



Programme and Abstracts

PIMES

**PLANTATION MANAGEMENT
EXHIBITION & SEMINAR**

15th December 2018

Faculty of Plantation and Agrotechnology
Universiti Teknologi MARA
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.

**INVESTIGATION ON PERFORMANCE AND COST OF COMBINE
HARVESTER: CASE STUDY AT KG TENGAH, PADANG MERLIMAU,
MELAKA PADDY FIELD**

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ABSTRACT

In Malaysia, using machinery in the plantation sector is the most common useful technology that implements in a field operation in order to improve efficiency, productivity, and reduce the labour cost. The objective of this study is to investigate the performance and cost of ownership and operation cost of combine harvester, to evaluate the efficiency of combine harvester based on useful life and to help the owner to analyse data. Plus, to evaluate the cost based on age of combine harvester. The study observed at Tengah Padang Merlimau, Melaka Paddy field. The primary data was collected to get the average of time an average of speed of combine harvester during harvesting operation in a paddy field. The evaluation, based on motion study in order to determine the TFC, EFC and FE as measure the performance of combine harvester model New Holland S-1550. The average of TFC is 2.10 Ha/HR while the EFC was estimated at 1.22 Ha/HR or 5 Ton/HR and FE is 58.10% with average speed 4.92 Km/HR. The combine harvester was harvested at an average speed at 4.92 km/HR. Besides, the secondary data were collected to estimate the operation area and determine the actual costs for five years of combine harvester useful life. The calculation was conducted by using formula and interpret in the total cost that required to spend in every years. By using the declining method, the percentage of depreciation was estimated at 84.8% decline in 5 years. Plus, the insurance, shelter, tax, and interest was assumed RM 8000 per year. However, the higher fixed cost in the year 2014 amounted RM 22.10 per ha. The higher operating cost was estimated in the year 2013 at contributed RM60.26 per ha. In this case, the ability of a machine is might be influenced towards another factor such as geographical factor, the machine condition and maintenance, labour skills and knowledge and more. Last, in this study can help the owner to produce actual data cost in future.

Keywords: Performance, Fixed cost, Operating cost