

GENETIC STUDIES ON OKRA (ABELMOSCHUS ESCULENTUS L. MOENCH)

II- INHERITANCE OF DRY SEED YIELD AND ITS COMPONENTS

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ABSTRACT

A cross was made in two directions between two parental lines of okra : P₁ (derived from cv. Clemson Spineless and P (derived from Golden Coast) to study the inheritance of dry seed yield and its components, and the inheritance and mechanism of fruit splitting.

Dry seed yield/plant and its studied components: earliness of flowering, number of fruits/plant, number of seeds/fruit, and seed weight were found to be quantitatively inherited. No maternal effect on the inheritance of studied characters was detected. Results indicated partial dominance of early flowering and high seed weight. Slight overdominance was observed for high number of seeds/fruit and high number of fruits/plant. Considerable overdominance was observed for high dry seed yield/plant. All studied characters showed hybrid vigour. However, percentage of the amount of heterosis in case of dry seed yield/plant was much higher. Broad (BSH) and narrow (NSH) sense heritabilities estimated for the studied dry seed yield/plant components indicated the importance of both the additive and non-additive effects on the inheritance of these characters. Dry seed yield/plant had low narrow sense heritability.

Fruit splitting at the dry stage was found to be controlled by two dominant gene pairs which were given the symbols Fs-1/Fs-1, Fs-2/Fs-2. Either gene, when dominant, was epistatic to the other and a dominant allele at either gene pair resulted in fruit splitting at the dry stage.

INTRODUCTION

Okra A. esculentus is one of the most favorite vegetable crops to the Egyptians. It is an important vegetable in the tropics and sub-tropics. Okra is cultivated mainly for its green fruits, however, seed production of okra is so important to provide farmers with the seeds they need. Number of seeds/fruit was considered the main barrier