University of Thi-Qar Journal of agricultural research

ISSN Onlin:2708-9347, ISSN Print: 2708-9339 Volume 11, Issue 1 (2022) PP 102-110

https://jam.utq.edu.iq/index.php/main https://doi.org/10.54174/UTJagr.Vo11.N1/12

Effect of Gorogreen five frctus and pollen Cultivar on some physical and Chemical properties of date palm fruits Phoenix dactylifera L . variety resulting from a thesis tissue culture of Barhi

[1]Batool Hanoon Falih Al_ Zubaidy, [2]Sarah Jawad Kazem Al Mousawi

[1]*Email : Batool.z@utq.edu.iq*

[2]*Email: Sarhjwad4.post.am@utq.edu.iq*

Iraq/University of Dhi Qar, College of Agriculture and the Marshes , Landbruksdirektoratet Iraq Landbruksdepartementet

[1]Department of Horticulture and Garden Engineering

[2]Al-Shuyoukh Market Agriculture Division

Abstract

This study was conducted during the current growing season (2020-2021) in one of the private orchards located in the south of Thi_Qar Governorate and the cultivated area is imagining dates. Phoenix dactylifera L cultivar Barhi resulting. From tissue culture at the age of (6) years, to study the effect of spraying with Gorogreen live fructus and the pollen variety and knowing their effect on nutrients and the rate of maturity of imagining dates. (ml liter), and classify the vaccine represented by the two types of vaccine (Ghanami green and male) and the interaction between them in the Khalal and wet phases The study showed the superiority of spraying Gorogreen five fructus at a concentration of (1.5) ml/liter, and it achieved the highest increase in nutrients (PN and), and the results of the study showed the superiority of the green ovine pollen variety in terms of enriched elements (P. N. K) for the fantasy and wets tages in Hala lstage As for the interaction between Gorogreen five fructus on a liter and the pollen variety, it was significant in nitrogen and potassium in the disagreement stage, and the effect of the interaction was upper in the phosphorous element in the wet stage .

I. INTRODUCTION

The hair palm is prepared | Phoenix tyler is one of the trees whose name and history have been associated with the region to Arabic since ancient times, and after Iraq is one of the most date-producing countries in the world, but the productivity of the transformation in Iraq has been scrutinized in recent years in light of the appropriate environmental conditions and dependence on traditional and slow production methods and the lack of use and application of advanced technologies Weakness of agricultural service operations, which is one of the most important factors affecting the success and production of date palm cultivation, as tissue culture was considered one of the quick and sure ways to fill the shortage in the numbers of palm trees (Al Kubaisi, 2007). Hamid (2001) in Iraq came to find a

University of Thi-Qar Journal of agricultural research

ISSN Onlin:2708-9347, ISSN Print: 2708-9339 Volume 11, Issue 1 (2022) PP 102-110

https://jam.utq.edu.iq/index.php/main https://doi.org/10.54174/UTJagr.Vo11.N1/12

program for the multiplication of several varieties of date imagining through plant tissue culture during the past few years of the current century, as the cultivation of date imagining tissue took important steps in the paths of modernization and to restore palm trees to areas that disappeared from them and increase the agricultural area in In other areas, the use of nutrients achieves many benefits when used as a habit of balancing and activating vital processes, increasing crop productivity and the current high quality of chemicals and after fertilization. , and as many of the crops are associated with the use of the infectious director, and this increases the amount of proteins that achieve successively in food components in every way and color shot to the environment. Dlnare et al. (2012).

