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MASTER'S THESIS
"Vineyard and Winery Management"



The impact of Biodynamic management on soil
*Measuring the long-term impact of biodynamics on soil fertility and
function in Rivesaltes, France.*

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Study done at: Domaine Cazes, Rivesaltes, Perpignan

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Biodynamic management and Soil quality:
***The long-term impact of biodynamic management on soil fertility and
function in Rivesaltes, France.***

By

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Summary

Biodynamics is an esoteric organic management system focused on ensuring overall soil health and sustainability in vineyards. In the current studies, there are a considerable number of conflicting conclusions as to the effects and outcomes of biodynamics on soil, when compared to conventional and organic management. The outcomes are often heavily affected by the environment and practices of the property. This study was conducted in order to understand the specific long-term impact of biodynamics on the fertility and function of the soil of Domaine Cazes in the Rivesaltes region of France. In addition, it looked to identify what areas of soil function were most impacted by biodynamic preparations. A number of variables were selected as indicators for the soil status, with focus on the microbiological activity and the fertility indicators in the soil. The data was collected from two parcels in biodynamics for 26 years and compared to a recently converted and a conventional parcel. The older biodynamic parcels showed a significantly more organic matter, organic carbon and nitrogen, as well as more microbes in the soil, compared to both the recently converted and conventional parcels. Mineralised organic carbon and nitrogen was also significantly higher in the older biodynamics parcels. Both iron and potassium also appear to be immediately affected by biodynamic management, increasing in biodynamics parcels compared to conventional. Overall, the study indicated that the fertility and function of the soil benefited in the long-term from biodynamic management, with some of the benefits taking time to fully develop after conversion. However, from these variables, the study did not identify what elements of the soil were specifically impacted by biodynamic preparations, but rather how biodynamic management as whole benefited the soil.

Key Words: Biodynamic management; biodynamic preparations; soil fertility; soil function; microbiology of the soil

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