شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

شبكة المعلومات الجامعية

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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THE EFFECT OF USING TREATED SEWAGE WATER ON THE PRODUCTION AND QUALITY OF WOOD FORESTRY

Submitted By

AFAF LABIB SHOUKRY GNADY

B.Sc. of Agricultural Science, Faculty of Agriculture, Ain Shams University, 1988

A Thesis Submitted in Partial Fulfillment
Of
The Requirement for the Master Degree
In
Environmental Sciences

Department of Environmental Agricultural Sciences
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Ain Shams University

2022

APPROVAL SHEET

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Acknowledgments

First of all my obedience, devotion,. deepest thanks and praise to our God who has created us and gave us alot of blessings which we can not enumerate and thank enough.

I would like to express my sincere appreciation to **Dr.mohamed El-sayed El- nennah** prof. of soil and water Chemistry Faculty of Agriculture -Ain shams University for his supervision and continuous guidance.

I would like to thank and show my sincer appreciation to **Dr.Abdel -Ghany Mohamed El-Gindy** Prof. of Agricultural Engineering -Faculty of Agriculture, Ain Shams University, for his supervision, constant encouragement,constructive criticism,his assistance facilitated to accomplishment this work.

Iwould like to express my Sincere thanks to **Dr.Hossam Hassan Hammad**

prof. of Timber Trees Agriculture Research Center. for his supervision,valuable assistanc and patience in the preparation of this thesis.

Sincer thanks to Dr.**Nasr Ragheb Said** soul prof. of Timber Trees - Agriculture Research Center for his all effort to but the basics of this work. I am shour that he is in abeter place

Finally I dedicate this work to my family specially my Dear Brother for his Continuous Encouragement and Generous Help

ABSTRACT

The present investigation was carried out at two sites، the firest one is at experimental field in Serabium Forest Plantation، it is irrigated by sewage water, the second plantation is in Groppy nursery, using fresh water for irrigated, during two successive seasons 2018 and 2019 , aimed to study the effect of irrigation with two types of water on some growth paramenters , chemical composition in leaves and root of some woody trees *Corymbia citriodora* , *Cupressus sempervirens* and *Khaya senegalensis* , adding to that chemical properties of planted soil.

Collected data decleared that the growth parameters increased signifanctly in all woody trees by using irrigation with waste water compared with the same woody trees irrigated by fresh water; Results showed significant increases in all growth parameters (the a bove ground biomass (main stem, stem diameter and basal area), Khaya gave the best results followed by *corymbia* and *Cupressus* gave the Less results.

Sewage water showed high potentiol for afforestation of multipurpose species of economic importance. Waste water in general and it is not recommended to use it except in planting woody trees, in the interest of the pubic healthy of citizen.

Use of treated waste water in irrigation decleared pathogens in thesoil surface layer .

One of the negative effects of waste water uses in irrigation,it contains heavy metal accumulating year after year in soil and the solve for this proplem is planting wood trees in this soil witch work as a phytoremedation for soil contaminated with heavy metal.

From results, it was concluded that effluent discharged from Ismailia sewage treatment plant to the Serabium Forest Plantation Farms is within the allowable limits of The Egyptian Low44/2000, and WHO (2006). Based on the reduced levels of the TSS, BOD5 and total fecal coliform, it showed that the sewage treatment plant is relatively efficient in reduction of organic and nutrient loads from the sewage water. This way, treatment of sewage effluents before discharge into bodies is vital to prevent pollution and protect the entire environment and public health.

Key Words: Sewage Water, *Corymbia citriodora*, *Cupressus sympervirens, Khaya senegalensis.*Heavy Metal.

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