II. Materials and working methods

This study was conducted during the current growing season 2020-2021 in one of the private orchards located in the south of Dhi Qar Governorate, which is planted with date palms resulting from tissue culture at the age of (6) years, to study the effect of two types of male pollen (Ghanami green and Khakri) and the effect of Gorogreen five fructus On the sugars and the ripening rate of the date palm fruits (Barhi variety), the Barhi variety was chosen because it is one of the rare varieties whose presence is concentrated in Dhi Qar Governorate under the palm trees on 3/29/2121. The same palm pollen Alghanami green. Al-Ghanami Al-Akhdar variety is considered one of the best-known male varieties whose cultivation is spread in Dhi Qar governorate. This variety was chosen for its superiority in the vitality and mechanisms of pollen grains over the rest of the other male varieties of date palm distributed in the governorate. The trees were manually hollowed out, and all agricultural operations were carried out, including individualization, drooping, and pesticide control, according to the method and methods used in Palm orchards in the region Study Parameters The first factor was pollen, where palm trees were scorched with two different leaves of Shukriya pollen (Ghanami Al Akhdar and Al-Khokri variety), and the second factor: the Gorogreen live fructus feeder. 0, 0.5, 1 and 1.5) of the order "in the form of batches For each spray and the other seven days Nitrogen The results showed in Table (1) the effect of the concentration of Grogreen five fractus ml per liter of the vaccine and the interaction between them in the percentage of nitrogen 196 in the Khalal stage. Al-Barhi classified as a result of tissue culture until the exclusive Al-Ghanami cultivar had a significant effect on the percentage of protein by giving the highest value amounted to (145-2) in comparison with male genitalia with a rate of (1.516)% as the results of the same table showed that the effect of spraying concentrations of green five fractus (0), 0.5, 1 and 15 ml l') led to the treatment exceeding 1.5 ml l "In giving the highest percentage rate of nitrogen by (024.22)% compared to the comparison treatment that gave a rate of (1:570)% As for the effect of the interaction between the Grogreen five fractus gm liter - and the vaccine class, the results showed in Table (1) that the effect on the nitrogen rate % was higher, where the green food was significantly superior in all of its treatments in giving the highest rate in the treatment 1.5 g liter The percentage of nitrogen in the fruit was (2.314)%, while the male cultivar gave the lowest rate of achievement with the comparison treatment at (1.113) The results of the table (2) showed the effect of the Grogreen five fractus concentration in grams and liters and classify The pollen and the interaction between them in the percentage of nitrogen (%) in the wet stage of the Barhi cultivar produced from the tissue culture if the treatments of the Al-Ghanami Al-Akhdar variety outperformed them in giving the highest rate of the male follicle treatments that amounted to (1.0000 and 0.8474) %, respectively Also, the effect of the amount of spraying with the Grogreen five traclus (0, 0.5, 1, and 1.5) g liter had a significant effect on the percentage of married 6 persons, where the 1.5 g liter spraying treatments were significantly superior in giving the highest nitrogen percentage, the percentage of nitrogen, by Compared to the comparison treatment that.

University of Thi-Qar Journal of agricultural research

ISSN Onlin:2708-9347, ISSN Print: 2708-9339 Volume 11, Issue 1 (2022) PP 102-110

https://jam.utq.edu.iq/index.php/main https://doi.org/10.54174/UTJagr.Vo11.N1/12

Table (1) Effect of the concentration of Grogreen five fractus ml/liter Classification of vaccine and interference Cinema in the percentage of nitrogen (%) in the stage of the progenitor progenitor output of tissue culture.

average class the vaccine	gm liter Grogreen five fractus concentration				class of vaccine
	1.5	1	0.5	0	
2.145	2.314	2.144	2.096	2.027	green gummy
1.516	1.735	1.686	1.531	1.113	KHKRI
	2.024	1.915	1.814	1.570	average Grogreen five fractus
overlap	Grogreenfive fractus		class of vaccine		LSD≤ 0.05
0.0920	0.0651		0.0460		
average class the vaccine	gm liter Grogreen five fractus concentration				class of vaccine
	1.5	1	0.5	0	
1.0000	1.2247	1.0303	0.9077	0.8373	green gummy
0.8474	0.9827	0.8727	0.8063	0.7280	KHKRI

Table (2) based on the concentration of the Grogreen five fractus to 1 liter and the classification of the vaccine and the interaction between them in the percentage of nitrogen (%) in the wet stage. We classify the resulting brhi from tissue culture.

	1.1037	0.9515	0.8570	0.7827	average Grogreen five fractus
overlap	Grogreenfive fractus		class of vaccine		LSD≤ 0.05
0.08162	0.05772		0.04081		

Phosphorous The results of Table (3) show the effect of the concentration of Grogreen live fractus g 1 liter and the pollen cultivar and the interaction between them on the percentage of fungi % in the interstitial stage of the brhi cultivar resulting from tissue culture, indicating that the green follicles had a significant effect on the percentage of phosphorous by giving the highest value of (0.6217) compared to the male type with a percentage of (0.5001)) 2420.0 (%. The results of the same table showed that the effect of spraying concentrations with Grogreen live fractus

