COMPARATIVE STUDIES ON GROWTH AND YIELD OF SOME TOMATO HYBRIDS

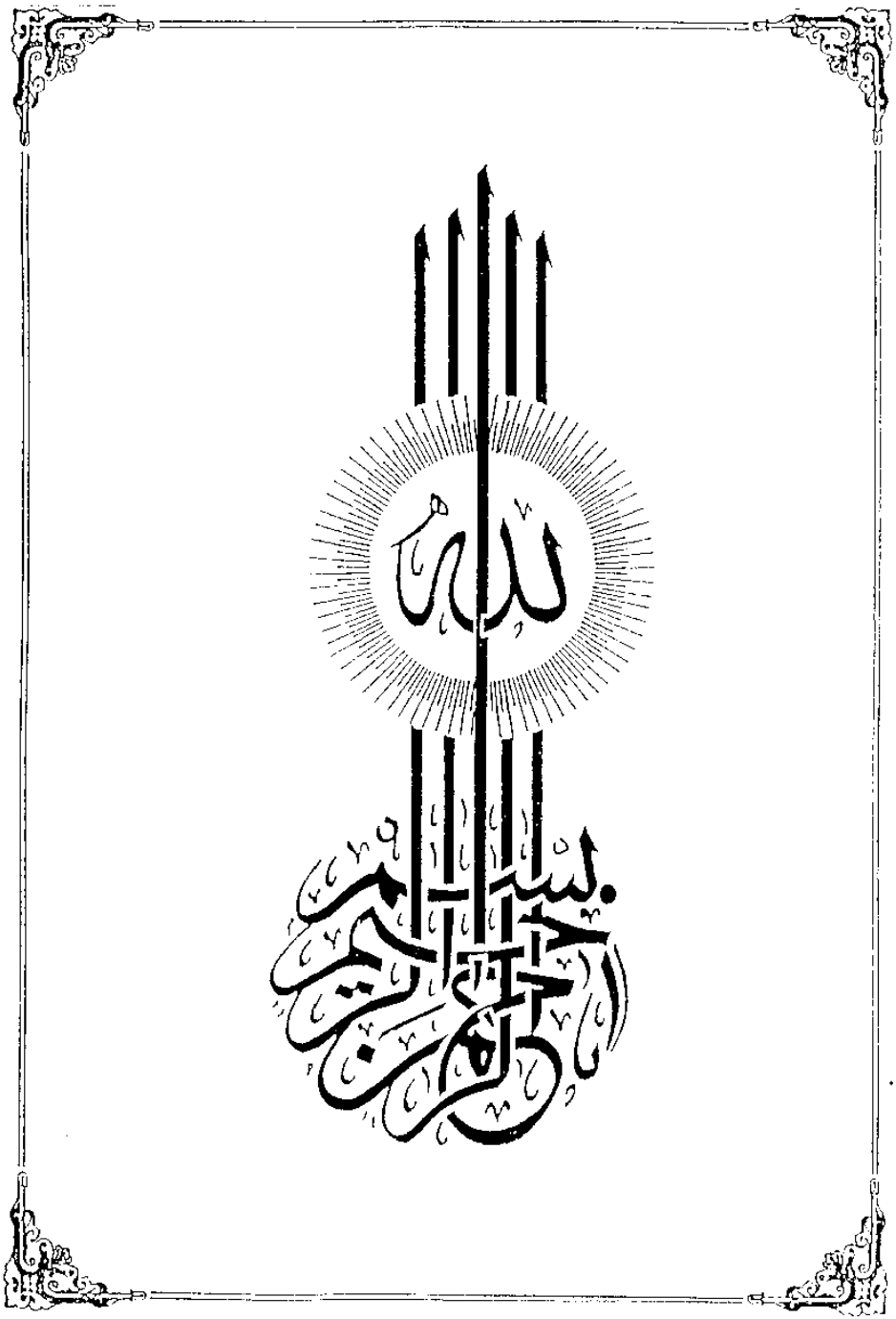
By

ALFONS GRISS ZAKHER
B.Sc. Agric. (Horticulture) Ain Shams University 1991

A thesis submitted in partial fulfillment
OF
the requirement for the degree of
Master of Science
In
Agriculture
(Vegetable Crops)

Department of Horticulture
Faculty of Agriculture
Ain Shams University

1999



APPROVAL SHEET

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Date of Examination 24/8/ 1999

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ABSTRACT

Alfons Griss Zakher. Comparative studies on growth and yield of some tomato hybrids. Unpublished Master of Agriculture Science, Ain Shams University, Faculty of Agriculture, Horticultural Department 1999.

This study was carried out from 1996 to 1998 at the Experimental farm, Barrage Horticultural Experiment Station. Seven F_1 commercial hybrids and their F_2 plants obtained by inbred lines were evaluated with Castle Rock (open pollinated cultivar) in the two growing seasons. the evaluations were in a randomized complete block design with four replicates.

Data were recorded on: plant height, number of main branches per/plant, earliness of flowering, early yield, marketable yield, total yield, fruit shape index, fruit weight, number of locules, fruit firmness, flesh thickness, total soluble solid, titratable acidity and vitamin C content. In this study, the inbreeding depression was studied for some vegetative growth, flowering, yield components and fruit quality characteristics.

Results indicate that no significant differences were obtained between Roda 2000 F_1 (a locally introduced tomato hybrid) and each imported F_1 hybrids in all characters except total soluble solids and vitamin C content.

Positive inbreeding depression between F_1 & F_2 was expressed for early yield, Marketable yield, Total yield and fruit weight, whereas, negative inbreeding depression was found for earliness of flowering and titratable acidity in all obtained hybrids.

In addition, a score for determination the best genotypes and lowest inbreeding depression in two growing seasons was established.

The hybrids "Typhoon F_1, Ax-81-01 F_1 and Dora F_1" were the best obtained for fresh market and "Typhoon F_1 and Ax-81-01 F_1" for processing.

The "Dora F_2 and Rocky F2" were the lowest obtained for inbreeding depression.

Key Wordes:

Tomato, Inbreeding depression - evaluation - F_1 hybrids - F_2 plants - Early, marketable, total yield - Fruit quality.

I. D.% : Inbreeding depression

T.S.S : Total Soluble Solids

T. A. : Titratable acidity

ACKNOWLEDGMENT

First of all, I would like to express my deepest thanks to "Allah", who given me the ability and help to carry out and finished this work.

I would like to express the deepest thanks and gratitude to Professor **Dr. Khalifa Attia Okasha**, professor of Horticulture, Faculty of Agriculture, Ain Shams University for his supervision, true assistance, valuable help and continuous encouragement.

Deepest and sincere gratitude to **Dr. Mohamed Imam Ragab** Associate Prof. of Vegetable Crops, Department of Horticulture Faculty of Agriculture, Ain Shams University for his supervision, true assistance , great help and patience in the preparation of this thesis.

I wish to express the greatest appreciation to Professor **Dr. Adel Mohamed Metwally**, Prof. of Vegetable Crops, Horticulture Research Institute, Agriculture Research Center. for his supervision and great help.

My sincere thanks to all members of the Strawberry and Non-Traditional Crops Center and Department of Horticulture, Ain Shams University for their cooperation.

I am particularly grateful to all the colleagues at vegetable Research Department, Horticulture Research Institute, Agriculture Research Center for their help and kind support.

Also, the author wishes to every one helped me specially my family for their cooperation in this thesis.

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