

# Angelica Barone



KEY-WORDS:  
 PLASTIC POLLUTION · PLANT  
 PHYSIOLOGY · MULTISTRESS

## PROFILE

I am a second-year PhD student and my research is focused on the effects of micro- and nano-plastics in agricultural soils, together with other sources of stress, on crops physiology and productivity and on plastic uptake. I had the opportunity to analyse such novel pollutants at lab scale during my MSc thesis, while I am now investigating them in pot and field applications.

## AFFILIATION

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

## LANGUAGES



Mother language



Level B2

## HOW TO REACH ME

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## PROJECT TITLE

### Assessment of the impact of MNP and other stressors on crop physiology and productivity

#### Steps of the research

- Evaluation of crops physiology and productivity parameters under microplastic pollution.
- Application of «multistress» scenario by coupling microplastic and drought stress to crops.
- Assessment of nanoplastics uptake by crops.

#### Main Results

The main expected results will refer to the evaluation of the impacts of microplastics on crop physiology and productivity of the most cultivated agricultural crops, also by adding drought stress. Furthermore, the effects on plant physiology and the translocation to edible parts of the crop of nanoplastics will be assessed.

#### Research Contribution

Scientific literature still lacks a cohesive and deepened knowledge about the impacts of plastic debris on crop physiology and productivity. Furthermore, until now few studies have focused on nanoplastic uptake. This research program will help in expanding and shedding light on such novel topic.

#### Collaborations

- MINAGRIS (Micro and Nano plastics in AGRicultural Soils) European Project
- Main European research centers

#### Why should you care?

Plastic polymers provide great benefits to agriculture. However, the accumulation of such materials in fields is impactful on different levels, especially when coupled with other sources of stress for crops. It is then vital to better understand plastic debris impacts on crop physiology and productivity and plant plastic uptake dynamics.