RESEARCHES REGARDING THE QUANTITATIVE AND QUALITATIVE PRODUCTION FOR SOME CHERRY VARIETIES

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Abstract

This research resembles the results of some reproof made during two years (2009 and 2010) on nine cherry varieties at S.C.D.P Bihor. The reproof were concerning: crown's diameter on the rows and between the rows, trees' height, crown' height, trunk's diameter, development of the fruit-bearing phases. Related to the obtained results, all nine cherry varieties were divided up to the vigour in three categories (low, middle and high vigour) and concerning the fruit-bearing phases in other three categories: early, middle, late. These results take an important place in establishing the planting distance.

Keywords: trees vigour, crown diameter, fruit-bearing phases.

INTRODUCTION

Cherry trees are a very important variety from the economical point of view of their nutritive, technological, commercial fruit characteristics and biological trees features.

For a high fruit production in the next years, from the qualitative and quantitative point of view, there must be taken into consideration a suitable place for both types of cherry trees, the foreign types and the Romanian ones.

Researches regarding the cherry trees breeding in our country were carried out by Parnia Corneliu and co-workers in 1979, by Cociu V. in 1982. At S.C.D.P., there were carried out researches in 2009, regarding the behavior of some cherry varieties in the Western part of the country.

MATERIALS AND METHODS

The experience is organized at S.C.D.P. Bihor in the period 2009-2010, on an experimental lot formed in 2000 on a brown, argiloiluvial soil, characterized by the A_o - B_t -C type. The planting distances are 3/4 m. The variants are linearly situated, on three rows and contain a different number of trees.

The experience variants are represented by following variety: Timpurii de Cluj, Pándy, Érdi bötermö, Oblacinksa, Cigány meggy, Schatenmorelle, Ilva, Norhstar, Pitic de Iasi.

The establishment of the cherry varieties that are recommended for the North-Western part of the country was made by performing some reproof on many years, on many cherry trees varieties.

The aimed characteristics were the following:

- the trees' vigour that refers to:

- \rightarrow the crown's diameter on the row and between the rows
- \rightarrow trees' height
- \rightarrow crown's height
- \rightarrow trunk's diameter

- development of the fruit-bearing phases

The trees' vigour is an important researching element because has directly consequences over the breeding technology.

RESULTS AND DISCUSSIONS

The trees' vigour is determined by a complex of endogenous and exogenous elements like: the varieties heredity, the pedo-climatic conditions, the applied agro-technique etc. For estimating this characteristics there were carried out measurements with special tools and the obtained results are given in tables nr.1 and nr.2.

Table 1

NT.	Descendent	Crown's	diameter	Trees'	Crown's	
INT.	Researched	on the	between	height	height	
crt.	varieties	row	the rows	(m)	(m)	
1.	Pándy	3,80	3,70	4,70	3,80	
2.	Timpurii de Cluj	3,50	3,20	3,50	2,80	
3.	Érdi bötermö	2,80	2,30	2,50	2,20	
4.	Oblacinska	3,10	3,00	3,70	3,20	
5.	Cigány meggy	2,70	2,80	2,60	2,20	
6.	Ilva	3,30	3,70	4,10	3,70	
7.	Schatenmorelle	2,90	2,80	2,90	4,20	
8.	Northstar	2,60	2,70	2,50	2,20	
9.	Pitic de Iași	2,50	2,10	1,90	1,30	
	Varieties medium	3,02	2,85	3,15	2,84	

Trees' vigour regarding the crown's diameter and height

Table 2

Trees' vigour regarding the trunk's diameter									
Nr.	Researched	Diameter	%	Diff. to	+	Diff.			
crt.	varieties	x±Sx		medium		significance			
1.	Timpurii de	119,1±7,7	15,5	20,0	2,3	Х			
	Cluj								
2.	Pándy	115,6±4,3	9,0	16,5	2,8	х			
3.	Érdi bötermö	99,6±2,3	5,6	0,5	0,1	-			
4.	Oblacinka	98,8±4,9	11,9	-0,3	0,04	-			
5.	Cigány meggy	79,1±2,0	6,0	-20,0	2,8	0			
6.	Ilva	106,3±2,5	5,8	7,2	1,5	-			
7.	Schatenmorelle	111,8±5,7	12,4	12,7	1,8	-			
8.	Northstar	107,6±4,9	10,9	8,5	1,3	-			
9.	Pitic de Iași	54,5±1,1	4,9	-44,6	11,1	000			
	Varieties	99,1±3,9	9,1						
	medium								

