PREVIEW
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Application of a PGP Bacterial Bioinoculant in a Vineyard: Impact on Soil Biochemical Properties and Must Composition

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The ReCROP project, funded by the PRIMA-Med programme, focuses on the development of sustainable agricultural production systems through the combined use of biotechnological tools and environmentally friendly agronomic practices to enhance soil functions and health.

As part of this project, a PGP bacterial strain was used as a bioinoculant in a vineyard of the Mencía variety, located within the DO Ribeiro region (Galicia, NW Spain). This study presents the results of bioinoculation performed over two consecutive cropping seasons, 2023 and 2024. At the harvest, soil and grape samples were collected from both non-inoculated and inoculated vines. Soil analysis included general characterization, determination of labile C compounds, C and N mineralization, and the measurement of several enzymatic activities. Must was analyzed for pH, sugar content, and organic acids.

The bioinoculation led to an increase in labile C compounds, enhanced N mineralization, and stimulated several enzymatic activities. Additionally, preliminary results indicate that the must composition was altered by the bioinoculant, which modified the profile of organic acids.

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