



NEWSLETTER

INTERNATIONAL SOCIETY OF OIL PALM AGRONOMISTS (2012)

ISSUE 1/2017

Oct 2017

For Members Only

CONTENTS

Editorial.....	1	ISOPA Activities.....	2-5
Abstracts for ISOPA Mini seminar 2017	6-7		

EDITORIAL

The Malaysian oil palm industry celebrates its centennial year of commercial planting in 2017. The industry had been a major contributor to Malaysia's economy, socio-development and political stability. As a sustainable crop, the oil palm plays a critical role in helping to feed more than three billion people in over 150 countries. It has been credited with reducing poverty and improving living conditions in this progressive nation. Now Malaysia is requiring all oil palm plantations to achieve the Malaysian Sustainable Palm Oil (MSPO) certification standard by 2019. This will ensure that Malaysian plantations adhere to the practices that benefit the planet, as well as the people and economy. As of January 2017, more than one million hectares of Malaysia's oil palm planted area have been certified sustainable.

Oil palm remains a remarkable competitor to other vegetable oil crops in terms of oil yield per hectare and resource use efficiency. The oil palm is highly efficient with a high output-to-input energy ratio; and extremely versatile in its uses, including the biomass waste generated. Agronomists had played an important role since the early days of oil palm cultivation from improved crop husbandry to efficient nutrient management. Numerous trials and experiments had been conducted over the years with the primary aim of improving yields and nutrient uptake efficiency of the crop. Agronomists commitment involved the understanding of nutrient contents in the palm, nutrient demands, response to fertilisers inputs, efficient fertiliser recommendation systems, recycling of biomass etc.

Moving forward, agronomic research should be mutually accomplished with other disciplines such as environmental studies and molecular biology, leading towards sustainable and environmentally friendly practices. In addition, as land is the most important resource in oil palm cultivation, agronomist should also focus on issues pertaining soil security where oil palm has a role in maintaining and improving the world's soil resource which is finite. In facing the increasing demands for oil and fats, oil palm agronomy research had a crucial role to play in further improving oil palm yields especially in marginal growing conditions, whilst re-inventing the agronomic practices that are harmonious to the environment.

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INVITATION FOR ARTICLES

All members and non-members are invited to contribute articles especially on "New Technology in Oil Palm Agronomy".

ISOPA Activities 2016

INTERNATIONAL SEMINAR ON FIELD CLINIC AND COLLOQUIUM OIL PALM BMP FOR CHALLENGING ENVIRONMENTS.

28-29 September 2016.

Marihat, North Sumatra.

Organized by ISOPA, IOPRI and MPOB.

The ISOPA Field Clinic and Colloquium with the theme, "Oil Palm BMP for Challenging Environments" was organized by the International Society of Oil Palm Agronomists (ISOPA), Indonesian Oil Palm Research Institute (IOPRI) and Malaysian Palm Oil Board (MPOB). This field clinic and colloquium is aimed to familiarize participants, especially ISOPA members, with the Best Management Practices (BMP) for sustainable oil palm yield production on marginal soils and hands on training to increase oil palm fruit set using Hatch & Carry technique.

The theme reflects very much on the multiple roles of agronomists in adopting BMP in plantation management with regards to problem soils and low oil palm fruit set that is currently being encountered by planters. Proper understanding of soils has allowed us to exploit marginal soils successfully with specific corrections and proper management of the soil constraints. It must be cautioned however, the cultivation of oil palms on marginal soils requires good managerial skill which entails higher cost.

After more than 30 years of introduction of the pollinating weevil, *Elaeidobius kamerunicus*, the oil palm fruit set in several areas were found to be below 10%. This indicates that pollination by *E. kamerunicus* has not been optimal, likely due to the low population of the weevil.

Objectives

1. To promote Best Management Practices for sustainable oil palm yield in marginal soils.
2. To share information related to Best Management Practices applied on marginal land in Indonesia and Malaysia.
3. To introduce a method for counting the number of *Elaeidobius kamerunicus* and Hatch & Carry technique, a method used to increase oil palm fruit set.

Participants

A total of 68 participants attended the event which covered a field clinic on Oil Palm Fruit Set Analysis and presentation of 4 papers by renown scientists of the industry covering various topics on oil palm best management practices on marginal environments.

Program

Day 1.

Trip to Lake Toba and Samosir Island.

Day 2.

Field Clinic at IOPRI's Station Marihat with the following topics :

- Analysis of oil palm fruit set
- Counting the population of *Elaeidobius kamerunicus*
- Application of hatch and carry mobile.

Trip to Lake Toba and Samosir Island.



Field Clinic at IOPRI's Station Marihat.



ISOPA Colloquium with 4 papers:

1. BMPs of oil palm with monsoonal rainfall and high water deficit (Dr. Suroso Rahutomo – Indonesian Oil Palm Research Institute)
2. Alleviating seasonal water deficit for sustained oil palm production (Ir. Noto E. Prabowo, MSc & Ir. M. Mahadani Lubis – Bah Lias Research Station, PT. PP. London Sumatra Indonesia Tbk.)
3. BMPs of oil palm sandy soil (Dr. Suriyanto – PT. Anglo Eastern Plantation Indonesia)
4. How to optimize oil palm production on marginal land in Malaysia (Dr. Zulkifli Hasim – Malaysia Palm Oil Board).



Closing remarks by Dr Norman Kamarudin, ISOPA President.

