RESEARCH ARTICLE (Open Access)

IBA for rooting influence of some varieties of pomegranate (*Punica granatum* L).

TATJANA KOKAJ*, ADRIATIK ÇAKALLI, HAIR ISMAILI

Agriculture University of Tirana/ Institute of Plant Genetic Resource

Corresponding author e-mail: tkoka@ubt.edu.al

Abstract

Pomegranate (*Punica granatum* L) belongs to the family Punicaceae and is widespread in Albania. This research was intended, to discover the effect of AIB (indole acid buturik), for development of meristems, rooting of three main forms pomegranate, Shg: cv 11/1; 13/1 Shg, Shg 14/1. The method was application with plant material obtained from the wood scion bare pieces, in situ, in Lezha, Shkodra and Tepelene in late January - early February time. The pieces scions have been 10-12 cm dimensions. and eventually they settled in two variant: (i) no treatment control, (ii) 2 hours 1000ppm IBA to be treated about 1.5 cm at the base of the pieces. The pieces are left to dry by the alcohol vapors and then planted in warm bank with perlite substrate. The hygroscopic watering which realisated once time for every day with 1 minute. Results of pieces scions rooting after 90 days have been visible changes between forms and two variants (Cv = 21.3). In generally, three forms have been percent rotting about 90% versus 70 percent in terms control. The percentage of indigenization was in the varieties in correlation, r = 0.82 and r = IBA presence of 0.89.

Keywords: screenhouse, Punica granatum, sample, plot, perlit

Indroduction

Pomegranate (*Punica granatum*) is older tree, has been cultivated since antiquity, has a older history, founded in report

In literature, art, culture, religion, etc. Is tree tropical and subtropical region. Pomegranate tree was widelyspread in Mediteranean, like Mediteranean climatic condition.Area with relative humidity or rain are not suitable for its cultivation, as fruits produced under such conditions tendend to taste less sweet.

Pomegranate (*Punica granatum* L) belongs to the Punicaceae, family, and originates in Central Asia. Poliphenol are rich in the pomegranate, which mainly include ellagitamin, flavonoid and phenolic acid. There are numerous human health benefits of consuming pomegranates, such as anti – inflammatory. In our country founded in lowland sea and in some interior regions of the country.side. Pomegranate has becomes one of the most important fruits in the world and in our country, the last year was increase cultivation interes for fresh fruit from farmer and market request.

Materials and methods

The aim. of this experiment was rooting of cutts pomegranate on three different variants from different region condition.

Objective 1: The rooting on screnhouse condition in three way and three variants with five repeat.

Objective 2: This genetic material must planting on germplasm field.

The study was conducted in the period 2013 - 2016. The cutts were collected in the country of origin, in three countries by different characteristic climatic condition, those Varieties has been study before years ago, characterized for morphological character. It used two ways rooting, with a nebulizim and with a black nylon bags. V-1 slips were cut 15-20 cm above the bud, they entered the hormonal IBA

solution was left to dry for a few minutes and then planted at the table and perlite. At the time of planting greenhouse temperature was 18-19 C. When the temperature began to rise above 20 C began to activate slips, they began the first signs that indigenization. When the outside temperature began to rise over 25 °, then began watering the plants through pulvorization, found that mediates ores. But V 2 and V 3 were planted in bags filled with perlite, and peat land. The dimensions of cuttings 20-25 cm. It was placed in the bag. With increase the temperature out side screenhouse and inside screenhouse began their irrigation. The data were processed statistically.

Results and disscusion

According to the final results, the rooting of varieties in terms of the greenhouse, it is noted that V1 treated with IBA (Indole Acid Indobutirik) at concentrations 1000 ppm at the table of the perlit is a very good rooting, 95%, time rooting is the fast, staying more than 60 days has made kallusimi to be the best and to stay rooting natural stresses. And these are independently saplings planted in bags for tranpiantim to permanent planting in the area of germplasm.

As regards the second variant in nylon bags with soil, peat and little sand, they have rooted more slowly, with 50 % rooting up to 45%, the time of the rooting of slower, with smaller dimensions the length of the root and no of roots and dimensions of length off shoot against the first variant. Likewise variant and V 3 with small dimensions to V1. From anylisis statistic was resulted such is:

Tabele 1: Analysis of Variance for the number of roots, the roots length and pomegranate of shoot length variants multiply in three variants

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob >
Number of rotting	2	1.9223333	0.961167		
Error	12	6.7398000	0.561650	1.7113	0.2219
C. Total	14	8.6621333			
Length rotting	2	267.25552	133.628	355.9041	<.0001*
Error	12	4.50552	0.375		
C. Total	14	271.76104			
Length shoots	2	392.83612	196.418	204.3836	<.0001*
Error	12	11.53232	0.961		
C. Total	14	404.36844			

Analysis of the data proved the main changes to rooting indexes pomegranate (*Punica granatum*). Analysis of five repeat represent the number of variables to the roots, to root length (HR), the length of the shoot (HL), have proven statistical homogeneity and their authenticity. Statistical analyzes have well expressed the propagation of variable amplitudes and expressed the level of R with differences acceptable. Standard digression had small-scale variability within their repeat from average and was unnecessary to compare to the variation between them. In general hypothesis of the influence of variants of application over index achieved is verification because in any case F ration> FTeorike.

