

THE STUDY OF TECHNOLOGICAL POTENTIAL AT PINOT AND FETEASCĂ VARIETY GROUPS FROM SOME OLTENIA'S VINEYARDS

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Abstract

The paper is about the results of some studies, which regard the technological potential of Pinot and Fetească variety group cultivated in the main hilly vineyards of Oltenia. These varieties have a special behaviour under technological aspect, the result of it being the production of red and white wines characterized by good organoleptical and compositional parameters ready to satisfy even the most exquisite taste of some customers.

Keywords: *vineyard, variety, glucides, acidity, anthocyanins.*

Introduction

Among areas with extremely favourable conditions for cultivating grape vine in Romania there is Oltenia, a space extended from the Danube, the South Carpathians to the river Olt. The wine-growing talent and tradition of this region were exposed in the works of the great wine-grower scholars who activated in this domain from the 19th century to present Ion Ionescu de la Brad (1868), Radulescu (1896), Nicoleanu (1900), Teodorescu, C.I. (1929), Teodorescu, St. (1970), Oprean (1974) and Dinu (1998).

The recovery of the wine-growing patrimony after the filoxera disaster and its development after World War 2 were realized not only with the help of some French varieties but also using some native varieties.

Nowadays the wine-growing of hilly Oltenia has valuable varieties belonging to the Fetească and Pinot variety groups which produce wine for both import and export. The researches based on the varieties from these two cultivars, mostly because the native varieties are intensely exported and because Pinot wines fulfill the customers' exquisite taste.

Experimental

The research developed from 2003 to 2005 and it was monitored the technological potential of white wine grape varieties such as: Fetească albă, Fetească regală and Pinot Gris cultivated in the vineyards Sâmburești – Olt, Drăgășani - Vâlcea, Banu Mărăcine – Dolj, Segarcea – Dolj, Orevița – Vânju Mare and Drâncea – Oprișor – Mehedinți and the technological potential of grape varieties for high quality red wine: Pinot noir and Fetească neagră by the vineyards Segarcea – Dolj, Orevița – Vânju Mare and Drâncea – Oprișor – Mehedinți.

Once they got to the technological maturity it was established, on the base of some methodology imposed by ICVV, the yield of grapes to the conventional surface, the must output, the glucides content, the acidity, the anthocyanins content and the chromatic structure of total anthocyanins.

The analysis was effectuating after official methods recommend by O.I.V. and adopted by I.C.V.V.

Results and Discussions

The data that reflect the productive and qualitative potential of the grape varieties for high quality white wines are presented in table 1.

Because of their genetic nature, the varieties present differences not only in the report yield – wine-making, but also in the parameters of quality (glucides and acidity). In general, varieties such as Fetească albă and Fetească regală have a grape yield of 8000 to 9000 kg/ha exceeded only by Fetească regală in Sâmburești and by Fetească albă in Segarcea (8789 kg/ha and 8742 kg/ha). The variety Pinot Gris has lower yield, between 5786 kg/ha (Drâncea – Oprișor) and 6245 kg/ha (Banu Mărăcine).

The grape's size and the physical-mechanical structure determined a difference of must output. The must output of Fetească variety group varies from 67.85 l/100 kg grapes (Fetească regală – Orevița) to 69.3 l/100 kg grapes (Fetească albă – Segarcea). The output of Pinot gris variety does not exceed 64 l/100 kg grapes.

The glucides content of grapes from Fetească variety group oscillate between 210 g/l (Fetească regală – Drăgășani) and 216 g/l

(Fetească albă – Segarcea). These amounts of glucides offer the possibility of obtaining wine with a volume of alcohol over 12%.

