The abstracts presented here are as submitted by the respective authors. They have been assessed as appropriate for presentation at the 15th Congress of the Mediterranean Phytopathological Union, and have been formatted for this publication. The abstracts have not been formally refereed.
Milano, Italy) in Petri dishes (10-cm diameter) for preliminary morphological identification on the basis of macroscopic and microscopic features.

A total of 15 fungal taxa, mainly belonging to Ascomycota, were identified by macro and microscopic methods. The most represented family were Pleosporales. The results show that antagonistic capacity of Gliomastix sp., Populaspora sp. Cladosporium sphaerospermum had the higher antagonistic activity against P. aphanidermatum than the other fungi isolated from the roots of P. oceanica.

P.112 Screening of potential biocontrol bacterial against Pseudomonas savastanoi pv. savastanoi and elucidation of their mode of action. D. MINA¹, J. PEREIRA², T. LINO-NETO² and P. BAPTISTA³. ¹CIMO / School of Agriculture, Polytechnic Institute of Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal. ²BioSystems & Integrative Sciences Institute (BioISI), Plant Functional Biology Centre, University of Minho, Campus de Gualtar, 4710-057 Braga, Portugal. Email: pbaptista@ipb.pt

Over the last decades, the olive knot disease, caused by the bacterium Pseudomonas savastanoi pv. savastanoi (Psv), has been responsible for irreversible damages on olive orchards. Reduced vigor and stem dryness caused by this phytopathogen lead to a decrease in olive fruit production, conducting to countless losses for farmers. In this work, bacterial endophytes and epiphytes of olive tree phyllosphere were screened for the suppression of PsV, and several mechanisms behind this activity was also studied by evaluating indoleacetic acid (IAA), siderophore and lytic enzymes production. Interspecific interaction was assessed on solid media with agar overlays. IAA was estimated spectrophotometrically, whereas siderophores and lytic enzymes were evaluated qualitatively. Several bacterial species tested showed to reduce Psv growth up to 70%, as well as its viability. The highest inhibition was observed for Frondihabitans sp. and Paenibacillus sp. A reduction on production of both IAA and siderophore, which are associated with knot development, by Psv was noticed in the presence of the most efficient bacterial. Production of lytic enzymes by antagonists such as lipase, chitinase, protease and amylase was also identified. Altogether the results indicate that some of the bacterial tested have great potential as biocontrol agents due to their capacity to produce metabolites/lytic enzymes that can interfere with Psv growth and/or development of knots. These potential biological agents should be further evaluated under natural conditions.

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P.113 Biological control of Pseudomonas savastanoi pv. savastanoi by two bacterial isolated from olive tree phyllosphere D. MINA¹, A. SANTOS¹, J. PEREIRA¹, T. LINO-NETO² and P. BAPTISTA³. ¹CIMO / School of Agriculture, Polytechnic Institute of Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal. ²BioSystems & Integrative Sciences Institute (BioISI), Plant Functional Biology Centre, University of Minho, Campus de Gualtar, 4710-057 Braga, Portugal. Email: pbaptista@ipb.pt

Olive knot disease, caused by the bacterium Pseudomonas savastanoi pv. savastanoi (Psv), has been responsible for high economical crop losses in olive orchards, especially in Mediterranean countries. Olive
knot cannot be eradicated once it is established in an orchard, and therefore its control is based on preventive measures. Laboratory experiments previously performed by us have showed the capacity of some bacterial species, isolated from olive tree phyllosphere, to inhibited Psv growth. In the present work, the two most promising bacterial isolates (i.e. Frondihabitans sp. and Paenibacillus sp.) were evaluated for the control of Psv in olive plantlets (Olea europaea L.) under greenhouse conditions, to predict their effect in a more natural condition. In pot experiments, two-year-old olive plants cv. Cobrancosa were inoculated with the antagonistic bacteria and Psv individually or in combination. Inoculations were performed in wounds previously made in three different sites of the main stem. Thirty replicate plants were used per strain. The plants were observed for symptom development and the number of bacteria on the inoculation sites was periodically evaluated, for up to 120 days after inoculation. To quantify the reduction of symptom expression, knots were excised from stems and their weights were compared between treatments. Inoculation with Psv resulted in the formation of knots with higher weight values compared to plants inoculated simultaneously with Psv and antagonistic bacteria. Both tested bacterial also showed to reduce the amount of Psv in the inoculation sites, suggesting their effectiveness in controlling the multiplication of the pathogen. Data presented here demonstrate for the first time this bacterial potential in supressing olive knot, and these two species should be considered in the future as potential biocontrol agents against Psv.

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P.114 Antimicrobial activity of plant natural compounds against phytopathogenic bacteria and interference with quorum sensing. A. CARUSO, A. ANZALONE, L. GURRIERI, S. PROVENZANO, P. BELLA, R. PALMERI, V. CATARA, G. LICCIARDELL0. Dipartimento di Agricoltura Alimentazione e Ambiente, Università degli Studi di Catania, Viale Santa Sofia 100, 95130 Catania, Italy. Dipartimento di Scienze Agrarie e Forestali, Università degli Studi di Palermo, Viale delle Scienze Ed. 4, 90128 Palermo, Italy. gralicci@unict.it.

Natural plant products have received a great deal of attention as sustainable alternative for management of plant diseases caused by bacteria. In this study, we evaluated the antimicrobial activity of citrus peel components and phenols with relevant antioxidant activity, namely cathecol, citronellol, esperidin, limonene, quercitin and rutin, against nine phytopathogenic bacteria in the genera Clavibacter, Erwinia, Pectobacterium, Pseudomonas and Xanthomonas. The highest inhibitory activity was induced by cathecol against Xanthomonas species and P. syringae pv. tomato and by citronellol against C. michiganensis subsp. michiganensis and E. amylovora. Cathecol and citronellol Minimal Inhibitory Concentration (MIC) ranged from 0.5 to 0.0625 mg mL⁻¹ and 1 to 0.125 mg mL⁻¹, respectively. In addition, the ability to inhibit the quorum sensing (QS) cell-to-cell signaling system, that controls the virulence behavior of a broad spectrum of bacterial pathogens, was evaluated. Using Chromobacterium violaceum as biosensor system, citronellol was active against medium chain N-acyl-homoserine lactones preventing the production of violacein as indicated by the lack of pigmentiation of the indicator organism in vicinity of the treated disks. To determine if this suppression was linked to anti-virulence activity, the effect of citronellol was tested in the QS active phytopathogen Pseudomonas corrugata strain CFBP 5454, causal agent of tomato pith.