دراسات علي الإكثار الخضرى لبعض أصناف الزيتون صعبة التجذير

رسالة مقدمة من

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للحصول على

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(فاكهة)

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صفحة الموافقة على الرسالة

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وقد تمت مناقشة الرسالة والموافقة عليها

اللجنـــة :

.د. حفني عبد العزيزحفني .....

أستاذ الفاكهة المتفرغ ، كلية الزراعة ، جامعة الأزهر

.د. زينب حسين بحيري .....

أستاذ الفاكهة المتفرغ ، كلية الزراعة ، جامعة عين شمس

.د. حسن محمد فاضل الوكيل .....

أستاذ الفاكهة ، كلية الزراعة ، جامعة عين شمس

.د. محمد أبو رواش علي بدر .....

أستاذ الفاكهة المتفرغ ، كلية الزراعة ، جامعة عين شمس

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جامعة عين شمس
كلية الزراعة

رسالة ماجستير

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لجنـــة الإشراف :

د. محمد أبو رواش علي بدر
أستاذ الفاكهة المتفرغ , قسم البساتين ، كلية الزراعة ، جامعة عين شمس (المشرف الرئيسي)
د. حسن محمد فاضل الوكيل
أستاذ الفاكهة ، قسم البساتين ، كلية الزراعة ، جامعة عين شمس

د. أميمه مصطفي السيد
أستاذ باحث مساعد ، وحدة الفاكهة ، مركز بحوث الصحراء

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STUDIES ON VEGETATIVE PROPAGATION OF SOME HARD-TO-ROOT OLIVE CULTIVARS

By

SHAIMAA MOHAMED MOHAMED MOHAMED
B.Sc .Agric. Sc.(Horticulture), Ain Shams University,2004

A thesis submitted in partial fulfillment
of
the requirements for the degree of

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Faculty of Agriculture
Ain Shams University

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

Dr. Hifny Abdel-Aziz Hifny ……
Prof. Emeritus of pomology, Faculty of Agriculture, Al-Azhar University

Dr. Zeinab Hussein Behairy……..……
Prof. Emeritus of Pomology, Faculty of Agriculture, Ain Shams University

Dr. Hassan Mohamed Fadel El-Wakeel ……
Prof. of Pomology, Faculty of Agriculture, Ain Shams University

Dr. Mohamed Abou-Rawash Ali Badr ……
Prof. Emeritus of Pomology, Faculty of Agriculture, Ain Shams University

Date of Examination: 14 / 12 / 2010

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Under the supervision of:

Dr. Mohamed Abou-Rawash Ali Badr

Prof. Emeritus of Pomology, Department of Horticulture, Faculty of Agriculture, Ain Shams University (Principal Supervisor)

Dr. Hassan Mohamed Fadel El-Wakeel

Prof.of Pomology, Department of Horticulture, Faculty of Agriculture, Ain Shams University

Dr. Omaima Mostafa El-Saied

Research Associate Prof. of Pomology, Department of Plant Production, Desert Research Center Egypt

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ABSTRACT

Shaimaa Mohamed Mohamed: Studies on Vegetative Propagation of Some Hard-To-Root Olive Cultivars. Unpublished M.Sc. Thesis, Department of Horticulture, Faculty of Agriculture, Ain Shams University, 2011.

A study was carried out during two successive years, 2007 and 2008 to propagate four olive cultivars, Khoderi, Maraki, Moluki and Manzanello by using medium semi hardwood stem cuttings under two different systems (intermittent mist and polyethylene tunnel).

Cuttings were collected in mid of spring, summer and autumn in both years. Cuttings were treated with 50% aqueous ethanol solution of the following treatments 1-Control(50% aqueous ethanol). 2- IBA at 2000 ppm. 3- IBA at 4000 ppm. 4- IBA at 6000 ppm. 5- NAA at 2000 ppm . 6- NAA at 4000 ppm. 7- NAA at 6000 ppm. 8- IBA 1000 ppm +NAA 1000 ppm. 9-IBA 2000 ppm +NAA 2000 ppm and 10-IBA 3000 ppm +NAA 3000 ppm by dipping method(5 seconds). Then cuttings were inserted in plastic boxes in the case of intermittent mist experiment and black polyethylene bags in the case of polyethylene tunnel experiment where both of them were filled with a rooting medium consisted of peatmoss and sand (1:3 v/v). After twelve weeks under intermittent mist as well as polyethylene tunnel, rooting percentage, root number per cutting and average of root length were recoded. Results indicated that:-

1- **The propagation of semi hard wood cuttings of some olive cvs. under intermittent mist**

Summer collection season was the best one for rooting percentage, number of roots per cutting and average of root length of semi hardwood cuttings of the four studied olive cvs. in both seasons. Autumn seemed to be the worst season for cutting collection. Control Moluki cv. cuttings proved to be the easiest to root (36.7-57.8%) followed in decreasing order by Manzanello, (20-41.1%) Maraki (14.5-36.7%) and Khoderi cuttings (18.9-22%).The optimum auxin concentration, where alone or combined diffres greatly according to cv. and time of collection as well as season of application.

2- **The propagation of semi hard wood cuttings of some olive cvs. Under polyethelen tunnel:**–

Results indicated that,the highest rooting percentage was found for Khoderi (84.38%) at Summer time time of 2008 with IBA at 6000 ppm, for Maraki (96.88%) at Autumn time of 2007 season with NAA at 6000 ppm, for Moluki (87.50%) at Summer time of 2007 season with IBA 3000 ppm +NAA 3000 ppm and for Manzanello (84.38%) at Autumn of 2008 season with IBA at 2000 ppm. Treatment with 6000 ppm NAA gave the highest root number per cutting for Khoderi (22.85) at Summer of 2008 season and for Maraki (15.00) at Summer time of 2007 season. The longest root was recorded at Summer time of 2007 season by 4000 ppm IBA for Khoderi (9.10), 4000 ppm NAA for Maraki (14.94) and by 4000 ppm IBA for Moluki (9.87) in 2007 season.

3- **Chemical determination of some internal constituents.**

Result indicated that the greatest rooting percentage of the untreated cuttings (control) usually coincided with the highest ratio between reducing sugars and total nitrogen content. This is clearly shown in summer cuttings of Maraki cv. in both seasons and Manzanello cv. in 2007 season as well as Moluki cv. in 2008 season.

4- **The anatomical study:**

In the Maraki cv. the cortex contained of sclereides cycle it was observed in this variety as a cycle of sclarancymatic tissue composed of stone cells and fibers mixed by parenchymatic cell in between.In the Khoderi variety the cortex contained a sclereides cycle of parenchymatic cell which was a complete and compact cycle of sclarancymatic tissue composed of stone cells and fibers alternated. In the Manzanello variety the sclereides cycle was observed as a cycle of sclarancymatic tissue composed of stone cells and fibers alternated. But in this case the parenchymatic cells in between were few and with small gaps.

Key words:

Anatomical structure – Auxin treatments – Intermittent mist propagation – Nitrogen content – Olive cvs. – Polyethylene tunnel – Rooting percentage – Semi hardwood cutting – Sugars content – Vegetative propagation.

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