COMPORTAREA PORTALTOIULUI DE CAIS *APRICOR* LA ÎNMULȚIREA PRIN BUTAȘI VERZI

BEHAVIOUR OF THE VEGETATIVE ROOTSTOCK FOR APRICOT *APRICOR* TO PROPAGATION BY SOFTWOOD CUTTINGS

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Abstract

'Apricor' is the first vegetative rootstock for apricot, which was named in Romania, at the Research Institute for Fruit Growing (RIFG) Pitesti, in the year 2006. Average rooting percentage was 80. It is known that well developed radicular system with the cuttings, has a beneficial effect to establishment and development of the cuttings, when planted to be budded in the nursery field. In the case of this experiment we aimed to know the best conditions for obtaining well rooted cuttings in a higher rooting percentage. The best result in respect with the better rooted cuttings was registered for cuttings provided by the bottom of the shoots, when planted at the middle of July, on sand (medium). The higher percentage of rooted cuttings was for the cuttings provided by the top of the shoots (96.67), at the same time, and the same rooting medium.

Cuvinte cheie: portaltoi, butași verzi, substrat de inrădăcinare
Key words: rootstock, softwood cuttings, rooting medium

1. Introduction

'Apricor' was named in the year 2006 by RIFG Pitești and it is for Romania the first named vegetative rootstock for apricot cultivars. It is a special rootstock for apricot, because it has a good compatibility with grafted varieties, it is winter hard, and has a wide adaptability to different kind of soils (those with high content in clay included). Also it had a mean of 80% of rooted cuttings in 3 consecutive years.

'Apricor' is a natural hybrid (open pollination) Myrobalan X apricot.

Lately we tried to improve for other necessary conditions, for a better quality of rooted cuttings. For that we experimented in respect with: rooting medium, top/bottom segment collected from the shoot, and optimum period of time for propagation.

2. Material and methods

The experiment was developed at RIFG Pitești, with 25cm of softwood cuttings, treated with Radistim V2 (trade name of a Romanian powder rooting biostimulatory based on NAA). We use such a big softwood cuttings because the desire of nurserymen in our country is that cuttings to be budded in the same year with their establishment in the nursery field (no extra year to fortify them). Shoots were collected from mother plantation of RIFG Pitesti.

For monitoring we had in view the following factors: the period of time for propagation (July 01 and July 16); kind of cutting (top and bottom of shoot); rooting medium (sand and a mix of sand and perlite in equal quantities).

Unrooted cuttings were planted under artificial mist on elevated beds with good drainage, at a density of 250 cuttings/sq.m (8X5 cm). Registered data were made for: number of roots/cutting, total length of roots/cutting (cm), the length of rooted portion of cutting (cm), rooting percentage (%).

Data were processed by analysis of variance (ANOVA).

3. Results and discussions

The development of radicular system was estimated by number and by total length of roots per cutting. The fig. 1 and 2, show how time of propagation has an influence to both of indicators indifferent to portion of shoot used to make cuttings. So, for cuttings planted at July 16, both number of roots and their total length per cutting are significantly greater compared to cuttings planted 16 days earlier.

If we take into account and the 3rd factor, rooting medium, we see also the greater values of number and total length of roots are for July 16 versus July 01 planting time, for both rooting medium (see Fig. 3 and 4).

The length of rooted portion of the cuttings has significantly higher values to planting time of July 16, indifferently to type of cutting (top or bottom of shoot) (Fig.5) or rooting medium (Fig.6). There is a very significant correlation of the rooted portion with number and total length of roots (Fig.7). This is a favorable aspect toward good establishment and favorable growth in the nursery field, making it possible for cuttings to be budded without an additional year for fortifying.

In the fig. 8 it is represented the rooting percentage of the cuttings, for all variants taken in the study. The best (96.67%) it is for variant in which the cuttings made from top of shoots were planted in sand, on July 16.

4. Conclusions

The better development of radicular system (number and total length of the roots) it is for cuttings made of bottom of the shoots, planted under mist, on sand, at July 16 (mid of July).

Generally, top made cuttings rooted better versus bottom made, best value being also on sand, when planted at the middle of July (96.67%).

Middle of July it is a better time for propagation of 'Apricor' by softwood cuttings versus beginning of July.

