# BIOBESTicide project: Action of *Pythium oligandrum* on grapevine trunk diseases and its impact on microbial communities

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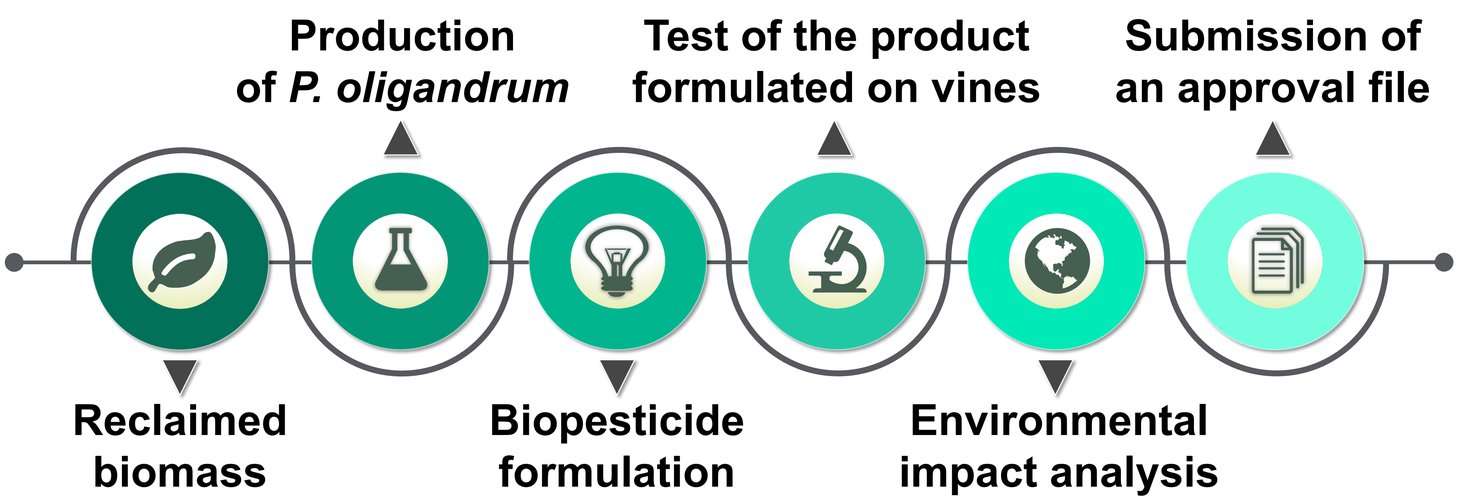
## European project BIOBESTicide

The BIOBESTicide project (*BIO-Based pESTicides production for sustainable agriculture management plan*), aims to industrialize the production of a biopesticide solution to fight grapevine trunk diseases



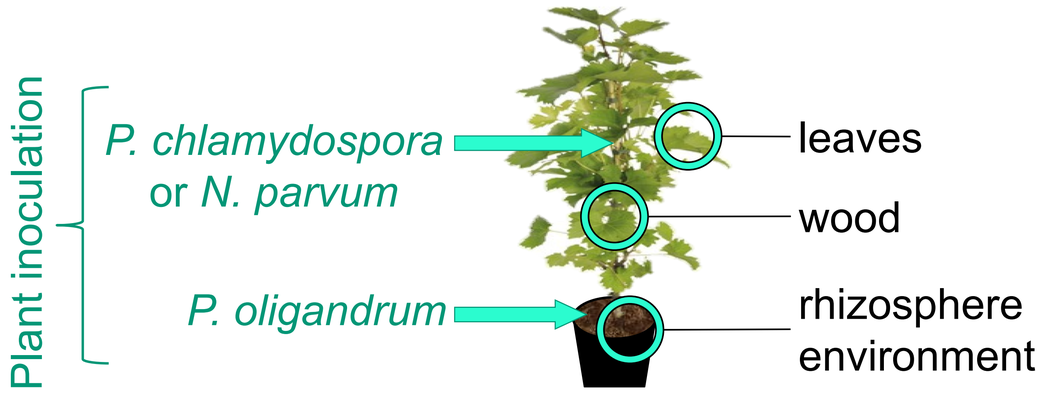

## Context

Grapevine trunk diseases have become a major concern in viticulture (15% yield loss).

Since the 2001 ban on the use of sodium arsenate, the development of alternative control methods, such as biocontrol, has become increasingly important.

Among the promising microorganisms, the oomycete *Pythium oligandrum* is known to improve the plants health by increasing their natural defenses and reducing diseases by at least 40%.

