



*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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## **SCREENING THE ANTAGONISTIC ACTIVITY OF BENEFICIAL BACTERIA AGAINST THE PATHOGEN OF FRUITLET CORE ROT DISEASE ON PINEAPPLE**

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### **ABSTRACT**

Fruitlet core rot caused by *Penicillium* sp. is one of the major diseases that affecting pineapple production. The disease FCR attacks pineapple fruit and cause low quality and quantity of fruit for market. The main objectives of this study were to isolate and confirm the causal pathogen of FCR for diseased pineapple through Koch's postulate. The second objective was to isolate beneficial bacteria from healthy pineapple fruit of MD2 variety and screen their antagonistic activity against the FCR pathogen. A dual culture method was used to identify antagonistic activity of beneficial bacteria against the pathogen in-vitro. In this study, nine beneficial bacteria isolates coded as B1, B2, B3, B4, B5, B6, B7, B8 and B9 were selected to access their potential as biological control agent for FCR pathogen. The highest percentage of mycelial inhibition growth rate for bacteria microbe isolates named B2 and B9 with values of 91.67% and 96.83%, respectively. The data retrieved from PIRG were analyzed by One-way ANOVA using SPSS version 22. The top nine antagonistic bacteria were identified based on morphological characteristics. Then, infected fruit are shows the symptom externally and internally. Severely affected fruitlets may turn brown and sunken as the fruit ripens. Then the internal part of the fruit consists of a browning of the center of the fruitlets starting below the floral cavity and sometimes extending to the core. So, Koch 's postulate are shows the positive symptoms that can prove the FCR can cause by *Penicillium* sp.

*Keywords: antagonist, fruitlet core rot, Penicillium sp., pineapple*