**Name of Candidate:** Hend Hussein Khalifa Hussein **Degree:** M.Sc.
**Title of Thesis:** Evaluation of Some Newly Peach Cultivars (*Prunus persica* L.) Grown in Egypt Under Desert Conditions.
**Supervisors:** Dr. Taher Ahmed Yehia
Dr. Ayman Abd El–Moemein Hegazi
Dr. Atef Moatamed Hussien Moatamed
**Department:** Pomology **Approval:** / /

## ABSTRACT

The present investigation aimed to study vegetative, flowering and fruit characteristics in order to evaluate and determine performance of four newly peach cultivars (Hermosillo* & Desert Pearl** & Bokkeveld** & De Wet**) grown in Egypt under desert conditions. This study was conducted during two successive seasons 2007 and 2008 on four years old peach trees budded on Nemaguard rootstock, of uniform growth in sandy soil in a private orchard at El-Khatatba region, Menofia Governorate, Egypt.

The obtained results and observations showed that Desert Pearl was the shortest flowering duration cultivar and had the highest significant percentage of vegetative buds. While, the longest duration of flowering was obtained with Bokkeveld cultivar. Highest significant percentages of fruit set were observed from De Wet and Hermosillo. De Wet was harvested early at May 22$^{th}$, 6$^{th}$ during both seasons. In terms of yield per tree Hermosillo showed significantly higher values for the studies fruit characteristics compared to other cultivars. While, the highest average fruit shape index (L/D) was obtained from Bokkeveld cultivar. Flesh color was yellow for all cultivars under study except Desert Pearl which had Light yellow Flesh.

Meanwhile, the evaluations considered Hermosillo, Desert Pearl, Bokkeveld and De Wet cultivars noticeably found as suitable cultivars for growing in Egypt. Moreover, Hermosillo considered to be promising under Egyptian conditions due to high yield and De Wet may be contribute to increased export peach cultivars as it was the earliest to reach harvest stage.

**Key words:** Peach cultivars, evaluation, vegetative growth, fruit set, yield, fruit characteristics

**Name of Candidate:** Fadia Abd El mordy Hussien **Degree**: Ph.D.
**Title of Thesis:** *In vitro* studies on somatic embryogenesis of date palm
**Supervisors:** Dr. Amina Hamed Gomaa
Dr. Mohamed Helmy Abd El Zahr
**Department:** Pomology Horticulture
**Branch:** Pomology **Approval 26 / 9/ 2011**

**ABSTRACT**

This investigation was carried out to improve the maturation and germination of date palm somatic embryos cultivars. "Um El ferakh", ""Hiane" and "Oreby". Incubation under dark or light conditions on growth regulators-free medium improved the normality of somatic embryos for all cultivars under investigation.

Germination of somatic embryos improved by incubation under light conditions on medium with low concentration of BA or 2iP (0.5 or 0.1mg/l) combined with high concentration of NAA (1.0mg/l) and medium with 1.0mg/l NAA alone. Also, germination of somatic embryos improved on medium with high concentration of BA combined with high concentration of 2,4-D (1.0mg/l) for "Um El ferakh", medium with 0.5mg/l BA combined with 0.1mg/l 2,4-D for ""Hiane" and "Oreby" cultivars., medium with 0.5 or 0.1mg/l 2,4-D alone for "Um El ferakh". and medium with 1.0mg/l 2iP alone for ""Hiane" and "Oreby" cultivars. While, incubation under dark on medium with 1.0mg/l NAA or under dark or light on medium with 1.0mg/l 2,4-D improved new embryonic callus formation for all cvs. Normality of somatic embryos improved by adding 0.1mg/l Pbz for "Um El ferakh" and "Oreby" cultivars. and adding 0.5 or 1.0mg/l Pbz for ""Hiane". Number of secondary embryos increased by adding 0.1mg/l Pbz. While, germination of somatic embryos increased by adding 1.0mg/l Ancymidol for all cultivars.

Total sugar contents of somatic embryos increased by adding 0.1mg/l Pbz while, reducing sugar contents increased by adding 1.0mg/l ABA for all cultivars. Non reducing sugar contents increased by adding 0.5mg/l Pbz for all cultivars. and also, by adding 0,1mg/l Pbz for ""Hiane" and "Oreby" cultivars. Normality, germination and growth vigor of somatic embryos improved by adding 0.5mg/l 2,4-D combined with 100mg/l asparagene. While, adding 0.5mg/l 2,4-D+ 0.5mg/l BA improved the number of secondary embryos. Adding 0.5mg/l 2,4-D combined with 0.5mg/l 2iP or 100mg/l glutamine or asparagene increased the total sugars and nonreducing sugars contents. While, 0.5mg/l 2,4-D+ 0.5mg/l 2iP increased reducing sugars contents. Adding 30g/l sucrose improved the normality and germination of somatic embryos and also, adding 120 or 130g/l mannitol improved the germination of somatic embryos. Adding 130g/l sucrose increased the number of secondary embryos. Adding 100 or 120g/l sucrose increased the total and reducing sugars contents while, adding 30g/l sucrose increased the nonreducing sugars.

**Key words**: Date palm, Somatic embryos, abnormalities, growth regulators, mannitol, glutamine, Aspargine, Germination.

