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**Growth and Productivity of Vineyards Depending on Planting Material Quality**

Monograph

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**Relevance**

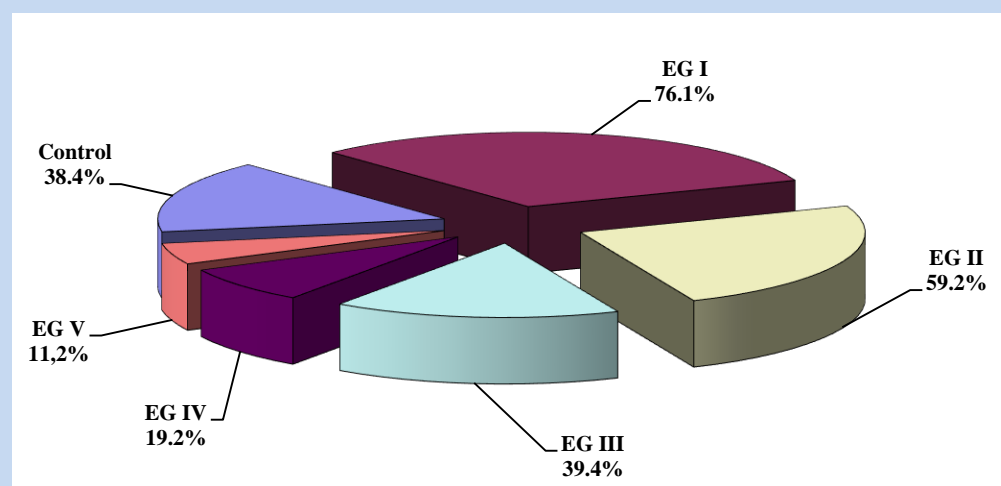
Based on long-term research and on analysis of foreign and domestic experience, the problem of grape plant heterogeneity at different levels of organization (cuttings, saplings, vines) and its impact on the viability and productivity of vineyards under agro-ecological conditions of ATU Gagauzia are examined in the presented monograph.

**Research Object**

Cuttings, saplings, and vines of the introduced clone R5 of Cabernet Sauvignon variety.



**Economic Efficiency of Grapevine Grafted Sapling Production**

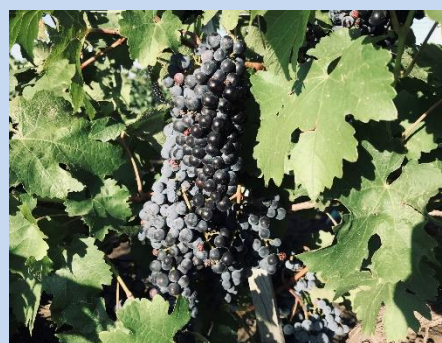


**Degree of implementation: Industrial prototype**

The new methodological approaches to assessing the plantation heterogeneity of clone R5 of the Cabernet-Sauvignon variety depending on the rootstock variety, the location of the cuttings along the length of the rootstock and the quality of the cuttings are proposed.

It is illustrated that the plant productivity of the studied grape clone changes depending on the meteorological conditions that inadequately develop during plant growth and development.

The relationship between the quality of cuttings and saplings, the subsequent growth and development of vines on the permanent place, the timing of their beginning of fruiting, the yield and the grape quality in the SC «Tomai-Vinex» SA has been established.



The materials of the monograph are of interest to a wide range of specialists in viticulture, nursery, and winemaking. They will be beneficial for vine-growing enterprises, agricultural college students, and university students majoring in agricultural fields

Table 1. Yield Indicators of Young Grapevines Depending on the Quality of Grafted Saplings. Fourth Year of Planting. SC «Tomai-Vinex» SA

Experimental variations		Average number of clusters/vine	Average cluster weight, g	Yields			Mass concentration, g/dm <sup>3</sup>	
Variety	Saplings Quality			kg/vine	centner/hectare	% to control	sugar content	titratable acids
Cl R5 Cabernet Sauvignon onto BxR Kober 5BB	Control	50,9	57	2,90	70,3	100,0	185	6,5
	EG I	57,9	59	3,42	82,9	117,9	190	6,4
	EG II	57,0	54	3,08	74,7	106,3	194	6,5
	EG III	56,1	53	2,97	72,0	102,4	180	6,5
	EG IV	50,9	55	2,80	67,9	96,6	180	6,6
	EG V	42,9	58	2,49	60,4	85,9	172	6,7
S x %					1,06	1,08		
LSD <sub>05</sub>					0,10	2,57		
Cl R5 Cabernet Sauvignon onto RxxR 101-14	Control	46,1	55	2,53	61,3	100,0	202	6,3
	EG I	53,0	58	3,07	74,4	121,4	189	6,4
	EG II	51,9	55	2,86	69,3	113,1	200	6,2
	EG III	47,9	54	2,59	62,8	102,4	205	6,4
	EG IV	45,1	52	2,34	56,7	92,5	192	6,3
	EG V	45,0	50	2,25	54,5	88,9	214	6,2
S x %					1,10	1,12		
LSD <sub>05</sub>					0,21	3,01		

**Results**

Using grapevine saplings of the R5 clone of the Cabernet Sauvignon variety, obtained by grafting onto rootstock cuttings within the first two meters from the base for stock cane, leads to an acceleration of plant maturity and fruit-bearing. Fruit-bearing begins as early as the 4th year after planting.

During full fruit-bearing, the yield of vineyards of this clone is 137.9 centners per hectare. It increases by 1.2 times in the case of vines grown from saplings obtained through the method proposed by the researcher. In these variants, the yield amounts to 156.7 centners per hectare, with a sugar content of 265 g/dm<sup>3</sup> and titratable acidity of 9.1 g/dm<sup>3</sup>.