
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

# Cytological and molecular studies on the effect of herbicides on *Rhizobium* spp. symbiotic with *Vicia faba*

By

**Sherif Edris Ahmed**
B.Sc. Agric. Sci. (Genetics), Ain Shams University (1994)



**A thesis submitted in partial fulfillment**
**of**
**the requirement for the degree of**

**Master of Science**

**in**
**Agricultural Science**
**(Genetics)**

**Genetics Department**
**Faculty of Agriculture**
**Ain Shams University**

**2000**

# Approval sheet

## CYTOLOGICAL AND MOLECULAR STUDIES ON THE EFFECT OF HERBICIDES ON *RHIZOBIUM* SPP. SYMBIOTIC WITH *VICIA FABA*

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**Date of Examination: 14 / 6 / 2000**

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# ABSTRACT

**Sherif Edris Ahmed "Cytological and molecular studies on the effect of herbicides on *Rhizobium* spp. symbiotic with *Vicia faba*". Unpublished Master of Science thesis, University of Ain Shams, Faculty of Agriculture, Department of Genetics, 2000.**

Faba bean plays an important role in the national economy and agricultural production for its high nutritional value and various ways of utilization. This study was aimed to investigate the symbiotic relationship between faba bean and rhizobium as affected by some herbicides. Three cultivars of faba bean (Giza 2, Giza 714 and Giza 461) and one *Rhizobium leguminosarum* strain 481 were tested for symbiotic property in the present of three herbicides (Glyphosate [Roundup], Basagran and Fusilade) at different concentrations. Different parameters such as SDS-PAGE, plasmid profiles optical density (for rhizobium growth and % of leghaemoglobin) and inhibition zone experiment was used to determine the toxicity of these herbicides.

The effect of high dosage of herbicides was found to be more aggressive on faba bean than *Rhizobium leguminosarum* strain 481. The Basagran herbicide has a high toxicity effect on both faba bean and *Rhizobium leguminosarum* strain 481. The *Rhizobium leguminosarum* strain 481 showed the highest resistance and also recovery against Glyphosate (Roundup) herbicide, where the bacteria have biodegraded this herbicide to useful components.

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Sherif Edris

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