Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development
Vol. 16, Issue 4, 2016
PRINT ISSN 2284-7995, E-ISSN 2285-3952

THE VOLATILE ESTERS OF BERRIES OF THE INTERSPECIFIC HYBRIDS TO THE VINES *(VITIS VINIFERA* L. X *MUSCADINIA ROTUNDIFOLIA* MICHX.*)*

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Abstract

In the process of creating grape varieties are analyzed not only volatile esters of grape processing products, but also their content in juice berries selection of new varieties obtained by inter- and intra the grapevine. These investigations are aimed at the scientific characterization of new varieties of vine varieties compared to classical group Vitis vinifera L. In the study conducted was monitored in order to verify the content of volatile esters of interspecific hybrids juice berries vine V. vinifera L. x M. rotundifolia Michx. (DRX-M3-3-1; DRX-M4-502, -512, -571, -578, -580, 609, -640) is in amounts similar to those classic Vitis vinifera L. (Feteasca Alba, Feteasca Neagra, Rara neagra). Determining the concentration of volatile esters of interspecific hybrids juice berries vine V. vinifera L. x M. rotundifolia Michx. BC3 and by comparison with conventional varieties berries juice concentrations of native vine of V. vinifera L. ssp. Sativa D.C. We conclude that these constituents are in narrow ranges intervals.

Key words: *berry, chemical compounds, interspecific hybrides, vines, volatile esters.*

INTRODUCTION

Odorous substances from the grapes are located in the largest amount in epicarp (epidermis). They belong to several categories of chemical compounds.
The volatile compounds are chemicals that can be immediately notified bodies olfactory smelling or tasting the grapes, grape must or wine, and are best represented in flavored varieties [7, 8; 11; 14; 15].
The esters are chemical compounds that characterize the stage of maturation (aging) of the wines. They are formed as a result of the reaction between acids and alcohols in the process of fermentation of the must, by enzymatic esterification.
Only in the maturation and aging of wine is produced mainly by esterification chemical mechanism [10; 12; 17].
The reactions are slow and time consuming storage / maturation (aging) of wine.
During the process of creating new varieties of vines are volatile esters studied not only from grape processing products, but also their content in juice berries selection of new varieties obtained by inter- and intra-vine to vine.
These investigations aimed at scientific characterization of new varieties of grape-vine varieties compared to classical group *Vitis vinifera* L. [7; 9; 12; 15]
The purpose of the study was conducted to verify the content of volatile esters of the juice berries of the interspecific hybrids of vine *Vitis vinifera* L. x *Muscadinia rotundifolia* Michx.

MATERIALS AND METHODS

As object of the study have served interspecific hybrids of vines *Vitis vinifera* L. x *Muscadinia rotundifolia* Michx. DRX-M3-3-1; DRX-M4-502, -512, -571, -578, -580, 609, -640) and varieties of group *Vitis vinifera* L. (Feteasca Albă, Feteasca Neagră şi Rară Neagră) [1; 2].
The determination of volatile esters was

carried out according to the gas phase chromatographic method. [3; 6; 8; 15; 19; 20].

RESULTS AND DISCUSSIONS

The volatile esters of the juice berries of the interspecific hybrids of vine *Vitis vinifera* L. x *Muscadinia rotundifolia* Michx are in amounts similar to those varieties of aboriginal group of the *Vitis vinifera* L. (Table 1).

