Diallel Analysis using Hayman Method to Study Genetic Parameters of Yield Components in Pepper (Capsicum annuum L.)


Artikel lengkap: DIALLEL ANALYSIS IN CAPSICUM

Abstrack

One method to obtain genetic information is the diallel cross analysis. The objective of this study was to evaluate the genetic parameters of six inbred pepper (Capsicum annuum L.) using full diallel crosses. The experiment was conducted at IPB Experiment Field, Cikabayan, Darmaga. The design was randomized complete block design (RCBD) using three replications as blocks. Data from generation F1 and parents were analyzed using the Hayman Method. Results indicated that no epistatic effects were significant for all the traits assessed. Additive genetic effects were larger than the dominant effects for yield per plant, fruit length, and diameter fruit traits. Dominant genetic effects were larger than the additive effects for fruit weight traits. Narrow-sense and broad-sense heritability were high for all the traits assessed. The character of the yield per plant, fruit weight and fruit diameter shows that there were more dominant genes in the parents. There were more recessive genes in parents for the fruit length character. IPB C7 parent was the most recessive genes containing control characters in the yield per plant. In the new improved varieties of high yielding, IPB C7 could be crossed with IPB C9. Employing individual or mass selection breeding should be successful in developing high-productivity lines in this population.

Key words: pepper, additive effects, dominant effects, yield component, full diallel