**Name of Candidate:** Ahmed Salah El-Deen Mohamed **Degree:** Ph.D.
**Title of Thesis:** Effect of Irrigation Levels, Humic Acid and Amino Acids on Growth and Fruiting of Pomegranate Trees.
**Supervisors:** Dr. Magda Mahmoud Khattab
Dr. Ayman El-Sayed Shaban
Dr. Arafa Hamed El-Shrief
**Department:** Horticulture
**Branch:** Pomology **Approval:** / /

## ABSTRACT

This investigation was carried out through two successive seasons of 2007 and 2008 on 20 years old pomegranate trees of Manfalouty cv. in a sandy soil at Ismailia Governorate under drip irrigation system. This experiment was designed to: 1) Try different water levels, above and under those actually practiced in pomegranate orchards, hoping to point out to a rate that can give reasonable growth and yield, at the same time can save the use of water. 2) Study the effect of adding humic acid and amino acids as a soil water holding capacity under the low irrigation levels on growth and yield of pomegranate trees. In the first experiment the trees received the following five irrigation levels: 7 or 9 or 11 or 13 and 15$m^3$/tree/year. The highest irrigation level 15$m^3$ induced vegetative growth, flowering, fruit set, fruit retention, fruit volume, fruit grain, yield and fruit cracking. Using irrigation level of 13$m^3$ recorded the highest leaf mineral (%). Also increased fruit juice, TSS/ acid ratio and water use efficiency (WUE) and gave the lowest fruit cracking. Irrigation level 7$m^3$ decreased vegetative growth, fruit weight and yield. Also, increasing fruit cracking, TSS, acidity, sugar, V.C and anthocyanin content. In the second experiment the trees received humic acid (32-48g) or amino acids (8- 16g) tree/year mixed with lowest irrigation levels (7 and 9$m^3$) to compared with farm control (11$m^3$). Treatments of 7$m^3$ integration with either humic or amino acids gave the lowest values of vegetative growth, flowering, fruit weight, yield, fruit grain, fruit juice and WUE and highest fruit cracking, fruit chemical properties and acidity while lowest TSS/ acid ratio. The opposite results were noticed with control. Treatments of 9$m^3$ gave the moderate vegetative growth, flowering, fruit chemical and physical properties, yield and higher WUE and the best treatment was 9$m^3$ incorporation with higher doses of humic acid then amino acids.

**Key words:** Pomegranate, irrigation levels, humic acid, amino acids, fruit quality

**Name of Candidate:** Ahmed Abd-ElHady Rashedy Hemeed **Degree:** Ph.D.
**Title of Thesis:** Growth Evaluation of Some Grape Cultivars and Rootstocks Under Saline Stress Conditions
**Supervisors:** Dr. Hussein Taher Mehanna
Dr. Tarek Abd El-Aleem Fayed
**Department:** Pomology **Approval:** 16 / 5 / 2011

## ABSTRACT

Field experiments of this study were carried out at the Agricultural Experiments Desert research Station, Faculty of Agriculture, Cairo university located at Wadi El-Natroon, Behera Governorate, Egypt during the two successive seasons (2007 and 2008). The first experiment had conducted on one-year old of grapevines cultivars (Roumi Red, Flame Seedless, Thompson Seedless and Crimson Seedless) and rootstocks (Salt Creek, 1103Paulsen, Freedom and Teleki 5C). The aim of this experiment was to evaluate their growth under saline irrigation water (2640 ppm). Generally, grape cultivars gave the highest vegetative growth values (leaf area, shoot length, shoot diameter and dry weight) compared to rootstocks under studied conditions. While, Salt Creek and 1103Paulsen grape rootstocks gave the best leaf transpiration rate and stomatal diffusion resistance. The same rootstocks were excluded the uptake of chloride and sodium and their transportation to upper different plant organs.

The second experiment was to evaluate the response of two grapevine rootstocks to some salt tolerance treatments. This experiment had conducted on one-year old grapevine rootstocks, Salt Creek (*Vitis champini*) and 1103Paulsen (*V. berlandieri* × *V. rupestris*) nurslings with or without some soil application treatments including humic acid, Uni-Sal, sulphur and mycorrhizae under the same saline water irrigation. The obtained results indicated that, Salt Creek rootstock recorded the highest significant shoot length, leaf area, leaf number, root length, total plant dry weight, leaf transpiration rate and root Ca content, and it had a significant reduction in stomatal diffusion resistance (SDR) compared to 1103Paulsen rootstock. Whereas, 1103Paulsen had the best values for plant survival percentage, leaf proline content, leaf and shoot Cl and Na contents. Moreover, Uni-Sal treatment gave the highest significant shoot length, leaf area, root length, plant dry weight, leaf chlorophyll content, transpiration rate, plant K percentage and reduced significantly SDR and leaf Na percentage. Furthermore, Salt Creek rootstock with Uni-Sal treatment gave the best results.

**Key words:** Grape rootstock - Grape cultivar - Salt Tolerance - Humic acid - Uni-Sal - Sulphur - Mycorrhizae - Saline water- stress.

