شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

HOSSAM MAGHRABY

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

HOSSAM MAGHRABY

بعض الوثائق الأصلية تالفة

HOSSAM MAGHRABY

شبكة المعلومات الجامعية

بالرسالة صفحات

لم ترد بالأصل

HOSSAM MAGHRABY

BEHAVIOUR OF CERTAIN SLOW RELEASE FERTILIZERS IN SOILS

BY

MOHAMED HASSAN HARIDI

B.Sc. in Soil Sci., Fac. of Agric., Ain Shams University, 1990

A thesis submitted in partial fulfilment

of

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in

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Ain Shams University

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BY

MOHAMED HASSAN HARIDI

B.Sc. (Soil Sci.), Fac. of Agric., Ain Shams University, 1990

This thesis for M. Sc. degree has been approved by:

Prof. Dr. Raafat Sorour Abd El-Aal.....

Prof. Soil Sci.,Zagazig Univ. (Benha Branch)

Dr. Sherif Mahmoud Gawish.....

Associate Prof. Soil Sci., Ain Shams Univ.

Prof. Dr. Adel E. El-Leboudi.....

Prof. Soil Sci., Ain Shams Univ. (Supervisor)

Date of examination : 17 / 2 / 1997

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BY

MOHAMED HASSAN HARIDI

B.Sc. in Soil Sci., Fac. of Agric., Ain Shams University, 1990

Under the supervision of :

prof. Dr. Adel El- Sayed El- Leboudi

(Prof. of Soil Sci., Fac. of Agric., Ain Shams Univ.)

Dr. Ismail Mohamed Elwan

(Ass. Prof. of Soil Sci., Fac. of Agric., Ain Shams Univ.)

ABSTRACT

Mohamed Hassan Haridi, Behaviour of certain slow release fertilizers in soils. Unpublished Master of Science, University of Ain Shams, Faculty of Agriculture, Department of Soils Science, 1997.

A study was carried out to evaluate the possibility of using certain non conventional fertilizers (represented by sulphur coated urea and superphosphate + sulphur) and cerealin biofertilization under different conditions of soil moisture regimes, conventional fertilizers (represented by ammonium sulphate, urea and superphosphate) being also included. Such study was performed using three approaches involving incubation, pot and field experiments, both rice and wheat being grown under flooding and soil field capacity moisture conditions, respectively. The performed study was accomplished through tracing the behaviour of the concerned fertilizers in soil and reflections on certain phases of plant behaviour including response of growth and status of both nitrogen and phosphorus.

For incubation experiments, nutrient release from non conventional fertilizers of either sulphur coated urea (SCU) or superphosphate + sulphur (SPS) was relatively slow for extended period compared to conventional ones, such behaviour being more obvious under flooding conditions.

For pot experiments, both dry matter content and nutrient status in rice plants as well as residual effect in soil were improved with application of non conventional fertilizers; both SCU and SPS were superior, ammonium sulphate (AS) being sometimes suitable particularly when accompanied with (SPS). In spite of that, no significancy was encountered among wheat treatments at early studied growth period.

A complete dose of applied fertilizers, whether non conventional or conventional, accompanied with cerealin inoculation gave relatively high value of growth for the studied wheat plants along with their nutrient status, such responses were extended to be reflected on the soil along with conventional fertilizers.

Finally, biofertilizer inoculation with cerealin was generally favourable when accompanied with slow release fertilizers, such effect being sometimes favourable even with the half dose of applied non conventional fertilizers.

Under field conditions, growth as well as nutrient status in the studied rice and wheat plants were most favoured by using SCU or SPS accompanied with cerealin inoculation, residual effect being generally more pronounced with conventional fertilizers.

Obtained results suggested that using coated fertilizers mixed with cerealin biofertilization lead to a promotive reflection on the yield of both rice and wheat crops.

Key words : Conventional fertilizers- Non conventional fertilizers- Cerealin biofertilization- Incubation- Pot and field experiments- Moisture regimes- Rice and wheat crops

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