

NEW ACHIEVEMENTS IN PEACH BREEDING AT RESEARCH STATION FOR FRUIT GROWING CONSTANTA

NOI REALIZĂRI ÎN AMELIORAREA PIERSICULUI LA STAȚIUNEA DE CERCETARE-DEZVOLTARE PENTRU POMICULTURĂ CONSTANȚA

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Abstract. *In the last 15 years more 1,100 peach and nectarine cultivars have been released worldwide. A complex peach breeding program taken place at Research Station for Fruit Growing Constanta more then 30 years. The main objectives of this program focus on two important fruit traits in the broadest sense of the term: quality and resistance to diseases, pests and environmental stress. Annually, the researchers selected the best genitors and made many hibridations, self pollinations and clonal selections in the experimental fields, in order to obtain new cultivars. So, 27 new peach, paviu, nectarine and brugnone cultivars were registrated at R.S.F.G. Constanta, which grow rich and improve the actual assortment. This paper presents four new valuable peach and nectarine cultivars with flat fruit: Monica, Creola, Marina and Liana. We recommend these new cultivars for extending in production and for family orchards. The fruits are very good as for fresh consumption, as for processing, too.*

Key words: peach breeding, cultivar, flat fruit, fruit quality

Rezumat. *În ultimii 15 ani în lume s-au realizat circa 1100 de soiuri noi de piersic și nectarin. Un program complex de ameliorare a piersicului se desfășoară la S.C.D.P. Constanța de peste 30 ani. Obiectivele principale sunt calitatea fructelor și rezistența soiurilor atât la boli și dăunători, cât și la condițiile de stress ale mediului ambiant. În fiecare an au fost selectați cei mai buni genitori și s-au realizat numeroase combinații hibride, autopolenizări, selecții repetate în câmpurile de hibrizi și selecții clonale în câmpurile experimentale. Rezultatele obținute de echipa de amelioratori s-au concretizat în obținerea a 27 soiuri de piersic, pavii, nectarine și brugnone, care îmbunătățesc și diversifică actualul sortiment. În această lucrare sunt prezentate patru soiuri noi valoroase de piersic și nectarin cu fructul plat: Monica, Creola, Marina și Liana. Recomandăm cultivatorilor aceste soiuri, ale căror fructe sunt destinate atât consumului în stare proaspătă, cât și procesării.*

Cuvinte cheie: ameliorarea piersicului, soi, fruct plat, calitatea fructului.

INTRODUCTION

A complex peach breeding program taken place at Research Station for Fruit Growing Constanta having as aim the peach culture improvement as well as by obtaining new cultivars and by planting new orchards with these new obtained varieties, too.

MATERIAL AND METHOD

The best genitors were been selected from National Peach Collection located in Valu lui Traian, Constanta. This contents 855 genotypes; hybrids fields; seven comparative trials with 93 valuable genotypes etc. Annually, the reserchers made many hybridations and selections in the experimental fields, in order obtain new cultivars.

The biological material was observed from the phenological point of view.

The valuable genotypes obtained were used to organize competition crops, and were tested by ISTIS.

RESULTS AND DISCUSSIONS

The „flat fruit” character is dominant, as well as it arises in heterozigot in homozigot form. They were studied about 20 genotypes with flat-peach, clingstone, nectarine, which have the ripening time from June to September. The most valuable are presented in Table 1.

Table 1.

Varietal conveer (Valu lui Traian)

No.crt.	Genotype / Group	Ripening time (multiannual data)
1.	C4R1T14 / clingstone	28.VI -18.VII
2.	Marina / nectarine	5 – 20.VII
3.	Florin / peach	9 – 25.VII
4.	Stark Saturn / peach	10 – 25.VII
5.	Filip / peach	17 – 31.VII
6.	Creola / nectarine	23.VII – 10.VIII
7.	Liana / nectarine	18.VII – 10.VIII
8.	Monica / peach	28.VII – 13.VIII
9.	Baneasa 1 turtite / peach	8 – 26.VIII
10.	V.T. Ptt clon tardiv 03 / peach	20.VIII – 3.IX

There were made biometric measurements on fruits and physiochemical analysis, appreciations on productivity of the trees, descriptions of fruits and trees were made using the international descriptors of species. So, were omologated three varieties in 2007 and one in 2008 – these are:

MONICA (sinonym H.SS Sel.10 AP) - fig.1

Peach cultivars with flat fruit, obtained by self pollination of Stark Saturn, follow by selections in the hybrid fields. Autors are: Cociu Vasile, Dumitru Liana Melania and Ionescu Preda. It was registered in 2007.

