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

٤٠٠٥

STUDIES ON THE RESPONSE OF SOME PEA CULTIVARS TO THE INOCULATION WITH RHIZOBIUM AND FERTILIZATION RATES WITH NPK IN THE NEW RECLAIMED LAND

BY

ABDEL-GAWAD MOHAMED AHMED AHMED

B.Sc., Fac. Agric., Minia University (1987)

M.Sc., Hort., Fac. Agric., Minia University (1993)

DISSERTATION

Submitted in Partial Fulfilment of the Requirement for the Degree of

DOCTOR OF PHILOSOPHY

In

HORTICULTURE (Vegetable Crops)

Under Supervision of

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Dr. Mohamed N.M. Hassan
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APPROVAL SHEET

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TITLE OF THESIS : Studies on the response of some peas cultivars to the inoculation with rhizobium and fertilization rates with NPK in the new reclaimed land.

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This thesis has been approved by :

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4. Dr. Y.Y. Abdel-Ati ---- Y. Y. Abdelati

Committee in Charge

Date of Examination : 11 / 1 /1999

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DEDICATION

I WOULD LIKE TO DEDICATE

THIS THESIS

TO

MY PARENTS AND MY WIFE

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INTRODUCTION

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Peas (*Pisum sativum* L.) is one of the most important vegetable crops that belongs to the Leguminosae family. It is grown commercially to produce the green pods as well as the dry seeds. Very high nutrition values, i.e. protein, carbohydrate, phosphorus, iron, calcium, vitamins A and B, ... etc. of peas were reported by Watt and Merrill (1963).

The cultivated area for peas in Egypt in 1995 was 49,797 feddan in the valley and 540 feddan in the new reclaimed land for green pod production, and 1473 feddan in the valley for dry seed production according to the Ministry of Agric. Year Book (1995)*.

The cultivated area for peas in El-Minia in 1995 was 767 feddan in the valley and 536 feddan in the new reclaimed land for green pod production according to the Ministry of Agric. Year Book, (1995)*.

Increasing the production of the green pods and dry seeds with high quality are very important aims.

Rhizobium inoculation has been reported to have a great effect on peas due to its effect on increasing N fixation. However, response of different plants would occur when adequate levels of all necessary nutrients are applied. In such cases, the nutrients interact to meet the plants need. Some necessary nutrients may interact also with the rhizobium inoculation to affect pea production. Lorenz and Maynard (1980) reported that the nutrient uptake by pea plants grown in one hectar were 85, 11 and 40 kg of N, P_2O_5 and K_2O, respectively. They also indicated that the recommended rates of N, P and K were 20-60 kg N, 25-60 kg p_2O_5 and 60-90 kg K_2O/ha. However, knowledge of fertilizers response and optimum fertilizer levels under El-Minia conditions are essential to enhance pea production. Thus, the aim of the present study was to determine the response of pea cvs. "Little Marvel", "Master B", "Lincoln" and

* Agric. Year Book (1995), Central Dept. for Agric. Economic, Ministry of Agric., Cairo, Egypt.