F.28. PRODUCTION OF RAW DISTILLATES WITH INCREASED AROMATIC QUALITIES THROUGH THE UNITARY DISTILLATION PROCESS

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Abstract. The classic process of making wine distillates, used as mandatory in the manufacture of the famous aged distilled wine beverages "Cognac", provides for alcoholic fermentation of grape wine, optional partial separation of them from the liquid yeast precipitate and periodic "double" fractional distillation of raw wine in special installations, with the receipt, at the first distillation - of the primary distillate with a strength between 28-32% vol., and the alcohol-free residue - vinasse, which is removed from the "cognac" manufacturing cycle. The primary distillate is subjected to fractional redistillation (at the same or other installations) with the separation of the "head" fraction (at the beginning of the process), the "tail" fraction (at the end of the process) and the wine distillate with an alcoholic strength of 62-70% vol., which is the basic raw material, after aging in oak barrels, "Cognac" is produced. The process developed under the conditions of the micro-wine section of the Department of Oenology and Chemistry provides an unitary distillation of the raw material wines, the addition of vinasse before pre-heating and maintaining the heated wines, followed by their distillation in continuous flow in a vertical column installation. This process ensures an initial alcoholic concentration of 9 – 11% vol. and a pH of 3.0-3.5, which improves the quality of wine distillates.

Physico-chemical characteristics	Parameter values through the procedure		Admissibility norm according to CS "Divin"
	classic	innovative	
Alcoholic strength, % vol.	69,3	68,5	62-72
Volatile substances, total, g/dm^3 a. a.	6,30	8,34	
Summary concentration of higher alcohols, g/dm^3 a. a.	3,52	4,12	1,8-5,0
2-phenylethanol concentration, g/dm^3 a. a.	0,082	0,141	
Aldehyde concentration, total, g/dm^3 a.a., including acetic propionic	0,213 0,158 0,055	0,279 0,186 0,093	0,03-0,50
Ethyl acetal concentration, g/dm^3 a.a.	0,062	0,105	
Volatile acid concentration, g/dm^3 a.a.	0,335	0,565	0,02- 0,80
Methyl alcohol concentration, g/dm^3 a.a.	0,65	1,05	Max. 1,5
Furfurol concentration, g/dm^3 a.a.	0,019	0,024	Max. 0,03
Organoleptic assessment, points	76	79	

This positive effect is presented through an organoleptic improvement (enriched with aromatic substances), with a stable style (organoleptic indices) and composition (physico-chemical indices), as a result of enriching the raw material wine, before preheating, with substances, potentially forming aromatic compounds from the vinasse, as well as creating optimal conditions and composition for the formation of new volatile substances and for their fractionation and the volatile substances existing in the raw material wine.

Keywords: raw wine, unitary technological distillation, aromatic compounds of vinasse.

Acknowledgments: The research was supported by Institutional Project, subprogram 02.04.05 Optimizing food processing technologies in the context of the circular bioeconomy and climate change, Bio-OpTehPAS, being implemented at the Technical University of Moldova.