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THE IMPACT OF DIFFERENT TECHNOLOGIES OF PRODUCTION OF RED WINES ON THE ORGANOLEPTIC SCORE IN THE POPULATION OF YOUNG WINEMAKERS

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Abstract

The value of wine is determined by a number of parameters, and besides physical - chemical and organoleptic parameters, which are influenced by the quality of grapes and wine, important role has tradition, marketing and consumer trends in wine. The aim is to show the trends and preferences of future wine experts who will form the styles of wine, and who are themselves educated wine consumers. The experiment was conducted in a teaching facility of University of applied sciences in Požega. In a study students from the second and third year of professional study Vineyards - Wine – Fruit growing participated. Students were randomly selected and divided into three commissions of five members. Assessed the wine Pinot Noir, Merlot, Cabernet Sauvignon and Syrah. Harvest of each cultivar was carried out on the same day so that the parameters of grapes for each wine the same whether it is a wine produced in a stainless steel bowl or barriques. Wines produced exclusively in stainless steel containers retain more varietal characteristics and fruitiness and are fresher than the wine from barrique barrels. All samples of wine vintages are 2012th. Sensory evaluation of wines was carried out using 100 positive points (OIV). All results were statistically analyzed. Wines in barriques with Pinot Noir, Merlot and Cabernet Sauvignon achieved better grades.

Keywords: Barrique, organoleptic, red wine, young

Introduction

One of the ideas for this research comes from the title of the book: “the Paris judgment, California against France and historic Paris tasting in 1976” that has revolutionized the world of wine (Taber, 2009). The book shows how great the impact of tradition, fashion and trends are in forming attitudes of producers and consumers of wine.

The value of wine are determined by a number of parameters, and besides physical - chemical and organoleptic parameters, which are influenced by the quality of grapes and wine, important role has tradition, marketing and consumer trends in wine (Jackson, 2000). The aim is to show the trends and preferences of future wine experts who will form the styles of wine, and who are themselves educated wine consumers.

Comparison of red wine produced exclusively in stainless steel canisters and barriques were conducted because it was observed that most tasters lately prefer fruit, fresher wines.

In support of this style of wine goes and production of wine in barriques that raises the price of wine.

Materials and methods

In a study students from the second and third year of professional study Vineyards - Wine – Fruit growing participated. All students are trained in sensory evaluation of wine. Students were randomly selected and divided into three commissions of five members. Each committee represents one repetition of experiments which is set in completely randomized Pinot Noir, Merlot, Cabernet Sauvignon and Syrah were assessed. Harvest of each cultivar was carried

out on the same day so that the parameters of grapes for each wine are the same whether it is a wine produced in a stainless steel bowl or barriques. Basic parameters of tasted wines are shown in Table 1, and all the samples belong to the category of dry wine.

Table 1. Samples of wines that have been used in research

Wine	Alcohol (vol %)	Total acidity as tartaric (g/l)
Pinot Noir - stainless steel	17	6,5
Pinot Noir - Barrique LT	16,3	5,5
Merlot - stainless steel	16,1	5,2
Merlot - Barrique LT	15,7	5,5
Cabernet Sauvignon - stainless steel	14,5	5
Cabernet Sauvignon - MT	13,7	5
Syrah - stainless steel	15	5,2
Syrah – barrique - HAT	16	5,7

All samples of wine are vintage 2012th , the wines that were in barriques were selected in the previous tasting in order to better highlight the characteristics of a positive impact of barrique barrels. Sensory evaluation of wines was carried out using 100 positive points (OIV), (NN106/04, 2004). After the results were separated by an average score of smell, taste and harmony, and overall rating of wine. Color and purity are not especially prominent because it is a young red wines and all the wines in parameters of color and purity assessed maximum rating. The results were analyzed in statistically variation.

Results and discussion

Tables 2, 3, 4 and 5 presents the average values of smell, taste, harmony and overall rate of wines that are produced in stainless steel containers and in barriques. Wines produced exclusively in stainless steel containers retain more varietal characteristics and fruitiness and are fresher than the wine from barrique barrels.

