

Programme and Abstracts

PIMES

PLANTATION MANAGEMENT EXHIBITION & SEMINAR

15th December 2018

Faculty of Plantation and Agrotechnology
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Melaka Branch, Jasin Campus
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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.

**FIELD PERFORMANCE OF TRACTOR MOUNTED WITH VARIOUS
IMPLEMENTS: A CASE STUDY**

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ABSTRACT

Field data performance are important in farm management where the proper used of tractor and implements can minimize inputs and fully optimized the machinery. This study is to investigate the efficiency of the implements. The field performance was developed by using Kubota M8540 tractor and various mounted implements. The performance measures effective field capacity, wheel slippage and time taken for the implements to complete the task. Three implements that used are disc plough, rotary tiller and seeder machine at constant engine speed 1500 rpm was examined. All the implements were investigated on 20m X 20m site. The studies were undergoing 5 replications to minimize the error and increase the efficiency. Time taken was collected in minutes and wheel slippage was taken in percentage while field capacity is in hectare per hours. Analysis from ANOVA on wheel slippage shows that disc plough have highest wheel slippage compared to rotary tiller and seeder. Furthermore, time taken to complete the task, highest is rotary tiller (26.6 min), then disc plough (23.7 min) and seeder (14.52 min). Effective field capacity that shows by seeder is the highest where it can covers 1.0106 hectares per hour compared to disc plough 0.3216 hectares per hours and rotary tiller 0.2353 hectares per hours. From the ranges in performance measured, seeder is the most efficient implement to be used with the tractor. In order to use the machine efficiently, the tractor and implements should be matching properly in size and capacity.

Keywords: disc plough, rotary tiller, seeder, wheel slippage, field capacity