

GENETIC STUDIES ON OKRA (*Abelmoschus esculentus* L. MOENCH)
I-INHERITANCE OF GERMINABILITY
BY

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ABSTRACT

Reciprocal crosses were made between two inbred parental lines of okra; one of them (P_1) was derived from cv. Clemson Spineless and had low germinability and the other (P_2) was derived from cv. Golden coast and had high germinability. Inheritance of the two studied aspects of germinability (germination percent and germination rate) were found to be quantitative. Two different genetic mechanisms were found to control the two aspects of germinability measured by germination percent. Narrow sense heritability estimates for the two aspects of germinability: germination percent and germination rate were 49.6% and 12.5% respectively for the cross $P_1 \times P_2$ and 36.8% and 28.6% respectively for the cross $P_2 \times P_1$.

INTRODUCTION

Farmers usually sow large number of seeds (5-6) per hill when planting okra in the field because of the low percentage of seed germination. Variability in seed germination percent among okra cultivars was reported (Helal, 1969; Abdel-Fattah, *et al.*, 1972). Selfed progenies (i.e. S_1) of some okra cultivars had higher germination percent than their parental cultivars (i.e. S_0) (Helal, 1969).

Low temperature seed sprouting ability in tomato was inherited quantitatively (El-Sayed and John, 1973; Ng and Tigchelaar, 1973); however, qualitative mode of inheritance was reported for cold germinability in muskmelon (Hutton and Loy 1992).

A maternal effect on germinability was reported (Ng and Tigchelaar, 1973; and Hutton and Loy, 1992).

Low narrow sense heritability (22.5%) estimates was calculated for tomato emergence (El-Sayed and John, 1973); however, relatively high narrow sense heritability (66%) was