University of Thi-Qar Journal of agricultural research

ISSN Onlin:2708-9347, ISSN Print: 2708-9339 Volume 11, Issue 1 (2022) PP 102-110

https://jam.utq.edu.iq/index.php/main https://doi.org/10.54174/UTJagr.Vo11.N1/12

(0,0.5, 1 and 1.5 gm l) led to the superiority of the 1.5 km liter treatment in giving the highest percentage of sulfur by (0.5995) 6% compared to the comparison treatment. Which gave the lowest average score As for the dummy, the interaction between 2 grams per liter of Groureen live fractus and the pollen, the results showed in Table (3) that the second in the rate of phosphorous 96 was significant, as the green food outperformed higher in all treatments in giving the highest rate in the treatment 1.5 per liter basket. The annual rate of phosphorus rose by (0.6587)%, while male arrogance gave the lowest rate of achievement with the comparative treatment at (0:4707) The results showed in Table (4) the effect of the Grogreen live fractus concentration per liter and the weapon's arrogance and the interaction between them on the percentage of sulfur (%)resulting from tissue culture, if the green vegetation treatments outperformed them in giving the highest ratio for the treatments of the Al-Hokry variety. Swallowed - (0.5911 and 0.5008) % respectively Also, the effect of spraying concentrations of Grogreen five fraclus (0, 0.5, 1, and 1.5) on evil had a significant effect on the percentage of yellowing, where the significance of the spraying treatments 1.5 g l was superior to giving the highest rate of phosphorous in the fruit by (0,6008) % compared to With the comparison treatment that was higher in the laboratory, it amounted to (0.4955) As for the interaction between Grogreen ive fracus counted liters - and Mandarin cultivar, it was significant in the response to the percentage of phosphorous 90, where the results indicated in about (4) that the treatments of the Green Ami row were significantly superior to the treatment of 1.5 km liter per serving. The highest rate of phosphorous in the fruit was (0.6703)%, while they gave the treatment of intellectual arrogance at the rate of (0.4533)%, compared to the comparison treatment.

Table (3) Effect of Grogreen five fractus gm liter concentration and the vaccine variety and the interaction between them on the percentage of phosphorous (%) at the Khalal stage of the Barhi cultivar resulting from tissue culture

average class the vaccine	gm liter Grogreen five fractus concentration				class of vaccine
	1.5	1	0.5	0	
0.6217	0.6587	0.6393	0.6110	0.5777	green gummy
0.5001	0.5403	0.5170	0.4723	0.4707	KHKRI
	0.5995	0.5782	0.5417	0.5242	average Grogreen five fractus
overlap	Grogreenfive fractus		class of vaccine		LSD≤ 0.05
0.03030	0.02143		0.01515		

University of Thi-Qar Journal of agricultural research

ISSN Onlin:2708-9347, ISSN Print: 2708-9339 Volume 11, Issue 1 (2022) PP 102-110

https://jam.utq.edu.iq/index.php/main https://doi.org/10.54174/UTJagr.Vo11.N1/12

Table (4) Effect of Grogreen five fractus concentration gm liter 1 and the cultivar and the interaction between them on the percentage of phosphorous (%) in the wet stage of the Barhi cultivar produced from cultivation

average class the vaccine	gm liter Grogreen five fractus concentration				class of vaccine
	1.5	1	0.5	0	
0.5911	0.6703	0.5860	0.5703	0.5377	green gummy
0.5008	0.5313	0.5383	0.4803	0.4533	KHKRI
	0.6008	0.5622	0.5253	0.4955	average Grogreen five fractus
overlap	Grogreenfive fractus		class of vaccine		LSD≤ 0.05
0.02734	0.01933		0.01367		

Potassium The results of the table (5) set out the effect of the concentration of Grogreen five fractus g liter and the pollen variety and the interaction between them in the percentage of potassium % in the Khalal stage. The Al-Barhi produced from the cultured culture was classified until the green Al-Ghanami cultivar had an upper effect on the percentage of potassium by giving the highest value of (1.817).) compared with the male cultivar by (1.457)%. The results of the table showed that the effect of spraying concentrations with the Grogreen five fraclus (0, 0.5, 1, and 1.5) gm liter was more than the treatment of 1.5 gm. liters to give the highest rate.

University of Thi-Qar Journal of agricultural research

ISSN Onlin:2708-9347, ISSN Print: 2708-9339 Volume 11, Issue 1 (2022) PP 102-110

https://jam.utq.edu.iq/index.php/main https://doi.org/10.54174/UTJagr.Vo11.N1/12

Table(5) Effect of Grogreen five fractus concentration per g liter 1 and the vaccine variety and the interaction between them on the percentage of potassium (%) in the interstitial stage of the Berhi variety resulting from tissue culture

average class the vaccine	gm liter Grogreen five fractus concentration				class of vaccine
	1.5	1	0.5	0	
1.817	2.278	1.913	1.566	1.510	green gummy
1.457	1.682	1.560	1.351	1.234	KHKRI
	1.980	1.736	1.459	1.372	average Grogreen five fractus
overlap	Grogreenfive fractus		class of vaccine		LSD≤ 0.05
0.1204	0.0851		0.0602		

The percentage of potassium amounted to (1.980)% compared with the comparison treatment that gave the lowest rate of (1,372 As for the interaction effect between the Grogreen five fractus 1gm liter and the vaccine variety, the results shown in Table (39) indicated that the effect on the potassium rate % was significant, as the green sheep pollen variety was significantly superior in all treatments to give the highest rate when treatment 1.5 grams per liter of the percentage of potassium in the fruit at a rate of (2.278)%, while the male variety gave the lowest rate achieved with the comparative treatment at (1.234) .

