



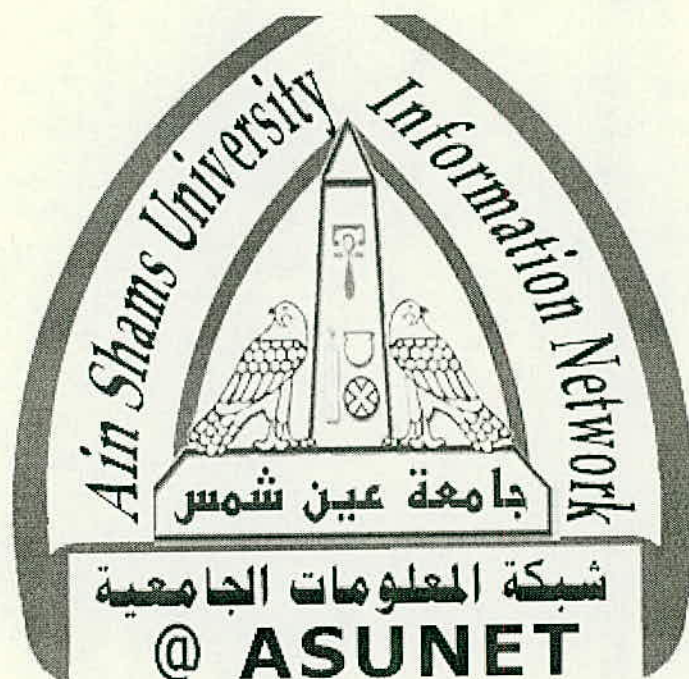
شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
على هذه الأفلام قد أعدت 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 %



شبكة المعلومات الجامعية



بالرسالة صفحات

لم ترد بالأصل



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة

**PHYSIOLOGICAL STUDIES ON SEEDS GERMINATION AND
SEEDLING GROWTH OF SOME VEGETABLE CROPS**

By

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B. Sc. Agric. (Horticulture) Cairo University, (1973)

M. Sc. Agric. (Horticulture) Ain Shams University, (1991)

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Department of Horticulture
Faculty of Agriculture
Ain Shams University

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APPROVAL SHEET

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ABSTRACT

Magda Mohamed Hafiz (Physiological Studies on seeds germination and seedling growth of some vegetable crops) Ph. D. Agriculture Science (Vegetable Crops) Department of Horticulture, Faculty of Agriculture, Ain Shams University.

A set of experiments were carried out at the National Research Centre, to investigate :

1. The effect of different levels of salinity on seed germination and seedling growth.
2. The effect of different degrees of temperature on seed germination.
3. The effect of some chemical herbicides on seed germination.
4. The effect of root exudates on seed germination and seedling growth of the same vegetables.

Germination percentage of lettuce and carrot crops were significantly affected with increasing salinity levels up to 6000 ppm as compared with the germination percentage of tomato and cabbage. Salinity level of 8000 ppm increased the number of days required for maximum seed germination compared with their control treatment. Increasing salinity level up to 10000 ppm sharply depressed hypocotyl length of the crops under investigation. On the other hand increasing salinity level up to 4000 ppm decreased significantly radical length of carrot more than other vegetable crop seeds.

Increasing salinity levels of irrigation water caused a progressive decrease on all the vegetative growth characteristics of tomato, cabbage and lettuce seedling.

The application of low temperature caused significant sharp decrease in germination percentages of tomato and cabbage than that of lettuce and carrot.

On the other hand, the lowest values of that character were recorded by high temperature with lettuce, it is clear from our results that low temperature had a harmful effect on hypocotyl and radical length than high temperature which improved the germination % and germination rate index.

Concerning the addition of herbicides (Stomp and Giza gard) to the media of germination, the obtained results show that increasing the concentration of herbicides decreased the measurements of germination as well as the hypocotyl and radical length. On the other hand, low concentrations of Giza gard herbicide (1000 and 2000 ppm) increased the germination percentage of the vegetable crops seeds under investigation.

It is evident from the obtained results that the effect of tomato and carrot root exudates stimulated the measurements of germination, hypocotyle and radical length of carrot and tomato whereas, the root exudates of lettuce and carrot improved the germination percentage and germination rate index of cabbage compared with the control, also increased the vegetative growth of cabbage seedlings. On the other hand, tomato and lettuce increase germination percentage, mean rate index hypocotyl and radical length and the vegetative growth of lettuce seedling. However, carrot root exudates increase the measurements germination and vegetative growth of tomato, carrot and cabbage seedling.

Root exudates of cabbage seedlings inhibited the vegetative growth characteristics of tomato, carrot, lettuce and cabbage.

The seed and root exudates of tomato contained the greatest amount of growth regulators followed by carrot but the greatest amount of inhibitors were recorded by cabbage.

Lettuce seed exudates contained the highest amount of phenols while carrot seed exudates had the lowest amount of phosphorus.

On the other hand, roots of lettuce seedlings excreted the highest percentage of nitrogen, but the highest percentage of potassium was obtained from tomato roots.

Key words :

Growth characteristics, Root exudates, Germination rate index, Herbicides, Salinity, Tomato, Carrot, Lettuce, Cabbage, Germination percentage, Temperatures, Stomp, Giza gard.

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