PromESSinG

Promoting EcoSystem Services in Grapes

Microbial diversity and ecosystem functioning in vineyards

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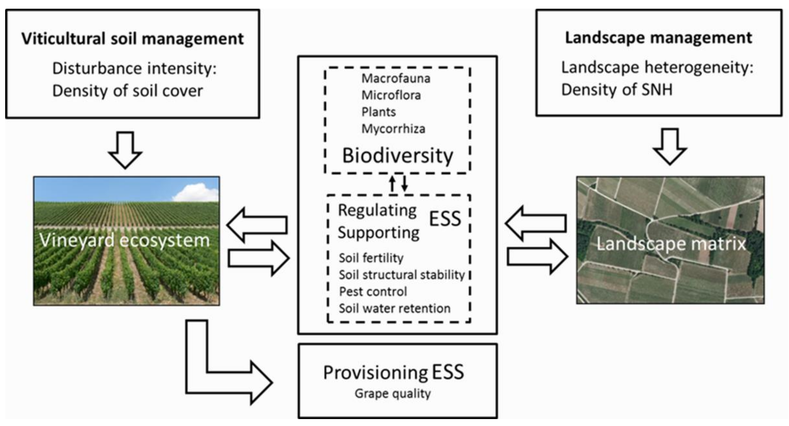
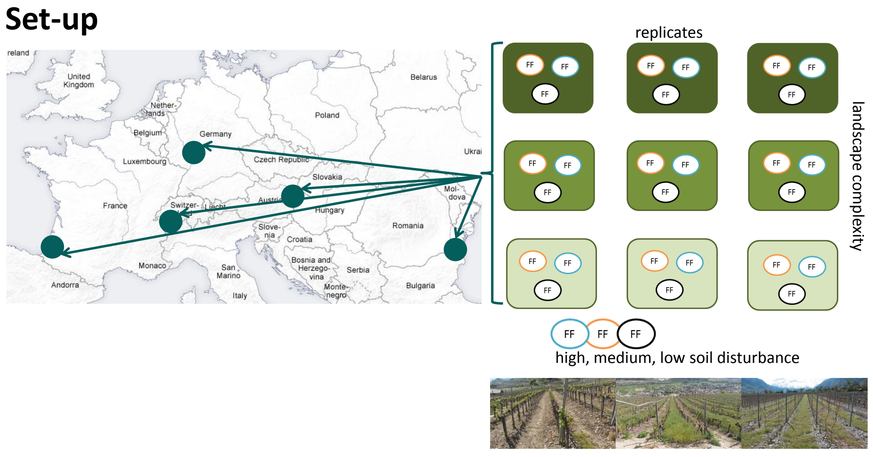
Concept



PromESSinG project goals

- To evaluate the soil management options for promoting biodiversity-linked ecosystem services (ESS) in Central European vineyards
- To explore the relevant scales (vineyard to landscape) for management
- To analyze biodiversity linked ESS responses to soil management intensities

Set-up



Abstract

Preliminary results (2015)

- Soil management affects microbial biomass and selectively ecosystem functions and services
- Effects on grape quality are conditional on grape variety
- Conversion to vegetated soils might need adaptation in the grape varieties cultivated

Soil management

bare

bare alternating green

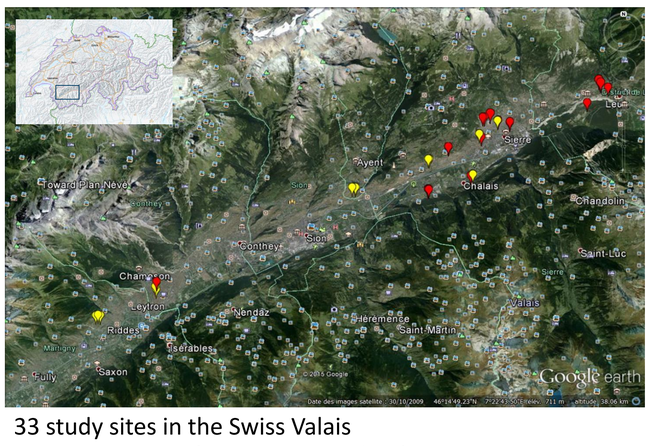
green

bare soil: chemical/mechanical removal of vegetation
alternating: application of treatment every second row
green: no removal of vegetation, irregularly mown

