



XXII Convegno Nazionale
Società Italiana di Patologia Vegetale
(SIPaV)

*La patologia vegetale tra produttività
e sostenibilità*

BOOK OF ABSTRACTS

Edited by: Taglienti A., Tomassoli L., Infantino A.

Roma, 19-20-21-22 Settembre 2016

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sively grown in Mediterranean countries, in nurseries, orchards and also in private and public gardens. Therefore, citrus relatives (*Rutaceae*), particularly those not covered by the 2000/29EC directive, represent a threat of the introduction of the bacterium. The project ORPRAMed - "Risk assessment of introduction of *Xanthomonas citri* subsp. *citri* through commercial trade of ornamental rutaceous plants in the Mediterranean basin" (ARIMNet2 2015 Transnational Call) aims to assess the risk of the introduction of *Xcc* in the Mediterranean region, by means of ornamental citrus relatives, generating and improving our understanding of the interactions between *Xcc* and ornamentals citrus. The project, which started the 1st of March 2016, involves Italy, France, Spain and Turkey and has work packages dealing with: Economics and trade of ornamental rutaceous plants in the Mediterranean region; Host status of ornamental Rutaceae species and mechanisms of *Xcc* survival and colonization in ornamental plants; Genomic and transcriptomic analysis of the *Xcc* resistant/susceptible genotypes.

78. BASELINE SENSITIVITY OF *STEMPHYLIUM VESICARIUM* OF PEAR TO SDHIs AND FLUAZINAM. A. Ciriani, K. Gazzetti, M. Collina. *Università di Bologna, Centro di Fitofarmacia, DipSA, Bologna, Italy. E-mail: kattia.gazzetti@unibo.it*

Brown spot of pear (BSP), a fungal disease caused by *Stemphylium vesicarium* (Wallr.) Simmons, is the most important pear fungal pathogen in Italy since late seventies. Many fungicide applications are required from petal fall to fruit ripening to protect orchards from BSP. The fungus showed field resistance against key products as dicarboximides and strobilurins. The introduction in field of new fungicides with different mode of action is thus fundamental. Boscalid was authorized in Italy as first SDHI (inhibitor of the succinate dehydrogenase in complex II) against BSP in 2007.

The aim of this study was to evaluate the baseline sensitivity of 43 isolates of *S. vesicarium*, collected before 2007 from pear orchards located in Po Valley area, to recent and broad-spectrum fungicide SDHIs (fluxapyroxad, fluopyram, penthiopyrad, bixafen, isopyrazam) and fluazinam, an uncoupler of oxidative phosphorylation. Sensitivity assays were carried out on spore suspension (YBA liquid medium; final density 2×10^4 /ml) in microtiter plates using the low time consuming and validated spectrophotometric method. For each compound, concentrations of 0-0.02-0.05-0.5-1-2.5 mg/l were tested on each isolate, in four replicates. After two days of growth, absorbance at 450 nm was evaluated and EC50 values were calculated by probit analysis. Overall baseline

sensitivity data, carried out on 43 isolates, showed for tested fungicides EC50 values ranging from 0.01 to 0.52 mg/l. These data describe the initial sensitivity level prior to the introduction of the fungicides and are essential information in resistance monitoring program to detect potential shifts in pathogen sensitivity.

79. VELVET COMPLEX AND GLIOTOXIN BIOSYNTHESIS IN *TRICHODERMA AFRO-HARZIANUM*

T6776. P. Crotti¹, L. Fiorini¹, S. Ferraboli¹, R. Baroncelli², S. Sarrocco³, G. Vannacci³, E. Gobbi¹. ¹*Università degli Studi di Brescia, Piattaforma di Microbiologia Agro-alimentare, Dipartimento di Medicina Molecolare e Traslazionale, Viale Europa 11-25123 Brescia (BS), Italy.* ²*Laboratoire Universitaire de Biodiversité et Ecologie Microbienne, Université de Bretagne Occidentale, Brest, France.* ³*Università di Pisa, Dipartimento di Scienze Agrarie, Alimentarie Agro-ambientali, Via del Borghetto 80 - 56100 Pisa, Italy. E-mail: p.crotti002@studenti.unibs.it*

Nowadays intensive farming and the need of a massive agricultural production require the introduction of a sustainable alternative that can replace the use of chemical products, such as bio-fertilizers and biostimulants. Among them, *Trichoderma afro-harzianum* strain T6776 has been shown to act as a biocontrol agent and as a growth promoter in plants. The Velvet complex genes are reported in several fungal species as a regulatory system with a role in self-growth and reproduction, hydrophobicity and production of secondary metabolites such as gliotoxin (GT). GT was identified for the first time in *Trichoderma virens* and is a molecule with an antimicrobial/antibiotic activity and a role in plant growth promotion. Homologous genes sequences of the Velvet complex corresponding to *velA*, *velB*, *vosA* and *facB* and of the GT biosynthesis gene, *gliP* have been identified in the *T. afro-harzianum* strain T6776 genome and evaluation of their role in T6776- host interaction, by phenotypical characterization of corresponding knock-out mutants will be presented.

80. EXPLOITING PATHOGEN CONFUSION STRATEGY TO ACHIEVE *XYLELLA FASTIDIOSA* BIOCONTROL.

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