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.

A STUDY OF BACTERIAL HEART ROT DISEASE IN PINEAPPLE AT JOHOR.

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ABSTRACT

Pineapple (*Ananas comosus* L. Merr) is considered as economically important horticultural crop with great health benefits and encouraging market potential in the global market for foreign exchange earnings which in turn brings higher income for the farmers. However, production of pineapple affected by the serious damage caused by the Erwinia species, particularly bacterial heart rot disease caused by Dickeya zeae previously known as Erwinia chrysanthemi. Known as "major" disease in pineapple cultivation. In this study, data of the incidence and severity from different field recorded. Result showed that there are significant difference ($p \leq 0.05$) percentage (%) incidence and severity between each field. The data are based on field A 19.20%, 15.00%, field B 19.20%, 23.60%, and field C 20.00%, 18.80% respectively. However, all field recorded low percentage (%) of disease incidence and disease severity which are below than 40%. The bacterial heart rot disease was isolated in order to identify and verify its characteristic on NA medium after two days incubation period. After two days, the bacteria of becterial heart rot disease has been observed which was can be detected through the appearance of light white, circular, flat and smooth. The result of observation was obtained by using the microscope in order to observe the microscopic characteristics of the bacteria. The pathogenicity test was carried out by using the injection fruit method to test the Erwinia chrysanthemi isolate on the fruits of the pineapple which given the positive result for the infection development. The pathogenicity tests proved by using the Koch's Postulates method that isolated Erwinia chrysanthemi was capable to infecting local susceptible pineapple plants in Johor.

Keywords: Bacterial heart rot disease, Erwinia chrysanthemi, incidence, severity.