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BOOK OF ABSTRACTS

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P6.1-016

EFICACY AND COMPATIBILITY OF BIOLOGICAL AGENTS AND CHEMICAL FUNGICIDES FOR THE MANEGEMENT OF SCLEROTINIA SCLEROTIORUM ON SOYBEAN.

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Text

The white mold caused by *Sclerotinia sclerotiorum* cause reduction of 20% to 70% of production of soybean in the South of Brazil and the control is based on fungicide sprays. Nowadays, biological control has been emerging in the manegement of the disease. The aim of this study was to evaluate the eficacy of *Trichoderma harzianum* (ESALQ1306), *Bacillus subtilis* (QST713) and *B. amyloliquefaciens* (CPQBA 040-11DRM 01) in the control of *S. sclerotiorum* isolates, alone and in combination with chemical fungicides. First, the sensitivity of biological agents to Bixafem+Protioconazol+Trifloxistrobin and Methyl tiofanate+Fluazinam was evaluated in vitro. This was followed by in vitro assays that evaluated the eficacy of biological agents and chemical fungicides (alone and in combination) in reduction the micelial growth of three isolates of *S. sclerotiorum*, by direct contact and pairing. *T. harzianum* inhibited the pathogen 70 to 90% (direct contact) and 100% (pairing) but was not compatible with fungicides; *B. subtilis* and *B. amyloliquefaciens* inhibited the pathogen just when paired (80 to 100%) and were compatible whit Methyl tiofanate+Fluazinam but not with Bixafem+Protioconazol+Trifloxistrobin. Fungicides inhibited 100% of pathogen micelial growth independently of isolate. These results are important for the adequacy of the disease management program, mostly about the simultaneous application of products, and should be validated in field tests.

P6.1-017

USE OF COPPER-BASED FUNGICIDES IN ORGANIC AGRICULTURE IN TWELVE EUROPEAN COUNTRIES

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Text
The reduction of copper-based plant-protection products with the final aim of phasing out has a high priority in European policy, as well as in organic agriculture. The aim of this survey was to provide an overview of the current use of these products in European organic agriculture and the need for alternatives to allow policymakers to develop strategies for a complete phasing out. Since there is a lack of centralized databases on pesticide use, we combined expert knowledge on permitted and real copper use per crop and country, with statistics on organic area in 12 European countries covering 83% of the organically managed horticultural area. We calculated that approximately 3258 t copper metal per year is used by organic agriculture in these countries, equalling to 53% of the permitted annual dosage. This amount is split between olives (1263 t y^{-1}, 39%), grapevine (990t y^{-1}, 30%), and almonds (317 t y^{-1}, 10%), followed by other crops with much smaller annual uses (< 80 t y^{-1}). In 56% of the allowed cases (countries × crops), farmers use less than half of the allowed amount, and in 27%, they use less than a quarter. At the time being, completely abandoning copper fungicides would lead to high yield losses in many crops. To successfully reduce or avoid copper use, all preventive strategies have to be fully implemented, breeding programs need to be intensified, and several affordable alternative products need to be brought to the market.

P6.1-018

EVALUATION OF MYCOPARASITIC FUNGI AS POTENTIAL BIOLOGICAL CONTROL AGENTS FOR WATTLE RUST (UROMYCLADIUM ACACIAE)

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Text
Wattle rust, caused by *Uromycladium acaciae* (*Cooke*) *P. Syd. & Syd*), is the most economically important disease currently affecting black wattle (*Acacia mearnsii*) plantations in South Africa. Available control measures for wattle rust consist of rust tolerant clones, azoxystrobin- based fungicides and difenoconazole fungicides. There is an urgent need to find alternative chemical and biological control measures that will comply with Forest Stewardship Council (FSC) regulations in the management of wattle rust. *Sphaerellopsis filum* and *Lecanicillium lecanii* are well known mycoparasites of rust. This study aims to evaluate the efficacy of S. filum and L. lecanii for the control of wattle rust through a series of potted nursery trials. Early results have shown that biweekly applications of S. filum significantly reduced rust disease progression. Although applications with *L. lecanii* did reduce rust disease progression, it did not produce a significant reduction relevant to the untreated rust control. This study demonstrates that *S. filum* has the potential to control wattle rust and could be used as part of an integrated pest management strategy for the disease.

P6.1-019