



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون أية 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 %



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



شبكة المعلومات الجامعية



بالرسالة صفحات
لم ترد بالأصل

SELECTIVITY COEFFICIENTS OF SOME CATIONS IN SOIL AND SOME CLAY MINERALS

BY

GAMAL FARID OSMAN EL-SHIEKH

B.Sc. (Soil Sci.), Fac. of Agric., Ain Shams University, 1983

A thesis submitted in partial fulfillment
of
the requirements for the degree of

MASTER OF SCIENCE

in
**Agricultural Science
(Soil science)**

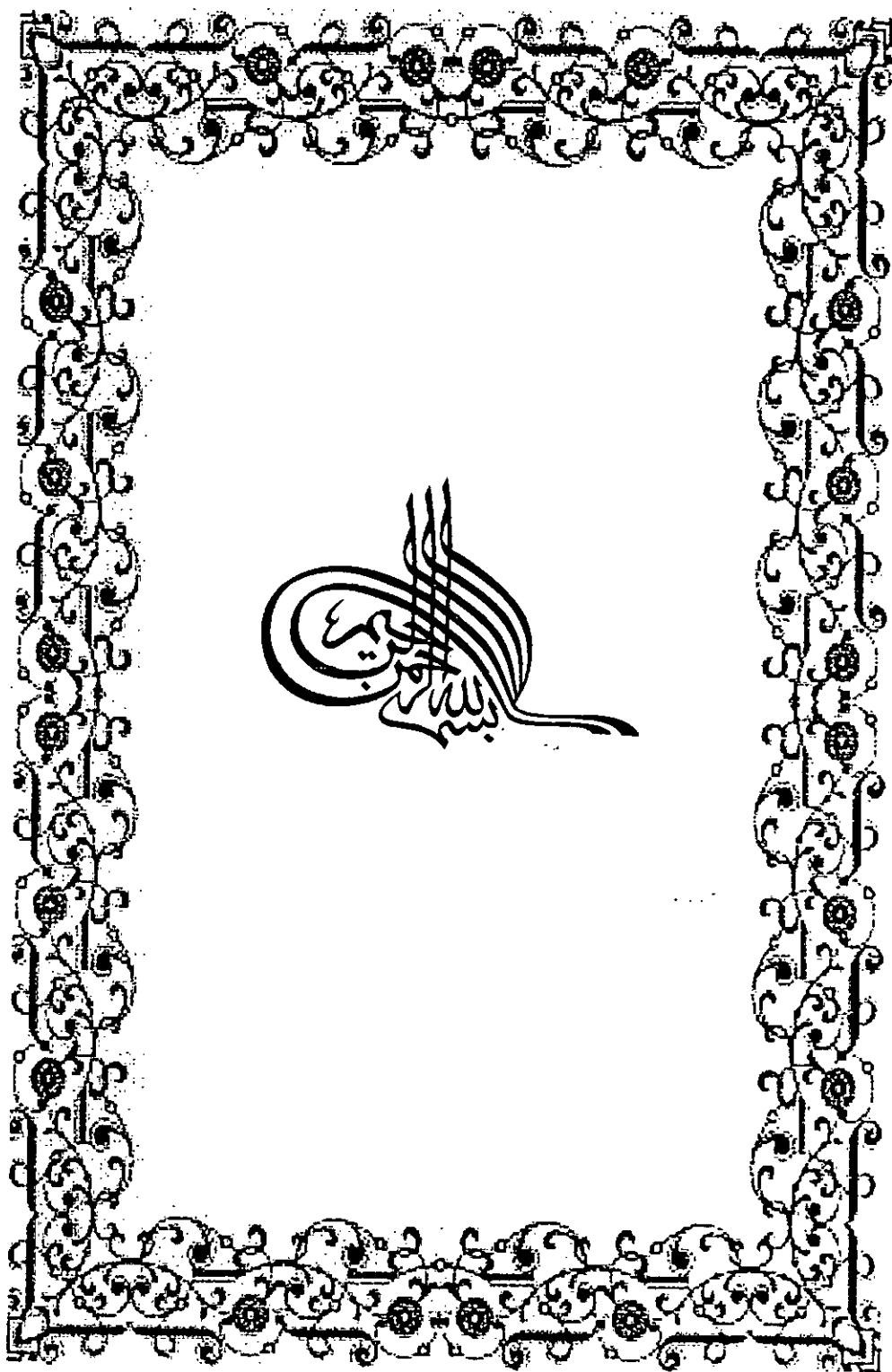
Department of Soils
Faculty of Agriculture, Moshtohor
Zagazig University, Benha branch.

