Entry No. 8RGS-0066

Category	: 8th Rice Genetics Symposium
Select Theme	: Genetic improvement
Endorsement email	:
Keyword 1	: Germplasm Enhancement
Keyword 2	: Estimation of Variance Components
Keyword 3	: Genotype x Environment Interactions
Title of Entry	: Assessment of the phenotypic variability of rice accessions (Oryza sp.) collected in Benin using agromorphological markers
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: Agromorphological characterization of plant genetic resources is essential to the success of varietal improvement programs. The objective of this study was to evaluate the phenotypic diversity of one hundred and forty-eight accessions of rice produced in Benin, including seven controls, and to assess the structuring of this diversity on the basis of 12 variables selected from rice descriptors. The experimental system used was a randomized aleatory block installed in upland and lowland ecologies. The hierarchical ascending classification (HAC) displayed six groups of genotypes, each containing a pool of morphotypes characterized by specific agronomic traits. Comparison of the quantitative parameters in the two ecologies showed no significant difference ($p > 0.05$) between tillering ability, vegetative cycle durations and the number of panicles per area unit. On the other hand, a significant difference was observed for yield components such as grain yield, spikelet fertility, 1000-grains weight and number of grains per panicle at the threshold of 5%. A great variability was observed within the genotypes for these parameters. The correlation of Pearson, determined between the quantitative variables, revealed a strong correlation of 0.909 between physiological cycles and an average correlation of 0.6726 between grain yield and spikelet fertility. The correlation of Spearman showed a relatively weak relationship between quantitative and qualitative variables. Finally, BEN 11-37-A and BEN 11-68-A accessions have been identified as potentially productive for both ecologies and can therefore be used as the lead of potential lines and donors for future breeding and varietal improvement of rice in Benin.

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