

بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



جامعة عين شمس

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**EFFECT OF SOME AGRICULTURAL TREATMENTS
ON THE GROWTH AND CHEMICAL COMPOSITION
OF SOME WOODY TREE SEEDLINGS**

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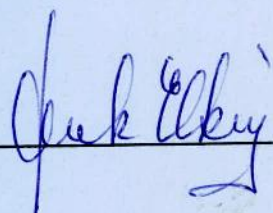
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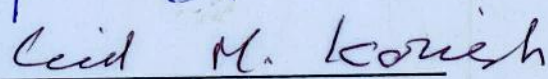
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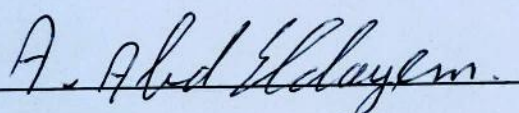
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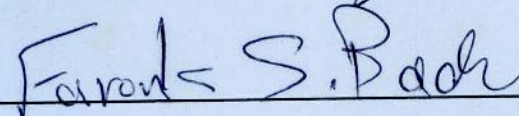
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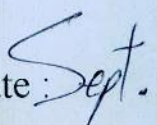


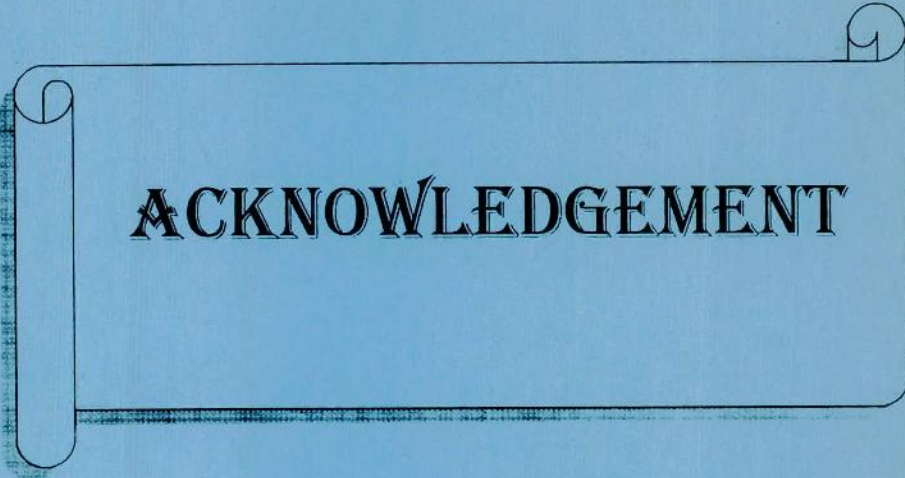






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INTRODUCTION

One of the most formidable problematic of the agricultural production in Egypt is the restricted cultivable area in proportion to the vast increasing immense population. This necessitated keen and eager search for new land which could be productive after being reclaimed at reasonable cost. At the last five decades all attentions were paid for Northern parts of the country, while considerable attention is recently paid to the Southern parts, which look like sub-tropical arid climate. In such area it might be wise to use the natural resources especially water and land for maximizing agricultural production from the unit area.

The major project in this area is Toshka which goals to plant huge amounts of land till the year of 2017. According to soil classification 50 % of this area is above the 4th grade, and according to meteorological data this area has 40-50°C in summer and 20-30°C in winter, humidity is 12-23 % around the year and windy.

Establishing new communities in such area needs to change the microclimate, establishing windbreaks and shelterbelts to protect all activities (human, agriculture, industrial), and most important, green cover and water surface. Chosen trees for conducting such protection must be adaptable to these conditions.

One of the most important woody trees adapted to the forementioned severe soil and climatic conditions is *Khaya senegalensis*, A. Juss. (Fam. Meliaceae). The tree is semi-evergreen and native to tropical West Africa, Sudan and Uganda. It was introduced into Upper Egypt as it grows well in this part of the country as shade and avenue tree. The timber yields good

African mahogany wood. It is hard, heavy and durable, (El-Hadidi and Boulos, 1979). It's timber is reddish-brown, solid and well built that doesn't allow attrition, easily manufactured, varnished and glued. It is used in manufacturing of furnitures, musical instruments, lumber works, carts, ships, boats, boxes, play wood and veneers, (Badran, et al., 1978). Also the tree considered as a multipurpose tree as the seeds contain 25 % fixed oil, (Abd El-Dayem, 1982), which used as an insecticide, (El-Fozairy, et al., 1994). In addition, *Khaya senegalemsis* may be planted successfully in Toshka as windbreak and as a main tree in shelterbelts to protect all activities in such area.

So, this work aimed to determine the optimum agricultural treatments, particularly, water requirements, fertilization (NPK and micronutrients) rates and gibberellic acid concentrations which induce best growth of the tree in order to produce healthy tree capable of growing and protecting various activities. In addition, to afforestation the soil above grade four as a reclaimed method capable of changing the microclimate.