The higher quality of radicular system of rooted from bottom cuttings go to a better establishment and development in the nursery field, and budding in the same year. Instead, an important number of rooted from top made cuttings need an extra year of fortification.

5. Acknowledgements

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Figures

Fig. 1 No of roots per cutting (average) versus propagation time, for two kind of cuttings

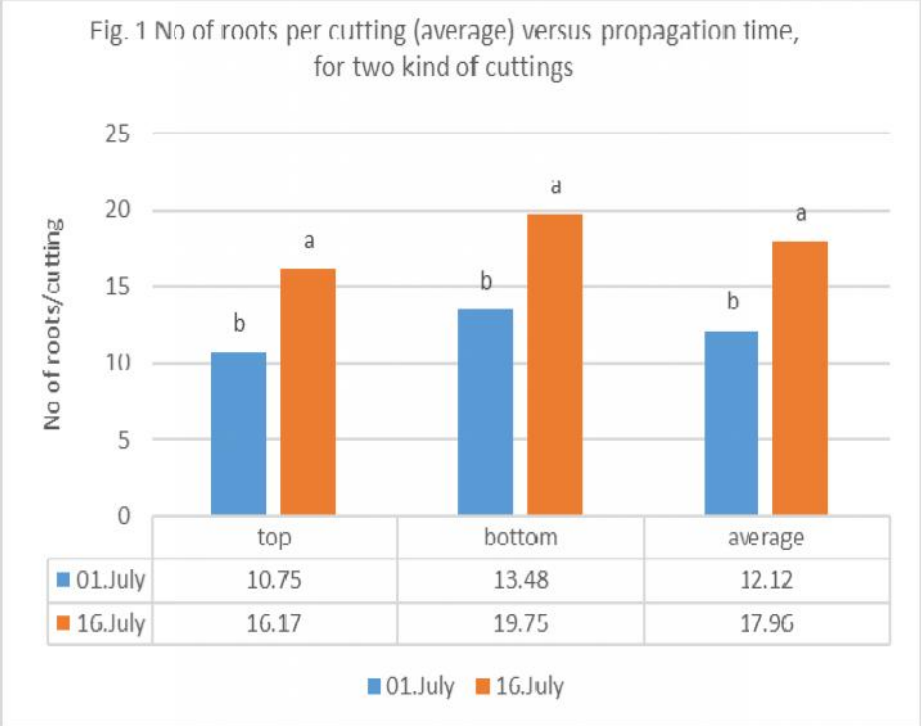
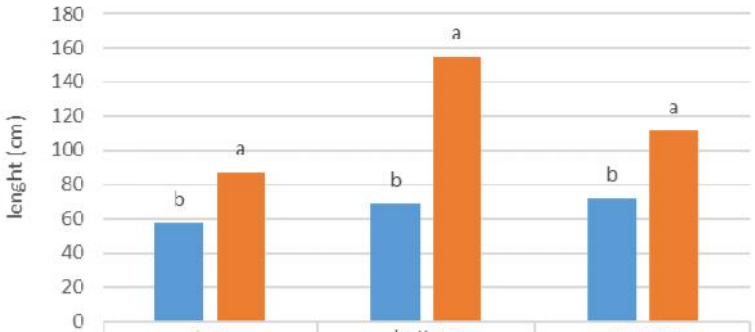


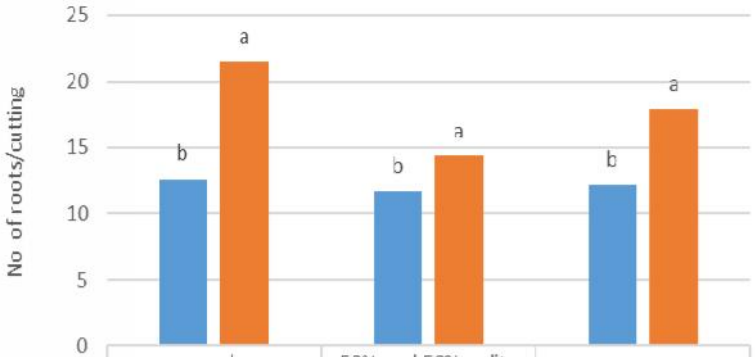
Fig.2. Total lenght of roots per cutting (average) versus propagation time, for two kind of cuttings



