

BEHAVIOUR OF SOME CHERRY VARIETIES IN THE CONDITIONS OF NORTH-EAST REGION OF ROMANIA

COMPORTAREA UNOR SOIURI DE CIRES IN CONDITIILE DIN REGIUNEA DE NORD EST A ROMANIEI

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Abstract.

Cherry, a species always present in orchards, has undergone continuous improvements both in technological aspects and varieties assortment. While today cherry culture in Europe knows “a new breath”, in particular by increasing the number of plants per unit surface in conjunction with obtaining rootstocks and varieties of low vigor, existing plantations can be subject to detailed studies to better understand the secrets of the specie.

Key words: Cherry fruits., crown shape, superintensive orchards

Rezumat.

Cireșul, o specie întotdeauna prezenta în livezi, a cunoscut o continuă dezvoltare atât sub aspectul tehnologiei de cultură cât și la nivelul sortimentului. Astăzi cultura cireșului în Europa cunoaște “un nou suflu”, determinat în mod deosebit de creșterea densității pomilor pe unitatea de suprafață în colaborare cu obținerea de portaltoi și soiuri de vigoare redusă, iar plantațiile existente pot fi subiectul unor studii detaliate pentru o mai bună înțelegere a secretelor acestei specii.

Cuvinte cheie: Cireș, formă de coroană, livadă superintensivă

INTRODUCTION

Super intensive cherry plantations are being established more and more often in the North-Eastern region of Moldova, and Iasi County offers optimal conditions for the development and fruiting of the species.

New varieties and rootstocks ensure superior production, with cherries being sought after both on the domestic and foreign markets, offering producers material benefits, especially in the first part of the agricultural year.

MATERIAL AND METHOD

The studies necessary for the preparation of this paper were carried out in Ciortesti commune, Iasi county, within the S.C. Hortifruct S.R.L. farm between 2021 – 2023. Four cherry varieties (Summit, Canada Giant, Kordia, Regina) grafted onto Gisela 5 rootstock (Dallabetta N., Franchini S., Pantezzi T. and Zucchi P., 2019), managed in the

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form of a UFO crown (Upright Fruiting Offshoots) at a planting distance of 4x2 m, resulting in approximately 1250 trees per hectare, were studied (fig. 1, 2, 3, 4, 5).

RESULTS AND DISCUSSIONS

Table 1 presents data on the average height of the trees. As can be seen, the highest value is recorded by the Summit variety (305 cm), followed by the Canada Giant, Kordia and Regina varieties.

Table 1

Tree height data (cm)						
Variant	Year	Value (cm²)	Average '22-'24 (cm)	% compar. to control	Diff. from control	Semnif.
Summit	2021	301	305	120.07	+51	***
	2022	304				
	2023	310				
Canada Giant	2021	286	290	114.17	+36	**
	2022	291				
	2023	293				
Kordia	2021	285	288	113.38	+34	**
	2022	287				
	2023	292				
Regina (Mt)	2021	249	254	100	-	-
	2022	253				
	2023	260				
DL 5% = 1.82			DL 1% = 4.15		DL 0.1% = 12.96	

The cross-section of the tree trunk ranged from 90 cm² for the Summit variety to 45.7 cm² for the Regina variety. The Canada Giant and Kordia varieties achieved intermediate values (Table 2).

Table 2

Trunk cross-sectional area data						
Variant	Year	Value (cm²)	Average '22-'24 (cm²)	% compar. to control	Diff. from control	Semnif.
Summit	2021	89,3	90.0	196.9	+44.3	***
	2022	90,1				
	2023	90,6				
Canada Giant	2021	77,4	77.9	170.4	+32.2	***
	2022	77,9				
	2023	78,5				
Kordia	2021	55,3	55.9	122.3	10.2	**
	2022	55,9				
	2023	56,6				
Regina (Mt)	2021	45,2	45.7	100	-	-
	2022	45,8				
	2023	46,3				
DL 5% = 3.53		DL 1% = 8.12		DL 0.1% = 25.79		

The volume of the tree crown was approximately 6m³ for the Summit, Regina and Canada Giant varieties, and in the case of the Kordia variety an average value of 5.28 cm³ was calculated (Table 3).

Table 3

Data on total crown volume (m³/tree)

Variant	Year	Value (m³/tree)	Average '22-'24 (m³/tree)	% compar. to control	Diff. from control	Semnif.
Summit	2021	6,59	6.92	109.49	+0.6	**
	2022	6,79				
	2023	7,39				
Canada Giant	2021	5,61	5.99	94.77	-0.33	o
	2022	5,92				
	2023	6,45				
Kordia	2021	4,23	5.28	83.54	-1.04	oo
	2022	6,60				
	2023	5,03				
Regina (Mt)	2021	5,55	6.32	100	-	-
	2022	6,20				
	2023	7,23				
DL 5% = 0.27		DL 1% = 0.51		DL 0.1% = 1.47		

The number of fruit branches per tree was 206 for the Kordia variety, followed by the Summit variety with 192. The other 2 varieties recorded 144 and 130 per tree, respectively (Table 4).

Table 4

Data on the number of fruit branches present on the tree (pcs.)

Variant	Year	Value (pcs./tre e)	Average '22-'24 (pcs./tree)	% compar. to control	Diff. from control	Semnif.
Summit	2021	192	192.00	147.69	+62	***
	2022	184				
	2023	200				
Canada Giant	2021	140	144.66	111.27	+14.66	*
	2022	147				
	2023	147				
Kordia	2021	186	206.00	158.46	+76	***
	2022	210				
	2023	222				
Regina (Mt)	2021	126	130.00	100	-	-
	2022	126				
	2023	138				
DL 5% = 6.13		DL 1% = 14.72		DL 0.1% = 44.56		

Fruit production ranged from 9.8 t/ha for the Canada Giant variety to 12 t/ha for the Kordia variety. In the case of the Summit and Regina varieties, the recorded fruit production was approximately 10 t/ha (Table 5). Images in fig. 1-5 represent the studied varieties.

Table 5

Data on top production (t/ha)						
Variant	Year	Value (t/ha)	Average '22-'24 (t/ha)	% compar. to control	Diff. from control	Semnif.
Summit	2021	16	10.5	101.9	+0,2	ns.
	2022	3,8				
	2023	11,9				
Canada Giant	2021	15,8	9.8	95.14	-0.5	ns.
	2022	3,5				
	2023	10,1				
Kordia	2021	17,1	12.1	117.4	+1.8	**
	2022	4,3				
	2023	15				
Regina (Mt)	2021	15,3	10.3	100	-	-
	2022	3,9				
	2023	11,7				
DL 5% = 1.21		DL 1% = 2.39		DL 0.1% = 7.11		



Fig 1. Summit variety

Fig. 2. Canada Giant variety



Fig. 3. Kordia variety

Fig. 4. Regina variety



Fig. 5. Fruiting image

CONCLUSIONS

The modern form of tree management (U.F.O.) in conjunction with the Gisela 5 rootstock facilitates the intensive cultivation of cherry trees in the conditions of Ciortesti commune, Iasi county.

All 4 varieties chosen in the experience achieve biometric and fruiting characteristics characteristic of low-vigor trees, thus simplifying specific technological operations (cutting, harvesting and treatments) [Vercammen J. *et al.* a, 2019].

The production obtained, except for years with climatic accidents, fully justifies the investment, being in line with the European production trend for this species [Vercammen J. *et al.* b, 2019].

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