
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

# GENETICAL STUDIES ON SUNFLOWER
## *(HELIANTHUS ANNUUS L. )*



**BY**
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**THESIS**
**Submitted in Partial Fulfillment of the**
**Requirements for the degree**
**Of**
**DOCTOR OF PHILOSOPHY**
**IN**
**AGRICULTURAL SCIENCE**
**( Agronomy – Crop Breeding )**

**Department of Agronomy**
**Faculty of Agriculture**
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**1422 A.H.**
**2002 A.D.**

# APPROVAL SHEET

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Date 6 / 12 / 1422 A. H. 18 / 2 / 2002 A.D.

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# Abstract

The main objective of this study was to evaluate the genetical potentialities of some sunflower lines through : 1-Using the cytoplasmic male sterility programme , 2- Using the artificial male sterility technique, and 3- Planting these lines in saline soils as a stress condition . That evaluation give an idea about which the genetical behavior of these lines differ in three cases or not .

Three experiments were conducted at El-Serw Agric. Res. Station, Egypt.(RCBD ) of three replications was used.

**The first experiment :-**

In 1998 summer season, the five restorer lines were crossed with the six CMS lines. In 1999 summer season, the thirty hybrids , the five testers and the six fertile lines (B-lines) were planted .

**The second experiment :-**

In 1998 summer season, the six ( B-lines ) were sown ,the plants used as female were male sterilized a solution of gibberellic acid ( 0.5 mg GA / 3 ml $H_2o$ ), A possible cross combinations without reciprocals were made between the six inbred lines giving a total of fifteen crosses . In 1999 summer season, the fifteen hybrids , and the six fertile lines (B-lines) were planted .

**The third experiment:-**

In 1998 summer season, all the genotypes used in the first experiment were planted in soils (EC = 4.1 m mhos/cm and ph = 8.3 ).

**From the present study the results show that :-**

The parental line 9 was the best in the first Exp. chiefly in yield and yield component but its behavior changed in the second Exp. which has not significant in yield and yield component except oil percent and changed in third

experiment whish did not show any significant values except maturating earliness and reduction in husk percent.

The parental line 10 is a good combiner in the first and second Exp. but his behavior changed under the saline condition mainly in yield and yield component whish did not show any significant values.

The parental line 3 his behavior changed in the three Exp. which has significant in 100seed weight in the first Exp. and in the second Exp. it has significant in oil percent and oil yield but in the third Exp. it recorded the best values in 100 seed weight, seed yield/plant ,seed yield/fed. and oil yield/ fed. This results clear that this line is the best under the saline condition.

The parental line 6 is completely similar in the first and in the second experiments which did not show significant of seed yield per plant, seed yield per fed., oil percentage and oil yield in kilograms but its behaviour changed completely under the saline condition which showed significant of these characters .

The line-A7 did not change from experiment to others recorded the lowest values for all characters except days to 50% flowering , seed husk percentage and head diameter .