	top	bottom	average
01.July	57.52	68.84	72.28
16.July	87.04	154.67	111.75

01.July 16.July

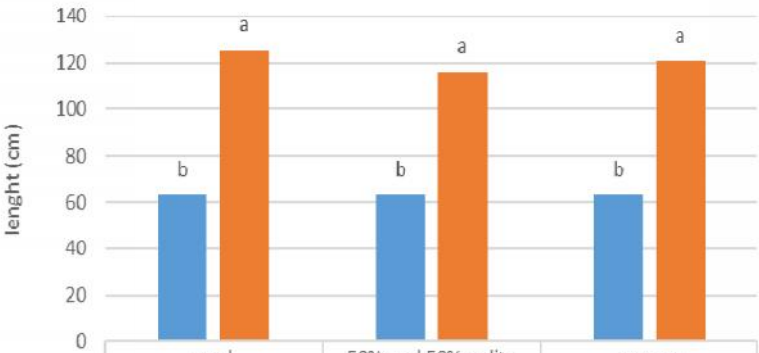
Fig. 3. No of roots per cutting (average) versus propagation time, for two rooting medium



	sand	50%sand:50%perlite	average
01.July	12.58	11.65	12.12
16.July.	21.53	14.38	17.96

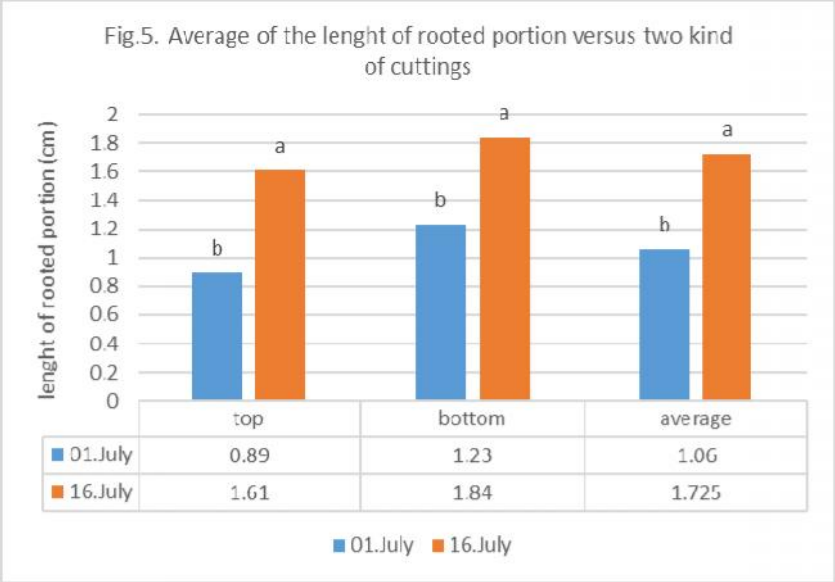
01.July 16.July.

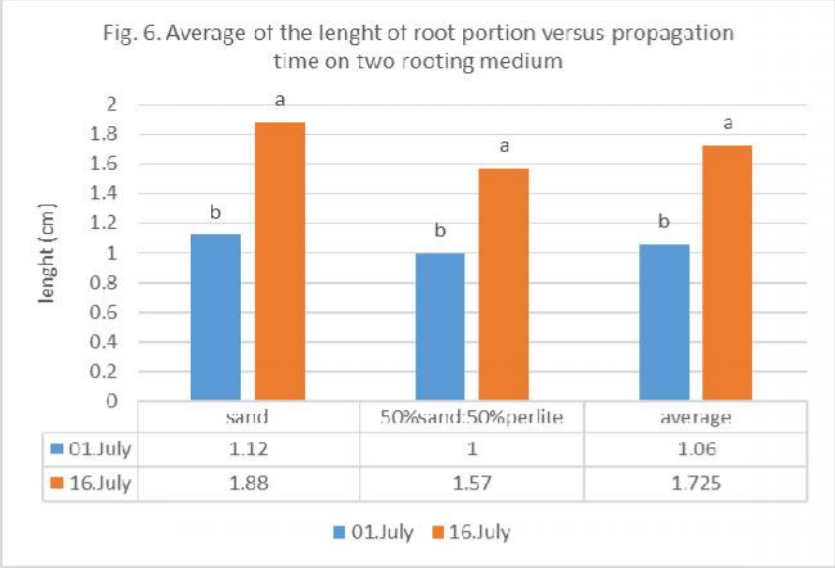
Fig. 4. Total lenght of roots per cutting (average) versus propagation time, for two rooting medium



	sand	50%sand:50%perlite	average
01. July.	63.15	63.2	63.18
16. July	125.45	116.26	120.86

