Identification of Characters for Yield Improvement Through Multiple Regression Analysis in Sesame (*Sesamum indicum* L.)

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ABSTRACT

The present investigation was carried out to understand the interrelationship and degree of dependence of seed yield on its componenets and elucidate their relative importance. The experiment was conducted by using a full diallel set of diverse genotypes of sesame and observations were recorded for seed yield and seven component characters. The analysis of variance revealed significant mean squares for all the characters studied. The correlation coefficient for seed yield with plant height, number of branches/plant and number of capsules/plant were highly significant and positive while, with number of seeds/capsule and 1000 seed weight, these were negative. In path analysis, maximum direct effect on seed yield was exerted through number of capusles/plant. It was evident that most of the associations of seed yield with its component characters were indirectly influenced through the number of capsules/plant. The multiple correlation coefficient between seed yield and all seven charaacters in equation was very high (R=0.9754). The step-wise regression analysis revealed that the number of capsules/plant was the most important character having r=0.9687 and could explain 93.84% of the total variation of seed yield. The relative importance of the characters for seed yield/plant could be in the order of number of capsules/plant>capsule length>number of branches/plant>plant height>number of seeds/capsule>1000 seed weight>days to first flower.

Key words : Analysis, Correlation, Multiple, Regression, Sesame