

# **Improvement of Some Soil Characteristics Using Gypsum and Compost**

**By**

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**B. Sc. Agricultural Sci. (Soils), Cairo University 1988**

**THESIS**

**Submitted in Partial Fulfillment of The Requirements For  
The Degree of Master**

**IN**

**SOIL SCIENCE**

**Soils and Water Department,**

**Faculty Of Agriculture at Fayoum, Cairo University**

ملخص رسالة الماجستير الخاصة بالدكتورة/ ايمان امبابي السيد بلال

المتقدمة للجنة العلمية الدائمة للأراضي والهندسة الزراعية لترقية الاساتذة والاساتذة المساعدين

### عنوان الرسالة

#### **(Improvement of some soil characteristics using gypsum and compost)**

The present study comprised three experiments (pot, field and incubation). Saline sodic clay soil was used with each experiment. The three experiments are aimed to study the effect of increasing rates of gypsum and rice straw compost each alone and in combination on the improvement efficiency of soil physical and chemical properties. Also, on humic substances, enzyme catalase activity, availability of macronutrients (N, P micronutrients (Fe and Mn) and yield of grains and straw of wheat. The obtained results of the three experiments could be and K) and summarized in the following:

- 1- Treating the tested saline-sodic soil with increasing rates of gypsum and/or rice straw compost each alone or in combination significantly improved the tested soil properties only, Fe and Mn not affected significantly.
- 2- Significant interaction effects were statistically proved mostly on the focused soil properties.
- 3- The highest values of interaction were obtained with the soil treated with 2.0 GR + 30 ton rice straw compost/feddan.
- 4- The improvement efficiency percentages (IEP) were calculated according to the following:

$$I. E. P = \frac{\text{Change in soil property values due to the treatment}}{\text{Control value}} \times 100$$

Value of soil property of the control

5- The IEP values gained with the treatments of 2.0 GR + 30 ton rice straw compost/feddan on the focused soil properties were calculated.