EFFECT OF INTERPLANTING AND SOLARIZATION ON GROWTH, YIELD AND QUALITY OF ARTICHOKE

By

MAGDY AHMED FARAHAT EL-BHLOUL
B. Sc. Agric. Cooperative Sc., Higher Institute for Agric. Cooperation, 1998

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ABSTRACT

Magdy Ahmed Farahat: Effect of Interplanting and Solarization on Growth, Yield and Quality of Artichoke. Unpblished M.Sc. Thesis, Department of Horticulture, Faculty of Agriculture, Ain Shams University, 2009.

Two Field experiments were conducted during the two growing seasons of 2006/2007 and 2007/2008, at the experimental farm of Kaha Vegetable Research Dept., Kaliobia Governorate , in field naturally infested with weeds and pathogens, to study the effect of soil solarization and shading on growth , yield and quality of globe artichoke. French cultivar (Hyrious) was used in these experiment.

Solarization caused reduction in total fungi ,bacteria, total number and fresh weight of weeds after 3 weeks from sowing date of interplanting crops, increased the plant emergence percentage of maize and foddermaize. Soil solarization increased plant length and fresh weight per plant in sunflower and fodder maize, leaf number of sunflower at 30, 60, 90 days and increased the yield of all interplanting crops. Solarization in globe artichoke increased plant stand percentage. Also, it increased number of leaves, number of offshoots per plant at 120, 180, and 240 days, total yield (heads), inulin content and decreased fiber content.

All interplanting treatments and theran 63% for shade gave higher plant stand percentage of globe artichoke than the non-interplanting treatment. Using theran 63% shade produced the tallest globe artichoke plants and the highest number of leaves and offshoots per plant, compared to maize, foddermaize, sunflower and non-interplanting un- shaded treatments, at 120, 180, and 240 days after globe artichoke planting. Also, theran 63% shade increased the head number of early yield per plot and gave heads with the best inulin and the lowest fiber contents, comparing with all other treatments. Using maize as an interplanting crop led to the highest fresh weight and lower inulin and fiber contents of globe artichoke heads.

It can be concluded that theran 63% shade with solarization gave the best yield, low fiber and high inulin contents that means the best quality and quantity of globe artichoke heads. Fodder maize with solarization gave the same results as theran 63% shade. In this case, we prefer fodder maize than theran 63% shade because it is easier and cheaper for farmers.

Key Words: Interplanting. Solarization, Shading, Globe artichoke, Maize, Foddermaize, Sunflower, Theran 63% shade , Weed control, Artchoke growth , Artchoke yield , head inulin content

DEDICATION

I dedicate this work to whom my heart felt thanks; to my **family** for their patience, help and all the support they lovely offered along the period of my post graduation.

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