



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.

**GREENHOUSE DISEASES OF OIL PALM SEEDLINGS AND THEIR
CAUSAL PATHOGENS IN UiTM MELAKA JASIN CAMPUS**

Akmal Hakim Abdullah Hadi & Hamzah Abdul Aziz

Faculty of Plantation and Agrotechnology, UiTM (Melaka)

Jasin Campus, 77330 Merlimau, Melaka.

Corresponding Author:

akmal_hakim94@rocketmail.com

ABSTRACT

Malaysia is among the top countries in the world as oil palm producer. Nowadays, the value of oil palm production plays a significant role in Malaysia economic growth. The diseases that attack the oil palm leaves were became a major problem in the early growth stage of oil palm such as *Culvularia* leaf spot that caused by *Culvularia* sp., Fusarium wilt caused by *Fusarium oxysporum* f. sp. *elaeidis* (Foe), *Corticium* leaf spot caused by *Corticium solani*. It was became a problem when hard to be eradicated and taken several methods to eliminate it. Therefore, the main objectives of this study were to recognize and define what type of leaf diseases and its causal agents on oil palm seedlings. Next, to determine disease incidence and distribution of leaf diseases on oil palm seedlings reared in the greenhouse structure. Last but not least, the purpose control on the disease that attacked oil palm seedlings. In this study, disease that I found in the greenhouse three UiTM Jasin were found and isolated it to identify what type of disease that attack the oil palm seedlings leaves. In vitro studies, the sample of leaf diseases were collected and its causal agent induced to grow on PDA. Four type of diseases were identified which were *Culvularia* leaf spot, Fusarium wilt, Common spear rot and *Rhizoctonia solani*. The most leaf disease attacked on oil palm seedlings was *Culvularia* leaf spot at 41% incidences. The causal agent for each of leaf diseases have been identified after isolation and observation under microscope based on their microscopic characteristics (conidia and hyphae). The most recommend control methods have been identified to control common spear rot, *Rhizoctonia solani* and *Culvularia* leaf spot was using the biological control method such as *Bacillus subtilis*, *Trichoderma harzianum* and wild basidiomycetes. But the most effective approach in controlling fusarium wilt was using the resistances cultivars.

Keywords : Greenhouse disease, Isolation, Leaf disease, oil palm seedlings