MITINA, Irina; Cristina GRAJDIERU; Rodica STURZA; Valentin MITIN; Silvia RUBTOV; Anatol BALANUTA; Emilia BEHTA; Angela DEAGHILEVA; Fatih INCI and Dan ZGARDAN. Molecular Detection of Acetobacter aceti and Acetobacter pasteurianus at Different Stages of Wine Production. Foods. 2025, vol. 14, p. 32. ISSN 2304-8158. Disponibil: https://doi.org/10.3390/foods14010132

Acetobacter aceti and Acetobacter pasteurianus belong to acetic acid bacteria (AAB), associated with wine spoilage. The timely detection of AAB, thought essential for their control, is however challenging due to the difficulties of their isolation. Thus, it would be advantageous to detect them using molecular methods at all stages of winemaking and storage. In this paper, we analyzed wines, musts and grapes of 13 varieties grown in different regions with Protected Geographical Indication of the Republic of Moldova for the presence of AAB, Acetobacter aceti and Acetobacter pasteurianus by real-time PCR and measured wine volatile acidity. Overall, the AAB content in the mature wine explained 33.7% of the variance in the volatile acidity of the mature wine, while the A. pasteurianus content in the mature wine alone explained 59.6% of the variability in the volatile acidity in the wine, and its content in the grapes, must and wine explained about 70% of the variance in the the volatile acidity. This makes A. pasteurianus a good candidate to be a potential predictor of wine volatile acidity.