in response to non-lethal concentrations of citronellol.

Innovative approaches in plant disease diagnosis and management

Establishment of specific molecular diagnostic tests for *Gnomoniopsis smithogilvyi* (syn. *castanea*) and *Cryphonectria parasitica*. M. CONTI[1], J. CROVADORE[1], B. COCHARD[1], R. CHABLAIS[1], J.B. MEYER[2], M. JERMINI[3], F. LEFORT[1]. [1]*Plants and Pathogens Group, Institute Land Nature Environment, hepia, University of Applied Sciences and Arts Western Switzerland (HES-SO), 150 route de Presinge, 1254 Jussy, Switzerland.* [2]*Unit Biodiversity and Conservation Biology, Swiss Federal Research Institute WSL, Zürcherstrasse 111, 8903 Birsmendorf, Switzerland.* [3]*Agroscope, Cadenazzo Research Centre, A Ramél 18, 6593 Cadenazzo, Switzerland. E-mail: francois.lefort@hesge.ch*

Two fungi cause chestnut tree diseases in Switzerland: *Cryphonectria parasitica*, the endemic chestnut canker agent, and *Gnomoniopsis smithogilvyi*, an endophytic fungus, recently identified in Europe and Switzerland as the main agent of chestnut fruit brown rot, also causing chestnut canker. *Gnomoniopsis smithogilvyi* causes high plant mortality in young chestnut nurseries and orchards. Presence of these fungi was evaluated in plant material used for the multiplication of six of chestnut varieties in Ticino, using specific molecular diagnostic tests developed for both species. All sequences available in GenBank for the internal transcript spacer (ITS) of the ribosomal DNA, the elongation factor 1-alpha (EF1a) gene and the beta-tubulin gene (TUBB), were collected for these two fungi. Significant differences between *G. smithogilvyi*, *Gnomoniopsis spp.* and *C. parasitica* were sought. After analysing 164 ITS, 90 EF1a and 45 TUBB sequences, only the TUBB gene sequences showed any significant differences between the species. Specific PCR primers for each species were then designed from the TUBB sequences alignment. *In silico* analyses with BLAST (GenBank) confirmed the strict specificity of these primers. The two primer pairs were then tested with DNA extracted from previously characterised isolates of *G. smithogilvyi* and *C. parasitica* from Ticino, Wallis and Geneva, from roots and stems of germinated chestnuts or leaves of chestnut trees. These tests showed great robustness, and provide a tool to indicate the phytosanitary status of propagation material, especially for the endophyte *G. smithogilvyi*.

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Does resistance to *Plasmopara viticola* in grapevine influence infectivity of sporangia? F. BOVE, T. CAFFI, V. ROSSI. *Department of Sustainable Crop Production, Diproves, Università Cattolica del Sacro Cuore, Via E. Parmense 84, 29122 Piacenza, Italy. E-mail: federica.bove@unicatt.it*

Partial plant resistance impacts on different epidemiological components of pathogens, which modify dynamics of disease epidemics. In *Plasmopara viticola*, the causal agent of grapevine downy mildew, different morphological characteristics have been observed between sporangia originated from lesions on susceptible and resistant hosts. This study evaluated whether, in addition to morphological modifications, partial host resistance can affect the infectivity of *P. viticola* sporangia, i.e., their ability to cause infection. Artificial inoculation experiments were performed between 2014 and 2016. A population of *P. viticola* sampled from susceptible vineyards was used for artificial inoculations on leaf discs of cv. Merlot and of fifteen grape breeding lines showing partial resistance, conferred by one or more *Rpv loci*. The sporangia produced on lesions originating on the susceptible and resistant varieties were then re-inoculated on leaf discs of cv. Merlot at three different vine growth stages (shoot elongation, full flowering, ripening of berries), and the infection efficiency was evaluated as the proportion of inoculation sites showing disease symptoms. There were no significant differences for the infection efficiency of sporangia produced on the different host varieties.

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Development of DDct Real Time RT-qPCR for the detection of *Onion yellow dwarf virus*. A. TIBER-