Stakeholders involved
wine growers, wine grower associations, conservation advisors, land managers, regional & European authorities, policy makers

VITIVAL
agroscope RAC CHANGINS

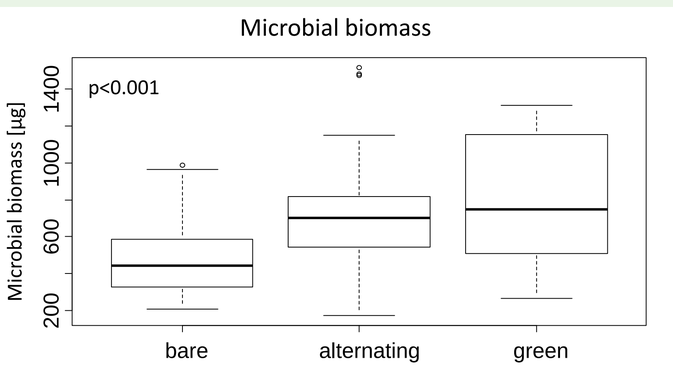
Location of study sites

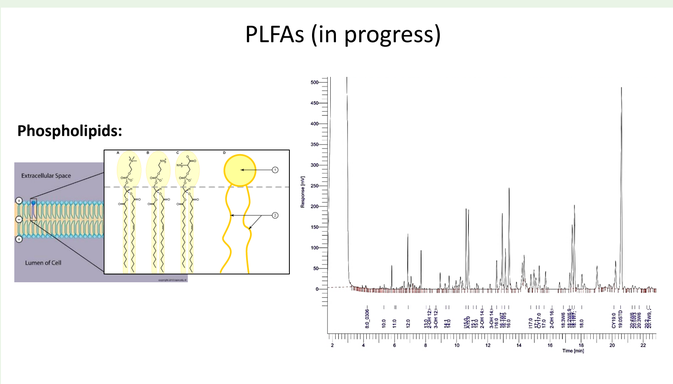


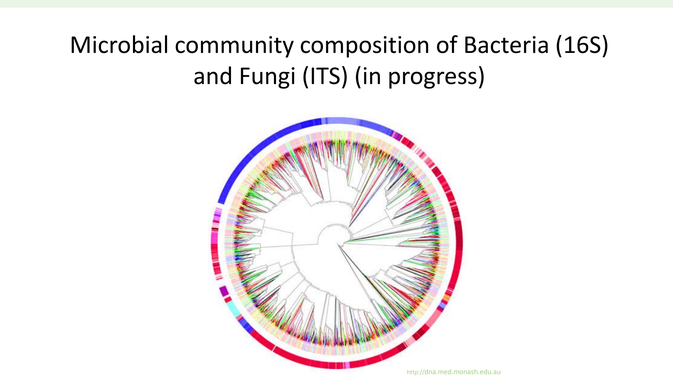
33 study sites in the Swiss Valais
2 grape varieties (Pinot noir, Fendant)
3 soil treatments (10 x green; 10 x bare; 13 x alternating)