Table 2. Smell of wine varieties Pinot Noir, Merlot, Cabernet Sauvignon and Syrah, made in stainless steel canisters and barriques, vintage 2012th

	Pinot noir	Merlot	Cabernet Sauv.	Syrah
Stainless steel	24,7	23,2	24,1	23,3
Barrique	26,1	26	27	24,8
Significance	n.s.	n.s.	*	n.s.

**, *, n.s. significant with p = 0,01, 0,05 or insignificant to LSD test

Table 2 shows that evaluators are better assessed the odors of wines produced in barriques, although statistically significant better smell only wine Cabernet Sauvignon.

Table 3. Taste wine varieties Pinot Noir, Merlot, Cabernet Sauvignon and Syrah, in stainless steel canisters and barriques, vintage 2012th

	Pinot noir	Merlot	Cabernet Sauv.	Syrah
Stainless steel	36,7	33	33,6	35,7
Barrique	37,6	37	37,8	34,5
Significance	n.s.	n.s.	**	n.s.

**,* ,n.s. significant with $p = 0,01, 0,05$ or insignificant to LSD test

The biggest impact on sensory perception is tastes, probably more important than smell and affects the overall assessment to food in general and wine (Clark & Baker 2004). Commission significantly better evaluate flavor varieties Cabernet Sauvignon produced in barriques compared to wine from stainless steel containers. Pinot Noir and Merlot from wooden barrels also have left a better impression on the tasters. It is only a taste of the variety Syrah from stainless steel containers better assessed in relation to wine produced in wood barrels, but the difference in the number of points is very small and not statistically significant. The fact that the evaluators better recognize and appreciate the taste exactly the Cabernet Sauvignon probably partly lies in the varietal characteristics of the variety, which is expressed with almost aggressive flavors with notes of black currant and herbs, which are especially pronounced in the young wine, considering that it is a wine harvest 2012th year. It is in this wine tasters are the easiest to recognize the positive impact of barrique barrels of wine.

Table 4. Harmony and the general impression of wine varieties Pinot Noir, Merlot, Cabernet Sauvignon and Syrah, made in stainless steel canisters and barriques, vintage

	Pinot noir	Merlot	Cabernet Sauv.	Syrah
Stainless steel	10	9,4	9,2	9,4
Barrique	10,2	9,8	9	9,7
Significance	n.s.	n.s.	n.s.	n.s.

**,* ,n.s. significant with $p = 0,01, 0,05$ or insignificant to LSD test

Table 4 shows that all the Commission assess an equally characteristic harmonies and the general perception of wine from stainless steel and barrique barrels and no significant differences in the preferences of tasters. The reason for this result probably lies in the fact that the range of passing to score great all three points.

Table 5. Total Score wine varieties Pinot Noir, Merlot, Cabernet Sauvignon and Syrah, made in stainless steel canisters and barriques, vintage

	Pinot noir	Merlot	Cabernet Sauv.	Syrah
Stainless steel	87,5	80,7	81,9	83,4
Barrique	88,9	87,8	88,8	83,9
Significance	n.s.	n.s.	**	n.s.

**,* ,n.s. significant with $p = 0,01, 0,05$ or insignificant to LSD test

On the basis of the total score is evident that tasters better rated wines of all varieties produced in barriques. Wine Cabernet Sauvignon from wooden barrels rated significantly better than the wine in stainless steel. With Pinot Noir and Syrah differences are very small. Both Pinot Noir wine tasters have rated as a top-quality wine, while the Syrah categorized as quality wine. Merlot and Cabernet Sauvignon from stainless steel containers have been

categorized as a quality wine, while their version of barriques rated as a top-quality wines. From the results it is evident that young educated tasters prefer red wines produced in wooden barrels, although all the results are not statistically significant.

Conclusion

Young educated tasters and future wine producers better rated wines of all varieties produced in barriques compared to wines produced in stainless steel containers. Statistically significant better rated wine varieties are Cabernet Sauvignon produced in barriques compared with the same wine in stainless steel containers. Only the taste of wine Syrah from stainless steel containers better assessed in relation to parallel wine from wooden barrels but the difference in scores was not statistically significant. It would be good to expand the study to a larger sample that is to increase the number of commissions (repetition) that the results would be as representative as possible. In the end, you should always keep in mind that the rate of experienced wine tasters is partly a result of their subjective perception (Domine, 2004).

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