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

CHARACTERIZATION OF EFFECTIVE MICROORGANISM (PHOSPHATE SOLUBILIZING BACTERIA) ISOLATED FROM OIL PALM FIELD SOILS

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ABSTRACT

Phosphate Solubilizing Bacteria (PSB) is one of methods that are not only efficient, but also have low cost of agricultural input, supplementary, renewable, safe and environmentally friendly are now being the priority in agricultural industry. This research is focusing on identifying either with the inoculations of phosphate solubilizing bacteria (PSB) give effects to solubilization of phosphorus in soil and become available for plant uptake or there is no significance at all. The bacteria were isolated from FELCRA Seri Mendapat oil palm field. To address this, four treatments are set up which are T1 (soil added with PSB-1), T2 (soil added with PSB-2), T3 (soil added with PSB-3) and T4 (soil without PSB) by using Completely Randomized Design (CRD). Available P for the treatments and the value of soil pH are being taken before and after examining the research samples. Other than that, the growth performance of oil palm seedlings was also recorded with the measurement of oil palm seedling height, number of leaves and the width of oil palm seedling leaves on once a week within two months. The soil analysis for available P and the soil pH was found to have significant increase when treated with PSB as shown for the result. The plant analysis for the growth performance of oil palm seedlings also shows that better growth of plant for the soils that have been treated with PSB. Thus, the application of PSB to the soil can increase the availability of P and reduce the soil acidity. In addition, it gives effect to the performance of the oil palm seedlings growth where this research showed an increase of plant height, larger width of leaves and increase number of leaves compared to the soils that does not treated with PSB. However, to ensure this application can produce significant effects, several effective considerations must be taken.

Keywords: Phosphate Solubilizing Bacteria (PSB), soil analysis, available P, pH value, plant analysis, growth performance, oil palm seedlings.