Table 1. The content of volatile esters

	Volatile esters, mg/dm^3							
	Etila-acetat	Izoamil-acetat	Xecsil-acetat	Xeptil-acetat	Etil-lactat	Etil-octanoat	Etil-decanoat	B-fenil-acetat
Interspecific hybrids to the vine *Vitis vinifera L. x Muscadinia rotundifolia Michx.* BC3								
DRX-M3-3-1	41	21	0.44	4.4	2,9	13.50	3.71	0.34
DRX-M4-502	39	28	0.39	4.0	3,3	11.60	4.13	0.39
DRX-M4-512	21	31	0.51	5.1	4,1	12.47	4.09	0.31
DRX-M4-571	23	36	0.57	6.3	5,2	13.45	3.16	0.29
DRX-M4-578	27	19	0.61	4.9	3,0	15.59	3.91	0.26
DRX-M4-580	19	22	0.43	6.0	4,9	16.11	4.49	0.33
DRX-M4-609	26	29	0.69	5.9	6,1	9.90	4.88	0.27
DRX-M4-640	22	34	0.27	4.7	5,5	15.60	3.17	0.29
Vine varieties indigenous *Vitis vinifera* L. ssp. *sativa* D.C.								
Feteasca Albă	48	37	0.77	5.6	5.1	17.04	6.47	0.43
Feteasca neagră	39	28	0.59	4.8	4.3	13.95	5.41	0.37
Rară neagră	33	17	0.37	4.1	3.7	9.73	3.37	0.25
The perception threshold volatile ester, mg/dm^3								
	7.5	*0.003*	*0.67*	*1.43*	*0.154*	*0.002*	*0.2*	*0.25*

Source Own determinations

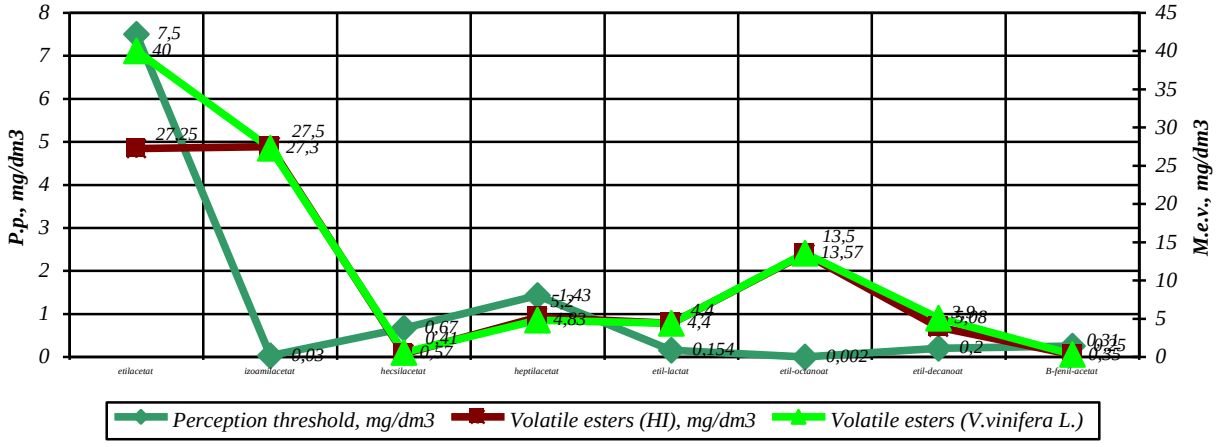

Fig. 1. The concentration of volatile esters in berry of the interspecific hybrids of vines (*Vitis vinifera* L. x *Muscadinia rotundifolia* Michx.)

P.p. - the perception threshold volatile esters, mg/dm^3.

M.e.v. – the average concentration of volatile esters from the juice interspecific hybrides, mg/dm^3.

Determining the concentration of volatile esters of interspecific hybrids juice berries vine *Vitis vinifera* L. x *Muscadinia rotundifolia* Michx. BC3 and comparing the concentrations of the juice berries indigenous varieties of vine *Vitis vinifera* L. ssp. *sativa* D.C., we conclude that these constituents are in narrow ranges intervals (Table 1. Fig. 1).

CONCLUSIONS

The concentration of volatile esters from the juice berries of interspecific hybrids of vine *Vitis vinifera* L. x *Muscadinia rotundifolia* Michx. BC3 compared with concentrations of the juice berries indigenous varieties of vine *Vitis vinifera* L. ssp. Sativa D.C. (Feteasca Alba, Feteasca Neagra, Rara Neagra) we see that these constituents are in narrow ranges intervals.

By comparing the spectrum of aromas interspecific hybrids vine that of local varieties vine can say with certainty that the new varieties obtained are close to the classics and can be accepted and approved as varieties for table and for industrial processing.

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