

Genetic variability and heritability estimates of quantitative characters in local mungbean (*vigna radiata* (L) wilezek varieties

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Abstrak

Information of the variability and heritability of quantitative characters on local mungbean germplasm are important for supporting breeding program. A total of 98 local mungbean varieties or accessions were evaluated at Cikeumeuh Experimental Farm, Bogor, during wet season of 2005. The experiment was conducted in a randomized block design with three replications. Each variety was planted in three rows of four meters long. Plant spacing was 40x20 cm, each hill contained two plants. The differences among the varieties were significant for all the characters studied, except for number of seeds per pod and pod length. High yielding varieties were recorded from Demak, Belu, Pati, and Jenepono. These varieties had a combination of high number of pods per plant, large seed size and early maturity. Seeds weight per plant, pods per plant and seed size had high heritability and expected genetic advance. While the heritability and expected genetic advance for number of branches, pod length, and seeds per pod were all low. Plant height had a high genotypic variance associated with high heritability and high expected genetic advance. Similarly for days to flowering and days to maturity is genotypic in nature with high heritability coupled with a low expected genetic advance for days to flowering and moderate expected genetic advance for days to maturity. Pods per plant, seed size and seed weight per plant had a high genotypic variance associated with high heritability. The genetic advance of these characters predicted that the greatest gain for one generation of selection would be obtained by selection for pods per plant (45.07%), seed size (41.88%) and seed weight per plant (37.03%).