بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

STUDY ON EVALUATION AND ENHANCEMENT OF THE PRODUCTIVITY OF APRICOT CULTIVAR "PRIANA" CULTIVATED UNDEREGYPT CONDITION

By

HEND HUSSEIN KHALIFA HUSSEIN

B.Sc. Agric. Sci. (Pomology), Fac. Agric., Ain Shams Univ., 2003
M.Sc. Agric. Sci. (Pomology), Fac. Agric., Cairo Univ., 2011

THESIS

Submitted in Partial Fulfillment of Requirement for the Degree of

DOCTOR OF PHILOSOPHY

In

Agricultural Sciences

(Pomology)

Department of Pomology
Faculty of Agriculture
Cairo University
EGYPT

2020

Format Reviewer Vice Dean of Graduate studies

APPROVAL SHEET

STUDY ON EVALUATION AND ENHANCEMENT OF THE PRODUCTIVITY OF APRICOT CULTIVAR "PRIANA" CULTIVATED UNDER EGYPT CONDITION

Ph.D. Thesis

In

Agric. Sci. (Pomology)

By

HEND HUSSEIN KHALIFA HUSSEIN

B.Sc. Agric. Sci. (Pomology), Fac. Agric., Ain Shams Univ., 2003
M.Sc. Agric. Sci. (Pomology), Fac. Agric., Cairo Univ., 2011

APPROVAL COMMITTEE

Dr. AHMED ABDELFATTAHELGAZZAR……...
Professor of Pomology, Fac. Agric., Ain Shams University

Dr. AHMED TAWFIK SALEM……
Professor of Pomology, Fac. Agric., CairoUniversity

Dr. MOHAMED ABDEL-AZIZABDEL-MOHSEN.....
Associate Professor of Pomology, Fac. Agric., CairoUniversity

Date: 22/ 7 /2020

SUPERVISION SHEET

STUDY ON EVALUATION AND ENHANCEMENT OF THE PRODUCTIVITY OF APRICOT CULTIVAR "PRIANA" CULTIVATED UNDER EGYPT CONDITION

Ph.D. Thesis
In
Agric. Sci. (Pomology)

By

HEND HUSSEIN KHALIFA HUSSEIN

B.Sc. Agric. Sci. (Pomology), Fac. Agric., Ain Shams Univ., 2003
M.Sc. Agric. Sci. (Pomology), Fac. Agric., Cairo Univ., 2011

SUPERVISION COMMITTEE

Dr. TAHER AHMED YEHIA
Professor of Pomology, Fac. Agric., Cairo University

Dr. MOHAMED ABD EL–AZIZABD EL–MOHSEN
Associate Professor of Pomology, Fac. Agric., Cairo University

Dr. ATEF MOATAMED HUSSIEN MOATAMED
Senior Researcher Professor of Deciduous Fruit Trees,
Agric. Res. Center

Name of Candidate: Hend Hussein Khalifa Hussein **Degree:** Ph.D.
Title of Thesis: Study on Evaluation and Enhancement of the Productivity of Apricot Cultivar "Priana" Cultivated Under Egypt Condition.
Supervisors: Dr. Taher Ahmed Yehia
Dr. Mohamed Abd El–Aziz
Dr. Atef Moatamed Hussien Moatamed
Department: Pomology **Approval:** 22/7/2020

ABSTRACT

The present investigation was conducted during two successive seasons 2016 and 2017 onfive years old Priana apricot cultivar grown under desert conditions. Apricot trees are uniform growth in sandy soil in a private orchard at El-Khatatba region, Menofia Governorate, Egypt.

This study aims to evaluate the behavior of the apricot cultivar under study through:

1. Estimation of chilling requirement.
2. Study the effect of dormancy breaking agents.
3. Study the effect of spraying some nutrient elements on leaves.
4. Study the effect of hand thinningon yield and fruit quality.

The results showed that, "Priana" has a low chilling requirement and it's considered a great advantage, especially in areas with warm winters, to early and regulate the opening of flowers and also to avoid low yields.

Furthermore the possibility of the replacement of hydrogen cyanamide by garlic oil or H_2O_2 in breaking buds dormancy on apricot trees under conditions. Further, using these replacement break agent are more safety and environmentally-friendly products furthermore it can use in organic farm.

In addition the highest fruit quality and acceptable vegetative growth can be achieved by spraying Ca3 % and Zn 3% at flowering and fruit set stages.

Hand thinning experimental showed that, although thinning may reduce the amount of the crop, but the lack of thinning of this variety leads to the production of a crop with low fruit characteristics with natural and chemical parameters. Therefore, to obtain high-quality fruits in Priana apricot cultivar, the process of early thinning in the stage of the fruit set may be an optimal solution.

Meanwhile, thisstudy considered Priana as suitable cultivar for growing in Egypt. Due to high yield and it was the earliest to reach harvest stage.

Key words: "Priana" apricot cultivar, chilling requirement,breaking agents, spraying nutrients, hand thinning

ACKNOWLEDGEMENT

*First of All, I would like to express all my obedience, devotion, deepest greatest thanks and praisedue to **"Allah"**, - which we cannot enumerate and Thank enough - the merciful and clement God who gave me the patience, power, knowledge, and helped me to carry- out this work.*

*The author feels deeply grateful to **Dr. Taher Ahmed Yehia,** Professor. of Pomology, Department of Pomology, Faculty of Agriculture, Cairo University for his ideal supervision, willing sincere advices, continuous encouragement, fatherly attitude and help especially during the preparation of the manuscript of this investigation.*

*my deepest appreciation to **Dr. Mohamed ABD EL–AZIZ,** Associate Professor of pomology, Department of Pomology, Faculty of Agriculture, Cairo University for his kind supervision, helpful advices and useful suggestion throughout the problems in this work.*

*Thanks also, to **Dr. Atef Moatamed Hussien Moatamed,** Researcher, Department of Deciduous Fruit Trees, Horticulture Research Institute, Agricultural Research Center, Giza, Egypt, for supervision, continued assistance and his guidance.*

*A lot of thanks due to **Dr. Ali Mahmoud Sabbour,** Professor of Botany, Department of Agricultural Botany, Faculty of Agriculture, Cairo University for his guidance, continuous encouragement and valuable helps in a accomplishing this study.*

My Huge thanks are directed to all my professors who showed support and were always available to assist me upon my request.

*I would like to expressspecial thanks tomy **Family**, for their endless support, Patience and love and offering time to complete this research.*

CONTENTS