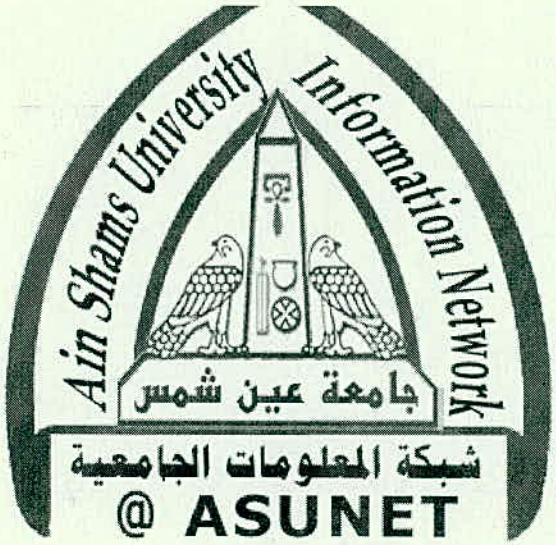
شبكة المعلومات الجامعية

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

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شبكة المعلومات الجامعية
@ ASUNET

SLOW – RELEASE FERTILIZERS APPLICATION WITH MODERN IRRIGATION METHODS

BY

AMAL HASSAN EL-GUIBALI HASSAN

B.Sc. Agri . (Soil Sci.), Ain Shams Univ., 1980
M.Sc. Agri (Agri Mech.), Ain Shams Univ., 1990

A thesis submitted in partial fulfillment
of
The requirements for the degree of
DOCTOR OF PHILOSOPHY

in

Agricultural Science
(Agricultural Engineering)

Department of Agricultural Engineering

Faculty of Agriculture
Ain Shams University

2000

APPROVAL SHEET

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Date of examination : 5 / 4 / **2000**

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ACKNOWLEDGEMENT

The authoress is deeply grateful to **Dr. Abdel-Ghany M. El-Gindy** professor of Agric. Eng., Agricultural Mechanization Department, Faculty of Agriculture , Ain Shams University for suggesting the problem, valuable advice, most understandable super vision, continuous help and constructive criticism throughout the course of this investigation and during writing the manuscript .

The authoress also, expresses her deep thanks to **Dr. Mahmoud H. Mahmoud,** Professor and Head of Soil Fertility and Plant Nutrition Research Department, Soils , Water and Environment Research Institute, Agricultural Research Center, for fruitful discussion, kind help, continuous encouragement and sincere guidance and support during the investigation.

Finally, the authoress expresses her thanks for all the staff members of Soil Fertility and Plant Nutrition Research Department, Soils, Water and Environment Research Institute, Agricultural Research Center for their sincere cooperation and kind atmosphere.

Deep gratitudes and thanks to family members for their encouragement, patience and sacrifice during the work.

ABSTRACT

AMAL HASSAN EL-GUIBALI HASSAN. SLOW-RELEASE FERTILIZERS APPLICATION WITH MODERN IRRIGATION METHODS. UNPUBLISHED DOCTOR OF PHILOSOPHY THESIS, UNIVERSITY OF AIN SHAMS, FACULTY OF AGRICULTURE, DEPARTMENT OF AGRICULTURAL ENGINEERING , 2000.

The study was presented in four experiments at two locations On two successive crops , the first location is FAO's station, west Noubaria the irrigation systems were :

a) Subsurface drip irrigation with different lateral linesie GR , Bi-wall and leaky pipe.
b) Sufrace drip irrigation with different lateral lines i.e. G.R. and Bi-wall only .

The fertilizer treatments were two slow-release compound fertilizers of (14N : 12P : 14, K) and (15N : 12P : 33K) compared to the recommended doses of traditional fertilizers.

Two field experiments were conducted including two successive crops (1993 - 1994) to study the effect and residual effect of slow - release fertilizers and traditional fertilizers on growth and yield of potato (cv. Spunta) and corn (cv. H. Amoun) as a subsequent crop.

The second location is a private farm at the same area of El-Bustan (West Noubaria). Two field experiments were conducted on two successive crops (1996-1997) to study the effect and residual effect of urea formaldehyde and slow-release compound as slow- release-fertilizers and ammonium sulphate and urea as traditional fertilizers, under drip irrigation system with GR. Lateral lines and hand moved sprinkler system on mineral content and yield of broad bean

(cv. Giza 714) and corn (cv H-4141) as a subsequent crop . Two rates of slow release N-fertilizers i.e. 30 and 60 kg N/fed. were applied to broad bean crop .

The results showed the following :

* Using slow-release fertilizers in new reclaimed soils (sandy soils) which gave a significant increasing on plant growth, mineral content and yield of growing plants .
* Application of slow-release fertilizers with modern irrigation methods, i.e., drip or sprinkler, increased the water use efficiency by increasing crop production per unit of applied water .

The drip irrigation was more favorable for maximize crop production per unit of planted area .

Key word : Field experiments - new reclaimed soils - surface drip irrigation - subsurface drip irrigation - sprinkler irrigation - traditional fertilizers - slow release fertilizers - potato – faba bean - corn.

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