Effects of soil management on microbial community and ecosystem functions

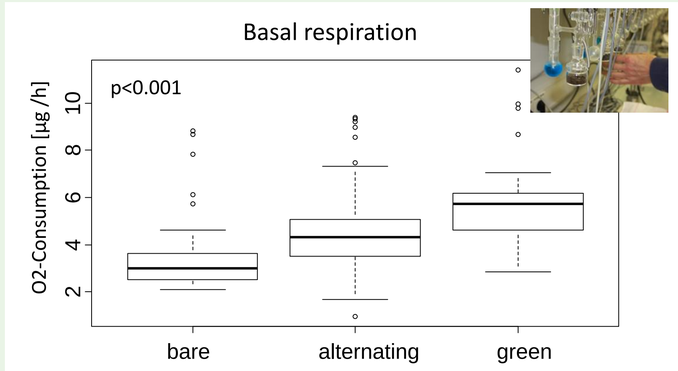
Biodiversity of microorganisms

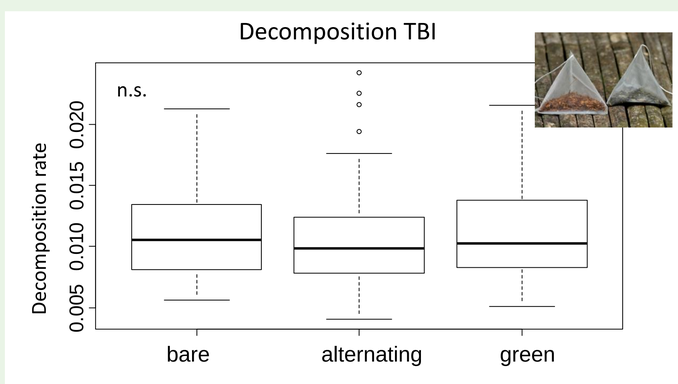


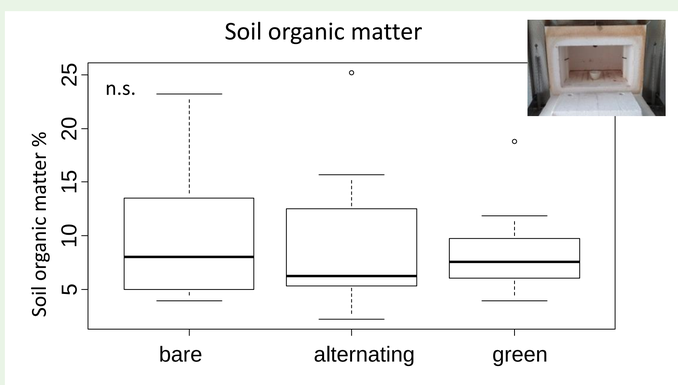




Ecosystem functions

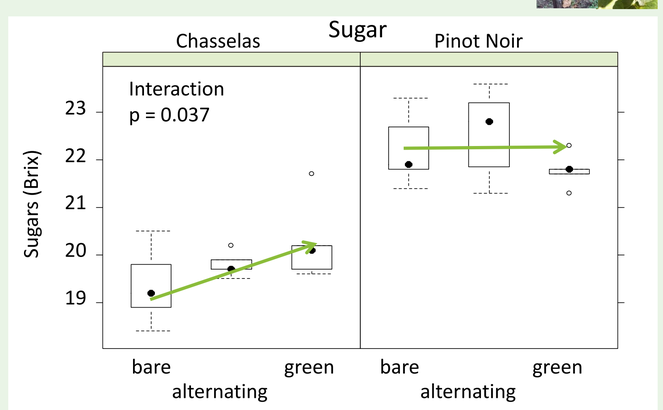


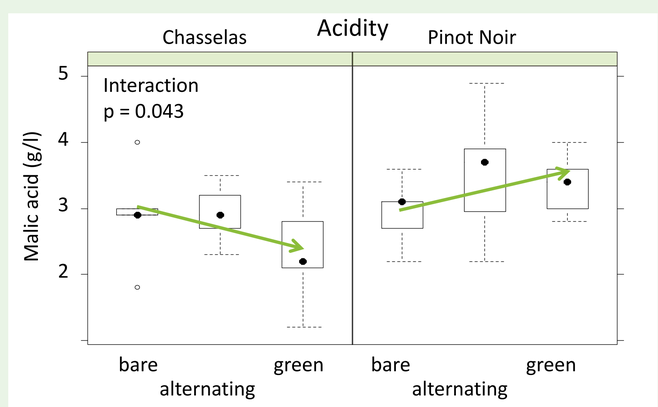


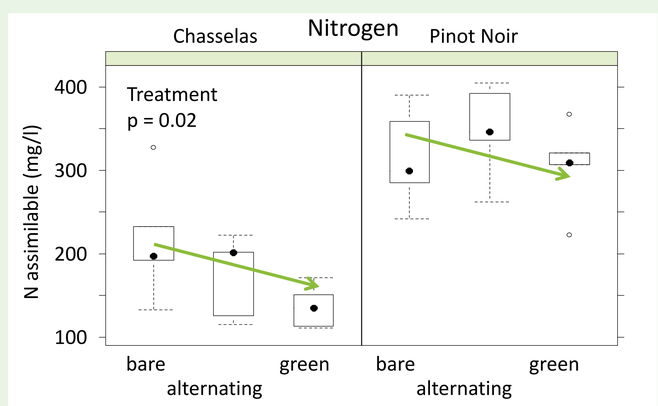


Ecosystem services

Grape quality







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