LSD 5% - 2,10

LSD 1% - 2,90

LSD 0,1% - 3,90

The crown's diameter on the row registers values between 2,50 m(in case of Pitic de Iasi) and 3,80 m(in case of Pandy). The trees height has values between 1,90 m(in case of Pitic de Iasi) and 4,70(in case of Pandy). The trunk's diameter has values between 119,1+/-7,7 cm(for Timpurii de Cluj) and 54,5 +/-1,1 cm (for Pitic de Iasi)

Development of the fruit-bearing phases-after the winter rest, the offspring go through three successive stages. The starting moment and the crossing of these stages represent a theoretical and useful importance. It depends from one variety to another, being influenced by the climate conditions, especially the air's temperature. In table nr. 3, there are shown the crossing of the fruit-bearing phases from 2009 and 2010. In this period of time, the air's temperature registered usual values for the proper time.

The annual medium temperatures for March and April were the followings: in 2009,in March 9,6 ^oC and in April 13,2 ^oC,in 2010 in March 6,5 ^oC and in April 11,5^oC.From the information given in table nr. 3, the fruit-bearing phases in 2010 took places 2-3 days later than in 2009. The offspring begins on 13th of April (Timpurii de Cluj) and ends on 27th of June (Pitic de Iasi).Fruit were mature from 21 of May (Timpurii de Cluj) to 25th of July (Pitic de Iasi).

Table 3

(200) 2010)								
Nr.	Voriety	Vaar				ossom		M
crt.	variety	I ear			Beginning	Middle End		Mature
1.	Timpurii de	2009	27-28 III	29-30 III	13 IV	16 IV 23 IV	15 V	21 V
	Cluj	2010	29-31 III	31 III-1 IV	15 IV	18 IV 26 IV	3 VI	9 VI
2.	Pándy	2009	30-31 III	1 IV-2 IV	16 IV	19 IV 20 IV	18 VI	4 VII
	-	2010	2-4 IV	4-5 IV	29 IV	1 V 2 IV	19 VI	7 VII
3.	Érdi bötermö	2009	1-2 IV	3-4 IV	18 IV	21 IV 30 IV	18 VI	24 VI
		2010	2-4 IV	5-6 IV	21 IV	24 IV 2 V	20 VI	26 VI
4.	Oblacinska	2009	1-2 IV	3-4 IV	18 IV	21 IV 26 IV	12 VI	18 VI
		2010	2-4 IV	5-6 IV	20 IV	23 IV 29 IV	15 VI	21 VI
5.	Cigány meggy	2009	2-4 IV	3-5 IV	20 IV	23 IV 30 IV	20 VI	26 VI
		2010	5-7 IV	7-8 IV	22 IV	25 IV 2 V	24 VI	30 VI
6.	Ilva	2009	26-28 III	28 III-29 III	12 IV	15 IV 18 IV	11 VI	17 VI
		2010	28-30 III	30-31 III	14 IV	17 IV 20 IV	13 VI	20 VI
7.	Schatenmorell	2009	26-28 III	28-30 III	14 IV	17 IV 23 IV	11 VI	17 VI
	e	2010	29-31 III	31 III-1 IV	15 IV	18 IV 25 IV	13 VI	19 VI
8.	Northstar	2009	3-6 IV	6-7 IV	21 IV	24 IV 1 V	7 VI	13 VI
		2010	1-3 IV	3-4 IV	18 IV	21 IV 27 IV	6 VI	14 VI
9.	Pitic de Iași	2009	4-6 IV	6-7 IV	21 IV	24 IV 1 V	30 VI	6 VII
		2010	3-6 IV	4-6 IV	18 IV	21 IV 27 VI	27 VI	25 VII

The development of the breeding phases (2009-2010)

CONCLUSIONS

As a conclusion, cherry-trees have good conditions for growing and development in the North-Western part of the country. Related to the growing vigour, they might e divided into three categories:

-low vigour category: Pitic de Iasi

-high vigour category: Pandy, Ilva, Timpurii de Cluj

-middle vigour category: Erdi botermo, Oblacinska, Ciganymeggy, Schatenmorelle, Northstar.

This divide is useful most to establish the planting distances.

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