



شبكة المعلومات الجامعية

شبكة المعلومات الجامعية
جامعة عين شمس
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شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم



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جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
على هذه الأفلام قد اعدت دون أية 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 %



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بالرسالة صفحات

لم ترد بالأصل



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة

**EFFECT OF ORGANIC MANURE AND NITROGEN
LEVELS ON THE YIELD AND QUALITY OF TWO
JERUSALEM ARTICHOKE CULTIVARS IN THE
NEWLY RECLAIMED AREAS**

By

NASHWA IBRAHIM ABD EL-FATTAH ABO EL-FADL

**A Thesis Submitted in Partial Fulfillment of the Requirements
Governing the Award of the Degree**

of

**DOCTOR OF PHILOSOPHY IN AGRICULTURAL SCIENCES
(HORTICULTURE - VEGETABLES)**

**PLANT PRODUCTION DEPARTMENT
FACULTY OF AGRICULTAL (Saba Bash)**

UNIVERSITY OF ALEXANDRIA

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ALEXANDRIA UNIVERSITY
Faculty of Agriculture
(Saba Basha)

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Chapter One
INTRODUCTION

1. INTRODUCTION

Jerusalem artichoke (*Helianthus tuberosus L.*) is an uncommon vegetable crop in Egypt. It is native to the central regions of North America. It was introduced to Europe at the beginning of the 17th century. The plants grow, successfully, under a wide range of temperatures and rainfall producing tubers that grow underground. It grows well in almost all soils with the exception of very heavy clay soil. In France, it has been considered as a source of fructose sugar and fuel alcohol production. It is most favored as a food in Europe and China. Tuber yield reaches 12 tons/acre; in Europe, and 5 - 15 tons / acre in India. Tubers are rich in nutrients and polysaccharides especially inulin form; which possible utilization as a fructose sweetener(Chubey and Dorrell ,1974).

Nowadays, in Egypt, more attention is directed to promote jerusalem artichoke production to meet the increased demands for exportation and our progressive national medicinal industries purposes. Generally, tubers contain about 74.2 to 82.3g fructose 100g⁻¹ DW, Dorrell and Chubey (1977), 16- 20g inulin 100 g⁻¹ FW, Chubey and Dorrell (1982) and 9-10g protein FW100 g⁻¹, El-Sharkawy (1998). It can be consumed; raw, boiled, fried, baked, flour or as a commercial source of fructose and for alcohol industry. The technology of high fructose production from the crop as sugar was reported by Caserta and Cervigni (1991) who obtained 5.4 tons/ ha sugars from the tubers (Zonin, 1987) , in Italy , obtained 11.5 tons/ ha sugars from 50 tons of tubers. Furthermore, the crop produces large haulm that can be used as green fodder or silage.

As might be expected, with a crop of such promising potentialities, this research was designed in an attempt to collect as much information as possible about it to introduce it to the Egyptian agriculture, specially in the new reclaimed areas in which the suitable weather and soil. Therefore, the target of storage experiment was to study the effect of nitrogen fertilizer, organic manure rates, and cultivar on the tuber storability of jerusalem artichoke.