Genetic Studies of Oil and Other Characters in Maize (*Zea mays* L.)

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Sixty four diverse maize genotypes were grown in RBD to evaluate 19 characters for genetic variability, character association, phenotypic stability and oil quality under four environments. In general, Genotypes viz. Vijay composite, Sona x Suwan 2 W, Him- 128 and DHM 101 were superior for grain yield whereas, Iowa 2 Early high oil, Sona x Suwan 2 W and Early DMR composite 2 showed highest kernal oil content. Grain yield and kernel oil content showed high GCV alongwith high GA in all environments.

Grain yield showed significant positive correlation with days to flowering, plant height, number of leaves and ear length but negative correlation with embryo weight kernel oil content and embryo oil content. Kernel oil content exhibited positive correlation with embryo weight embryo oil content, kernel depth and kernel length and negative correlation with kernel thickness.

Linear and non-linear components of G X E interactions were found responsible for the differences in the stability of the genotypes. Superiority of different genotpe for important characters under different farming (poo average and better) conditions is discussed. The fatty acid analysis of oil indicated predominance of linoleic acid followed by oleic acid in the selected genotypes.

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