Table 2: Analysis of Variance Means and and Std Deviations for roots number, roots length and shoots pomegranate

Variant	N. Roots	Gj. Roots	Length shoots	Lower 95%	Prob > F
V1	1.51±0.44 **a**	12.2±0.75 **a**	13.96±1.30 **a**	0.9549	<.0001*
V2	2.04±0.66 **a**	3.88±0.43 **b**	3.53±1.04 **b**	1.2169	<.0001*
V3	2.38±1.02 **a**	2.72±0.59 **c**	2.72±0.27 **b**	1.1103	<.0001*

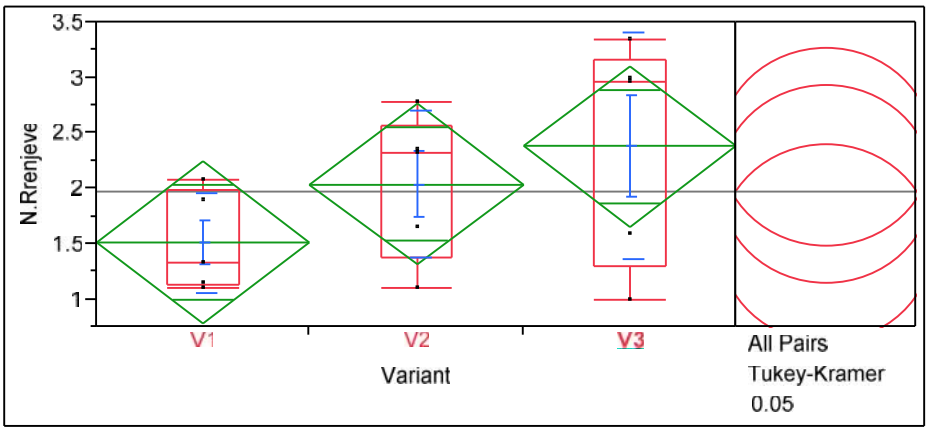

Figure 1: Variance Analysis of the length of root in application for three varieties multiplication of pomegranate (*Punica Granatum*

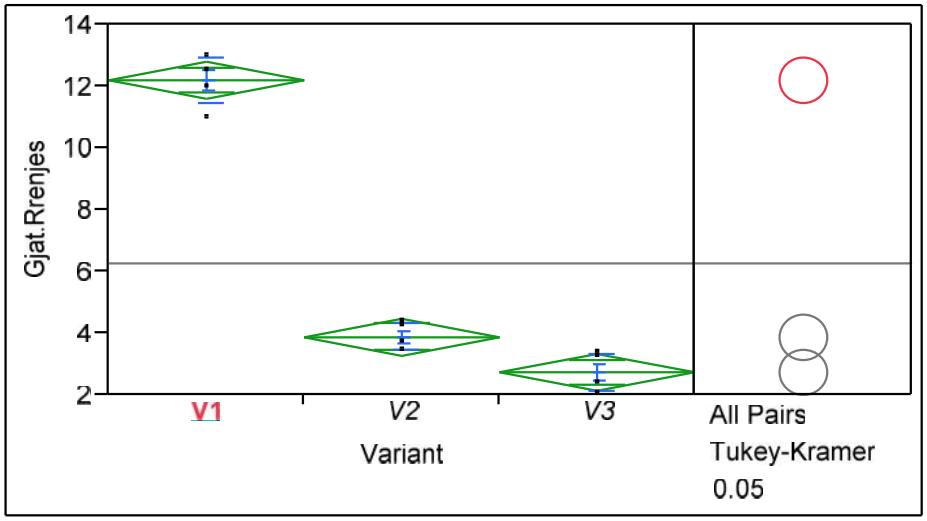

Figure 2: Variance Analysis of the length roots by three options to apply for multiplication of pomegranate (*Punica granatum*

