

Institute of Vallombrosa (Firenze). Samples from the Herbarium, assembled during the period 1880 to the 1940s, include many rusts (belonging to genera: *Chrysomyxa*, *Gymnosporangium*, *Melampsorella*, *Peridermium Puccinia*), powdery mildew (genera: *Microsphaera Sphaerotheca Uncinula*), agents foliage and shoot disease (*Gnomonia-ceae*, *Rhytismaceae*, *Tapbrinaceae*), decay and root fungi (*Agaricaceae*, *Polyporaceae*, *Xylariaceae*). To quantify the effect of plant diseases in a certain territory, Herbaria information needs to be supported by Bibliographic data. A combined analysis will help to reconstruct and interpret the phytopathological situation of northern Italy in the past hundred years and to attempt relating it to the changes in climatic conditions.

OUTBREAK OF *DOTHISTROMA SEPTOSPORUM* ON CORSICAN PINE IN SOUTHERN ITALY. G. Marchi, L. Ghelardini. *Università degli Studi di FIRENZE, DISPAA, Piazzale delle Cascine 28, 50144 Firenze. E-mail: luisa.gbelardini@unifi.it*

In spring 2017, serious and widespread crown damage and defoliation were observed in forests of Corsican pine (*Pinus nigra laricio*) in La Sila Massif, Italy. The needles of affected individuals showed yellowing and progressive desiccation from the tip accompanied by typical red spots and bands surrounding spore-containing brown-black fruiting bodies. A fungus with morphological traits compatible with those of *Dothistroma* species was isolated by plating conidial suspensions onto MEA. Sequencing of the ITS gene region and of the elongation factor *1a* gene confirmed the identification of isolates with *Dothistroma septosporum*, a listed quarantine pathogen in Europe, which is the causal agent of Red Band Needle Blight. Previously, the pathogen had been reported in southern Italy only once in 1970 on the exotic species *Pinus radiata* at a location about 100 km apart from the site of the current outbreak. Currently, the pathogen is spreading in natural woods of the native Corsican pine, which is the most common conifer species in the region and an extremely susceptible host to this pathogen. The concomitant presence of an abundant and especially susceptible host species and of conducive local climatic conditions, *i.e.* relatively frequent rainfall and high relative humidity also during late spring and summer months, and mild temperatures, may favor the occurrence of a severe disease outbreak on a larger area.

MORE THAN SCIENCE: A MULTI-TOOL APPROACH FOR RESEARCH COMMUNICATION IN PLANT PATHOLOGY AND PLANT BIOSECURITY. A. Masino¹, A. Bertin², M.L. Gullino¹. ¹Centro AGROINNOVA, *Università degli Studi di Torino, Torino, Italy.* ²SPIN-TO srl, *Via Roma 366, Torino (TO), Italy. E-mail: andrea.masino@unito.it*

The first instruments of communication for researchers are the scientific papers. Particularly young scientists need to publish on peer reviewed, international papers. This is the first form of communication, within peers. Moreover, in applied fields such as plant pathology, researchers need to communicate with technicians and extension services. The industrial partners could facilitate the translation of research findings into marketable products or services. Dissemination, communication, and life-long learning must be a task, mostly in the frame of European projects. This task could bring together enterprises, policy advisors, regional officers, farmers and associations, natural and social sciences and the general public to discuss the results obtained by researchers as well as cross-cutting issues related to plant health. Moreover, it could involve children and young students from the schools, with the aim to teach how scientists live and work. Researchers must learn to communicate also through innovative technologies, attending training

courses, provided by specialists, on special topics related to the current need of new technologies (websites, newsletters and social media). Because research communication involves the whole society, it is fundamental that citizens better understand how research works to raise visibility of the global importance of plant health, sustainable agriculture, food security and environmental protection. Through new formats and technologies, phytopathologists can communicate the results of research, using a multi-tool approach, and learn more about stakeholders' perceptions of how to protect the EU agrifood sector from both alien and native pests and pathogens.

