

Bioclimatic factors and their relationship with bacterial and fungal diversity in *Coffea canephora* plantations Pierre ex A. Froehner

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Introduction

Soils encompass a varied range of physical, chemical, and biological variables that interact and impact critical ecosystem processes. We aim here to correlate these factors with soil microbiological markers in *Coffea canephora* plantation in the state of Espírito Santo with different edaphoclimatic features.

Materials/Methods

We collected 180 samples of soil and fruits from these two species of *Coffea* on a national scale and sequenced the microbial DNA using the Illumina NovaSeq 600 platform. The sequences were processed using Qiime2 for denoising, chimera removal and annotation of sequences using the SILVA and UNITE databases.

Conclusion/Perspectives

The bacterial community showed greater alpha diversity and homogeneity within each property than the fungal. In addition, there was a higher correlation between bioclimatic variables and bacterial diversity than fungal one.

References:

Sun, H., Wu, Y., Zhou, J., Bing, H., Zhu, H., 2020. Climate influences the alpine soil bacterial communities by regulating the vegetation and the soil properties along an altitudinal gradient in SW China. CATENA 195, 104727. <https://doi.org/10.1016/j.catena.2020.104727>.

Potential Nitrogen-Fixing Bacteria in Conilon

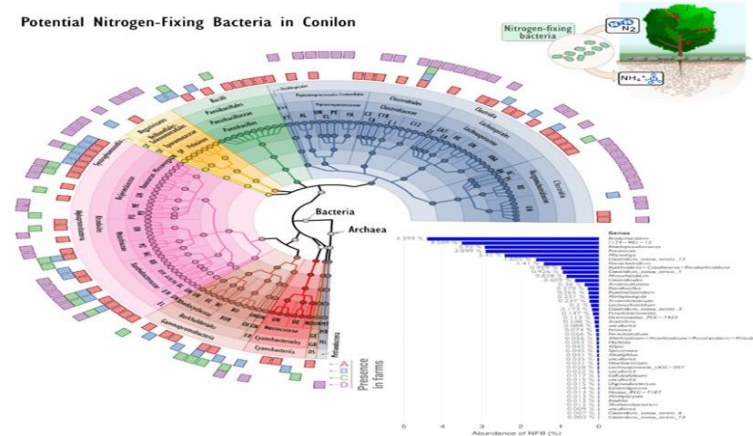


Figure 1: The Cladogram displays potential nitrogen-fixing bacteria (NFB) in soil of *Coffea canephora*.

Results/Discussion

Topographic, environmental and climatic conditions were carried out for a better understanding of each cultivation area and correlation with microbiological diversity.