**Name of Candidate:** Amal Ahmed El-Sayed El-Baowab **Degree:** Ph.D.
**Title of Thesis:** Morphological and Histological Studies on Using of Some Methods of Propagation Citrus Trees
**Supervisors:** Dr. Mohamed Abd El-Gawad Shaheen
Dr. Mohamed Helmy Abd El-Zaher
Dr. Mohamed Hussien SaadAllah
**Department:** Pomology **Approval:** 16 / 4 / 2011

**ABSTRACT**

Morphological, histological and molecular main studies, conducted over three overlapped seasons i.e. 2004/ 05 and 2005/06 and 2006/07 at the Exp. area of Horticulture Research Institute, Giza, were mainly performed for distinguishing zygotic and nucellar seedlings of some citrus rootstocks. Seeds of three citrus rootstocks, which had commonly used in newly reclaimed lands, e.g. Volkamer lemon (*Citrus volkameriana* Ten. & Pasq.), Rangpur lime (C*itrus limonia,* Osbeck) and Cleopatra mandarin (*Citrus reshni* Hort. Ex Tan.) were soaked in a combined solution of $GA_3$ 200 ppm and $KNO_3$ 0.1% for 24 h to enhance germination, shorten the pre-emergence period and increase the production of seedling budlings. Other seeds of each rootstock were kept un-treated (control). Period till germination, germination percentage and morphological parameters of seedlings during both nursery and pre-grafting stages were monitored. Seedlings of 6-month-old, based on their size, were classified into two different categories (large and small) and transplanted into bags till grafting time. Top-cleft grafting to sweet orange cv. Valencia (*C. sinensis* (L) Osbeck) as a scion, in both autumn and spring seasons, were carried out to investigate the compatibility and horticultural performance of the classified stocks seedlings. Morphological measurements and leaf chemical determinations of the scion were assessed. Anatomical studies, in rootstocks seeds, to histologically define zygotic and nucellar embryos, and union graft region, to assess the compatibility of both types of rootstock seedlings, were investigated. Randomly amplified polymorphic DNA (RAPD-PCR) technique was used to identify nucellar and sexual 45-day-old seedlings of the three candidate citrus rootstocks with their mother trees. Primers OP-A2, OP-A8, OP-A18, OP-B3, OP-B4 and OP-B6 were used to identify rootstock genotypes. For most growth parameters of nursery stage, Volkamer lemon under pre-sowing $GA_3$-$KNO_3$ treatment gave the promising outcome of 97.03% germination percent. Cleopatra mandarin under control treatment acquired the most number of days till germination (35.53 for 2004-season and 36.29 days for 2005-season). Volkamer lemon was found to be promising followed by Rangpur lime whereas Cleopatra mandarin rootstock performed poorly in relation to stem length, number of leaves, leaf area, shoots, stem and root fresh and dry weights. Nucellar seedlings and Volkamer lemon rootstock had the supremacy over sexual seedlings and other studied rootstocks in vegetative growth parameters throughout pre-grafting stage. In graftage stage, nucellar Rangpur grafted in autumn attained the maximum graftage success percentage (95.69% for the first season and 94.27% for the second season). Seedlings classified as zygotic (sexual) have a different RAPD profile compared to either the mother plant or nucellar (vegetative) seedlings and all nucellar plants showed 100% similarity. OP-B04 primer was able to identify all zygotic seedlings. The highest similarity value (100%) was scored between nucellar Volkamer lemon and its mother plant. The anatomical figures indicated that $GA_3$-$KNO_3$ treatment had a positive effect on growth of embryos and germination of rootstock's seeds. Cleft grafting recorded a success and vascular connection at the graft union which reflected high compatibility between Valencia orange scion and the studied rootstocks.

**Key words:** Citrus, rootstocks, zygotic seedling, nucellar seedling, RAPD technique, top cleft grafting, seed anatomy, union graft anatomy

**Name of Candidate:** Hussein Sayed Ahmed Mohamed **Degree:** Ph.D.
**Title of Thesis:** Effect of Some *In Vitro* Propagation Methods on Production of Citrus Plants Having Good Vegetative and Reproductive Characters
**Supervisors:** Dr. Mohamed Abd AL-gawad Shaheen
Dr. Mohamed Helme Abd El-Zaher
Dr. Abd El-Rahman Mohamed Abd El-Rahman
Dr. Ahmed Abbas Nwer
**Department:** Horticulture Pomology **Approval:** 9/4/2011

## ABSTRACT

This investigation was carried out during the seasons of 2006 to 2009 on three cultivars of citrus namely Valencia orange (*Citrus sinensis*), Navel orange Var. Washington (*Citrus sinensis*) and Balady Mandarin (*Citrus deliciosa Tan.*), parts of immature fruits included juice vesicle and albedo tissues as explants to study the effect of cultivars, explants and nutrient media on *in vitro* growth and development of these citrus cultivars.

Data revealed that sterilizing the explants by 20% Clorox for 15 min. and 70% ethanol gave 100% recovered explants on both studied seasons.

This experiment was carried out to study the effect of MS medium with 2, 4-D at 0.0, 0.5, 1, 2 or 3 mg/l, activated charcoal at 1 g/l. and kinetin at concentrations of 0.00, 0.10, 0.25, 0.50 or 1.00 mg/l for embryogenesis.

