



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
على 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 الاصليّة تالفه

بالرسالة صفحات لم ترد بالاصل

**MANAGEMENT OF MINERAL NITROGENOUS
FERTILIZERS AND MAKING USE OF BIOFERTILIZERS
THROUGH DIFFERENT GENOTYPES OF WHEAT**

By

AWFAA ABD EL HAMID EL AWADY

B. SC. Agric, Cairo University, 1984

Diploma of Environmental Sci., Ain Shams University, 1989

Master in Environmental Sci., Ain Shams University, 1996

**A Thesis Submitted for Doctor of Philosophy
in
Environmental Science**

**Department of Agricultural Sciences
Institute of Environmental Studies & Research
Ain Shams University**

2001

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APPROVAL SHEET

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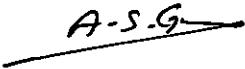
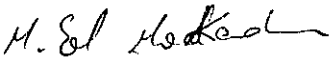
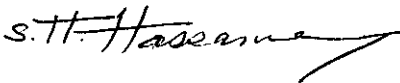
Wafaa Abd El Hamid El Awady

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Master in Environmental Sci., Ain Shams University, 1996

**This Thesis for Ph.D. Degree in Environmental Science has
been approved by:**

- | Name | Signature |
|--|--|
| 1. Prof. Dr: Abd El- Salaem Ahmed Gomaa
Prof. of Agricultural Research Center |  |
| 2- Prof. Dr: Mehreshan Taha El- mokadem
Prof. of Microbiology
Faculty of girls Ain Shams University |  |
| 3- Prof. Dr: El- Sayed Hassan Hassainen
Prof. of Genetic
Faculty of Agric. Ain Shams University |  |

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Department of Agricultural Sciences

Under The Supervision of:

1-Prof . Dr. El- Sayed Hassan Hassanien

Prof. of Genetic,

Dept. of Genetic, Fac. of Agr.,

Ain Shams University.

2-Prof . Dr. Hamed Abd El – Raouf Khalil

Prof. of Plant Breeding, Fac. of Agric,

Dept. of Agronomy, Fac. of Agric.,

Ain Shams University.

3-Prof. Dr. Abd El Ghani Mostaf Abd El Ghani

Prof. Researcher, Wheat Res. Sec.,

Field Crops Res. Inst., AR C.

4- Prof. Dr. Abd EL – Fattah Bader

Prof. of Plant, Fac. of Science. ,

Dept. of Plant, Fac. of Science.,

Tanta University.

ABSTRACT

The objective of this investigation is to study the relationship between different newly wheat genotypes and higher response to use biofertilizers plus reducing amounts of mineral nitrogenous manures. Secondly, the effect of biofertilizer on yield and yield components through half diallelic crosses.

Ten locally developed wheat varieties evaluated during the first season for their response to different nitrogen fertilization treatments. Six of them were chosen according to the results of the first season for more studies under such conditions and to be crossed in all possible combinations without reciprocals to obtain fifteen diallel crosses.

The results revealed that the six parental varieties can be divided into two categories, first group have high yielding capacity under treatment C including the varieties Giza 164, Gem.1, Sids7 and Sakha 69 and the second group including the varieties Gem.3 and Giza 167 with low yielding capacity under this treatment.

Data from various studies revealed that inoculation with Cerealin (*B. polymyxa*) enhanced growth increase in yield components and quality of protein in wheat grains. The response to inoculation was affected by cultivar, fertilizer and /or biofertilizers.

Results of general combining ability effects indicated that Giza 164, Gemmeizal and Sids7 could be good combiners for grain yield /plant under the treatment of biofertilization (B and C).

The results of specific combining ability effects were matched with results of heterosis under biofertilization treatments (B and C). In general it is obvious that the behavior of parents in cross combinations under biofertilization agreed with its own performance for all characters.

General and specific combining ability effects were frequently significant among parents and hybrids for the studied characters under biofertilization treatments.

These results indicated that some of the parental varieties could be effectively used as promising progenitors for high expression of the character under consideration and the specific combinations with high performance could be exploited in hybrid production programs

Key words: Wheat – Biofertilizer- Cerealin – Mineral nitrogen fertilizer – response – varieties – Heterosis- Diallel cross - Combining ability – yield and yield attributes of wheat

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