronomic traits and genetic diversity. The experiment was laid out in a randomized complete block design (RCBD) with three replications at the Department of Plant Breeding, Physiology and Ecology field, Yezin Agricultural University in Myanmar. Genotypes showed highly significant difference for all the traits studied, which suggests that the genotypes constitute a pool of germplasm with adequate genetic variability. Genetic variance was higher than environmental variance and heritability were above 80 % for all characters, which ensures the predominance of the genetic components among genotypes. The slight difference between genotypic and phenotypic coefficients of variation (GCV and PCV) was observed in all characters indicated the presence of sufficient genetic variability for the traits which may facilitate selection. High to moderate genetic advance was observed in straw weight, spikelet panicle-1, plant height, filled grain percent, days to flowering and yield plant-1. This indicates that these traits are primarily under genetic control and selection for them can be achieved through their phenotypic performance. Grain yield exhibited significantly and positive genotypic and phenotypic correlation with the effective tillers, panicle weight and panicle/straw ratio, harvest index, filled grain percent and spikelet panicle-1. Therefore, this suggest that these traits can be used for grain yield selection. Six major groups were observed among 42 local rice genotypes based on multivariate analysis. Cluster II was the largest containing 12 genotypes followed by cluster I with 9 genotypes. The genotypes within the Cluster IV has highest yield plant-1, spikelet panicle-1, panicle weight and shortest plant height. Therefore, these genotypes should be selected for potential genotypes used in future breeding programs.

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