UNIVERSITI TEKNOLOGI MARA

Programme and Abstracts

PIMES

PLANTATION MANAGEMENT EXHIBITION & SEMINAR

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Faculty of Plantation and Agrotechnology
Universiti Teknologi MARA
Melaka Branch, Jasin Campus
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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.

EFFECT OF DIFFERENT WATER STRESS WITH SUPERABSORBENT (S.A.P) TREATMENT ON GROWTH OF PB350 CLONE (*Hevea brasiliensis*)

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ABSTRACT

Rubber, (*Hevea brasiliensis*), has been traditionally planted in the humid tropics, which is characterized by high rainfall throughout the year. However, due to an increase in world's demand for rubber, future planting will be established in dry areas, characterized by water stress area. This study provides a detail effect of different water stress with superabsorbent (S.A.P) treatment on growth of rubber clone at nursery stage. One clones from Malaysia Rubber Board (MRB), PB350 with 5 months was used in this study. Six levels of treatment were used, plants irrigated for (every day, 3 days, 6 days, never irrigated which acted as control) and two treatment of superabsorbent polymer for Treatment 4 and 6. The experimental design used was a Completely Randomized Design (CRD) with four replications. A significant decrease was observed with increase in stress level. Changes of plant growth such as plant height, number of leaves, dry weight of plant, and chlorophyll content showed that treatment with daily watered had higher values than other treatments. However, there is no significant different between treatment daily watered and applying superabsorbent polymer for 3 days withholding water. There was treatment failure to adapt to water stress at treatments which never irrigated. By applying superabsorbent polymer on PB350 clones had responded to water stress by physiological responses. This indicated that superabsorbent polymer had positive effects on growth of rubber clone even under drought-stress conditions.

Keywords: Hevea brasiliensis, water stress, superabsorbent polymer, growth