Project n°:
2018-1-FR01-KA203-047839

Funded by the Erasmus+ Programme of the European Union

International Organisation of Vine and Wine
Official sponsor

International Conference OENOBIO

Book of Abstracts

INTERNATIONAL CONFERENCE
9th November 2020

Organic viticulture facing climate change

New challenges in organic wine production and marketing

Hochschule Geisenheim University

9 November 2020

Coordinators:
Yvette WOHLFAHRT
Pierre-Louis TEISSEDRE

Hochschule Geisenheim University

THE CHALLENGE OF SULPHITE CONTENT REDUCTION IN ORGANIC WINES: POSSIBLE STRATEGIES FOR RED WINEMAKING

Maria Alessandra PAISSONI[1,*], Simone GIACOSA[1], Susana RÍO SEGADE[1], Vasileios ENGLEZOS[1], Vincenzo GERBI[1], Luca ROLLE[1]

[1]University of Turin, Department of Agriculture, Forestry and Food Sciences (DISAFA), Largo Paolo Braccini 2, 10095 Grugliasco (TO), Italy

*Corresponding author: mariaalessandra.paissoni@unito.it

Abstract

Sulfur dioxide (SO_2) is the most common preservative used in wine industry because of its antimicrobial, antioxidasic, and antioxidant properties. Nevertheless, SO_2 is related to adverse reactions in sensitive individuals and, more in general, to human health concerns for its possible excessive intake. Moreover, the wine market demands for more "natural" products and therefore its reduction is required in winemaking practices.

The possibility to reduce sulfite contents in wines, particularly for organic wine production, can be approached by appropriate cellar practices, but sometimes the technological strategy alone is not adequate to fulfill winemakers' demands. The available alternatives to sulfur dioxide can be summarized in two categories: substitutes processing aids and physical methods. Rarely, one option alone can be suitable to achieve both microbial stabilization and antioxidant effect. The state-of-the-art of the possible alternatives to SO_2 will be discussed, taking in consideration the allowed practices and promising applications in organic wine production.

Harvesting and maintaining grapes in good conditions, together with a good phytosanitary status, remain the first key factor towards a rational use of SO_2. Nevertheless, this aspect is not always possible, therefore innovative strategies in post-harvest red grapes sanitization will be discussed as SO_2 alternatives for their antimicrobial properties. In particular, the use of ozone (gaseous or liquid form, as ozonized water) and electrolyzed water treatments on grapes have been investigated in order to understand their efficiency and suitability in winemaking conditions.

Keywords: sulfur dioxide (SO_2), organic winemaking, sulfite alternatives, ozone