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التوثيق الالكتروني والميكروفيلم

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بالرسالة صفحات لم ترد بالأصل

BITACO

GENETIC POLYMORPHISM IN SOME CUCURBITS

By

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Thesis

Submitted In Partial Fulfillment Of The Requirements For The Degree Of Master Of Science
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Abstract:

Six *Cucumis melo* and seven *Citrullus sp.* genotypes were used in combining ability to study the genetic divergence and mode of gene actions based on eight quantitative characters. The nature of combining ability were estimated among parents and their hybrids to determine the effect of both additive and non-additive gene actions. The zymograms of three isozyme systems; esterase, malate dehydrogenase and glutamate dehydrogenase were obtained using native non-dissociating discontinuous PAGE technique.

Significant positive and negative heterotic effects were observed for almost all characters over either mid-parent or better parent values, indicating that no single F_1 hybrid showed heterosis for all the characters. From the analysis of GCA and SCA effects in different quantitative characters showed that almost all parents posses significant GCA for different quantitative characters, indicating that none of the parents could be considered to be the best combiner of all the characters. The best specific cross combinations, which exhibited significant desirable SCA effects for average fruit weight was P.I 124111 x Hale's Best Jumbo. The genetic divergence among the *C.melo* and *Citrullus sp.* genotypes and their F_1 hybrids based on genetic distances indicated that there was no relationship between the parental divergence and their hybrids.

The broad sense heritability estimates was higher than narrow sense for all character, indicating the prevalence of non-additive gene effects for controlling the studied characters.

Variation in isozyme banding patterns for *C.melo* parental genotypes and their hybrids showed that, each of these F_1 hybrids had intermediate genetic background between their corresponding parents.

Keywords:

Genetic divergence, heterosis, combining ability PAGE technique, heritability.

APPROVAL SHEET

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