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 AND MANAGEMENT SEMINAR 2018 (PiMES)
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DIVERSITY OF INSECT POPULATION IN COCOA FIELD AT LADANG UiTM JASIN

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ABSTRACT

The abundance of insects in cocoa area will give huge impacts to the cocoa production. Record shows that in 2007 the production of cocoa beans is 35.180 tonnes meanwhile in 2011 it decreases into 15,000 tonnes. The abundance of insect diversity either pest or predators can contribute to damage particularly on fruit part which can reduce the quality of fruits. This study was conducted at *Ladang* Uitm Jasin Cocoa field at Universiti Teknologi MARA, which located in Jasin, Melaka. Ten days of sampling with interval of two days visits were made from September and completed in October 2018. Yellow pan trap were used in this study because the bright yellow color can attract various kind of insects. A total of 10 families and 4 orders of insect were recorded leading by Hymenoptera followed by Coleoptera, Orthoptera and Hemiptera. The most dominant insects shown were Hymenoptera with 61.71% and the least insects order was Hemiptera with 6.34%. Of the collected insects, the Order Coleoptera has the highest diversity in the Cocoa field with $H' = 0.31$, although Hymenoptera has the most collected number of individuals with $H' = 0.30$. The majority of insects found in this field are Hymenopteran because it is the most common species that preserve on cocoa field area. Mostly they have their own nesting sites near the cocoa tree or under the cocoa tree. The mean populations of orders during ten days of sampling were recorded. Hymenoptera has higher mean in third days of sampling which is 8.63, while the other is Coleoptera with 4.13 on fourth day, Orthoptera on second day with 0.75 and Hemiptera with 1.13 on the first day of sampling. This study shows that each group of insect currently has higher population at the early collection period because the weather condition is still in an ambient temperature whereby the insect can go outside to search for food, do pollination activities and breed. These study shows that the abundance of insect cause various impact to the production of cocoa.

Keywords: diversity, insect, yellow pan trap