"CRISTIRIN" – A NEW SWEET CHERRY SELECTION OF PERSPEVTIVE FOR SUPER INTENSIVE CULTURE

"CRISTIRIN" – O NOUĂ SELECȚIE DE CIREŞ DE PERSPECTIVĂ PENTRU LIVEZILE SUPERINTENSIVE

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Abstract: *"Cristirin" sweet cherry selection was found in Iaşi county spontaneous flora. Fruit size is rather big, the average is 7.4 – 8.3 g, comparing with the fruits of control variety Ramon Oliva, which are 4.1 – 4.6 g. Fruit shape is flat-round, the small diameter is 22.6 mm and the big diameter is 25.8 mm. Trees are 1.8 – 2.0 m height and the distances recommended for planting are 4 m between rows and 1.5 m between trees on the row. First production occurs after 3 – 4 years from planting, in year 6 there could be obtained a production of 3-4 kg/tree. Fruits rippening starts with the first dacade of June, 5 – 6 days after Ramon Oliva variety.*

Rezumat. *Selecția de cireş Cristirin a fost depistată în flora spontană din județul Iaşi. Fructul este mare având în medie 7,4 -8,3 g în comparație cu fructele soiului Ramon Oliva care au fost de 4,1-4,6 g. Forma fructului este uşor turtită, diametrul mic fiind de 22,6 mm iar diametrul mare de 25,8 mm. Pomii ating înălțimea de 1,8-2,0 m distanța de plantare fiind de 4m între rânduri şi 1,5 m între pomi pe rând. Intrarea pe rod a pomilor are loc în anii 3-4 de la plantare, în anul VI obținându-se obținându-se o producție de 3-4 kg/pom. Determinările efectuate privind autofertilitatea au arătat ca selectia este autosterilă Maturarea fructelor are loc în prima decadă a lunii iunie, ea producându-se la cca 5-6 zile după soiul Ramon Oliva*

Key words: cherry tree, assortment, selection, tree low vigour.

Sweet cherry is a fruit growing specie of a great economic importance due to fruits nourishing, technological and commercial features, which in Iasi region find the best culture conditions.

Romanian breeding programme for sweet cherry assortment has as main objectives: a more diversified varieties conveyer, for a larger period of fresh consumption, self-fertility, fruit quality, reduced tree vigour. The present paper subscribes to this current that wants the promotion of sweet cherry selection with reduced vigour, suitable for super intensive culture.

MATERIAL AND METHODS

'Cristirin' selection comes from spontaneous flora nearby Popricani, Iasi County.

In spring 2000 the selection was whip grafted on Oblacinska sour cherry root sucker, and in 2002 budding was used on mahaleb rootstock. Trees had a sloping growth in the nursery and supporting was needed.

The trees obtained in the nursery were planted in the spring of 2004 setting a trial culture with different planting distances (1, 2, 3 and 4 m between treed on the row and 4 m between rows); another group of 30 trees were planted at 25 - 30 cm, bush shape leaded (fig. 1; 2).

Trees crown shape was irregular palmetto, obtained only by pruning and training, without arching the branches.

Climatic factors during 2005 – 2007 were generally favourable for sweet cherry varieties growing and fructification, totalizing, on average, 178 days of active vegetation.

In temperate-continental climate, sweet cherry needs annual precipitation of 500 – 700 mm, from which at least 250 – 300 mm to be uniformly distributed during vegetation period as useful rains (more than 10 mm).

In the last years we witness a decreasing of precipitation quantity (2005 – 2007), the annual average is 565.3 mm and 384.3 mm during the vegetation period. The extended drought and the lack of precipitation in 2007 determined an early blossoming, an intensified physiological fruit falling and earlier ripening of the fruits, with 10 – 15 day, comparing with years with normal climatic conditions.

During the period of experiments there had been done observations and determinations regarding trees growing vigour, the development of fructification organs phonological phases, fruit's physical-chemical features and production.

