



*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

# **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.

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## **THE EFFECT OF DIFFERENT CONCENTRATION OF COPPER AND ZINC TOWARD THE PADDY (MR 220) GROWTH PERFORMANCE AND SOIL NUTRIENT**

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### **ABSTRACT**

Rice (*Oryza sativa* L) is a primary source of the food for the half world population rice cultivation will built upon to the Asia cultivation. Copper (Cu) is an important for paddy make metabolic process such as photosynthesis. If amount of Cu is insufficient, the paddy growth performance may reduce, grain may less filled and increase in spikelet sterility. However for zinc (Zn), many researchers found that zinc (Zn) deficiency symptoms in human health especially in a country where rice is a consumed as a staple food. Zn deficiency in rice reduces grain yield and the nutritional quality of the grain. Zn also important for various metabolic enzyme because Zn is the essential element of micronutrient to plant growth. The significant of this study is to access of combine Cu and Zn solution with the different concentration can give effect toward the paddy (MR220) growth performance and soil nutrient. The experiment was laid out in Completely Randomized Design (CRD) in a greenhouse at UiTM Jasin for 6 weeks. Four treatment and three replication was made. The combination of copper,  $CuCl_2$  and zinc,  $ZnCl_2$  was applied at 0, 50, 100, 150 ppm alongside with 13g of zeolite per 6 kg of soil for each pot. The data retrieved from the experiment was analysed using IBM SPSS Statistic software on One-Way ANOVA with tukey's-b, descriptive with significant level is 5% of analysis method. The result shows increasing level of combination both of copper and zinc in the soil are significantly different in the soil nutrient for potassium (K) at treatment three with 100ppm of copper and zinc, for calcium (Ca) and magnesium (Mg) at treatment four with 150ppm of copper and zinc, and phosphorus (P) at the treatment one. But there are is no significant different for the plant growth performance. This happen due to several factor such as not enough space for paddy growth, soil pH and amount of apply soil in pot are not enough.

*Keyword: Oryza sativa L, MR 220 growth performance, copper, zinc,*