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بسم الله الرحمن الرحيم

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التوثيق الالكتروني والميكروفيلم

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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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بالرسالة صفحات لم ترد بالاصل

EVALUATION OF SOME SUNFLOWER HYBRIDS UNDER DIFFERENT LEVELS OF NITROGEN FERTILIZATION

By

Mohamed Morsy Mohamed Awad

B.Sc. (Agric. Cooperation) 1991

THESIS

Submitted in Partial Fulfillment of the Requirements for the

Degree of

Master of Science

In Agronomy

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The cultivated sunflower (*Helianthus annuus* L.) is one of the four most important oil crops in the world. It is the main source of edible oil in most countries like U.S.S.R., Argentina, Rumania, Turkey, France and Italy due to its wide range of adaptability in addition to high percent of excellent edible oil in the seed (45-55%).

Sunflower became the third oil seed crop grown in the world after cotton and soybean), although it is the second liquid oil produced and consumed in the world.

In Egypt, due to the sever shortage of edible oil, sunflower received a great attention from the high authorities since 1987. The local production of edible oil satisfies 15% only of the total requirements of the country. The total annual consumption of edible oil is bout one million tons. For increasing the total production of edible oil, the area cultivated with oil crops such as sunflower should be increased, high yielded cultivars should be planted, and the best agricultural practices such as NPK fertilization should be conducted.

Sunflower seed contain a high concentration with a high proportion of polyunsaturated fatty acids, where oil contains a high percentage of linoleic acid reaching a level of 52-62% from the total fatty acids content, this high percentage of linoleic acid reduces the cholesterol content in human blood and the remainder after oil extraction contains a high percentage of protein from 13-19%, so it could be considered as a good fodder for cattle and poultry, the green leaves of sunflower can be utilized as a forage crop due to their high content of protein. Furthermore, sunflower oil may be used as a fuel energy source,

the sunflower inflorescence contains 18% of pectin that is considered as an important material used in many industrial processes.

The amino acid composition of sunflower protein is such that the meal could be a valuable ingredient in food materials (**Earle *et al.*, 1969**), these amino acids are lysine, Tryptophan, Methionine, and Cystine.

Nitrogen plays an important role in plant growth and is considered as an indispensable element for several vital functions. Several investigators reported that sunflower characters such as: Plant height, head and stem diameter, seed yield/plant, as well as seed and oil yields/feddan showed a great response to nitrogen fertilization.

The goal of the present investigation was to study the effect of nitrogen fertilizer levels on some growth characteristics, yield, yield components and oil content of ten sunflower cultivars (Eruflore, Maco, Vidoc, Alamo, Malabar, H-44, H-112, H-102, H-14 and H-94) in the North Delta region.

REVIEW OF LITERATURE