شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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

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شبكة المعلومات الجامعية

بعض الوثائق الأصلية تالفة

STABILITY STUDIES IN EGYPTIAN COTTON VARIETIES

By

Mohamed Ezzat Abd El-Salam

B. Sc. Agric. Tanta University, 1994

THESIS

Submitted in Partial fulfillment of the requirements for the degree

OF

MASTER OF SCIENCE

In

AGRONOMY

FACULTY OF AGRICULTURE,
KAFR EL-SHEIKH, TANTA UNIVERSITY,

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DEDICATION

TO THE SOUL OF

MY FATHER

MY MOTHER

MY SISTERS

MY BROTHERS

AND

MY AUNT, NAGDA

CONTENTS

INTRODUCTION

1. INTRODUCTION

Cotton is one of the most important fiber crops of the world and is likely to enjoy this advantage in the future. In Egypt, cotton is the important for both export and local textile industry. Now, cotton area is lowest in Egypt, because environmental conditions vary from one environment to another. Cotton, as other field crops, is greatly influenced by season, location and treatments. Variations in the environments can be divided into two sorts: predictable and unpredictable. The first category includes all permanent characters of the environment such as general features of the climate and soil type, as well as those characteristics of the environment, which fluctuate in a systematic manner, such as day length. The second category includes fluctuations in weather, such as the amount and distribution of temperature. Under an inefficient agricultural system it may also include variations in agronomic practices which appears in more advanced agriculture might be help reasonably constant (**Allard and Bradshaw, 1964**). All genotypes do not respond in a similar way to changes in the environment, therefor screening of genotypes for stability under varying environmental conditions has thus become an essential part of modern breeding programmes. Statistical methods are available for estimating homeostatis on newly developed crop varieties. Nine stability parameters have been proposed (**Lin *et al.*, 1986**), but these stability statistics have been grouped into three concepts based on their commonality (i) a genotype is considered stable if its among environmental variance is small, if its response to environments is parallel to the mean response of all genotypes in the trail and if the residual mean square from the regression model on the environmental index is small.

Maintenance of cotton varieties has been of major consideration to the Egyptian breeder who seeks great uniformity , high yield and quality in the cotton. Therefore, the cotton breeder tries to maintain the original genetic variance **(Lewis, 1970)** summarized the important causes of genetic change of variety as mechanical mixtures, natural crosses, mutations, gene frequency changes caused by random genetic drift and natural selection, gene frequency changes caused by selection pressure exerted by breeder and loss of heterozygosity. He believed that it is important to distinguish between the causes affecting the genetic base of the variety and those that result from changes in the environment in which the variety is grown.

Therefore, the main objectives of this study were to :

1- Determine the relative magnitudes of cultivars, environments and genotype × environment interaction.

2- Determine the stability in yield, yield components and fiber characteristics of cotton cultivars evaluated at various environments.

3- Comparison between the nuclei seed and the corresponding farmer's seed in general use, for few years.

REVIEW OF LITERATURE