SPECIFIC DETECTION AND QUANTIFICATION OF *FUSARIUM FUJIKUROI* IN RICE PLANTS AND SEEDS BY DIFFERENT PCR ASSAYS. S. Matic¹, D. Spadaro^{1,2}, A. Garibaldi¹, M.L. Gullino^{1,2}. ¹*Università degli Studi di Torino, Centro AGROINNOVA, Largo Braccini 2, 10095 Grugliasco (TO), Italy.* ²*Università degli Studi di Torino, DISAFA, Largo Braccini 2, 10095 Grugliasco (TO), Italy. E-mail: slavica.matic@unito.it*

Bakanae disease, caused by *Fusarium fujikuroi*, is the seedborne disease diffused in the main rice cultivation areas throughout the world. The limited availability of suitable chemical seed-dressing products brought attention of the rice seed companies to Bakanae management. Several PCR techniques have been developed for a specific detection of *F. fujikuroi* in different rice tissues. Conventional PCR allowed the discrimination of *F. fujikuroi* from 20 other *Fusarium* species encountered on the rice. Optimized SYBR green real-time PCR assay kept the specificity of the conventional PCR, and was able to detect up to 10 pg μl^{-1} of DNA, but it was not sensitive enough to detect *F. fujikuroi* from rice seeds. Sensitivity of a real-time PCR was further ameliorated by development of a TaqMan real-time PCR assay, allowing the detection of about 28 fg of DNA, which corresponds approximately to one haploid genome of *F. fujikuroi*. This assay was sufficiently sensitive to detect around 10 *F. fujikuroi* cells per gram of the rice seeds, and it was able to reveal the pathogen in asymptomatic rice tissues in early phases of Bakanae development.

ANTIFUNGAL ACTIVITY OF AQUEOUS AND ETHANOL EXTRACTS OF TROPICAL PLANTS AGAINST TOMATO FUNGAL PATHOGENES. P.N. Mekam^{1,2}, S. Martini², D. Tagliacuzzi², J. Nguefack¹, E. Stefani². ¹*University of Yaoundé 1, Faculty of Science, Department of Biochemistry, PO. BOX 812, Yaoundé, Cameroon.* ²*University of Modena and Reggio Emilia, Department of Life Sciences, Via Amendola 2, 42122-Reggio Emilia, Italy. E-mail: pascalnoel.mekam@unimora.it*

Several plant extracts may have a strong antifungal activity that can be exploited in the management of fungal diseases as an alternative to synthetic fungicides, the abuse of which may have consequences on the environment and health. Ethanol extracts (EE) and water extracts (WE) of three tropical plants, *Stachytarpheta cayennensis* (*Verbenaceae*), *Oxalis barrelieri* (*Oxalidaceae*) and *Euphorbia hirta* (*Euphorbiaceae*) were obtained and screened for their antifungal activity against three major phytopathogenic fungi of tomato: *Fusarium* sp., *Alternaria* sp. and *Colletotrichum* sp. The phytopathogenic fungi used across the experiments were isolated in Cameroon on severely affected tomatoes and their molecular identification and characterization is ongoing. The antifungal activity was checked *in vitro* on different media supplemented with different concentrations of the extracts. *O. barrelieri* EE, at the concentration of 25 mg/ml, inhibited the mycelium growth of *Fusarium* sp. by 26.8% and remarkably modified its morphology. WE and EE of the same *O. barrelieri* inhibited the mycelium growth of *Colletotrichum*

Volume 99 (Supplement) October 2017

Journal of Plant Pathology

Formerly *Rivista di patologia vegetale* established in 1892

An International Journal of the Italian Society for Plant Pathology



XXIII NATIONAL MEETING OF THE ITALIAN SOCIETY FOR PLANT PATHOLOGY (SIPaV)

Piacenza, October 4-6, 2017

Abstracts of papers



EDIZIONI ETS, Pisa, Italy

Poste Italiane S.p.A. - Spedizione in Abbonamento Postale - D.L. 353/2003
(conv. in L. 27/02/2004 n° 46) art. 1, comma 1 - DCB AREA CENTRO 1/Pisa.

ISSN 1125-4653