UNIVERSITI TEKNOLOGI MARA

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

DEAN PREFACE

Assalamualaikum Warahmatulllahi 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

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 agribussiness, 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.

PLANTATION AND MANAGEMENT SEMINAR 2018 (PiMES)
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ANTAGONIST ACTIVITY OF Trichoderma spp. AGAINST Sarocladium oryzae ON SHEATH ROT DISEASE OF RICE CULTIVATION IN VITRO ASSAYS

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ABSTRACT

Rice (Oryza sativa) is one of the most important staple crops that were grown in 85% of the area under crop production in Malaysia. Some rice area in Malaysia was detected has been infected by sheath rot disease that using excessive fungicide to control the disease. Therefore, biological control is highly recommended when compare to other options for controlling many disease in rice. Thus, the objective in this study due to isolate Sarocladium oryzae and characterize based on morphological characteristics and to observe the inhibition of S. oryzae against Trichoderma sp. using dual culture method. In this study, the use of soil-born pathogen specimens Trichoderma sp. against four isolates of seed-born pathogen Sarocladium oryzae as a biocontrol agent. Both pathogens were distinct from each other in the characteristics of mycelial growth rate, colony appearance, shape of conidia and the conidiophores for microscopic and macroscopic examinations. This biological control is subsequently tested on antagonistic activity against S. oryzae by dual culture technique. It was found that Trichoderma sp. showed the ability to inhibit the isolate pathogen is more than 50 percent. Isolates SRO3 and SRO4 showed the highest inhibition percentages with 54.79% and 53.40% respectively. Trichoderma sp. can acts as biological control agent due to faster growing. As a conclusion, from the potential isolates found in this study will be further develop for coating rice seed with Trichoderma sp. which an alternative method to control sheath rot disease in the future.

Keywords: Sheath rot disease, Sarocladium oryzae, biological control, Trichoderma sp.