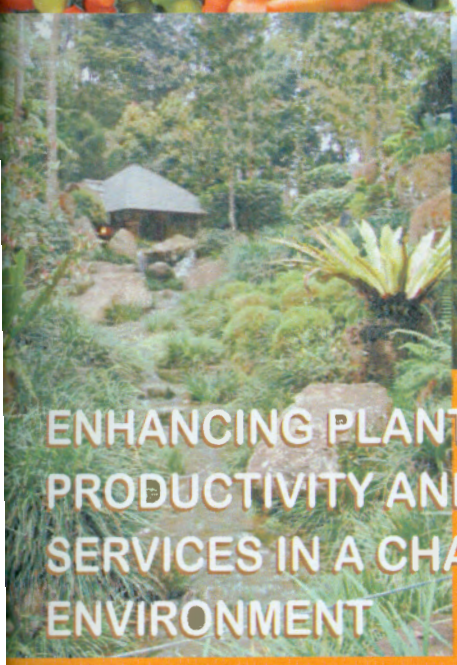
MSPPC 2009

20th Malaysian Society of Plant Physiology Conference

Programme & Abstract

24–26 July 2009
Avillion Admiral Cove
Port Dickson, Negeri Sembilan



ENHANCING PLANT PRODUCTIVITY AND ECOSYSTEM SERVICES IN A CHALLENGING ENVIRONMENT

Organized by

MALAYSIAN SOCIETY OF PLANT PHYSIOLOGY (MSPP)

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MSPPC 2009

PROGRAMME

20th Malaysian Society of Plant Physiology Conference

Enhancing Plant Productivity and Ecosystem Services in a Challenging Environment

Friday 24 July 2009

1430 - 1730 PRE-CONFERENCE TOUR
MARDI RESEARCH STATION, LINGGI, NEGERI SEMBILAN

2000 - 2200 PRE-REGISTRATION AND POSTER PLACEMENT

Saturday 25 July 2009

0800 REGISTRATION

0900 WELCOMING ADDRESS BY THE PRESIDENT OF MSPP
Dr Elizabeth Philip

0915 **PLENARY PAPER**
Chairperson: *Dr Elizabeth Philip*
Changing Environment: Malaysian Perspective
Dr. Yap Kok Seng (Director General, Malaysian Meteorology Department)

1000 EXHIBITION, POSTER SESSION AND REFRESHMENTS

GROUP PHOTOGRAPHY SESSION

SESSION I: ASSIMILATE PRODUCTION, GROWTH AND DEVELOPMENT
Chairperson: ***Dr. Zamri Ishak***

1030 – 1050 Floral development of lemba (*Curculigo latifolia* Dryand)
Abdullah, N.A.P. (UPM), Saleh, G.B., Thohirah, L.A. and Firdaus, M.I.

1050 – 1110 Effects of seeding density and watering duration on growth characteristics and sprouting atmosphere of black gram (*Vigna Mungo* L.) sprouts grown in a chamber
Choon, S.Y. (UPM), Ahmad, S.H., Ding, P., Sinniah, U.R. and Hamid, A.A.

1110 – 1130 Planting containerized ginger (*Zingiber officinale* Roscoe) using fertigation system
Yaseer Suhaimi, M. (UPM), Mahamud, S. and Mohamad, A.M.

1130 – 1150 Corn yield response to seven planting densities and two cropping seasons
Mokhtarpour. H. (UPM), Teh, C. B. S., Saleh, G., Selamat, A.B., Asadi, M. E. and Kamkar. B.

1150 – 1210 Growth performance and physiological characteristics in *Aquilaria malaccensis* plantations differing in site resource availability
Dayana Aisyah, H. (UPM), Hazandy, A.H. and Nor Aini. A.S.

1210 – 1230 Understorey light variations in chronosequence rehabilitated forest stand
Ismail, A. (UPM), Ahmad Ainuddin, N. and Ahmad Makmom, A.

1230 – 1400 LUNCH

SESSION II: ECO-PHYSIOLOGY AND STRESS BIOLOGY
Chairperson: ***Assoc. Prof. Dr. Thohirah Lee Abdullah***

1400 – 1420 Physiological responses to light stress in the epiphytes of *Platycerium Bifurcatum*
Ruzana Adibah, M.S. (UPM), Ahmad Ainuddin, N. and Hazandy, A.H.

1420 – 1440 The use of chlorophyll fluorescence to study the effects of environmental stresses on photosynthesis of *Tristaniopsis fruticosa* in mount Tahan
Azita, A.Z. (UPM), Hazandy, A.H. and Mohd-Zaki, H.

1440 – 1500 Influence of salinity on germination of Iranian Alfalfa Ecotypes
Masoud,T. (UPM), Mohd Ridzwan, A.H., Ahmad Husni, M.H., Uma Rani, S. and Mohd Razi, E.