University of Thi-Qar Journal of agricultural research

ISSN Onlin:2708-9347, ISSN Print: 2708-9339 Volume 11, Issue 1 (2022) PP 102-110

https://jam.utq.edu.iq/index.php/main https://doi.org/10.54174/UTJagr.Vo11.N1/12

Table (6) Effect of Grogreen five fractus concentration gm liter and its purification and overlap classification on the percentage of potassium (%) in the wet phase of the Berhi variety resulting from tissue culture

average class the vaccine	gm liter Grogreen five fractus concentration				class of vaccine
	1.5	1	0.5	0	
1.243	1.508	1.339	1.097	1.027	green gummy
1.063	1.291	1.121	0.961	0.878	KHKRI
	1.399	1.230	1.029	0.952	average Grogreen five fractus
overlap	Grogreenfive fractus		class of vaccine		LSD≤ 0.05
0.1582	0.1118		0.0791		

The results of Table (6) showed the effect of the concentration of Grogreenfive fractus, g/L and classify The inoculum and the interaction between them in the percentage of potassium % in the wet stage of the resulting Barhi cultivar From tissue culture, if the treatments of the green Al-Ghanami variety were significantly superior in giving the highest rate to the treatments of the Al-Khkri variety, it amounted to (1.243 and 1.063)%, respectively, and the effect of the concentrations of spraying with the Grogreen five fractus was (0, 0.5, 1 and 1.5) g liter had a significant effect on the potassium percentage, as the 1.5 g liter spraying treatments were significantly superior in giving the highest rate of potassium in the fruit by (1.399)% compared to the comparison treatment that gave the lowest rate reached (0.952 The interaction between the Grogreen five fractus gm l 1 and the pollen cultivar was significant in its effect on the percentage of potassium, where the results indicated in Table (6) that the treatments of the green ghanami cultivar were significantly superior to the 1.5 g liter spraying treatment in giving the highest rate of potassium in the fruit by (1.508). %, while the male type treatment gave the lowest rate of percentage achieved with the comparison treatment at (0.878) We note from the results of tables (1_2_3_4_5_6) that spraying with nutrient solution treatments Grogreen five fraclus had a superior effect in increasing the concentration of nitrogen, phosphorous, potassium, and the reason is that adding mineral elements satisfaction to the plant ensures the entry of the element The nutrient directly to the plant and then into the second tissues, which reduces energy consumption and makes it meet the plant's requirements of mineral elements during leaving its water as well as the role of this method in increasing the plant's resistance to infection with fungal and soft diseases, especially when fertilizing with some mineral elements such as (Zn and Fe) by Ensuring its absorption and its binding to the enzymes responsible for the mechanism of cellular metabolism within

ISSN Onlin:2708-9347, ISSN Print: 2708-9339 Volume 11, Issue 1 (2022) PP 102-110

https://jam.utq.edu.iq/index.php/main https://doi.org/10.54174/UTJagr.Vo11.N1/12

the plant (El-Ibrahimi, 2009) The reason may be considering that the feeding of the exclusive group is one of the methods used to reduce the phenomenon of inter-pollution, as it leads to the reduction of material goods and the cost of adding them, and the efficiency of their use has been increased (Focus 2003)

III. Sources

1. Al-Ibrahimi, confused Sadeq Jattar (2009) Effect of spraying with a boiling solution (FetrilonCombi2) on the pain of the chemical compounds and the leg's sleep yield - Allium sativum L Master's thesis - College of Agriculture - University of Kufa, Iraq

2. Al-Kubaisi, Ahmed Ali (2007) Studies for Imagination in the Middle East Registration and Approval of Agricultural Varieties The National Program for the Propagation and Harvest of Date Palm Cultivation Ministry of Agriculture - Republic of Iraq

3. Hamid Muhammed Khazal (2001) Propagation of some varieties of date palm (phoenix dactylifera L exclusively Using a lack of tissue culture propeller Ph.D College of Agriculture, University of Baghdad

4. Dinar, M.; Al-khateeb A.A., Al-Abdulhameed I.A., Abugulia A.K. andAbdalla G.R. (2012). Bunch thinning improves yield and fruit quality of date palm. Egypt J-Appl. Sei: 17(11):228-238

5. Focuse, L.(2003). The importance of micro ents in the region and benefits of including them in fertilizers.Agro Chemicals Repor, 111:15-22 frequency on fruit drop, yield and quality of date palm(Phoenix dactylifera L 4

6. Taiz, L.; and Zeiger, E. (2002). Plant Physiology. 3¹ edition Sinauer tissue cultured barhee date palm, trees. 3rd Inter. Date Palm