Fig. 1. Trees planted at 3 m on the row

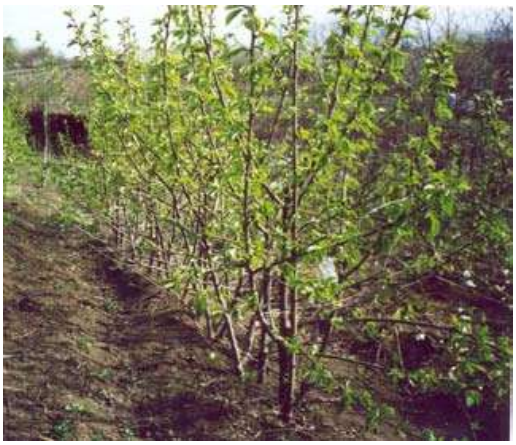

Fig. 2. Trees planted at 25 - 30 cm on the row

RESULTS AND DISCUSSIONS

The determinations that were made regarding self-fertility showed that the selection is self-sterile, Boambe de Cotnari being a very good pollinator.

Trees started to give first productions years 3 – 4 after planting and after 6 – 7 years there were obtained 3 - 4 kg fruits/ tree.

The selection has an early blossoming period and it lasts 7 – 12 days. (fig. 4; 6).

Tree has reduced vigour, 1.8 – 2.0 m high, annual branches is 20 – 30 cm up to 60 – 80 cm, the fructification is rather on spurs and less on long branches.

Regarding the planting distances there were used, it showed that 1 m between trees on the row is too small and 2 m leave big distances between trees, this is way we consider that 1.5 m is the optimum.

4 m distance between rows is too big, so there could be used distances of 2 – 2.5 m for mechanization whereof there will be used the viticulture machinery. By an optimum spatial use there could be obtained a density of 2500 – 3300 trees/hectare.

Fruit is big size, the average 7.4 – 8.3 g, comparing with fruits of *Ramon Oliva* variety which were 4.1 – 4.6g. Fruit shape is spherical, heart shaped, size index is more than23 mm (D = 25.8 mm; d = 22.6 mm and H = 21/26 mm). Peduncle is medium length and thick (36.4 mm), yellow-green colour.

The stone is medium size, the percent of stone is 6.35 – 6.5 of fruit weight. Fruit pulp is hardy, good flavour and represents 91.75 – 92.38 % of fruits total weight. In rainy years cracking fruits percents is 40 – 50 and shows *Monillinia* attack.

The ripening starts in the second decade of June, 5 – 6 days after *Ramon Oliva* variety (fig. 3).

Fig. 3. Ripening period at 'Cristirin' selection, compared with other sweet cherry varieties

Unusual climatic conditions of year 2007, characterized by the lack of precipitations associated with high temperatures determined an almost simultaneous ripening of Ramon Oliva, Van, Stella varieties and 'Cristirin' selection, the first variety being a little early.

From technological point of view the selection presents some important particularities due to the early ripening, fruits are not affected by *Rhagoletis cerasi* attack and trees small size make the pruning and harvesting easier (fig. 7).

Fig. 4. Branch with flowers in detail

Fig. 5. Branch with fruits in detail

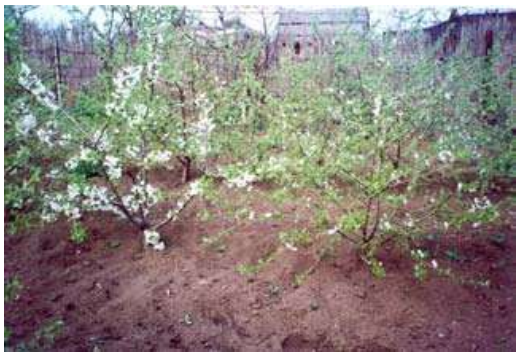

Fig. 6. Blossoming period - 'Cristirin'

Fig. 7. Aspect during the vegetation period

CONCLUSIONS

1. The fruits of 'Cristirin" selection are big size, hardy, with early ripening and the plants are not affected by *Rhagoletis cerasi* attack.

2. Trees reduced vigour allows the establishment of super intensive plantations that could give big and constant productions per surface unit. Also, trees reduced high determines an increased work efficiency, significantly reducing production costs.

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