شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

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

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

بعض الوثائق الاصلية تالفة

بالرسالة صفحات لم ترد بالاصل

Selection for Yield and Quality in Sugarcane Populations (*Saccharum* spp.)

By

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THESIS

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AGRONOMY

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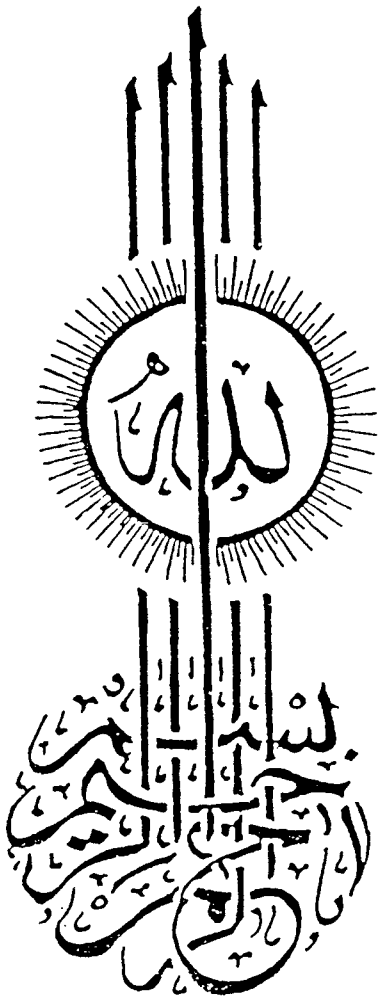

« وعلمك ما لم تكن تعلم وكان فضل الله عليك عظيما »

صدق الله العظيم

« من الآية ١١٣ سورة النساء »

APPROVAL SHEET

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DEDICATION

To the memory of

my father

my mother

my brothers and sisters

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ACKNOWLEDGMENT

First of all thanks to **ALLAH** for helping me to finish this work.

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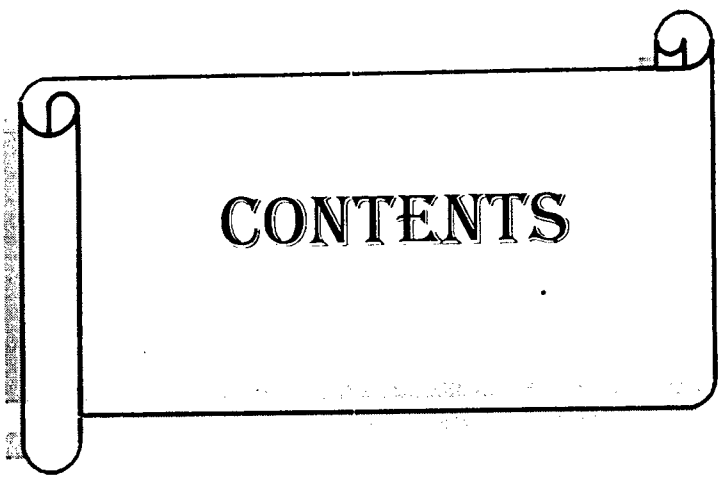

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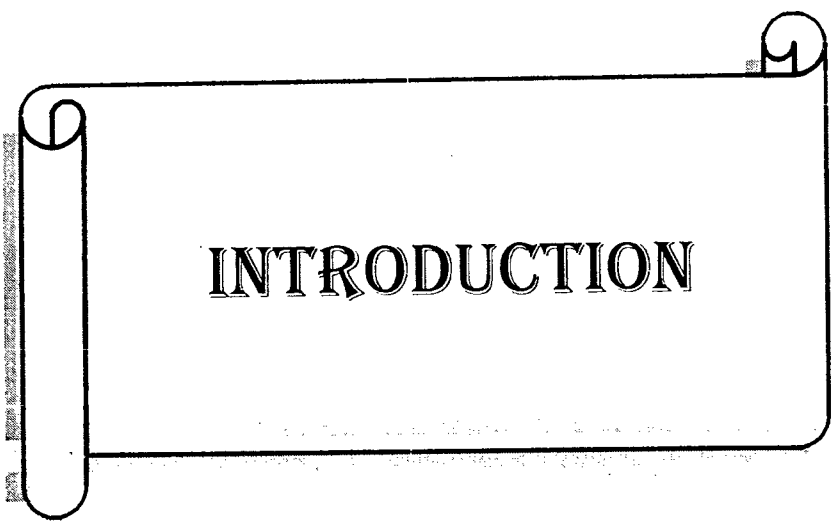
INTRODUCTION

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In Egypt, sugarcane is the main crop for sugar production. It is cultivated in 250,574 feddan for delivery to sugar factories in addition to another 61,703 feddan for other purposes. Egypt produced 1,285,000 tons of sugar from cane and beet. However, Egyptian consumption was 2,100,000 tons of sugar in 2003. The gap between the production and consumption was 815,000 tons in 2003 that needs to be met by increasing sugar production (**Sugar Crops Council Annual Report, 2003**). Importation costs millions of foreign currency. This gap could be reduced if a new cultivar with 10% extra cane yield and sugar contents is grown instead of the current cultivars.

One of the main approaches to overcome sugar shortage in Egypt is the introduction of new sugar crop cultivars with higher yielding potential and superior quality.

The primary goal of sugarcane breeding is to develop cultivars with higher sugar yield. Sugarcane breeding programs typically commence by evaluating large number of seedlings derived from true seeds. The breeders have traditionally employed intensive selection of individual seedlings or seedling bunches to select better clones at this stage. Selection at the seedling population stage is crucial because the loss of a good genotype is irretrievable. Breeder's decisions commonly rely on knowledge of the underlying genetic structure of the breeding population and an understanding of the relative importance of genotype by environment interaction. Such knowledge requires accurate estimates of the genetic variances and covariances of pertinent traits. Using these estimates in a breeding program may increase efficiency through optimization of available resources, development of selection plans and indices.