Genetic Analysis of the Different Growth Types of Sesame (Sesamum indicum L.) (C01-oh031056-Poster)

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Abstract:

The genetic analysis for seven quantitative characters of the stem growth type among three genotypes of sesame (Sesamum indicum L.) revealed considerable growth. In the experiments in 2001, two sets of F1 and F2 were derived using Ahnnam as indeterminate stem growth type, Iksan#22 as semideterminate stem growth parent, and dt45 as determinate stem growth parent. The mean square of general combining ability (SCA) was significant from flowering period to maturity date, and the ratio of maturity but specific combining ability (SCA) for all characters, except of capsule length, was significant in the dialled cross. Flowering periods, ratio of maturity, and 1,000 seeds weight were found to be nearly completely dominant; however, plant height, number of capsules per plant, and number of branches per plant were predominated by the additive effects. Indeterminate stem growth type of inheritance of stem growth type was dominant in F1 population of Ahnnam and dt45 cross. Inheritance of stem growth character is recognized to be controlled by the two pair allelomorph, from the segregation ratio of indeterminate, semi-determinate and determinate stem type as 9:6:1 in F2 population of Ahnnam and dt45 cross, and from the segregation ratio of semideterminate type and determinate type as 15:1 in F2 population of Iksan#22 and dt45 cross.

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