



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.

**DETERMINATION OF CAROTENOID CONTENT OF CRUDE
PALM OIL EXTRACTED FROM DIFFERENT FRUITLETS'
LAYERS OF RIPE BUNCHES**

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ABSTRACT

Elais Guineensis is the major planted commodity crop in Malaysia. In the year 2017, it contributed for almost RM 72 billion to the second largest palm oil producer which is Malaysia. It can be exported to other countries to gain maximum income. However, the current processing method of producing crude palm oil will deteriorate carotene content. The objective of this study was to determine the carotenoid content of crude palm oil extracted from different fruitlets' layers of ripe bunches. Firstly, the weeks of bunches from inflorescence was determined. Then, bunches were divided to 4 parts and take ¼ bunches as sample. Next, put the sample into pot and boiled at least 2 hours. After boiling, fruitlets were taken out from pot and mesocarps were peeled off and then pressed. Before pressing process occurs, fruitlets were weighted. Basically, every sample of monocarp is 1 kg. Then, continue pressing until the oil came out from mesocarp. Finally, take the sample to Sime Darby Laboratory to analyze the carotene by using NIRS DA1650. It is proven that the longer the mesocarps are exposed to the sunlight, the higher its carotene content will be. The amount of carotene for the first layer is ±968.07 ppm which was greater compared to the second layer with only ±863.87 ppm. In conclusion, carotene is actually beneficial for human health because it acts like antioxidant and under developing countries really need this element to survive.

Keywords: economy, carotene, crude palm oil, human health