بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

GRAIN YIELD RESPONSE OF WHEAT TO MINERAL AND ORGANIC NITROGEN FERTILIZATION

By
Sobhy Aish Hassan Mohamed
B.Sc. Agric. (Agronomy), Zagazig Univ. (1990)

THESIS
Submitted in Partial Fulfillment of
the Requirements for the Degree of

MASTER OF SCIENCE

IN
Agricultural Science
(Agronomy)

Department of Agronomy and Agric. Egnineering,
Faculty of Agriclture, Moshtohor,
Zagazig University (Benha Branch)

2003

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Date: 19 / 7 /2003.

ACKNOWLEDGEMENT

Firstly my unlimited thanks to "ALLAH"

I would like to express my deepest gratitude to ***Prof. Dr. S.E. Shafshak***, Agron. Dept., Fac. Agric. Moshtohor for suggesting the problem and his valuable guidance and continuous support during the course of this study and preparing the manuscript.

Deepest gratitude to ***Prof. Dr. G.Y.M. Gelilah***, Agron. Dept., Fac. Agric. Moshtohor for his valuable supervision and help during writing the manuscript.

I am sincerely indebted to ***Assis. Prof. Dr. S.A.S. Mehasen***, Agron. Dept., Fac. Agric. Moshtohor for his keen supervision and continuous assistance throughout the course of this study.

The author is greatly indebted to ***Assis. Prof. Dr. F. Ashmawy***, Dept. of Statistical Analysis, Agric. Res. Cen. for his valuable help in the statistical analysis of the results and for his fruitful support.

ABSTRACT

Experiments were carried out at Moshtohor Resaerch and Experiments Center during 2000/2001 and 2001/2002 seasons to find out an ideal combination of FYM and mineral N fertilizer for wheat in order to increase productivity and reduce the use of mineral N. Wheat cv. used was Gemmieza 9. Three FYM levels (0, 15 and 30 t/fad), 4 N levels (0, 25, 50 and 75 kg N/fad) and 2 P levels (0 and 22.5 kg P_2O_5/fad) were used, forming 24 treatments. A split-split plot design with 4 replications was applied.

The results could be summarized as follows:

1. FYM application delayed heading and maturity and favourably affected growth, yield components, grain and straw yields and reduced HI and increased weed density in wheat plots. The 15 t FYM/fad level was satisfactory in increasing grain yield and the higher level (30 t/fad) is not recommended.
2. The increase in N level significantly increased growth, yield components, grain and straw yields, protein content in grain, N-uptake and encouraged the spread of weeds.
3. The highest grain yield reached 19.3 ardabs or 2890 kg per fad and was recorded by combing 15 t FYM + 50 kg N/fad.
4. P application increased grain yield by about 6%.

CONTENTS

INTRODUCTION

I. INTRODUCTION

Wheat is the most important cereal crop in Egypt as well as all over the world. It is a staple food for more than one third of the world population.

In Egypt, wheat provides 37%* of the total calories for the people and 40%* of the protein in the Egyptian diet.

The total production of wheat in Egypt was 6.62 million tons in 2002**, produced from an area of 2450428** faddans, with an average yield of 18.02 ardabs/fad (one ardab = 150 kg), or 2.7 t/fad.

The total consumption of wheat ranges between 10.5 and 11.0 million tons, thus the local production covers more than 60% of the local consumption.

Consequently, increasing wheat production is a national target to fulfill the food security for the people.

This target can be achieved through expanding wheat area in the Delta and along the valley as well as in the new reclaimed lands and rainfed areas, or by means of raising the yield through growing high yielding varieties and the application of improved agro-techniques.

Nitrogen and phosphorus fertilization are among the most important factors having profound effects on the yield of wheat.

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* Statistical Data of the Min. Agric., Agric. Econ. Dept., Year Book, 2000 (in Arabic).

** Statistical Data of the Min. Agric., 2002, (in Arabic).

The Egyptian wheat growers depend mainly on mineral fertilizers and not on manures to produce higher yields.

Recently, mineral fertilizers are not available in some critical periods due to a shortage in production, and consequently the prices are increasing continuously. To face this situation, the use of organic manures, in general, and farm yard manure (FYM), in particular, may help in solving this problem.

The use of FYM for wheat will certainly reduce a considerable part of mineral fertilizers which in turn will reduce the hazards of soil pollution resulting from an intensive use of mineral fertilizers.

Therefore, the aim of the present study is to find out the best combination of mineral and organic fertilizers for producing higher wheat yields.

REVIEW OF LITERATURE