2002

B 0202









SELECTIVITY COEFFICIENTS OF SOME CATIONS IN SOIL AND SOME CLAY MINERALS

By

GAMAL FARID OSMAN EL-SHIEKH

B.Sc. (Soil Sci.), Fac. of Agric. Ain Shams University, 1983

Under the supervision of:

Prof. Dr. Hassan Hamza Abbas *H. H. Abbas*
Prof. of Soil Sci., Fac. of Agric., Moshtohor, ~~Zagazig Univ.~~

Dr. Soltan Abdel- Hamid Soltan *S. A. Soltan*
Ass. Prof. of Soil Sci., Fac. of Agric., Moshtohor, ~~Zagazig Univ.~~

Dr. Ibrahim Mohamed Abdel- Aziz Higazi *I. M. Higazi*
Researcher of Soil Sci., Soil, water and Environ, Res. Instit. ARC.

APPROVAL SHEET

SELECTIVITY COEFFICIENTS OF SOME CATIONS IN SOIL AND SOME CLAY MINERALS

By

GAMAL FARID OSMAN EL-SHIEKH

B.Sc. (Soil Sci.), Fac. of Agric., Ain Shams University, 1983

This thesis for M.Sc. degree has been

Approved by:

Prof.Dr. Hassan Hamza Abbas
Prof. of Soil Sci., Fac. of Agric., Moshtohor, Zagazig Univ.

Prof.Dr. Mohmed Nabile Amin Hegazy...*M. N. Hegazy*.....
Prof. of Soil Sci., Soil, Water and Environ. Res. Institute, ARC.

Dr. Abo El-Nasser Hashem Abd El-Hamid *A.H. Abdel Hamid*.....
Ass. Prof. of Soil Sci., Fac. of Agric., Moshtohor, Zagazig Univ.

Dr. Soltan Abd El-Hamid. Soltan ...*S.A. Soltan*.....
Ass. Prof. of Soil Sci., Fac. of Agric., Moshtohor, Zagazig Univ.

Date of examination: 21 / 5 / 2002

1000 1000 1000

1000 1000 1000

1000 1000 1000

ACKNOWLEDGMENT

The author wishes to express his appreciation and deep gratitude to **Prof. Dr. Hassan H. Abbas** Professor of soil science, **Dr. Soltan A. Soltan**, Associate Prof. of Soil Sci., Faculty of Agriculture, Moshtohor, Zagazig University and **Dr. Ibrahim M. A. Higazi**, Researcher of Soil Sci, Soil, Water and Environment Research Institute, ARC, for their close supervision, guidance and continuous encouragement and valuable help in accomplishing this investigation.

Gratitudes are also due to **Ass. Prof. Samy M. A. Abdalla**, Dept. of Soils, Fac. of Agric., Ain Shams Univ. and **Dr. Abdalla A.M. Mohamedin**, Researcher, and all staff members of Soil Survey Department, Soil, Water and Environment Research Institute, ARC, for their great help and for providing facilities.

Thanks are forwarded to all staff members of Soil Science Dep., Fac. of Agric., Moshtohor, Zagazig University, for their valuable advice.

Deep gratitude is also due to my family and **Mrs. Nahed S. El-Shayeb** for their patients, continuous help and encouragement during the execution of this work.

