

# Caterina Capri



**KEY-WORDS:**  
WATER COMPETITION · COVER CROP ·  
EVAPOTRANSPIRATION · CLIMATE  
CHANGE

## PROJECT TITLE

### Soil management effects on vineyard water consumption

## PROFILE

I am a second-year PhD student in Viticulture specialized in Vineyard Soil Management.

## AFFILIATION

Department of Sustainable Crop Production (DI.PRO.VE.S.),  
Università Cattolica del Sacro Cuore

## LANGUAGES



Mother language



Level C1

## HOW TO REACH ME

Email Address:  
caterina.capri@unicatt.it

## Reference Contact

Prof. S. Poni

## Steps of the research

- Low-cost Evapotranspiration (ET) closed portable chamber construction and calibration.
- Pot experiment of 1 control (bare soil) and 17 different grass varieties potentially to be introduced/already introduced in vineyard soil management. Water consumption assessments (ET) are carried out to determine their potential competitiveness to the vine.
- Split-root experiment on 15 vine plants (Barbera) whose roots were finely cleaned and separated into equal parts in two adjacent pots where different soil management techniques were tested. Treatments considered are: i) total grassing; ii) fully cultivated and iii) half-cultivated. Two grass varieties are here considered: *Festuca arundinacea* and *Festuca ovina*.
- Below-ground competition observed through the Minirhizotrons technology.

## Main Results

- Low-cost, yet fast reading, portable and accurate closed chamber for cover crop water use.
- Selection of some less-competitive grass varieties to be introduced in vineyard soil management.

## Research Contribution

This chamber allows multipoint measurements in the field which is needed to know water use of vineyard cover crops. Knowing that equals to assess grass competition to the vine, therefore, could be a useful tool for better vineyard water management. Moreover, a selection of less competitive grass varieties to be used in Mediterranean vineyards could be of crucial importance to reduce the problems of water competition.

## Why should you care?

Cover crop adoption is growing in sustainable vineyard management to replace tillage and limit its ecosystem disservices. However, water competition is feared therefore both a selection of less-competitive grass varieties and a piece of equipment as the one described above could be very much needed.