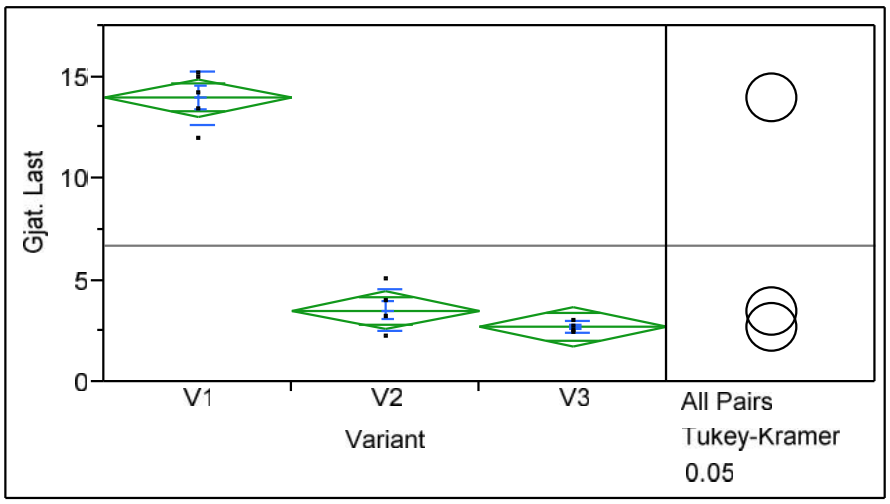

Figure 3. Variance Analysis of length shoots (cm) by three variants application for multiplication pomegranate (*Punica granatum*)

The average number of roots was 1.97, and 1:51 frequency to 2.3, showed no statistical difference between the averages of variants (V1 ~ V2 ~ V3) by Means test for all pairs comparisons using Tukey-Kramer. He confirmed the average 0.71 and frequency Std.Dev 0:44 to 1:02, has resulted in the number of roots no apparent changes between three variants tested for Prob> F <.0001 *. Level differences are within the limits of standard deviation and high reliability.

The average length of roots was 6.23 cm, and frequency variations between 2.7 to 12.2cm. Data between variants result in visible changes to statistical variations between the averages (V1> V2> V3), for all pairs analyzed using Tukey-Kramer. The average frequency Std.Dev 0.52 and 0.43 to 0.57, the length of the root is visible changes between three variant tested for Prob> F <.0001 * because F/Factik is 355.9. First variant changing significantly between V2 and V3 and level differences are within the limits of standard deviation and have high reliability.

The average length of the shoot (branch) was 6.73 cm with a frequency between 2.7 to 13.9cm. Variants averages each changing between each other in order to visible. V1 has the greatest length of the branch in the order (V1> V2 ~ V3), V2 and V3 do not have differences between them. Level differences are within the limits of standard deviation and have high reliability and the value of each repetition are positioned within the contour of plot it credible.

Table: 3 Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F	Prob > F
Variant	2	7843.3333	3921.67	37.5279	<.0001*
Error	12	1254.0000	104.50		
C. Total	14	9097.3333			

Table: 4 Means and Std Deviations

Level	Rooting %	Std Dev	Std Err Mean	Lower 95%	Upper 95%
V1	87.0±4.47 a	4.4721	2.0000	81.447	92.553
V2	39.0±3.31 b	3.3166	1.4832	34.882	43.118
V3	38.0±16.8 b	16.8077	7.5166	17.130	58.870

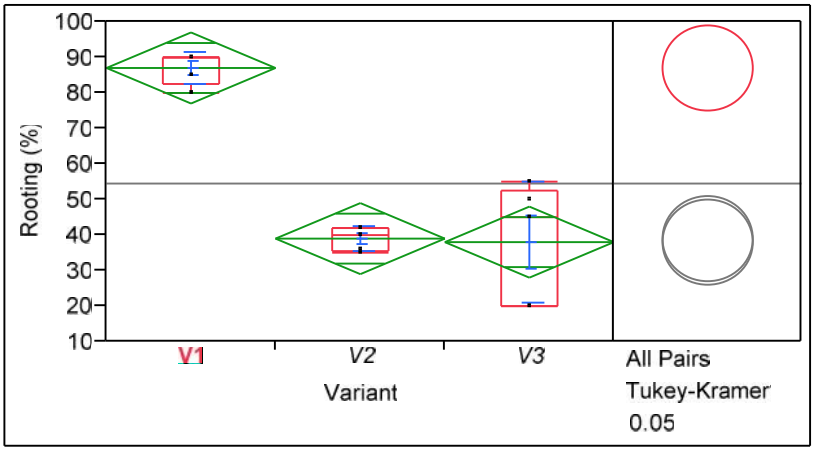

Figure 4: Onaway Analysis of Rooting (%) By Variant

Figure 5: Different methods rooting

The average % of the root was 95 % and frequency variation between 40.5 % to 95 %. Variants averages each changing between each other in order to visible. V1 has high % of the roots than the order V2 and V3 and V2, V3 do not have differences between them. V 1 and V2 are prove statistical analisis, when V3 don'Ft have more prove from statistical analisis for some reason.

Conclusion

It is a tree that rotting light at costs as more advanced techniques and traditional ones in terms of the greenhouse. Only rigorously apply agricultural conditions and parameters required by the requirements of each method and the result will be that required. Each method has its own advantages and disaavantazh. The end result is that you planted in the field. Our country has all the conditions that add eta and innovation this tree, not only that consume destination and the natural resources, but also for economic purposes, market, ecosystems and the environment.

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