Training grapevines generates a metabolomic signature of wine

Patrick P. Lehr[1]*, A. Zurowietz[2], M. Kleb[1], N. Merkt[1], V. Gödde[2], H. Bednarz[2], K. Niehaus[2], C. Zörb[1]

[1]University of Hohenheim Institute of Crop Science Quality of Plant Products and Viticulture (340e) Schloss Westflügel, 70593 Stuttgart, Germany

[2]Bielefeld University, Center for Biotechnology & Faculty of Biology, Department of Proteome and Metabolome Research, Universitätsstr. 25, 33615 Bielefeld, Germany

* E-Mail: plehr@uni-hohenheim.de

Training systems are an option to handle the pronounced apical dominance of grapevines and to influence diverse traits of the corresponding wine. However, it is still unclear if different training systems generate signatures in the metabolome of the wine. By an untargeted metabolomics approach using (SPME) GC–MS wine (volatiles) and leaves were evaluated. Different training directions such as vertical shoot positioning systems, hanging shoot systems, and minimal pruning systems were distinguishable in wine. It was shown, that different training systems generate a metabolomic signature in the wine which was more pronounced than in leaves. Moreover, the sensory analysis showed some changes in the aroma of the different training systems. Thus, the influence of the training system ranges from the leaf metabolome to the wine metabolome.

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