EFFECT OF INTERPLANTING ON GROWTH AND PRODUCTIVITY OF SOME VEGETABLE PLANTS

BY

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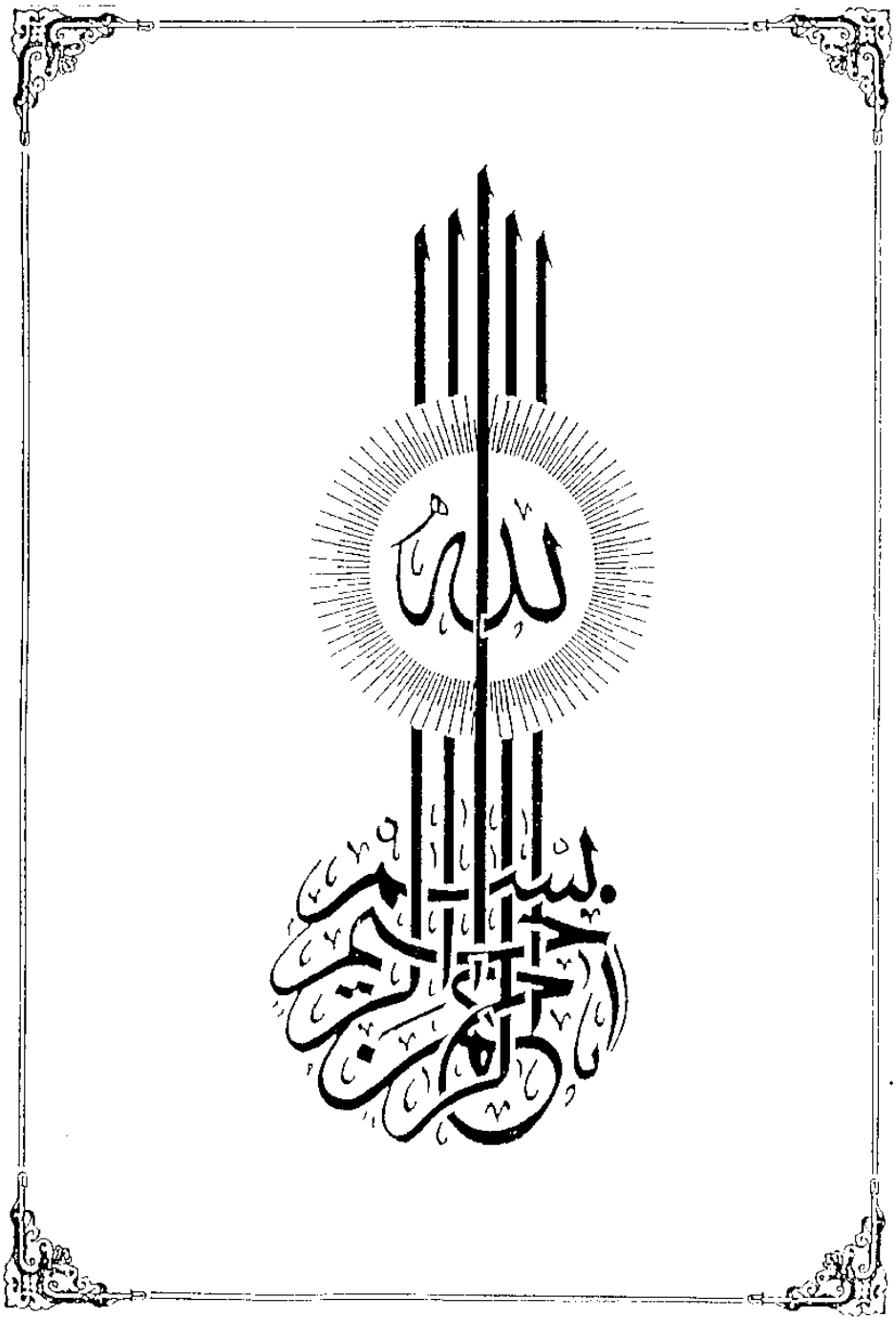

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ABSTRACT

This experiment was conducted at the Agricultural Experimental Station of the National Research Center (Shalakan, Kalubia) during the period from 1991 to 1993.

Three vegetable crops,i.e., okra cv. Eskandarani, cowpea cv. Cream 7 and squash cv. Eskandarani, were used. Seeds of okra were sown as a main crop while each of squash and cowpea seeds were cultivated on the ridges of okra. The distance between plants was 20 cm for all used crops. The experiment included 20 treatments which were the combinations of five cultivation systems,i.e., cultivation

okra alone, okra + cowpea, okra + squash, cowpea alone and squash alone, and four nitrogen levels, i.e., zero N/fed., 20 kg N/fed., 40 kg N/fed. and 60 kg N/fed. The twenty treatments were arranged in a randomized block design of four replicates. Data were recorded on plant growth characters, plant mineral contents, total yield and associated weeds. Results revealed that interplanting decreased the vegetative growth and yielding productivity under the various levels of nitrogen as compared with the single cultivation.

Moreover, it shows a decrease in plant contents of nitrogen, phosphorus and potassium. On the other hand, it increased the land equivalent ratio and inhibits the vegetative growth of weeds. Results revealed also that it is better to choose cowpea in interplanting with okra than squash because cowpea is less competitive to okra and slightly affected okra yielding productivity .

Root exudates of cowpea and okra increased the germination percentage of okra seeds as compared with that of squash .

Key words

Interplanting

Okra

Squash

Cowpea

Cream 7

Eskandarani

Land equivalent ratio

Weeds

Root exudates

Total phenols

Amino acids

Nitrogen

Phosphorus

Potassium

Intercropping

Yielding productivity

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