

Grapevine plants management using natural extracts and phytosynthesized silver nanoparticles

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1. Experimental procedure

1.1. Obtaining and Characterization of Vegetal Extract and Silver Nanoparticles

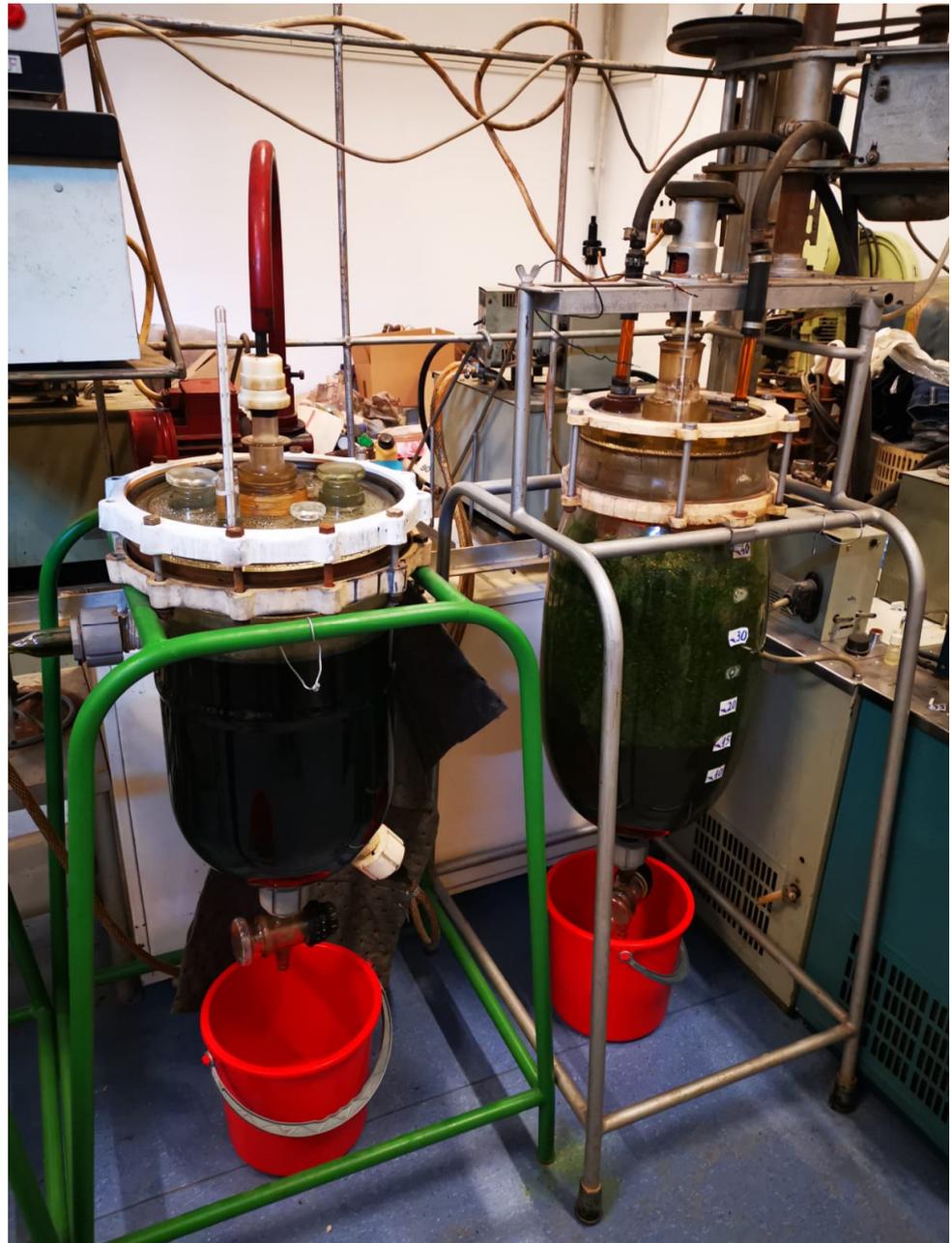


Figure S1. Obtaining the natural extracts in large scale reactors.



Figure S2. The two types of recipes prepared for field application.

1.2. Evaluation of Total Phenolic Content of the Extracts

For the determination of the total phenolic content was used a method previously presented [1]. Briefly, 10% diluted Folin-Ciocalteu reagent (150 μL) and 0.7 M Na_2CO_3 (120 μL) were added to the extracts (30 μL) and following their incubation for 30 min with shaking at room temperature, the absorbance was spectrophotometrically measured at 765 nm and the results were expressed as milligrams of gallic acid equivalents (GAE) per gram of extract using the following equation:

$$C_{TP} = c \times \frac{V}{m}$$

where: C_{TP} —total phenolic content (mg/g) in GAE (gallic acid) equivalent, C —Concentration of gallic acid obtained from calibration curve in mg/mL, V - volume of extract in mL, m —mass of extract in grams.

The calibration curves were constructed using analytic standards gallic acid (SigmaAldrich, Germany). The experiments were carried out in triplicate.

1.3. Field Experiments



Figure S3. Aspects of the greenhouse experiments.