

**PRINCIPAL COMPONENT ANALYSIS OF MORPHOLOGICAL AND YIELD
ATTRIBUTING TRAITS IN ADVANCED BREEDING LINES OF RICE GROWN AT
RAINFED SHALLOW LOWLAND CONDITION OF WEST BENGAL**

VANGARU SATHISH¹ & B. K. SENAPATI²

¹*Department of Genetics, Krishi Viswavidyalaya, Mohanpur, West Bengal, India*

²*Plant Breeding, Bidhan Chandra, Krishi Viswavidyalaya, Mohanpur, West Bengal, India*

ABSTRACT

The current investigation was carried out used in the study comprising of high yielding advanced breeding lines collected from IVT-RSL, RRSS-Chakdah, Nadia, in a field experiment using a randomized block design with two replications to determine the relationship and genetic diversity among 49 rice germplasm accessions, using principal component analysis for rain fed shallow lowland condition. Observations were taken for Various morphological and yields and its attributing traits. In this study, Component-1 had the contribution from the traits viz., grain L/B ratio, grain length and harvest index which accounted 25.5 % of the total variance. Seed yield per plant, panicle weight, number of grains/panicle and number of florets/panicles have contributed 15.35 % of the total variability in component-2. No of secondary branches/panicle, days to 50% flowering and days to maturity contributed 12.97 % variability towards component-3. 1000-grain weight and grain breadth contributed 10.84% variation towards component-4. In principle component-5, characters plant height and panicle length together contributed 7.91% variability. The cumulative variance of 72.58 % of total variation among 20 characters was explained by the first five components. Thus the results of principal component analysis revealed wide genetic variability exists in this rice germplasm accessions.

KEYWORDS: *Rice, Variability and Principle Component Analysis*

Received: Aug 10, 2017; **Accepted:** Aug 30, 2017; **Published:** Sep 11, 2017; **Paper Id.:** IJBRDOCT20171