



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي 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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بعض الوثائق الأصلية تالفة



شبكة المعلومات الجامعية



بالرسالة صفحات
لم ترد بالأصل

**INTER AND INTRA SPECIFIC COMPETITION
AMONG SUGAR BEET AND FABA BEAN PLANTS
IN RELATION YIELD AND MICRO CLIMATE**

BY

Ismail Ewies El Said Mohamdain

B.Sc. (Agric.), Cairo University. 1979

Diploma of Enviromental studies and Research

(Agri. Science 1994)

Thesis

**Submitted in partial fulfillment
of**

**the requirements for the degree of Master of Science
in**

Environmental Science

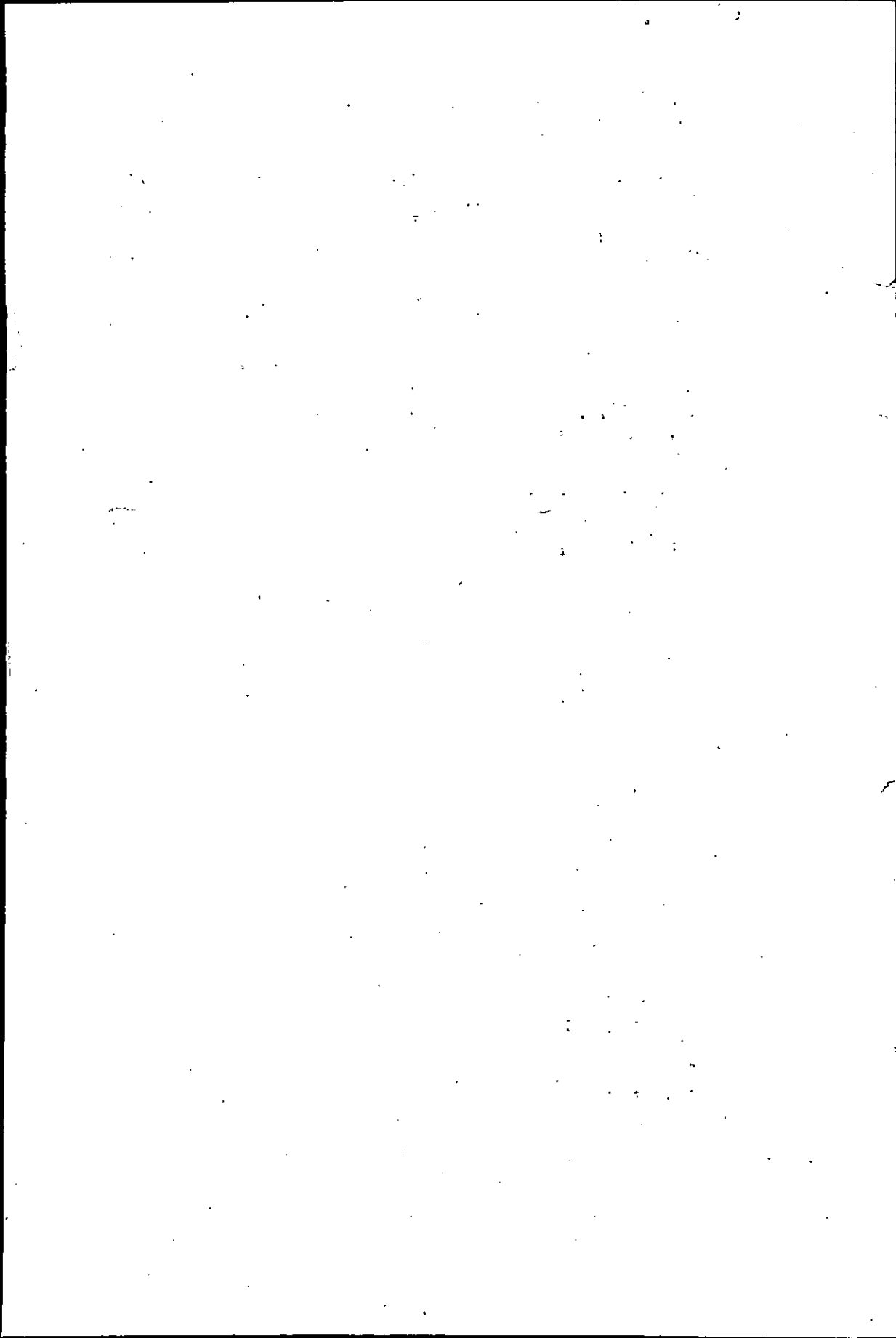
Department of Agricultural Science

Institute of Environmental Studies and Researchs

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B o z W



APPROVAL SHEET
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ABSTRACT

Sugar beet and faba bean plants were intercropped in four patterns i.e. 1:1, 1:2, 2:1 and 2:2 (sugar beet: faba bean) under three ridge width i.e 30, 45 and 60 cm. Results revealed that plant

height, number of leaves/plant, number of branches/plant, number of clusters/plant, dry weight of leaves/ plant, dry weight of stems/plant and dry weight of pods/plant for faba bean at 105 days after sowing increased by Intercropping sugar beet with faba bean comparing with plants grown alone. On the other hand, intercropping pattern had no significant effect on growth characters of faba bean plant at 105 days after sowing. Whereas, Intercropping sugar beet with faba bean increased significantly number of pods/plant and seed index. While pure stand of faba bean produced higher seed and straw yields/fed. when compared with that intercropped with sugar beet.

Growth characteristics of sugar beet after 105 days from sowing. However, ridge width had a significant effect on plant height, fresh and dry weight, of top and root/plant after 105 days from sowing. Moreover, intercropping sugar beet with faba bean reduced significantly the root diameter/root length, weight of root/plant, top yield/fed. Roots yield/fed, scrouse % and T.S.S %. of Pure stand of sugar beet produced higher top and roots yields/fed. When compared with that intercropped with faba bean.

Land Equivalent Ratio (LER) was greater than one by intercropping sugar beet with faba bean at different ridge widths and different intercropping pattern. The highest value of LER was obtained by growing both sugar beet and faba bean plants at 30 cm ridge width under 2:2 intercropping pattern in both seasons. LER values amounted to 1.30 and 1.50 in 1st and 2nd seasons, respectively. Relative crowding coefficient increased by decreasing ridge width from 60 to 30 cm in both seasons, sugar beet was the dominated intercropped component.

Key words:

Sugar Beet, Faba bean, Intercropping, Ridge Width, Intercropping patterns, Growth, Yield, Yield component, Microclimate, Land Equivalent Ratio (LER), Relative Crowding Coefficient (k), Aggressivity (A) and Competitive Ratio (CR).

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