



*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*

# ***PLANTATION MANAGEMENT EXHIBITION AND SEMINAR 2018 (PiMES)***

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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.

**PHYTOCHEMICAL SCREENING, TLC PROFILING AND ANTIFUNGAL  
ACTIVITY OF ELAIES GUINEENSIS AGAINST FUSARIUM  
OXYSPORUM**

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**ABSTRACT**

*Fusarium* wilt is one of the diseases that often attacked plants in Malaysia such as bananas, tomatoes, black pepper, rice and others. The various methods have been made to control fusarium wilt diseases including the use of chemicals. However, the extensive use of chemicals will become a negatively impacts to environment and plants are more susceptible to pests and diseases. Hence, this study was used wasted product with plant extract method from part of *Elaeis guineensis* such as empty fruit bunches (EFB), pressed palm fruit (PPF), kernel, leaf and trunk by using methanol solvent to control *Fusarium oxysporum*. TLC profiling was used to identify the best solvent to separate the pure compound. While the phytochemical screening was analyzed for the presences of alkaloid, flavonoid, terpenoid, tannins and saponins. All the extract were evaluated their antimicrobial properties with 25 and 50 ppm based on disk diffusion method. *Trichoderma sp.* as a positive standard control against *Fusarium oxysporum*. The results of phytochemical Screening process confirmed the presence of alkaloids, flavonoids, tannins and terpenoid in part of *Elaeis guineensis* extract. Hexane : Ethyl acetate, 2:8 is the best solvent system which it passed in several compound especially in kernel, leaf and PPF with 6,3 and 2 compound. Antifungal activity revealed that trunk extract to control *Fusarium oxysporum* with moderate inhibitory zone 10.67mm in 25mg/mL and 14.33mm in 50mg/mL followed by leaf with slightly inhibitory zone 9.67mm in 25mg/mL and 13.00mm moderate inhibitory zone in 50mg/mL. Thus, in future wasted product from part of *Elaeis guineensis* had a potential for replacement of *Trichoderma sp.* against *Fusarium oxysporum*.

Keywords : *Elaeis guineensis*, *Fusarium oxysporum*, Phytochemical screening, Thin Layer chromatography, Antifungal activity.