

ATHESIS

BY

OTHMAN KHALID ALWAN AL –OBAIDI

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SUMMARY

The experiment was done at the Vegetable Research Farm of the Horticulture Department, College of Agriculture and Forestry, Mosul University, Hamam Al-Alil, Iraq for two seasons in 1984 and 1985. The objective of this study was the effect of plant spacing (20, 30, 40, and 50 cm) and levels of nitrogen fertilizer (urea 46% N) (0, 20, 40 and 60 kg N/Donun) on growth and yield of squash plant Cv. Zucchini, (*Cucurbita pepo* L.)

Randomized Complete Block Design with four replications was done in this study. Duncan's Multiple Range Test at 5% level was used to compare mean differences.

The results of this study were as follows:

First. Vegetative growth which includes (length of the plant, Fresh weight, Dry weight and the percentage of Nitrogen in the leaves).

- 1- Levels of Nitrogen fertilizer (0- 60 kg N% Donun) caused a significant increase of Length, fresh weight and Dry weight per plant as well as high percentage of Nitrogen in the leaves of squash plant was found season.
2. The length of the plant was increased significantly due to 30 cm spacing for both seasons. Also significant fresh and Dry weights were obtained from 40 cm for the first season and 50 cm for second season. Nitrogen percentage of the leaves was affected in all spacings except a significant decrease was happened in the second season.
- 3- Regarding the interaction effect 30 cm spacing with 40 and 60 kg N% Donun caused a significant increase in plant length in the first and second seasons respectively. Also higher fresh and Dry weight were obtained from the fertilizer level 40 kg N % Donun with 40 and 50 cm for the first and second seasons respectively. In the meantime 50 cm spacing weight 60 kg N % Donun was significantly increase in Nitrogen percentage in the leaves.

Second. The yield characteristics (yield per plant, Total yield per Donun, early yield percent, number of fruit per plant, fruit average weight and diameter of fruit)

1-Higher total yield per Donun and per plant were resulted from treatment 20 kg N% Donun for the first season and 40 kg N% Donun for the second season .No significant differences in the percent early yield number of fruits per plant , fruit average weight , and diameter of the fruit were found due to fertilizer treatment's , except higher number of fruits were obtained from the treatment's 20 , 40 and 60 kg N% Donun compared with control at second season .

2-Plant spacing 50 Cm only caused a significant increase in the yield per plant and the number of fruit per plant in the second season . However , in the first growing season 50 Cm was significant increase in plant yield and plant fruit number over the 20 and 30 Cm .

Total yield per Donun was significantly increased at 30 Cm spacing in both season . Fruit average weight was higher at 50 and 40 Cm for both seasons respectively plant spacing's had no significant effect on the percent early yield and fruit diameter .

3-Concerning the interaction effect , 50 Cm spacing and fertilizer levels , 20 , 40 kg N% Donun in the first and second season respectively caused a significant increase in the yield per plant and number of fruits per plant . Besides the total yield was increased significantly due to 30 Cm and 40 , 20 kg N% Donun for the first and second seasons respectively .