Table 1. The productive and qualitative potential of the varieties for high qualitative white wines cultivated in Oltenia (at their technological maturity), average values 2003-2005

Vineyard	Variety	Yield kg/ha	Must output l/100 kg grapes	Glucides	Acidity g/l H ₂ SO ₄
SÂMBUREȘTI Olt	Fetească regală	8789	68.5	211.5	4.49
DRĂGĂȘANI Vâlcea	Fetească regală	8189	68.0	210.5	4.44
BANU MĂRĂCINE Dolj	Fetească regală	8187	67.9	215.0	4.38
	Pinot gris	6245	63.9	232.5	3.73
SEGARCEA Dolj	Fetească albă	8742	69.3	216.5	3.98
OREVIȚA-VÂNJU MARE Mehedinți	Fetească regală	8189	67.8	213.0	4.56
	Pinot gris	6105	63.9	237.5	3.35
DRÂNCEA – OPRÎȘOR Mehedinți	Fetească albă	8170	68.0	215.0	4.51
	Pinot gris	5786	63.7	239.0	3.56

The lower grape yields from the variety Pinot Gris are completed by the remarkable quantities of glucides, that surpass 230 g/l which means that can be produced semidry wines, even for export. The acidity content corresponds with those varieties from Fetească variety group and sometimes the acidity is poor at Pinot gris variety.

The productive and qualitative potential of the varieties for high qualitative red wines is exposed in table 2. The yield for Pinot noir oscillate between 6000 and 6750 kg/h in all vineyards and they are over 8000 kg/ha at Drâncea – Oprișor, variety Fetească neagră.

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The must output for Pinot noir does not reach 68% but it exceeds 70% at Fetească regală. Both varieties have a great capacity of accumulating fermentation glucides, their contents varying from 230 g/l (Fetească neagră – Drâncea – Oprișor) to 238 g/l (same vineyard).

Table 2. The productive and qualitative potential of the varieties for high quality red wines cultivated in Oltenia's vineyards (at their technological maturity), average values 2003-2005

Vineyard	Variety	Yield kg/ha	Output l/100 kg grapes	Glucides g/l	Acidity g/l H ₂ SO ₄	Anthocyanins mg/kg grapes
SEGARCEA Dolj	Pinot noir	6321	67.7	232	4.06	672
OREVIȚA – VÂNJU MARE Mehedinți	Pinot noir	6010	65.2	233	4.10	643
DRÂNCEA – OPRIȘOR Mehedinți	Pinot noir	6750	67.1	238	3.96	612
	Fetească neagră	8060	70.2	230	4.11	1045

It is important to notice that even the acidity content is on the same level as those imposed by the high quality red wines' legislation.

At Pinot noir variety the anthocyanins content does not exceed 700 mg/kg grapes and also does not go under 600 mg/kg grapes. At Fetească variety the chromatic content is over 1000 mg/kg grapes although the grapes have larger sizes than those from Pinot noir.

Although the anthocyanins content in both varieties is modest they have an extremely favourable chromatic structure for obtaining coloured, attractive wines, without blue or violet shades even if they are young.

This aspect is guaranteed by the important amounts of yellow-orange pigments (over 40%) and by the low content in blue pigments (from 6 to 8%) related with the red pigments which are, in all cases, over 51% (table 3).

Table 3. The percentage of the chromatic structure from the anthocyanic material in overgrown grapes, average values 2003-2005

Vineyard	Variety	Analyzed samples/year	Yellow-orange pigments DO520 nm %	Red pigments DO 520 nm %	Blue pigments DO 420 nm %
SEGARCEA Dolj	Pinot noir	5	40.3	53.4	6.3
OREVIȚA – VÂNJU MARE Mehedinți	Pinot noir	5	41.9	51.4	6.7
DRÂNCEA – OPRIȘOR Mehedinți	Pinot noir	5	41.4	52.3	6.3
	Fetească neagră	5	40.3	51.7	8.0

Conclusions

The varieties from Fetească and Pinot variety groups have a very good evolution in the pedo-climatic conditions from Oltenia. By establishing the best moment for harvest the grapes belonging to the varieties Fetească albă and Fetească regală can constantly be obtained qualitative dry wines with 12% volume of alcohol and an acidity of aver 6 g/l (in C₄H₆O₆).

From the variety Pinot can be obtained both dry wines and wines with residual sugar, depending on the harvest moment. Although the acidity is sometimes low, it can be adjusted through solutions imposed by the legislation.

The grapes belonging to the Pinot noir and Fetească neagră varieties are used for high qualitative red wines, rich in alcohol, normal acidity and light, but vivid colours, attractive and without annoying blue shades.

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