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Productivity of Squash plant to Mineral and Bio-Nitrogen Fertilizers on plant Growth, Total fruit Yield and leaves mineral content on a Sandy Soil.

Shafeek M.R.; Y.I. Helmy and A.A. Ahmed

Vegetable Research Dept., National Research Centre, Dokki, Cairo, Egypt

Abstract: Two experiments were conducted during summer season of 2013 and 2014 at the experimental station of National Research Centre at Nubaria region to study the effect of three rates of mineral N-fertilizer (50, 100 and 150 kg N/fed.) With or without inoculation of bio-fertilizers (Biogein + Nitrobein) and their interaction treatments on summer squash plants (*Cucurbita peop* cv. Eskandarani) to influence plant growth, total fruits yield and mineral leaves contents as well as leaf chlorophyll content. These treatments were laid out in split plot design arrangement with 3 replications. N rates were randomly distributed in main plots, while the bio-fertilizers treatment was randomly arranged in sub plots. The summarized results obtained from this field study that:

1- Increasing the rates of N-fertilizer significantly improved all plant growth characters expressed as (plant length, No. of leaves/plant, dry weight of whole plant and leaf area/plant) and total yield of fruits, physical fruit characters as well as leaf contents of N, K and total chlorophyll.

2- The trend was 2 kg/fed. inoculation bio-fertilizer (piogen+ nitrobein) > 1 kg/fed. bio-fertilizer > control. However, inoculation by the highest level of bio fertilizer (2 kg/fed.) significantly increased squash plant growth characters, total yield (ton/fed.) and its components as well as the leaves contents of N, P, K and total chlorophyll as compared inoculation by low level (1 kg/fed.) and without inoculation of bio-fertilizer.

3- Using nitrogen fertilizer at a higher rate (150 kg N /fed.) with inoculation by high level of bio fertilizer (2 kg /fed. piogen+ nitrobein) gave the highest plant growth characters, total fruit yield and total leaves content of N, K and total chlorophyll of squash leaves but these increase did not reach the significant levels.

Key words: Summer squash plants- N-fertilizer rate – bio-fertilizer levels- Plant growth- Total fruits yield- Total leaves contents.

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