



Programme and Abstracts

PIMES

PLANTATION MANAGEMENT EXHIBITION & SEMINAR

15th December 2018

Faculty of Plantation and Agrotechnology
Universiti Teknologi MARA
Melaka Branch, Jasin Campus
77300 Merlimau, Melaka, Malaysia

PLANTATION MANAGEMENT EXHIBITION AND SEMINAR 2018 (PiMES)

Melaka, Malaysia

December 15, 2018

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DEAN PREFACE



Assalamualaikum Warahmatullahi Wabarakatuh

My heartiest congratulations go to the Committees for successfully organized PIMES September 2018. PIMES September 2018 enables lecturers and panels from strong industrial background to reflect and share significant ideas, experiences and research findings in the workplace and in partnerships. It is also hoped to encourage collaboration among the lecturers and enhance the quality and performance of the faculty. The research findings derived from this substantial event shall indicate the commitment of lecturers not only in teaching, but also in striving to unfold new knowledge and processes that will benefit the nation. The efforts of our lecturers need to be further extended to a wider audience so that the nation will benefit from the research findings. It is also hoped that, the proceedings will trigger serious thought and more robust research in the field of education as well as plantation and technology so as to help Malaysia achieve Vision 2020.

As we know, agriculture production has increased tremendously today because of the demand from various sectors in the world. To meet the challenges of increasing food demand, techniques and ways should be created to improve productivity, profitability and sustainability of the agricultural system. Industrial agricultural system has led to irretrievably changes in the landscape diversity, soil quality, environment integrity, and natural resource base. This has resulted major questions and curiosity worldwide in relation to the sustainability of agricultural production system. The most significant damage to natural ecosystems and the environment was caused by habitat conversion and corresponding climate change, loss of biodiversity and ecosystem functions, soil erosion and degradation, and pollution from fertilizers and pesticides. Concepts in plant protection have changed in past decades from exclusion or destruction of pest to pest management. Serious problems with pesticides, rapid development of pest resistance, environmental effects of pesticides, and high costs led to development of new approaches and techniques in pest management based on improved knowledge of pest dynamics and their natural enemies, and the interaction between the pest and the crop.

It remains only for me to thank all those who have helped to make this events such a great and wonderful success. Much appreciation is due to the board editor, and reviewers of all papers submitted as well as to all authors whose ideas and contributions ensured rich and lively discussion during the various sessions.

DEAN,

Assoc Prof Dr Asmah Awal

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INTRODUCTION

The PiMES committee and UiTM (Melaka), Jasin Campus residents are very pleased to welcome all participants in the Plantation and Management Seminar (PiMES) which is organized by Faculty and Agrotechnology.

PiMES aims to give an exposure to the students about the procedure to make a poster by extracting information from their final year project. This seminar will sharpen their communication skill as well as they can exchange and share their research result, projects, experiences and new ideas related to all aspects of studies in plantation management and agribusiness, plant sciences, soil sciences, plant protection, plant biotechnology and agricultural engineering. We sincerely hope that you will enjoy and return home with plenty of inspiration to improve agro-industry plantation practices and research activities.

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EFFICACY OF TRICHODERMA SP. AS BIOCONTROL AGENT AGAINST RHIZOCTONIA SOLANI OF SHEATH BLIGHT ON RICE IN VITRO ASSAYS

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ABSTRACT

Rice is an important food grain and staple food for majority of the world's population, especially in Malaysia. The production of rice had been scarce affected by disease in the rice field. Sheath blight caused by *Rhizoctonia solani* is one of the major and most widespread disease of rice in the world that causing the serious yield losses under favourable environmental condition. Chemically controlled was the successful in destruction the pathogen. unfortunately it imposes environmental threats potentially dangerous to humans and other animals. Therefore, by application of biological method in control this disease is more effective alternative techniques, thereby it saves the environmental pollution and humans health. In this study were conducted to isolate the *R. solani* and characterized based on morphological characteristics and to determine the inhibition between *R. solani* and *Trichoderma* sp. as biocontrol agent using dual culture method. The isolates were characterized based on macroscopic and microscopic characteristics. The suppression effect of *Trichoderma* sp. for control of fungal pathogen was evaluated by using Percentage Inhibition Radial growth (PIRG) formula. The application of *Trichoderma* in 5 isolates of *R. solani* was showed more than 70 percent growth inhibition of *R. solani* on the seven days in incubator. RS1 isolate was showed high inhibition of *Trichoderma* which controlled the growth of *R. solani* with 81.40 percent. In this vitro assays. *Trichoderma* species was revealed that is effective biocontrol agent in controlling the fungal pathogen. *R. solani*.

Keyword: Sheath blight, Rhizoctonia solani, biocontrol agent, Trichoderma sp.