

F.10. IDENTIFICATION OF THE POLYPHENOLIC LEVEL OF YOUNG WHITE WINES BY TREATMENT WITH VARIOUS INORGANIC AND ORGANIC MATERIALS

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Abstract. Wine is a bio-organic product, which has in its composition a complex variety such as: mono- and poly-hydroxyl acids, alcohols, polyphenolic substances, minerals, aldehydes, vitamins, sugars. Among those listed, polyphenolic compounds play a significant role from an organoleptic point of view in the biochemical composition of white wine. Also, white wine contains a wide variety of protein substances that can lead to damage to the finished product of the protein scrap type. The same problem is the polyphenols of non-flavonoid wine (cinnamic acid and its derivatives) but also various biopolymers (procyanidins and anthocyanins) which, in the presence of oxygen, leads to the biochemical denaturation of the wine. The purpose of this paper is to determine the way of colloidal stabilization and decrease the oxidation level of young white wine, keeping its fresh character. Thus, for research, the Sauvignon Blanc and Chardonnay wines obtained through technological processes specific to white wine were taken as reference. In order to verify the level of protein stability of the selected wines but also the degree of oxidability, it was used as inorganic materials: cationic clay modified by the ion exchange process on fractions, and as organic material: β -cyclodextrin. It is already reported in the literature that these materials

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have a deproteinizing effect, and act as an anti-browning agent. Very few studies have been performed on the effect of β -cyclodextrin in wine, that of inhibiting the browning process of wine but also its effect on certain compounds specific to white wine. To classify the mechanism by which β -cyclodextrin polyphenolic compounds was determined using methods such as protein stability by heat, but also that of polyphenolic oxidation by POM-test. The results obtained show that for protein stability, the ion-exchanged bentonite sample, first fraction indicated the best results. In the case of β -cyclodextrin, major changes are observed on several compounds from the tested white wine samples.

Keywords: polyphenolic compounds, proteins, β -cyclodextrin, cationic clays, fractions