

Diallel Analysis of Earliness in Cowpea

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Abstract

Early maturity is an important agronomic trait for the adaptation of annual crops, including cowpea (*Vigna unguiculata* (L.) Walp) to any agro-ecological zone. The nature and magnitude of gene action involved in the expression of this trait is important in establishment of a systematic crop improvement programme. This study was conducted to provide information on the inheritance and genetic control of earliness in cowpea using diallel procedures. Eight cowpea genotypes and their 28 F₂ generations (excluding reciprocals) were evaluated. General Combining Ability (GCA) was significant for days to flowering and maturity ($P < 0.01$), while specific combining ability (SCA) were significant ($P < 0.01$) for days to maturity only indicating that days to flowering is influenced by additive genetic effects and days to maturity by additive-dominance gene actions. Estimates of narrow sense heritability (h^2_n) were low ($< 20\%$) for both earliness traits.

Keywords: combining ability, cowpea earliness, gene action, hybridization, *Vigna unguiculata*