MS medium supplemented with BA at concentrations of 0.5, 1.0, 2.0 or 4.0 mg/1, NAA at concentrations of 0.25 or 0.5 mg/1 and $GA_3$ at concentrations of 0.5 or 1.0 mg/1 for adventitious shoot induction.

MS medium supplemented with NAA at concentrations of 0.5 or 2.0 mg/1, IBA at concentrations of 0.5 or 2.0 mg/1 and BA at 0.25 mg/1 for rooting. The acclimatization has done in a mixture of sand: peat moss: compost (1:1:1, v:v:v).

MS media with 2,4-D at 3 mg/l. with kinetin at 0.1 mg/l. significantly increased the callused explants and callus diameter. MS media with 2,4-D at 1 mg/l. and kinetin at 0.25 mg/l. significantly increased embryo length and embryo number/explant. MS media with BA at 2 mg/l, NAA at 0.5 mg/l and $GA_3$ at 0.5 mg/l. significantly increased the shoot number/explant and the leaves number/explant. Also, MS with BA at 0.5 mg/l, NAA at 0.25 mg/l. $GA_3$ at 1 mg/l. significantly increased the shoot length.

MS media supplemented with NAA at 2 mg/l., IBA at 2 mg/l. and BA at 0.25 mg/l. significantly increased the root number/explant. MS media supplemented with NAA at 0.5 mg/l., IBA at 0.5 mg/l. and BA at 0.25 mg/l. significantly increased the root length. The results of acclimatization were 80-85% success, 8.00 leaves/plantlet and 30.0 cm stem length.

**Key words:** Citrus, Valencia orange**,** Navel orange Var. Washington, Balady Mandarin**,** juice vesicle, albedo tissues, *in vitro***,** Clorox**,** Ethanol, kinetin, activated charcoal and acclimatization.

**Name of Candidate:** Atef Yakoub Haleem Yakoub **Degree:** Ph.D.
**Title of Thesis:** Study of Some Factors and Treatments Related to Floral Bud Induction of Some Olive Cultivars.
**Supervisors:** Dr. George Ramzy Stino
Dr. Ramzy George Stino
Dr. Ibrahim Elshenawy Elshenawy
Dr. Hassan Mohamed Rashad
Dr. Ismail Abd El-Galil Hussein
**Department:** Pomology **Approval:** 26/ 3/ 2011

## ABSTRACT

This study was conducted during the 2006-2007 and 2007-2008 seasons on trees of olive 'Picual' and 'Manzanillo' grown in a private orchard at Rafah, North Sinai. This investigation comprised two experiments; first experiment was designed to determine the induction period anatomically and by using leaf defoliation and study changes in endogenous content related to it in leaf and bud. In the second experiment conducted treatments (thinning at 50 % and 50 %, Mepiquat chloride spray at 500, 1000, 1500 and 2000 ppm) were used on trees at "on" bearing status to study their effect on flowering and its parameters and yield and its characteristics in the following season.
The obtained results could be summarized as follows:

It is clear from results in first experiment floral induction period starting from July and August and continue till November, changes in endogenous content related to floral bud induction showed increasing in total carbohydrates, C/N ratio, potassium, total and reducing sugars and total amino acids and decreasing in total nitrogen and total phenols on leaf and bud.

Results in second experiment clarify effect of treatments on flowering parameters (flowering density, length of inflorescence, panicles/ inflorescence, flowers per inflorescence, sex ratio), fruit set and retention, yield and its parameters. In general highest significant effect on floral and fruiting parameters was found attributed to thinning 50 % of fruits in both cultivars and seasons.

Study of direction effect on flowering and its parameters and fruit set show significantly differences between four directions on these parameters, shoots at southern and northern direction carried the highest results with these parameters in both seasons and cultivars.

**Key words:** Olive, 'Manzanillo', 'Picual', floral induction, flowering, Mepiquat chloride, endogenous chemicals, bearing status.

**/استمارة معلومات الرسائل التى تمت مناقشتها**

**الكلية / المعهد :** **كلية الزراعة** **القسم** بساتين الفاكهة

١ - **الدرجة العلمية :** ماجستير [✓] دكتوراه [ ]

٢ - بيانات الرسالة :

**عنوان الرسالة باللغة العربية :**

**تحمل الفليم سيدلس وأصلين من أصول العنب للري بالماء المالح**

**عنوان الرسالة باللغة الأجنبية :**

**TOLERANCE OF FLAME SEEDLESS AND TWO GRAPEVINE ROOTSTOCKS TO IRRIGATION WITH SALINE WATER**

التخصص الدقيق : بساتين الفاكهة

تاريخ المناقشة : ٢٠١١/١١/٣

٣ - **بيانات الطالب :**

الاسم : وسيم حسن ياسين الجنسية : سوري النوع : ذكر

العنوان : الجيزة – الهرم – شارع اللواء فاروق الصاوي عمارات الضباط ع ٢٠

تليفون ٠١٧٢٠٢٩٢٩٢

جهة العمل : طالب موفد البريد الإلكترونى :wasimyasinn@yahoo.com

٤ - **المشرفون على الرسالة :**

| الاسم | القسم | الكلية | الجامعة |
|---|---|---|---|
| **أ.د/ أحمد توفيق محمد سالم** | **الفاكهة** | **كلية الزراعة** | **جامعة القاهرة** |
| **أ.د/ يوسف علي عبد العال** | **الأراضي** | **كلية الزراعة** | **جامعة القاهرة** |
| **د/ محمد عبد العزيز عبد المحسن** | **الفاكهة** | **كلية الزراعة** | **جامعة القاهرة** |

