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.

*PLANTATION MANAGEMENT EXHIBITION AND SEMINAR 2018 (PiMES)*
*Melaka, Malaysia*
*December 15, 2018*

# TRANSGENIC STUDIES OF OIL PALM DNA IN TOMATO

**Nurul Afiqah Bt Md Yusop, Yusuf Chong Yu Lok ***

*Faculty of Plantation and Agrotechnology. UiTM (Malacca) Jasin Campus. 77300. Malacca.*

*Corresponding Author:*
yusufchong@uitm.edu.my

## ABSTRACT

Tomato. scientifically named (*Solanum lycopersicon* L.) is one of the most important vegetable crops and a model plant to study other plants. For further study in biotechnology especially for basic and practical studies for tomato improvement, successful transformation is essential. However. the success of genetic manipulation of a plant depends on the transformation as well as regeneration frequencies of the explants. So. the purpose of this study is to assess and compare different transformation protocols in tomato. Transformation of cotyledonary leaf explant was successfully performed with gene transfer into tomato by *Agrobacterium tumefaciens* mediated natural transformation and strain LBA4404. Frequency of transient and stable expression has been identify and showed that the transformation competence in tomato was highly influenced by several factors for example Agrobacterium suspension. There are nine factors affecting the efficiency of tomato transformation including genotypes. explant type. agrobacterium strains. explant size. explant orientation on medium. array. co-cultivation period. pre-culture of explant and kanamycin concentration tolerance test for selection of transformed tissue. All these factors along with kanamycin concentration will determine the successful of genetic in tomato. Besides, previous study had reveal that 200 mg/l kanamycin is optimum for selection of transformed explant. This review also discovered that, *in-vitro* fruit injection (*in-planta* transformation) method was found to be more efficient transformed plants as compared to conventional tissue culture based transformation methods.

*Keywords: tomato.transformation.explant.kanamycin*