



**BIOVEXO – Biocontrol of Xylella and its vector in olive trees for integrated pest management**

**Deliverable D2.3**

**Protocol for optimised production of V-biopesticide active compounds**

<b>Due Date:</b>	30/04/2021
<b>Submission Date:</b>	30/04/2021
<b>Dissemination Level:</b>	CO ( <i>also see next page</i> )
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### 1. Publishable Summary

The objective of BIOVEXO is to develop an environmentally sustainable and economically viable plant protection solution combining *Xylella*-targeting biopesticides (X-biopesticides) with biopesticides combatting the insect vectors transmitting the disease (V-biopesticides) and to make them for ready use in integrated pest management.

Deliverable D2.3 consists of a technical report that collects the data on the optimisation of production of the entomopathogenic fungus, the microbial metabolites and the plant waste extract and their optimised production protocols. Input to upscaling in WP3.

The production of the microbial metabolites and plant waste extracts has previously been optimised at industrial scale. There are no problems foreseen in delivering the required amounts or with further upscaling if required.

Production of fungal spores of the entomopathogenic fungus was tested at laboratory scale by both liquid (by BIOVEXO partner Acies Bio) and solid-state fermentation. Both fermentation methods were optimised at laboratory scale and were successful at producing the required amounts of spores in high concentrations (Figure 1). Virulence of spores from both batches will be compared in the formulation trials in WP3 (task 3.3) by CNR as well as by GLOB (consortium externally) in spring 2021. Virulence and stability will determine the production method that will be further up scaled and optimized in WP3.



Figure 1. Fungal spores produced at a lab scale by liquid fermentation for testing in the field trials to assess their potential as V-biopesticide against *Xylella fastidiosa* insect vector.