PRELIMINARY STUDIES ON ORGANIC CULTIVATION OF PICUAL OLIVE TRANSPLANTS

By

AHMED MOHAMED ABD EL-GALEL

B.Sc. Agric. Sc. (Horticulture), Ain Shams University,2003

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Approval Sheet

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ABSTRACT

Ahmed Mohamed Abd El-Galel: Preliminary Studies on Organic Cultivation of Picual Olive Transplants. Unpublished M.Sc. Thesis, Department of Horticulture, Faculty of Agriculture, Ain Shams University, 2010.

This study was carried out through two successive seasons (2007& 2008) on a newly cultivated Picual and Klamata olive young trees in the Experimental Research Station of National Research Center, at El Nobarya, El Behera governorate Egypt. The investigation aimed to study the effect of applying mineral, organic fertilizers and some other treatments on vegetative growth parameters and leaf mineral contents at olive transplants. Planting holes were prepared for control plants in the first season only. Each treatment received 100 g actual nitrogen/plant/year as recommended by M.A.L.R. (2007). The following eight treatments were applied: T1 : control (mineral nitrogen + planting hole preparation), T2(100%mineral nitrogen), T3(100% organic N as cattle manure), T4(50% mineral N + 50% organic N as chicken manure), T5 (100%mineral nitrogen + humic acid as soil application), T6(100% mineral nitrogen + activated dry yeast as soil application), T7 (100%mineral nitrogen + GA3 foliar spray) and T8 (100% mineral nitrogen + sea algae as soil application).At the end of each season, the increment percentage of plant height, stem diameter, lateral shoot number, lateral shoot length, leaf number per plant, leaves dry weight per plant, stem dry weight per plant, roots dry weight per plant, whole plant dry weight and leaf mineral content were determined and recorded. The obtained results revealed that increment percentage in plant height, shoot number, shoot length, leaves number and stem diameter were not affected by different treatments in both cvs.. Meanwhile, dry weight of leaves, stem, roots and whole plant were improved by humic acid treatment compared with control and other treatments in Picual cv. only.

Key words : Activated dry yeast–GA3 – Humic acid – Nitrogen Fertilization – Olive cvs – Organic Fertilization – Sea algae – Vegetative growth – leaf mineral content.

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Great thanks are also to all staff members of the department of pomology in National Research Center for their cooperation, continuance help through this work.

Also , I wish to express my thanks to the Academy of scientific Research and Technology for its support and financing such thesis.

DEDICATION

I dedicate this work, to my father and my mother for their patience and help, as well as to my brothers, sister and my wife for all the support they lovely offered along the period of investigation.

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