STUDIES ON SOME NEW TOMATO CULTIVARS UNDER EGYPTIAN CONDITIONS

By

Ahmed Abo-Elyazied Ahmed Abd El-Hafize

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BY

Ahmed Abo-Elyazied Ahmed Abd El-Hafize

B. Sc. Agric. (Horticulture) Ain Shams Univ. 1989

This thesis for M. Sc. degree has been approved by :

Prof. Dr. S.A. Shanan ..... S. A. Shanan .....

Prof. of Vegetable Crops and Chairman of Department of Horticulture, Fac. Agaric., Al-Azhar Univ.

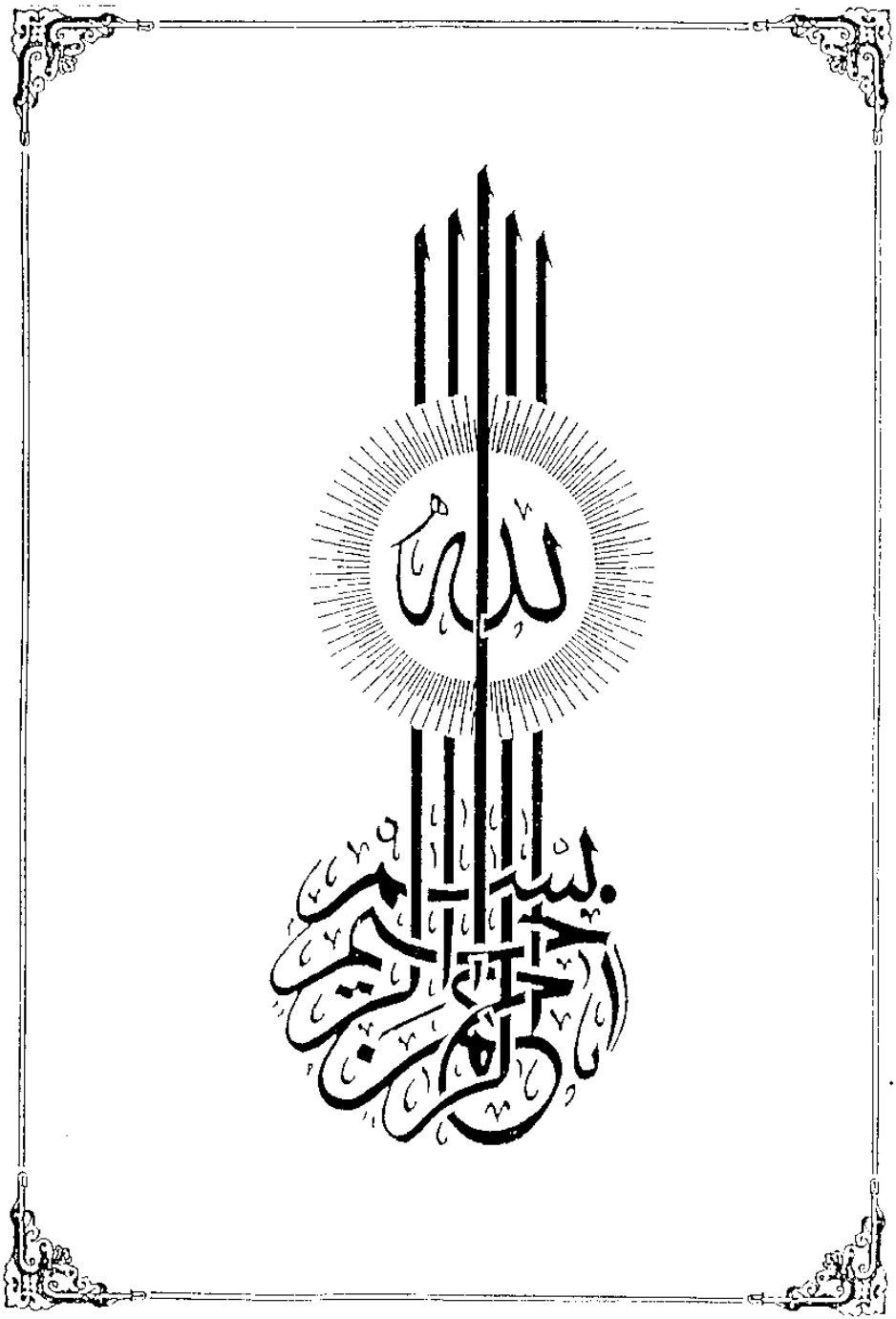
Prof. Dr. H . M. Gomaa ..... H. M. Gomaa .....

