

# Combining Ability and Genetic Components for Length and Width of Pods in West African Okra (*Abelmoschus caillei* (A. Chev) Stevels) (2007)

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## Abstract

In the tropical and subtropical regions of the world, okra pods are consumed fresh. The introduction of pure lines and hybrids with improved length and width into the cropping system, necessitate studies on the combining ability and genetic components for the length and width of pods. Seven parents and 21 F1 generations were planted for evaluation in a randomized complete block design with two replications. The results indicated that the means squares due to GCA and SCA for length and width of pods were significant. The estimated variance due to SCA was greater than GCA variance for length and width of pods at edible stage and vice versa for length and width of pod at maturity. The study identified Parents 7, 6, 4 and 5 as best combiners for edible pod length and width, mature pod length and width. Component analysis indicated that the dominant genetic action predominate other genetic effects in the inheritance of length and width of pods. The dominance components (H1 and H2) were found to be greater than the additive gene effects (D). The ratio  $VH/D$  revealed overdominance loci for characters evaluated. The estimate  $F$  were positive (edible pod length and mature pod length) and negative (edible pod width and mature pod width). The proportion  $V4(DH1 + F) / V4(DH1 - F)$  was unity. While the ratio  $4H2/4H1 = 0.25$  for all characters evaluated. The non-additive genetic effects accounted for a low to moderate heritability estimate in narrow sense recorded in the study. Both Oligogenic and polygenic action were found in the study. The study indicated an empirical superiority of the possibilities of evolving pure lines and hybrid okra with improved length and width into the cropping system.