

AperTO - Archivio Istituzionale Open Access dell'Università di Torino

Assessing the effects of hail wounds on the resurgence of chestnut blight in a site in north-western Italy

This is the author's manuscript

Original Citation:

Availability:

This version is available <http://hdl.handle.net/2318/1657799> since 2018-01-17T09:45:20Z

Terms of use:

Open Access

Anyone can freely access the full text of works made available as "Open Access". Works made available under a Creative Commons license can be used according to the terms and conditions of said license. Use of all other works requires consent of the right holder (author or publisher) if not exempted from copyright protection by the applicable law.

(Article begins on next page)



UNIVERSITÀ DEGLI STUDI DI TORINO

This is an author version of the contribution:

Questa è la versione dell'autore dell'opera:

*[Giordano L., Lione G., Gonthier P., 2017. Journal of Plant Pathology, 99
(Supplement), 49]*

The definitive version is available at:

La versione definitiva è disponibile alla URL:

[<http://www.sipav.org/main/jpp/index.php/jpp/issue/view/155>]

ASSESSING THE EFFECTS OF HAIL WOUNDS ON THE RESURGENCE OF CHESTNUT BLIGHT IN A SITE IN NORTH-WESTERN ITALY

L. Giordano^{1,2}, G. Lione¹, P. Gonthier¹

¹University of Torino, Department of Agricultural, Forest and Food Sciences (DISAFA), Largo Paolo Braccini 2, I-10095 Grugliasco (TO), Italy. ²University of Torino, Centre of Competence for the Innovation in the Agro-Environmental Field (AGROINNOVA), Largo Paolo Braccini 2, I-10095 Grugliasco (TO), Italy. E-mail: paolo.gonthier@unito.it

Recently, extensive diebacks of *Castanea sativa* Mill. in north-western Italy have been observed in association with a resurgence of chestnut blight caused by the fungal pathogen *Cryphonectria parasitica* (Murrill) M.E. Barr. *C. parasitica* is a wound pathogen infecting its host through grafting and pruning wounds or mechanical injuries. Although hail wounds could potentially trigger new infections, very little is known on the effects of hailstorms on the severity of chestnut blight. In order to improve our understanding on this epidemiological aspect, symptomatic and asymptomatic branches of chestnut were sampled in 6 different plots in Peveragno (CN, north-western Italy). Isolations were performed and *C. parasitica* isolates were identified based on their culture morphology. Infected and uninfected branches were contrasted by comparing morphological and pathological features, including the number and extension of hail wounds. The same comparisons were performed between symptomatic and asymptomatic portions of infected branches. Although infected branches displayed an average number of hail wounds significantly lower than uninfected branches (31 vs. 39; $p < 0.05$), the extension of such wounds was on average 3 times larger (22.78 mm² vs. 6.92 mm²; $p < 0.05$). Moreover, while symptomatic and asymptomatic portions of infected branches were comparable considering the average number of hail wounds (16 vs. 15, $p > 0.05$), the average extension of wounds was significantly larger in the former than the latter (25.13 mm² vs. 14.61 mm²; $p < 0.05$). These results suggest that the extension of hail wounds, rather than their abundance, plays a key role in the epidemiology of *C. parasitica*.