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IMPACT OF MICROBACTERIUM SP. AS A BIOINPUT ON THE BRS LORENA WINE QUALITY

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Vitiviniculture is an agricultural activity of great economic and cultural relevance, but it faces growing challenges related to climate change and the demand for more sustainable practices. In this context, the use of microorganisms, such as bacteria of the genus Microbacterium sp., has gained attention for its potential to reduce downy mildew severity, and contribute to the final quality of the grape products. This study evaluated the effect of the selected Microbacterium sp. CMAA 1924 on the quality of the BRS Lorena white wine. A bacterial suspension of Microbacterium sp. at 10^8 CFU/mL was sprayed to grapevines under real cultivation conditions, at a commercial winery, in São Roque (Sao Paulo, Brazil) during the plant's production cycle. The treatment was compared with a control group that received no biological input. Grapes from each treatment were harvested separately on the same date, and the musts obtained from treated and untreated grapes was processed in triplicate as white wines for physicochemical and chromatographic posterior analyses. The analyses revealed statistically significant differences (p < 0.05) between the BRS Lorena wines winemaking with the grapes from the control and treated grapevines (named control and treated samples, respectively). In the sample treated there was an increase in the alcohol content (10.4 to 10.9% v/v) and the reduction of the total acidity (113.6 to 111.6 meq/L). The analysis of volatile compounds showed some differences in the terpene, ketones, aldehydes, carboxylic acid and ester classes, affecting potential differences in the sensory profile between the samples. Regarding phenolic compounds, two compounds (ferulic and cis-resveratrol) were identified only in the treated sample, while the procyanidin B1 was higher (1.52 to 2.08 mg/L). On the other hand, occurred the reduction in the contents of acids caftaric, caffeic and syringic. The results demonstrate that the use of Microbacterium sp. CMAA 1924 as a bioinput can promote differences in wine composition. These findings highlight for the first time an additional contribution of Microbacterium sp. in improving wine quality, adding value to Brazilian viticulture.

Termos para indexação: bioactive compounds, biological input, hybrid grapes, wine quality.