Principales characteristics:

The blossom is abundance and the flowering time is in April. The flowers are big, pink and rozaceae type. The ripening time is medium (last of July-beginning of August). It is necessary to make the thinning of fruits and the irrigation of trees. It is an autofertil cultivar, with high productivity (31,0 kg/tree), tolerant at diseases. The vigour of the tree is medium. The shape of crown is vase.

The planting distances are 4/4 m or 4/3 m and the density is 625 trees/ha, or 833 trees/ha.

Fruit appearance: very attractive; epiderme is beige-pink, with 90% red-carmin; 75-100 g/gruit. Flesh quality: white, very sweet, juicy and flavoured. The size of fruit is between 75-100 g. Ripening time: VII/2-3.



Fig.1. Monica

MARINA (synonim 85T Sel. 2.9N) – fig. 2.

Nectarine cultivar with flat fruit, created at RSFG Constanta and registered in 2007. Autors: Liana-Melania Dumitru, Cociu Vasile and Ionescu Preda.



Fig. 2. Marina

Principales characteristics

The blossom is abundance and time flowering is in April. The flowers are small, dark-pink and campanulaceae-type. It is an autofertil cultivar, with high productivity (28.5 kg/tree); tolerant to diseases. Ripening time: VII/1-2.

Fruit appearance: flat; shining (glossy); orange. The size of fruit is between 95-115 g; the dry matter is 13% and the acidity is 0.94% (mg. malic acid/100 g). The flesh is orange, with a good taste and flavour.

CREOLA (synonim A 164 – A.P. V.T.) – fig.3

It is a nectarine cultivar with flat fruit, obtained at RSFG Constanta and omologated is 2007. Autors: Dumitru Liana Melania, Cociu Vasile and Ionescu Preda.

Principales characteristics

The blossom is in April and there are many flowers by offshoots (branch). The flowers are small, campanulaceae type; simple and dark-pink.

The tree has medium vigour. It is an autofertil cultivar, with high productivity (30.0 kg/tree).

The fruit is very attractive, flat, glossy, orange. The size of fruit is about 65-75 g. The flesh is yellow-orange; sweet, juicy. The dry matter is 13.5% and the acidity is 0.88 mg%. Ripening time is VII/3 – VIII/1.



Fig. 3. Creola

LIANA (synonim V.T.-LMV/97) – fig.4.

It is a nectarine cultivar with flat fruit, obtained at R.S.F.G. Constanta and registered by I.S.T.I.S., in 2008.

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The vigour of tree is small-medium, with autofertility and a good productivity (25.5 kg/tree) and precocious.



Fig. 4. Liana

CONCLUSIONS

The peach and nectarine cultivars with flat fruit (Monica, Marina, Creola and Liana), improve and rich the fruit yield for fresh consumption and for processing (compot, confiture, jam etc.).

We recomand these new cultivars for extending in production and for family orchards.

REFERENCES

1. **Dumitru Liana Melania, 2005** - *Considerații privind piersicul cu fructul plat*. Vol.1, Lucrări științifice, SCDP Constanța, :69-71.
2. **Dumitru Liana Melania, 2007** - *Some results of Peach Breeding in Romania*. First Balkan Symposium on Fruit Growing, Plovdiv, Bulgaria.
3. **Sansavini S., 2007** - *New Challenges in Fruit Industry from Advances in Breeding and Biotechnology*. First Balkan Symposium on Fruit Growing, Plovdiv, Bulgaria.