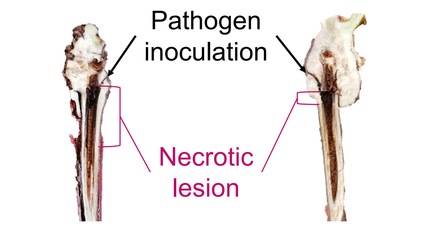
**The objective supported by INRAE is to get a better understanding of the role of plant microbiota in plant health and the effectiveness of biocontrol treatments**

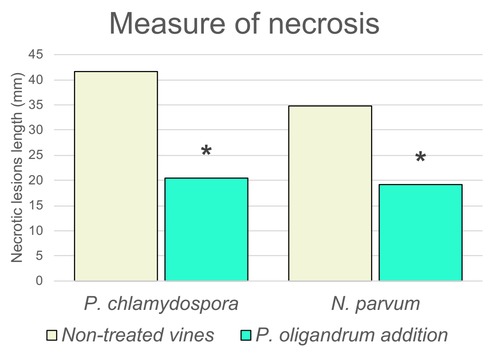




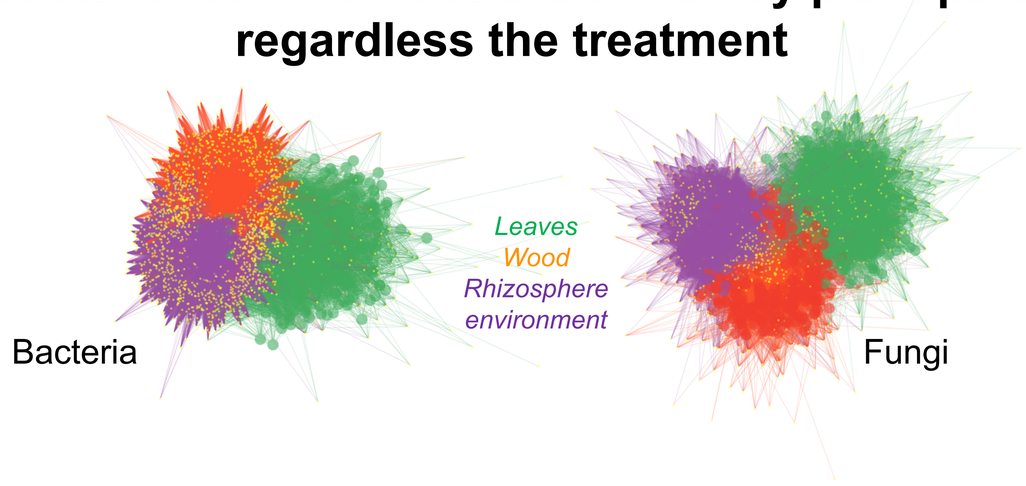
## *Pythium oligandrum* impact on microbial communities

### Addition of *P. oligandrum* reduces pathogens development

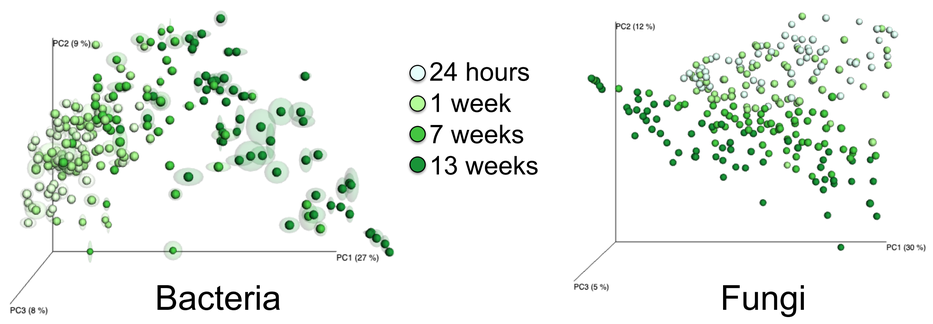


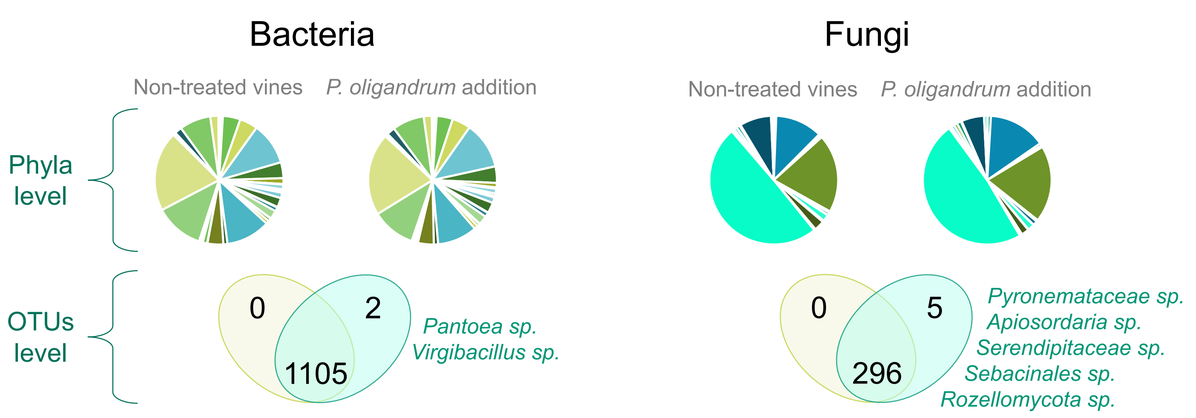

### Bacterial communities are driven by plant part, regardless the treatment




### The three-months follow-up reveals changes only for leaves microbial populations




### Addition of *biopesticide* has no effect on the rhizosphere microbial communities




**The biopesticide solution has proven to be efficient and environmentally safe**