1500 - 1520 Sources of resistance to *Phytophthora palmivora* in durian
Nik Masdek, H. (MARDI)

1520 – 1700 MSPP 20th ANNUAL GENERAL MEETING

1700 – 1730 POSTER SESSION, EXHIBITION AND REFRESHMENTS

2000 – 2230 DINNER

Sunday 26 July 2009

SESSION III: POST-HARVEST TECHNOLOGY, BIOTECHNOLOGY, MODELLING AND SIMULATION
Chairperson: ***Assoc. Prof. Dr. Siti Hajar Ahmad***

0900 – 0920	Effects of pre-harvest calcium on disease occurrences and quality of red dragon fruit, *Hylocereus polyrhizus* *Muhd Azlan, A.G. (UPM) and Yahya, A.*
0920 – 0940	Activity of cell wall degrading enzymes of Pitaya fruits (*Hylocereus polyrhizus*) as affected by post-harvest calcium treatment *Siti, H.C. (UPM), Yahya, A., Mahmud, T.M.M and Zakaria, W.*
0940 – 1000	Maturity index and respiratory pattern indicate optimal harvesting time and post-harvest handling of *Jatropha curcas* Linn fruit *Silip, J.J. (UMS), Armansyah, H.T., Hambali, H., Sutrisno, and Surahman, M.*
1000 – 1020	Allometric relationship of trees based on ecological grouping in hill dipterocarp forest, Peninsular Malaysia *Mohd Razman, S. (FRIM) and Abd Rahman, K.*
1020 – 1045	REFRESHMENTS
1045 – 1230	BEST POSTER AWARDS PRESENTATION OF CERTIFICATES OF APPRECIATION CLOSING BY THE PRESIDENT OF MSPP
1230 – 1400	LUNCH

P29 EFFECTS OF DIFFERENT SOIL CONSERVATION PRACTICES ON SOIL CHEMICAL PROPERTIES IN A SLOPING LAND OIL PALM PLANTATION

Moradidalini, A.[1,2*], Teh, C.B.S.[2], Ahmad Husni, M.H.[2], Che Fauziah, I.[2] and Goh, K.J.[3]
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[2]Department of Land Management, Faculty of Agriculture, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia.
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Proper soil conservation practices are needed to maintain and improve soil chemical properties in order to sustain soil fertility and oil palm productivity on steep lands. A field experiment was conducted at Balau Estate near Semenyih, Selangor in Malaysia with a slope of 6° where located at 2°55′57″ N and 101°52′56″E. Effects of two organic mulches, Oil palm Empty Fruit Bunches (EFB) and Eco- Mat, and silt pit on some soil chemical properties of a sloping land cultivated with 8-year old oil palm trees were examined. The objective of the experiment was to compare the effects of these conservation practices on several soil chemical properties. The experimental layout was split plot in time and space arranged in a completely randomized block design with three replications. The conservation practices(CP) including EFB, Eco-Mat, silt pit and stacked pruned palm fronds as a control were allocated to the whole plots, soil sampling times (T) and soil depths (D) were considered as sub plot and sub-sub plot respectively. Soil samples from three depths, 0-15, 15-30 and 30-45cm were collected every three months for one year and analyzed for pH, cation exchange capacity(CEC), total carbon, total nitrogen, C:N ratio, available phosphorous, exchangeable- potassium, calcium and magnesium. The ANOVA showed that CP×T ×D effect on soil total C, P and Ca were significant. The CP×T effect on soil CEC, exchangeable K, Mg and C: N ratio was significant. For soil pH, the effect of CP×T was significant at 6 % very close to 5% level. Furthermore, in terms of soil pH, exchangeable K and Mg not only the effect of CP × T, but also the CE × D was significant. There was no significant effect due to conservation practices on soil total N. Means separation test by Least significant difference (LSD) showed that the EFB generally had the highest soil pH and exchangeable K than the other treatments at all of the soil depths and soil total C at 0-15 cm depth for all times. EFB, Eco-Mat and silt pit had the same effect on soil exchangeable Ca at 0-15 cm depth and in compare to control, they increased it significantly. At 15-30 cm depth, EFB increased soil Ca significantly different from other conservation practices three months after field application. However, there were no significant differences among EFB, Eco-Mat and silt pit on soil C and Ca at 30-45 cm soil depth and on soil CEC at all of the soil depths. EFB increased soil exchangeable Mg at all depths significantly different from other conservation practices at average time. Soil P was significantly higher in silt pit at only 0-15 cm soil depth and three months after field application. Eco-Mat resulted in lower C:N ratio than EFB and silt pit but not significantly different from control. While, Eco-Mat was not significantly different from silt pit and control for most of the soil chemical properties, after six months it was as effective as EFB in increasing soil pH. Finally from the results, it can be concluded that the EFB mulch was the best conservation practices among the evaluated ones. Eco-Mat and Silt pit performances were nearly the same and generally not different from control. However, silt pit was the best for increasing soil available P.