

AperTO - Archivio Istituzionale Open Access dell'Università di Torino

Comparative studies on antagonistic effects between invasive and native fungal pathogens and ectomycorrhizal fungi

This is the author's manuscript

Original Citation:

Availability:

This version is available <http://hdl.handle.net/2318/1551812> since 2016-06-24T17:28:24Z

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., Zampieri E., Gonthier P., 2015. Journal of Plant Pathology, 97, S17]

The definitive version is available at:

La versione definitiva è disponibile alla URL:

[<http://sipav.org/main/jpp/index.php/jpp>]

**COMPARATIVE STUDIES ON ANTAGONISTIC EFFECTS
BETWEEN INVASIVE AND NATIVE FUNGAL
PATHOGENS AND ECTOMYCORRHIZAL FUNGI. L. Giordano,
G. Lione, E. Zampieri, P. Gonthier. Department of Agricultural,
Forest and Food Sciences (DISAFA), University of Torino,**

XXI convegno SIPAV.indb 47 04/09/15 10:53

48 XXI Convegno Nazionale SIPaV (2015), 35–66

Largo Paolo Braccini 2, I-10095 Grugliasco (TO), Italy. E-mail: paolo.gonthier@unito.it

The North American pine-associated root rot agent *Heterobasidion irregulare* was introduced in central Italy during World War II and is currently distributed in forest stands along 103 km of coastline west of Rome. Although many papers dealing with the ecological impacts associated with the invasion have been published, little is known on the consequences that this non-native pathogen may have on host plant symbionts such as ectomycorrhizal (ECM) fungi. Here we tested, through dual culture technique, whether *H. irregulare* and the native Eurasian species *H. annosum* differ in their antagonistic effects against the ECM fungus *Suillus luteus*. Morphological observations and measurements were performed during the experiments and, for each genotype in dual culture, the Inhibition Growth Rate (IGR in %) of average mycelium surface relative to the control was calculated. Results showed that *S. luteus* was considerably and significantly inhibited by native and non-native species of *Heterobasidion* spp. (*S. luteus* IGR>70%; P<0.05) indicating that the pathogens can modulate the growth of the symbiont. Nevertheless, it was not possible to distinguish the effects of the non-native pathogen from that of the native one on the ECM fungus, suggesting that the IGRs observed depend on the genotypes rather than on the species of *Heterobasidion*.