01. July. 16. July





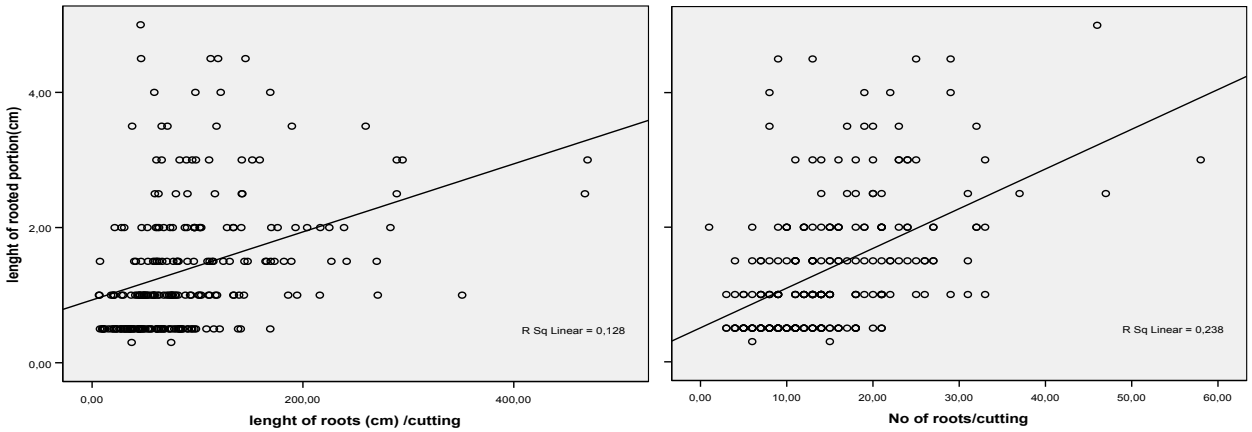
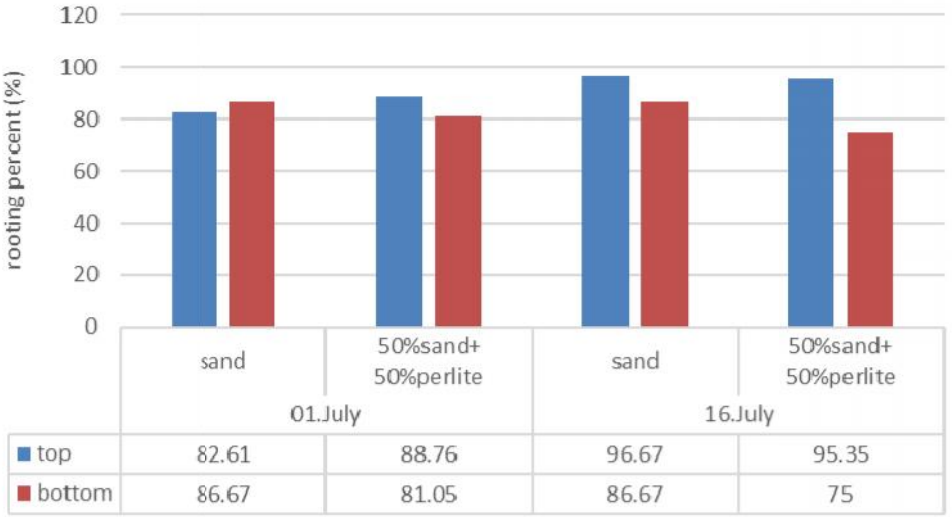


Fig. 7. Length of rooted portion (average) correlation to number of roots/cutting and their length

Fig. 8. Rooting precentage of *Apricor* cuttings versus propagation time, kind of cutting and rooting



top	82.61	88.76	96.67	95.35
bottom	86.67	81.05	86.67	75

'Apricor' rootstock