**٥ - مستخلص الرسالة ( Abstract )**

**٥ - ١ باللغة العربية : بشرط ألا يزيد عن ٧ أسطر**

المستخلص العربي: أجريت تجربة الأصص في هذه الدراسة بإحدى الصوب التابعة لقسم بساتين الفاكهة كلية الزراعة جامعة القاهرة خلال موسمي ٢٠٠٩ و ٢٠١٠. واشتملت التجربة على صنف العنب فليم سيدلس و الأصلين فريدوم ورمزي والصنف فليم سيدلس مطعما على كل من الأصلين السابقين. وهدفت التجربة لتقييم مدى التحمل وقدرتها على النمو ومحتوى الشتلات من الكلوروفيل، الحمض الأميني برولين، الكربوهيدرات الكلية الى جانب العناصر المعدنية تحت ظروف الري بالماء الملحي. أشارت النتائج إلى أن نباتات الفليم سيدلس المطعومة على الأصل رمزي و الأصل رمزي كانت الأكثر تحملا للري بمعدلات الملوحة تحت ظروف التجربة المدروسة.

الكلمات الداله (أصول العنب – أصناف العنب – رمزي – فريدوم– فليم سيدلس– الماء المالح و الإجهاد)

**٥ ـ ٢ باللغة الأجنبية : بشرط ألا يزيد عن ٧ أسطر**

Abstract: A pot experiment was carried out during two seasons of 2009 and 2010 under greenhouse conditions in the nursery of pomology department, Faculty of Agriculture, Cairo University. Grape cultivar Flame Seedless on own root or grafted on two grape rootstocks Freedom and Ramsey as well as the two previous rootstocks rooted were conducted to evaluate their growth and chemical compounds under the condition of irrigation with saline water. The obtained results indicated that transplants of Flame Seedless on Ramsey rootstock besides Ramsey rootstock were the most tolerant plants to irrigation with the studied salinity treatments.

( Key Words : Grape, Rootstocks, Cultivar, Ramsey, Freedom, Flame Seedless, Tolerance and Saline water.

٦ - **<u>أهم النتائج التطبيقية التى تم التوصل إليها</u> :**

( لا تزيد عن سطرين لكل منها )

٦ - ١ امكانية استخدام الاصل رمزي المتحمل للملوحة وبالتالي يمكن تطعيم العنب الفليم سيدلس عليه للتوسع الزراعي في المناطق التي تعاني من مشاكل ملوحة ماء الري.

٦ - ٢ أظهر الاصل رمزي والصنف الفليم سيدلس المطعوم عليه افضل النتائج من حيث النمو الخضري ومحتوى الاوراق من الصبغات والكربوهيدرات واقل محتوى للاوراق من الصوديوم والكلوريد والحمض الاميني البرولين.

٦ - ٣ الأصل فريدوم الأكثر حساسية للملوحة مقارنة بالأصل رمزي.

٦ - ٤ تجنب زراعة الأصل فريدوم والصنف فليم سيدلس المطعوم عليه في الاراضي التي تروى بماء تصل نسبة الملوحة فيه لأكثر من ٢٠٠٠ جزء بالمليون

**٧ - ما هى الجهات التى يمكن أن تستفيد من هذا البحث :**

٧ -١ وزارة الزراعة في الجمهورية العربية السورية
٧ -٢ الهيئة العامة للبحوث العلمية الزراعية
٧-٣ وزارة التعليم العالي

يمكن الاستفادة من النتائج التي تم التوصل اليها في الرسالة العلمية وتطبيقها علـــى أصـــناف العنب المزروعة في الأراضي الزراعية في الجمهورية العربية السورية. كما يمكـــن اعتمـــاد الرسالة العلمية كمرجع علمي.

**٨ - هل توجد علاقة قائمة بإحدى هذا الجهات :** **نعم** ☐ **لا** ☑

**فى حالة نعم اذكر هذه الجهات :**

٨ - ١

٨ - ٢

٨ - ٣

**ما هى طبيعة العلاقة :**

مشروع بحثى ☐

تعاون أكاديمى ☐

مشروع ممول من جهة ثالثة ☐ ( اذكر ما هى : )

أخرى ☐ ( تذكر )

**٩ – <u>هل توافق على التعاون مع جهات مستفيدة من خلال الجامعة :</u>**

**لا** ☐ **( لماذا )**

نعم ☑

(أ) لتطبيق البحث : ☑

(ب) لاستكمال البحث : ☐

(ج ) أخرى ☐ **( تذكر )**

**١٠ – <u>هل تم نشر بحوث مستخرجة من الرسالة فى مجلات أو مؤتمرات علمية</u>**

١٠ – ١ نعم وتم النشر في مجلـــة Journal of Horticultural Science &Ornamental Plants(JHSOP)
في الباكستان بالعدد 3(3):207-219,2011

