All Division 7 (Forest Health) Meeting

188 - Managing pests and diseases in commercial plantations

K 2-4 (Konzerthaus Freiburg)

IUFRO17-3350 **A new threat for Eucalyptus plantations in Uruguay: Teratosphaeria pseudoeucalypti the causal agent of Teratosphaeria Leaf Blight**

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Abstract: Teratosphaeria pseudoeucalypti was first described in 2010, causing Teratosphaeria Leaf Blight (TLB) in Queensland, Australia. In 2014 it was reported simultaneously in Argentina, Brazil, and Uruguay, representing the first detection of this pathogen outside of Australia. However, the impact of this disease on Eucalyptus plantations is still unknown. The aim of this study was to characterize the population of this pathogen in Uruguay as well as the resistance of different Eucalyptus species tested under field conditions. A national survey was conducted in 2015 to collect symptomatic leaves and to isolate the pathogen. Multigene analysis of 24 isolates based on ITS, BT, ATP6 and EF1, confirmed the identity of all isolates as T. pseudoeucalypti. All isolates grouped with haplotype KE8 according to Andjic et al. 2010. Susceptibility of different Eucalyptus species was tested under natural inoculation on three field experiments. At least two genotypes of each Eucalyptus species were tested. Significant differences on disease severity was observed among tested species. Eucalyptus camaldulensis was the most susceptible one, followed by E. tereticornis, and E. globulus, whereas E. maidenii, E. grandis, and E. dunnii showed the lowest disease severity. Even though the disease was observed infecting all species, our results suggest that TLB represents a serious threat to E. camaldulensis, E. tereticornis and E. globulus, while might represent a minor disease for E. maidenii, E. grandis and E. dunnii

genetic resistance, invasive species, epidemiology

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IUFRO17-356 **Management of red needle cast caused by Phytophthora pluvialis**

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Abstract: Red needle cast, caused by the pathogen Phytophthora pluvialis, is a disease which can cause needle loss in Pinus radiata. Aerial Phytophthora diseases are more recent occurrences in pine plantations and this has provided challenges in understanding their dynamics in the field and developing appropriate management options. Disease expression and pathogen presence has been monitored since red needle cast was first detected in New Zealand, and these results are being used to inform control strategies. Initiatives to screen breeding material in the field and in in vitro detached needle assays to identify a range of material that show varying levels of resistance have so far been successful. However, new evidence suggests that a number of other factors, along with visual observations of lesion development, can be used to determine levels of resistance. Specifically some of the drivers of pathogen epidemiology have the potential to be manipulated and may play a critical role in the control of this disease. Other forms of management being investigated for red needle cast include chemical and biological control. It is expected that the use of a combination of these methods in an integrated pest management approach should be successful in controlling this disease.

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IUFRO17-2302 **Enhancing biological control in short rotation coppices: possibilities and limitations**

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Abstract: Insect pests can strongly influence the economic outcome of short rotation coppices. Chemical control is often complicated due to the height of the trees and the prohibition of aerial spraying of pesticides by the German legal framework. Therefore, non-chemical measures to reduce the populations of pest insects are in focus of current research. Habitat manipulation is one key element to enhance biological control with the aim to supress the damage through pest species below the economic injury level. As an example, the influence of the presence of different food sources on longevity and fertility on the pupal parasitoid Schizonotus sieboldi (Pteromalidae), an important antagonist of the leaf beetle Chrysomela populi, will be presented. We found that the longevity of female S. sieboldi individuals can be prolonged from 4 ± 1 days without food to 31 ± 12 days with Galium album, which was proved to be the best out of seven food sources. Furthermore, an overview of additional possible measures to enhance biological control is given and known problems and limitations will be discussed. We conclude that it is possible to promote natural enemies in short rotation coppices through habitat manipulation. However, pest management becomes more and more complicated and requires high level of expertise of the land managers.

insect pest, biological control, flowering plants