شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

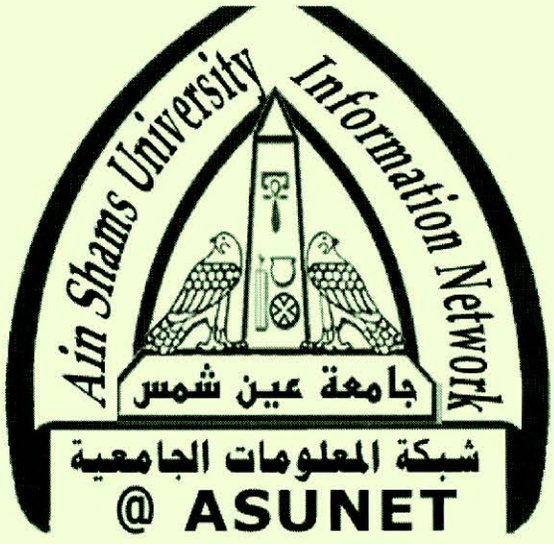
علي هذه الأفلام قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%



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التوثيق الالكتروني والميكروفيلم

بعض الوثائق الاصلية تالفة

بالرسالة صفحات

لم ترد بالاصل

"STUDIES ON GROWTH AND FRUITING OF OLIVE TREES UNDER SAND DRIFT CONDITIONS AT NORTH SINAI"

By

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Thesis

Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

In

Pomology

Faculty of Agriculture
Pomology Department

Cairo University

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APPROVAL SHEET

"STUDIES ON GROWTH AND FRUITING OF OLIVE TREES UNDER SAND DRIFT CONDITIONS AT NORTH SINAI"

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"STUDIES ON GROWTH AND FRUITING OF OLIVE TREES UNDER SAND DRIFT CONDITIONS AT NORTH SINAI"

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ABSTRACT

The present study was carried out during the two successive seasons of 2003 and 2004 on 13-years old olive trees cv. Manzanillo grown under El-Maghara, North Sinai conditions. The aims of this investigation were to characterize the sand eroded particles, sand drift potential and sand accumulation around different types of fences, which mainly were constructed to protect olive trees from shifting sand and to study the role of such protection in addition some other treatments i.e. foliar spray of KCl at 1.0 and 2.0 % and soil mulching with polyvinyl acetate diluted with water (1:1 v/v) in enhancing the flowering, fruiting, vegetative growth, yield and yield components. Results obtained indicated that, the prevailing wind directions were from NW and N directions, Thus fences alignment towards ENE-WSW directions. Sand grains were well to moderately well sorted, strongly fine skewed and their diameter ranged between 0.125->0.063 mm. Resultant drift potential was the highest during spring and summer months, while it was the lowest during winter and autumn months. Resultant drift direction was towards SSE direction. The rate of sand accumulation around different types of fences was highest (21.285 kg/ m/ day) during the period extended from 1 January to the end of February, while it was lowest (0.46 kg/m/day) during the period extended from mid of September to the end of December. On the other hand, three parallel fence, foliar spray with KCl at 2.0 % and soil mulching proved to be most effective in enhancing flowering, fruiting, vegetative growth, yield and yield component of olive tree. Generally, the increase of yield due to different fences ranged between 4.02-19.15 %, where it ranged between 2.37-19.62 % due to foliar spray with KCl treatments. However it ranged between 3.49-13.78 % as a result of soil mulching technique. Moreover, different shelter conditions increased N leaf content and decreased P leaf content but it did not affect K leaf content. Foliar spray with KCl increased N, P and K leaf content. However, soil mulching increased N but did not affect P and K leaf contents. In addition, different shelter conditions increased the accumulation of total carbohydrate but they decreased proline content compared with the unsheltered olive trees. Foliar spray of KCl and soil mulching treatments significantly decreased proline content but they increased total carbohydrate compared with the control. Concerning the photosynthetic pigments, soil mulching significantly increased chlorophyll a and total chlorophyll, decreased caroteniods while it did not affect chlorophyll b content. Foliar spray with KCl at 2.0 % decreased chlorophyll a, b and total chlorophyll but it significantly increased the caroteniods leaf content. However, olive trees sheltered by different types of fences exhibited an increase of chlorophyll a, b and total chlorophyll but they significantly decreased caroteniods leaf content. Thus it could be recommended that the treatments of three parallel fence, foliar spray with KCl at 2.0 % and soil mulching with poly vinyl acetate 1:1 v/v were most effective under sand drift conditions of El-Maghara region

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