**١١ – <u>هل سبق التقدم لتسجيل براءات اختراع</u>** ( تذكر مع الجهة و المكان و التاريخ )

لا

**١٢ – <u>هل توافق على إعطاء البيانات المذكورة فى هذه الاستمارة لجهات أخرى</u>**

نعم ☑ لا ☐

توقيع الطالب : توقيع المشرفين :

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وكيل الكلية ( المعهد ) للدراسات العليا و البحوث : التاريخ

**Name of Candidate:** Ibrahim Samir Ali Hmmam **Degree:** M.Sc.
**Title of Thesis:** Response of Five Transplants Olive Cultivars to Salinity and Drought Treatments.
**Supervisors:** Dr. Mohamed Abd-Elgawad Shaheen
Dr. Ayman Abd-Elmomen Hegazi
**Department:** Pomology **Approval:** 22 /10 /2011

## ABSTRACT

The present study was carried out during two successive seasons 2009 and 2010 in greenhouse of the Pomology Department, Faculty of Agriculture, Cairo University, on five olive (*Olea europaea* L.) cultivars (Picual, Koroneiki , Manzanillo , Coratina and Eggizi Shami). One-year-old uniformed transplants were transplanted in sand culture. This study included two experiments:

The first experiment studied the effect of salt stress on transplants of the previous five olive cultivars. In this experiment, five salt treatments of Sodium chloride [0 (control), 50, 100, 150 and 200 mM/L] were used. These treatments were added through irrigation water. The obtained results showed that increasing salinity concentration decreased the survival percentage, transplant length, diameter, leaves number/transplant, leaf area, fresh and dry weight of vegetative and root/transplant, leaves content of N, P, K, Ca and chlorophyll. On the other hand, leaves content of Na, Cl and proline content were increased.

The second experiment studied the effect of drought stress on olive transplants. In this experiment, four treatments of irrigation levels [100 (control), 75, 50 and 25% of field capacity] were applied for the previous five olive cultivars. The obtained results showed that decreasing the irrigation water decreased the transplant length, diameter, leaves number/transplant, leaf area, fresh and dry weight of vegetative and root/transplant, leaves content of N, P, K, Ca, Na and Cl, while there were no significant differences between treatments in proline content. Also, leaves chlorophyll content, leaf water and relative water content were decreased.

Concerning the effect of cultivars, Koroneiki cv. recorded the highest tolerance to salinity and drought stress followed by Coratina and Picual cultivars, while Eggizi Shami and Manzanillo cultivars were the lowest tolerance to salinity and drought stress.

**Key words:** *Olea europaea* L.; olive transplants; salinity; sodium chloride; drought; field capacity.

**Name of Candidate:** Shady Ibrahim Mahmoud Radwan **Degree:** M.Sc.
**Title of Thesis:** Effect of Microelements, Amino Acids and Humic Acid on Growth, Flowering and Fruiting of Some Mango Cultivars.
**Supervisors:** Dr. Samy El-Kosary Melegy
Dr. Ibrahim El-Shenawy Ghounim
**Department:** Pomology **Branch:** **Approval: 30/11/2011**

## ABSTRACT

This investigation was carried out during two successive seasons (2008/2009 and 2009/2010) on 6 years old "Keitt" and "Ewais" mango (*Mangifera indica* .L). The trees are grown in a sandy soil under drip irrigation system. The treatments were: T1: 0.5 g Tradecorp AZll/l., T2: 0.5 g Tradecorp AZll/l + 40 cm Helpstar/tree., T3: 3cm Delfan/l., T4: 3cm Delfan/l + 40 cm Helpstar/tree., T5: 3cm Aton AZ plus/l., T6: 3cm Aton AZ plus/l + 40 cm Helpstar/tree., T7: 40cm Helpstar/tree., T8: Control (sprayed with water). The results indicated that both cultivars sprayed by ½ g Tradecorp AZll/l and soil supplementation by 40 cm Helpstar/tree produced the highest values of growth cycle number, shoot length, diameter of newly formed shoots, leaf length, leaf width and leaf area comparing with other treatments used in the two seasons. "Ewais" mango cultivar produced the highest malformation percentage and setting fruits number than "Keitt" mango cultivar in both seasons. Whereas, retained fruits% was higher with "Keitt" mango cultivar in the two seasons. "Keitt" mango cultivar sprayed by ½ g Tradecorp AZll/l with or without 40 cm Helpstar/tree produced the lowest malformation% in the two seasons. In addition, spraying ½ g Tradecorp AZll/l + soil supplementation by 40 cm Helpstar/tree significantly increased the yield per tree of the two cultivars. Adding 40cm Helpstar/tree only or with spraying ½ g Tradecorp AZll/l improved fruit weight, fruit length, fruit width, fruit size and fruit firmness in the two seasons. Spraying ½ g Tradecorp AZll/l with soil supplementation by 40 cm Helpstar/tree with "Ewais" fruits gave the highest significant fruit total soluble solids, total sugar % and lowest acidity % comparing with other interactions used in the two seasons. Adding 40cm Helpstar/tree as soil supplementation only or with spraying 3cm Delfan/l improved leaves N, Ca and total amino acids content of both cultivars.

