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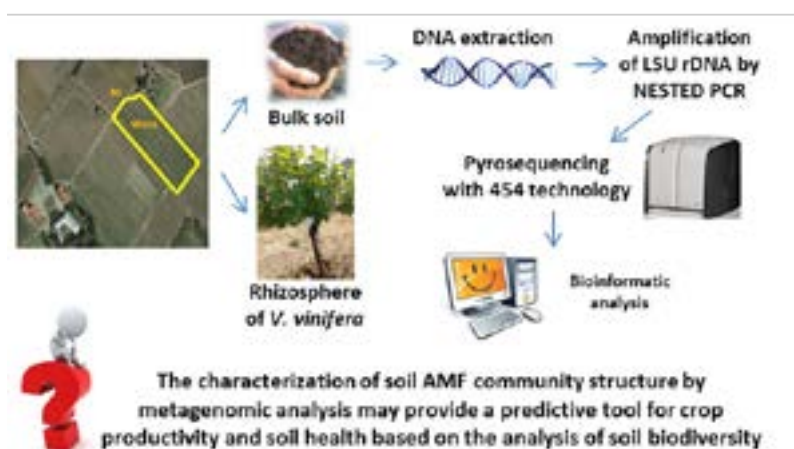
Microbial Interactions & Microbial Ecology

July 19-20, 2018 | Rome, Italy

Exploring AM fungal community associated to *Vitis vinifera* cv. Pinot Nero treated with integrated pest managements using a metagenomics approach

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Vitis vinifera (L.) is an economically important crop whose value depends largely on fruit quality. Most grapevine varieties are susceptible to diseases and different approaches can be chosen to control grapevine pests (conventional practice, integrate pest practice (IPM) and organic pest practice). Among soil microorganisms, arbuscular mycorrhizal fungi (AMF) are able to establish symbiotic associations with vine roots. These fungi have beneficial effects on grapevine performance, including water use efficiency, vine biomass, replant success and soil nutrient uptake. Previous reports suggested a host specificity among grapevine and AM fungi and that soil characteristics and tillage may be important in determining this association. In this study, we examined the AM fungal communities in the rhizospheric soil of *V. vinifera* cv Pinot Nero and bulk soil using 454 Roche sequencing technology. The bulk soil and the rhizospheric soil of the grapevines were sampled before and after grape production. Genomic DNA was extracted and amplified, according to the methods optimized for 454 Roche pyrosequencing, by nested PCR using AMF specific primers of the large ribosomal subunit (LSU rDNA). Sequences were compared with both NCBI database and an AMF LSU rDNA reference database. Our data showed different AMF communities in the rhizospheric and bulk soil of *V. vinifera* and the importance of the sampling time in regulating AMF biodiversity.



Recent Publications:

1. Cesaro P, van Tuinen D, Copetta A, Chatagnier O, Berta G, Gianinazzi S, Lingua G (2008) Preferential colonization of *Solanum tuberosum* L. roots by the fungus *Glomus intraradices* in arable soil of a potato growing area. *Applied Environmental Microbiology* 74:5776-5783.
2. Gamalero E, Cesaro P, Ciatelli A, Todeschini V, Musso C, Castiglione S, Fabiani A, Lingua G (2012) Poplar clones of different sizes, grown on a heavy metal polluted site, are associated with microbial populations of varying composition. *Science of the Total Environment* 425:262-27.
3. Novello G, Gamalero E, Bona E, Boatti L, Mignone F, Massa N, Cesaro P, Lingua G, Berta G (2017) The rhizosphere bacterial microbiota of *Vitis vinifera* cv. Pinot Noir in an integrated pest management vineyard. *Frontiers in Microbiology* 8:1528.

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Biography

Patrizia Cesaro is a researcher at the Università del Piemonte Orientale "Amedeo Avogadro", Italy. She graduated *cum laude* in Biological Sciences at the University of Torino, she received a Specialization in Biotechnology Application with an evaluation *cum laude* and finally she received PhD in "Environmental Science, internal waters and agroecosystems" at the University of Piemonte Orientale "A. Avogadro". Her research has been focused in molecular biotechnology, she has a good expertise molecular biological techniques, in particular, PCR, real time PCR, DGGE, protein expression and purification, two dimensional gel electrophoresis, mass spectrometry, enzyme kinetics and rDNA phylogenetic analysis by bioinformatics softwares.

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