Prof. of Vegetable Crops, Fac. Agric., Ain Shams Univ.

Prof. Dr. A. A Sharaf ..... A. Sharaf .....

Prof. of Vegetable Crops and Chairman of Department of Horticulture, Fac. Agric., Ain Shams Univ.

Date of examination : 8 / 11/1994



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BY

Ahemd Abo-Elyazied Ahmed Abdel-Hafize

B. Sc. Agric. (Horticulture), Ain Shams Univ.,1989

Under the Supervision of:

Prof. Dr. Ibrahim Ibrahim El-Oksh

Prof. of Vegetble Crops, Horticulture Dept. Fac. Agric., Ain Shams Univ.

Prof. Dr. Abdel-Rehim Sharaf Abdel-Monem

Chairman of the Department of Horticulture, Fac. Agric., Ain Shams Univ.

Prof. Dr. Ahmed Mahmoud El Gizawy

Prof. of Vegetable, Crops, Horticulture Dept. Fac. Agri, Ain Shams Univ.

ABSTRACT

Eighteen tomato cultivars were evaluated under field conditions in the early summer seasons of 1992 and 1993 in the experimental farm of the Faculty of Agriculture, Ain Shams University, at Shobra El-Kheima, Kalubia.Data included vegetative growth, flowering, yield and fruit quality characteristics. The obtained results indicated that Ty20, H4074, H7038, H2710, H8892 and H3302 CVS had the largest vegetative growth. Cultivars

H2710, H5001, H8893, Peto86, H4074 and H3044, flowered relatively early. Significant differences existed between cultivars in respect to number of clusters per plant, number of flowers per cluster, percent of fruit-set and number of fruits per plant. Cultivars H8704, H8892, H7038 H2710, Ty20 and H8768 produced the greatest marketable and total yield compared with other cultivars.

The tested cultivars showed great variations in fruit volume, fruit shape, fruit joint, number of fruits per kg and in physiological disorders of fruits (cracking; Blossom End Rot; sun scald; yellow shoulder; roten). Significant differences existed among cultivars in dry matter, Brix, sugars, pH, titratable acidity and ascorbic acid content in fruits.

Key Words :

- tomato (*Lycopersicon esculentum* Mill).
- Processing cultivars.
- Evaluations.
- Grwoth parameters.
- Fruit quality.

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CONTENTS

LIST OF TABLES

List of Figures

Introduction

INTRODUCTION

Tomato, Lycopersicon esculentum Mill., is a very popular vegetable crop in the Arab Republic of Egypt as well as in many other countries. For this reason it may be considered among the leading vegetable crops. In 1990, the tomato area under cultivation averaged 370977 faddans with a total production of 4352438 tons.*

According to the cultivated area, Egypt comes the fourth country in the world after USSR, China and USA*(FAO, 1986)*.

Egypt as well as other developing countries suffer from lack of food substances including vegetables, therefore a great effort is needed to increase the production of vegetables including tomatoes to face the increase in population.

The increase in tomato production could be achieved either by the vertical expansion, i.e. the increase in yield per faddan or by the increase in cultivated area.

The introduction of the new processing tomato cultivars has been increased lately. These new processing cultivars are characterized by their high yield, suitability for the mechanical

* Ministry of Agriculture, Egypt, 1990.

harvest, free from blossom end scars, crack resistance, fruits jointless, fruit shape round to oval, high solids content, high acid content, low pH, high vitamin c content. After juice manufacture, the juice should have a thick consistency, the colour of the juice should be bright red with high gloss to gave the highest quality of the final product.

Thus, this study was carried out to evaluate several introduced processing tomato cultivars under the Egyptian conditions during the early summer season. The evaluation included vegetative growth, flowering, fruiting and fruit quality in order to select some good tomato cultivars which could be recommended for processing purposes.