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# UNIVERSITÀ DEGLI STUDI DI TORINO

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

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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 mm<sup>2</sup> vs. 6.92 mm<sup>2</sup>;  $p < 0.05$ ). 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 mm<sup>2</sup> vs. 14.61 mm<sup>2</sup>;  $p < 0.05$ ). These results suggest that the extension of hail wounds, rather than their abundance, plays a key role in the epidemiology of *C. parasitica*.