**Key words:** Tradecorp AZll, helpstar, delfan, aton AZ plus, growth, malformation, fruiting, Keitt and Ewais mango.

**Name of Candidate:** Ismail Ahmed Ibrahim Emam **Degree:** M. Sc.
**Title of Thesis:** Pre and Post Harvest Studies on Colouring, Fruit quality and Storability of Flame Seedless Grapes
**Supervisors:** Dr. Sahar Mohamed Abd El-Wahab
Dr. Abd El-Rahman Abd El-Ghafar Abd El-Hafeez
**Department:** Horticulture Pomology
**Approval: / / 2011**

## ABSTRACT

To improve fruit quality and storability of 'Flame seedless' table grape cultivar (*Vitis vinifera*, L.), potassium (1.5%), glucose (0.15%) and potassium (1.5%) plus glucose (0.15%) were applied as spraying vegetative growth & clusters at Veraison (phase III - stage 1) or spraying vegetative growth & clusters or clusters only at 20% berry coloring (stage 2) by ethrel at 250 or 500 ppm through 2007 and 2008 seasons in private farm at Eltayara area, Belbeis, El-Sharkia Governorate, Egypt.

Results revealed that, the highest texture value was obtained by potassium followed by potassium + glucose. Spraying clusters by ethrel at 500 ppm decreased berry texture and achieved the lowest value of texture. All concentrations of ethrel either on cluster or foliar application treatment reduced berry hue angle color (increased red skin color) and increased anthothyanin percentage more than control, potassium and glucose treatments. The differences within ethrel treatments were not significant at $P \geq 0.05$. All concentrations of ethrel treatments and control increased significantly berry weight loss % more than glucose and potassium either each alone or in combination with glucose. Ethrel at 500 ppm exhibited the highest values of berries decay percentages compared with untreated fruits. Potassium plus glucose or glucose treatments recorded the least values of berries decay percentages. Potassium + glucose recorded the highest contents of TSS, TSS/acid ratio and sugars content and the lowest total acidity in grape berries.

In brief, the application of potassium plus glucose or glucose treatments as foliar application at Veraison (phase III) had more pronounced positive effect on quality of "Flame seedless" berries during storage at 0°C. Sprayed clusters alone or clusters and foliar application at 20% berry coloring stage by ethrel at 500 ppm gave the highest anthocyanin and sugars content and least value of hue angle skin color (from reddish orange to red) at harvest date.

Regression and correlation analysis indicate that the relation between anthocyanin and hue angle was highly significant, and TSS/acid ratio character was contributed in the total variation of anthocyanin by 93.6%.

**Key words:** Table grape, Flame seedless, Ethrel, Potassium, Glucose, Berry quality, Cold storage.

**Name of Candidate:** Mohamed Ahmed Abd El-Wahab Eliwa **Degree:** M.Sc.
**Title of Thesis:** Enhancing the Productivity and Fruit Quality of Le Conte Pear trees via Growth Regulators, Nutrients and Amino Acids
**Supervisors:** Dr. Remzi Gorge Stino
Dr. Abeer Tahsin Mohsen
Dr. Mohamed Mohammod Yehia
**Department:** Pomology **Approval:** / /

## ABSTRACT

This study was carried out during two successive seasons 2008 and 2009 on mature "Le Conte" pear trees. Selected trees were sprayed Stimulate at 0.5%, Stimulate at 0.5 + X-Cyte at 1%, Stimulate at 0.5%. + Sett at 1.5%, Antistress at 0.3%, Potassium Phosphite at 2.5%, Pepton at 1000ppm, Berelex 15ppm a.i. and control. Treatments were sprayed with the specified solutions till run off at full bloom stage (70% of flower buds reached the stage of full open) except for Berelex which was applied three times at 30%, 60% and 100% open flower stages at 15ppm every time. Then selected trees were sprayed Pepton at 1000 ppm, Antistress at 0.3%, Potassium Phosphite at 2.5%, and Nitrite balancer. Treatments were sprayed with the specified solutions till run off at three times after fruit set stage (mid May, mid June and mid July) on pear trees. The basic productivity, fruit quality, vegetative growth parameters were assessed. All the applied treatments significantly increased initial fruit set, decreased fruit abscission, increased yield and enhanced fruit quality compared with the control trees. Immunity isozymes showed clear enhancements in activity due to treatments and this might be the indirect reason for the better productivity in addition to the direct effect of treatments. Highest significant effects were due to Stimulate + X-Cyte treatment which in a way led to better fruit quality in terms of both TSS% and firmness. This treatment also induced highest P and Ca leaf contents. Reasons for this effect might be directly due to the effects of these growth regulators in increasing the parthenocarpic setting, cell division and elongation or indirectly as a result of the increased calcium and phosphorus in the leaves which have positive effects on productivity and quality. Potassium Phosphite followed in its' effect might be attributed directly to its' nutritive effect in increasing the potassium content or in directly due to enhancing trees immunity towards bacterial and fungal diseases that destroy, abscise or abort the blossoms. Antistress treatment was sprayed at three times after fruit set stage (mid May, mid June and mid July) on pear trees Induced significantly the highest average fruit weight, volume, length and diameter.

