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Temporal persistence and distribution of *Heterobasidion abietinum* in a planted forest of silver fir in Central Italy. A contribute for forest

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ABSTRACTS

Abstracts of invited talks, oral and poster presentations given at the 15th Congress of the Mediterranean Phytopathological Union, June 20–23, 2017, in Córdoba, Spain

The 15th Congress of the Mediterranean Phytopathological Union entitled “Plant health sustaining Mediterranean Ecosystems”, was held in Córdoba, Spain on June 20–23, 2017. The mission of the meeting was to promote dissemination of the latest scientific advances and encourage dialogue, interaction and collaboration between researchers from different disciplines interested in all aspects of Phytopathology. More than 200 participants from 26 countries attended the congress, making this an outstanding scientific event. The presentations covered a broad range of aspects related to plant diseases including Genome Analysis, Invasive Emerging Pathogens, Integrated Disease Management, Food Safety, New Tools In Diagnostics and Management, Molecular Pathogen-Host Interactions, Biocontrol, Epidemiology and Modelling, and Microbiomes and their Role in Plant Health. Abstracts of the invited talks, and the oral and poster presentations are given in this issue.

Key note lectures

Olive quick decline and *Xylella fastidiosa* in Southern Italy: the state of the art. D. BOSCIA, M. SAPONARI. CNR – Institute for Sustainable Plant Protection, University of Bari, Via Amendola 122/D, 70126, Bari, Italy. E-mail: donato.boscia@ipsp.cnr.it

The identification in 2013 of an outbreak of *Xylella fastidiosa* (Xf) in olive groves in the Salento peninsula (southern Italy) resulted in a plant health emergency of unprecedented proportions for the EU. Infected olive trees show extensive canopy desiccation and severe quick decline symptoms. In the outbreak area, the bacterium was found to be efficiently spread by the meadow spittlebug *Philaenus spumarius*, abundant on the olive canopies during the dry season. The initial demarcated foci rapidly expanded over the following 4 years, establishing a new demarcation line 80 km from the first reported outbreak; while few species were found infected in 2013 the currently known susceptible hosts reached approx. 30 different plant species. Phytosanitary measures to combat the spread and mitigate the im-

pact of the bacterial infections, included restrictions for new plantations and movement of propagating materials, and removal of infected trees. The severe damage and the imposed phytosanitary restrictions caused severe economic and social impacts in the local community, raising concerns against the containment measures and failure to implement timely, effective and coordinated preventive measures. Due to the novelty of the *Xylella*-associated disease in olives and the new outbreak in the EU, the EU Commission mobilized dedicated resources to build research activity to address research gaps for this emerging pathogen. Between 2015 and 2016, two projects in the H2020 framework have been funded. These are: “Pest Organisms Threatening Europe” (POnTE) and “*Xylella fastidiosa* Active Containment Through a multidisciplinary-Oriented Research Strategy” (XF-ACTORS), the latter exclusively targeting Xf. From the increased research activity developed in the past 3 years, new knowledge is providing data on the genetic and biological properties of the Xf population, the host range, vector identification and biology, and identification of olive cultivars with promising resistance traits.

Epidemiology and control of Cucumber green mottle mosaic virus in Spain. M.A. ELORRIETA¹, L. RUIZ², D. JANSSEN². ¹LABCOLOR, COEXPHAL, C/ Esteban Murillo, 3. Venta El Viso 04746 La Mojonera, Almería, Spain. ²Instituto Andaluz de Investigación y Formación Agraria y Pesquera (IFAPA), Camino San Nicolás, 1, 04745 La Mojonera, Almería, Spain. E-mail: dirk.janssen@juntadeandalucia.es

Spain is one of the main producers of cucurbit crops in Europe, and one of the top-ten producers in the world. The tobamovirus *Cucumber green mottle mosaic virus* (CGMMV) was first described in Spain during the early 1990's, and has caused periodic outbreaks since then in cucumber and watermelon in greenhouses in the province of Almería. To improve CGMMV control, we studied the epidemiology of the virus in the southeast of Spain. Between the years 2013 and 2015, 154 protected crops of cucumber (119), melon (21), watermelon (13) and zucchini (1), located in the provinces of Almería and Granada, were selected randomly and examined. Leaves of plants were collected for analysis of CGMMV, and detailed information was gathered on the location, the greenhouse features, and the management of crops and diseases. CGMMV infections were detected in 23 greenhouses, predominantly of cucumber (20/119). The presence of CGMMV was not dependent on the use of grafted plantlets, the variety and source of seeds and plantlets, or on the origin of the irrigation water (owned or shared water wells). However, infections did depend heavily on the previous infection history of farms and surroundings. The enquiries revealed that the greenhouse structures and the irrigation water reservoirs were not cleaned periodically. Gloves and disinfectants were rarely used during crop manipulation. Successful control of CGMMV through crop management was positively correlated with soil disinfection by solarization and with crop rotation using non-cucurbit species.

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Temporal persistence and distribution of *Heterobasidion abietinum* in a planted forest of silver fir in Central Italy: a contribution to forest management. L. GHELARDINI^{1,2}, L.B. DÁLYA², C. AGLIETTI¹,

P.CAPRETTI¹. ¹ Department of Agrifood production and Environmental sciences (DISPAA), University of Florence, Piazzale delle Cascine 18, 50144, Firenze, Italy. ² Department of Forest Protection and Wildlife Management, Mendel University in Brno (ÚOLM). Zemědělská 3, 61300 Brno, Czech Republic. E-mail: luisa.ghelardini@unifi.it

One of the main problems in mature conifer plantations is related to damage by *Heterobasidion annosum*. Occurrence and persistence of *H. abietinum* were assessed in a planted forest of silver fir (*Abies alba*) in Vallombrosa (Florence, Central Italy) over the past 60 years. The presence of the pathogen in the area has been known since the 18th Century, and is related to management choices. For centuries, silver fir in Vallombrosa was regularly managed with a 100 year growth period and artificial replanting. When a modern Forest Management Plan was first compiled in the 1960s, the occurrence of *Heterobasidion* was reported in the ecological description of all silver fir areas of the forest. Again in 1990, the presence and frequency of *Heterobasidion* in Vallombrosa was investigated in wood samples from Silver fir stumps left after thinning. At the time, *H. abietinum*, identified according to Korhonen's method (paring colonies with testers), was found at over 80% of the intersection points of a square (500 m) sampling grid covering the whole forest, with the greatest frequency (56%) on silver fir stumps. More recently, after a severe wind storm destroyed about 50 ha of the forest in spring 2015, a systematic sampling was carried out, and *Heterobasidion* species were identified with molecular methods. Taken together these studies define distribution of the pathogen over space and time, providing support for design of an informed recovery plan for the Vallombrosa forest.

Ecological succession of pathogenic fungi of pines in Italy associated with climate change. L. GHELARDINI^{1,2}, P. CAPRETTI¹, L. BOTELLA³, C. AGLIETTI¹, N. LUCHI². ¹Department of Agrifood Production and Environmental Sciences, University of Florence. Piazzale delle Cascine 28, I-50144, Firenze, Italy. ²Institute for Sustainable Plant Protection - National Research Council (IPSP-CNR), Via Madonna del Piano 10, I-50019, Sesto Fiorentino, Firenze, Italy. ³Department of Forest Protection and Wildlife Management, Faculty of Forestry and Wood Technology, Mendel University in