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

SELECTIVE ADSORPTION OF IONS ON SOME SOIL EXCHANGERS

BY

MAGDY HASSAN KHIDER

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

in

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Ain Shams University

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APPROVAR SHEET

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BY

MAGDY HASSAN KHIDER

(B.Sc. soil science, Fac.of Agric., Cairo Univ., 1979)

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

Prof.Dr.Fayez.M.Abdou ---------- F. M. Abdou

(Professor of Soil Science, Fac. of agric., Ain Shams University)

Prof.Dr.Hassan.H.Abbas ---------- Hassan H. Abbas

(Professor of Soil Science,Fac.of Agric.,Moshtohor,Zagazig University)

Dr.Eid.M.Khalid ---------- E. M. Khaled

(Ass.Professor of Soil Science,Fac.of Agric.,Ain Shams University)

Date of examination: 10 / 6 / 1995 .

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MAGDY HASSAN KHIDER

[B.Sc. Soil Science, Fac. of Agric., Cairo Univ., 1979]

Under the Supervision of :

Prof. Dr. Fayez Mady Abdou
professor of soil Science
Fac. of Agric. Ain Shams Univ.

Prof. Dr. Abd El-Aziz Sheta
Professor of soil science
Fac. of Agric. Ain Shams Univ.

Dr. Al Montasser Bellah El Gundy
Associate professor of soil science
soils & water Res. Inst.

ABSTRACT

Four clay minerals, namely, kaolinite, illite, playgorskite and bentonite along with three soil clays separated from Shalakan, El-Hammol and Maryout areas were subjected to equilibrium with 0.01 N chloride solutions having different Ca/Mg ratios varied from 10-90 to 90-10. The studied selectivity parameters showed preferential Ca^{++} adsorption relative to Mg for all the studied exchangers at the relatively lower Ca/Mg solution ratios . A clear Mg preference was recorded for all the exchangers at the relatively higher Ca/Mg

solution ratios, except for kaolinit

The same exchangers were subjected also to equilibrium with 0.01N chloride solutions having different K-Ca and K-Mg ratios varied from 10/90 to 90/10. Results showed that adsorbed K/Ca and K/Mg ratios on the investigated exchangers increased by increase of K/Ca or K/Mg solution ratios. The total adsorbed K in K-Mg systems was relatively higher than the adsorbed k in k-ca systems. Gapon coefficient was reduced by increasing k/ca and k/Mg solution ratios. Data also showed that each exchanger had hearty a constant total CEC and specific CEC (CECs) and non-specific CEC (CEC ns).

The CEC_s and ks for K-Mg systems could be arranged as follow for separated soil clays Maryout> Shalakan > El-Hammol. For K-Ca systems the arrangement was Maryout > El-Hammol > Shalakan.

Key - words : soil exchangers , selective adsorption , Kaolinite , Illite , Bentonite , Palygorskite , Ca/Mg , K/Ca , K/Mg ratios-chloride forms , Gapon coefficient , CEC_S , CEC_{ns} , K_S .

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