

P102. “Mal dello stacco”: a serious threat to hazelnut and preliminary attempts to develop biological control

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Italy is the second largest hazelnut producer with 105,048 tons in 2023. In Piedmont, hazelnut is one of the major crops and the disease incidence and the threat posed by wood diseases, such as “mal dello stacco”, are increasing, causing serious concerns for producers. To identify the main fungal trunk pathogens affecting this crop, a polyphasic approach was conducted and demonstrated the role of *Anthostoma decipiens* as the predominant causal agent. Reddish conidial masses on infected branches represent the main inoculum source for the pathogen spread, which could be enhanced by climate change. The morphological similarity of this fungus with *Cytospora* spp. has often led to misidentification. Currently, the use of chemical fungicides on hazelnuts is highly limited in Italy. Considering the progressive restrictions on authorized active ingredients, different management strategies need to be developed. Preliminary trials were conducted on detached shoots treated with commercial products containing *Trichoderma* spp. showing promising results. A 60-70% reduction in lesion lengths was observed compared to untreated shoots. The results obtained from ANOVA followed by Tukey's post hoc test (p -value > 0.05) were comparable to those from shoots treated with a chemical fungicide as a positive control. *In planta* trials are ongoing to explore potential biological control tools to be applied in the field to implement effective management strategies to protect hazelnut cultivation and to ensure its sustainability.

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