**Key words:** "Le Conte" pear, Stimulate, X-cyte, Sett, Antistress, Potassium Phosphite, Pepton, Berelex, Productivity, Fruit quality

**Name of Candidate:** Alaa Samy Abd El Rahman **Degree:** M.Sc.
**Title of Thesis:** Response of Florda Prince Peach trees to foliar applications of Compost tea, Amino Acids, CPPU and $KNO_3$.
**Supervisors:** Dr. Ramzy George Stino
Dr. Tarek Abd El-Aleem Fayed
Dr. Mohamed Mahmoud Ali
**Department:** Pomology **Approval**: / /

## ABSTRACT

This study was carried out during the two successive seasons of 2006/2007 & 2007/2008 on Florda Prince peach aged four years and budded on Nemagard rootstock. Trees were grown in a sandy soil of a private orchard at Wadi El-Faregh region, Giza governorate, Egypt. Selected trees were sprayed three times at 15 days intervals after fruit set. Treatments were compost tea (T1), 1000 ppm Amino acids (T2), 10 ppm sitofex (CPPU, 2-Chloro-4-pridyl phenyl urea) (T3), 1000 ppm $KNO_3$ (T4), T1+T3, T1+T4, T2+T3, T2+T4, T3+T4, T2+T3+T4, T1+T3+T4. The control was sprayed with water. Results clarified that the highest incremental increase of yield, fruit physical properties, juice acidity and total amino acids content of fruits received were those sprayed by sitofex treatments. Alternately sitofex decreased markedly both juice TSS and the anthocyanin content. The positive effects on juice TSS and anthocyanin content were observed under both amino acids+$KNO_3$ and the compost tea +$KNO_3$ treatments. In contradiction there treatments markedly decreased the juice acidity percentage. In general triple treatments enhanced the leaf content of macro nutrients and photosynthetic pigments more effectively than both double and single treatments. Generally, sitofex successfully enhanced the yield and most of the fruit characteristics: It's draw backs being It's effect in increasing firmness and acidity, and decreasing TSS and anthocyanin i.e. retarding maturity. In addition, amino acids + $KNO_3$ and the compost tea + $KNO_3$ treatments decreasing afore mentioned draw backs. Triple treatments in a way overcame this draw backs. They increased the leaf content of macro nutrients (basically N a major content of chlorophyll) which resulted in higher photosynthetic pigments which led to higher photosynthetic activity which might be the cause of the enhancements achieved.

**Key words:** Amino acids, compost tea, sitofex, Florda Prince, foliar application, Fruit quality, $KNO_3$, Peach.

**اسم الطالب:** مدحت حامد عبد النافع **الدرجة:** الماجستير
**عنوان الرسالة**: تأثير التسميد العضوى على الموز الوليامز النامي في التربة الرملية.
**المشرفون: دكتور:** محمد رضا بركات
**دكتور:** سامى القصرى مليجى
**القسم:بساتين الفاكهة** **تاريخ منح الدرجة: ٧ / ٧ / ٢٠١١**

## المستخلص العربى

أجريت هذه الدراسة خلال موسمي ٢٠٠٧/٢٠٠٨– ٢٠٠٨/٢٠٠٩ في مزرعة خاصة بمنطقة البستان– طريق مصر إسكندرية الصحراوي بمحافظة البحيرة – مصر. وتضمنت الدراسة صنف الموز الوليامز , و المنزرع تحت نظام الري بالتنقيط .و تهدف إلى دراسة استجابة الموز الوليامز للتسميد العضوي باستخدام ثلاث جرعات محسوبة على أساس معدل التسميد المعدني الموصى به حيث كانت الكميه المضافة نصف جرعة وجرعة كاملة والجرعة مرة ونصف بالإضافة لمعاملة المقارنة والتي سمدت بالسماد المعدني بالجرعة الموصى بها وقد استخدمت الجرعات الثلاثة منفردة أو بالإضافة إلى الكائنات الحية الدقيقة النشطة.

وقد أظهرت النتائج أن استخدام جرعة كاملة من السماد العضوي ( 400 N + 250 P + 900 K g /plant) أو مرة ونصف منها (600 N + 375 P + 1350 K g /plant) قد أدت إلى تحسين جميع المواصفات التي تم دراستها سواء أضيفت هذه المعدلات من التسميد العضوي منفردة أو مضافا إليها الكائنات الحية الدقيقة النشطة.

وكذلك وجد أن استخدام التسميد العضوي بمعدل مرة ونصف أدى لزيادة وزن السباطة وجودة الثمار والصفات الخضرية لنبات الموز الوليامز و صافى الربح بالإضافة إلى ذلك فان الإضافة المستمرة من التسميد العضوي (التأثير تراكمي) كان متفوقا على استخدام التسميد العضوي للمرة الأولى فقط.

أيضا فإن الصفات الكيميائية للثمار تأثرت بمعاملات التسميد العضوي منفردة أو مضافا إليها الكائنات الحية الدقيقة النشطة وعلى الجانب الآخر فان نباتات المقارنة التي أضيف لها الدفعات المعدنية الموصى بها كانت أفضل من تلك التي أضيف لها نصف كمية السماد العضوي.

**الكلمات الدالة**: **الموز، التسميد الحيوي، أى إم، التسميد، خصائص الثمار، التسميد العضوي، الوليامز.**