Announcement

ISOPA MINI SEMINAR 2017

AND

3rd ISOPA ANNUAL GENERAL MEETING

'BORDERLESS EFFORTS IN ENHANCING OIL PALM PRODUCTIVITY'

15 November 2017
5 - 7 pm

Kuala Lumpur Convention Centre
(KLCC)

**CLOSING REMARKS
FOR INTERNATIONAL SEMINAR ON FIELD
CLINIC AND COLLOQUIUM OIL PALM BMP
FOR CHALLENGING ENVIRONMENTS
BY THE ISOPA₂₀₁₂ PRESIDENT,
DR NORMAN KAMARUDIN.**

28-29 September October 2016, Marihat,
North Sumatra

Distinguished Speakers and Participants
Ladies and Gentlemen
Assalamualaikum and good afternoon

This ISOPA event is held together with the IOPRI-MPOB Pest and Disease seminar, also in conjunction with the 100 years' anniversary of IOPRI. This morning we had a field clinic demonstrating and deliberating on various aspects and factors that affect low oil palm fruit-set (or buah landak) currently faced by the planters both in Indonesia as well as Malaysia, hands-on analysis of oil palm fruit set, counting the population of *E. kamerunicus* and hatch and carry mobile procedures.

Problem with stagnation of yield is another challenge for agronomists to exploit marginal soils with proper best management practices (BMP) which could reduce the effects of climate change, increase productivity at the same time increase the sustainability of the crop for many years to come.

Three of the four papers this afternoon dwells on water and management of water resources. Water is an important element for the oil palm, which provides many benefits and facilitates the uptake of essential nutrients for the wellgrowth of the palm.

BMPs before, during and after incidence of a drought stress such as climate monitoring and evaluation, soil and water conservation, application of organic matter and cover crop management are required to maintain oil palm productivity.

Agronomist should conduct long term field trials with regards to rain harvest, balanced fertilization, potential implementation of irrigation and frond management to alleviate the impact of seasonal water deficits.

Planters should minimize the negative effects of planting oil palm on sandy soils by constructing a big hole system to disturb the hardpan layer as suggested by Dr Surianto. Other BMP's on sandy soils include soil conservation method through cover crop planting and EFB mulching together with better utilization of fertilizers.

In conclusion, various management practices for marginal soils can be exploited for realizing sustainable and profitable oil palm by minimising soil deterioration and erosion, while conserving the biodiversity to enhance the ecosystem services in mitigating the adverse effects of climate change.

Ladies and gentlemen,

This seminar and field clinic has been an excellent platform for sharing of knowledge and exchange of viewpoints. I sincerely hope that we continue to foster cooperation and networking among ISOPA members in this region to further enhance OP productivity.

I would like to congratulate and extend my sincerest gratitude to all the presenters, members of the organizing committee and unfailing efforts from the members from IOPRI, who have contributed so much to organise the field trips, field clinic and this seminar a success. Last but not least to all participants, for your continuous support and commitment. I do hope that the knowledge-sharing and experience will continue to nurture and grow for the benefit of the oil palm industry.

Thank you.

**ABSTRACTS OF PAPERS TO BE PRESENTED
AT ISOPA MINI SEMINAR, 15 November
2017, KLCC.**

**1. INFECTION RATE OF GANODERMA AT
SOME DIFFERENT OIL PALM AREAS
AND CONTROL TREATMENTS**

Agus Eko Prasetyo* and Agus Susanto.
Indonesian Oil Palm Research Institute,

ABSTRACT

Basal stem rot disease caused by *Ganoderma* is the most destructive disease in oil palm plantation in Indonesia. However, the infection rate of *Ganoderma* is depends on the number of its inoculum source. Some different areas, which planted by rubber, cocoa, or oil palm before and didn't planted because low land area had observed at Bukit Sentang Estate while some control treatments toward *Ganoderma* i.e. big hole planting system and surgery and mounding treatment had showed at Bukit Sentang and Aek Pancur Estate, North Sumatra. The parameters were *Ganoderma* disease incidence, number of productive palms and oil palm productivity. The infection rate of *Ganoderma* was high at second generation of oil palm (7.62%/year at 10-13 years old) than ex rubber (at 17-18 years old), cacao (18-21 years old), and swamps (19-21 years old) were 1.06%, 3.81%, and 4.67% per year, respectively. Based on monocyclic disease epidemiology formula, the disease incidence of *Ganoderma* in area ex oil palm, rubber, cocoa, and swamp at 25 years old of oil palm were predicted 64.06%, 12.17%, 15.27%, and 18.56%, respectively. *Ganoderma* was not pathogenic in rubber and cocoa. The

presence of *Ganoderma* causes the amount of productive palms to decrease and reduced the oil palm productivity. The *Ganoderma* disease incidence in big hole and standard hole planting system were 3.29% and 52.35%, respectively at 7-8 years old, while in surgery and mounding treatment, number of death palms caused by *Ganoderma* was only 4.45% compared with no treatment of 14.14% for 4 years at 12 years old. Both of control measures proved to have inhibited the infection rate of *Ganoderma*.

**2. BIOLOGY OF ELAEIDOBIOUS
KAMERUNICUS IN THE LOWLAND AND
HIGHLAND ON NORTH SUMATRA,
INDONESIA**

Tjut Ahmad Perdana Rozziansha1*, Ayu
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Girsang2, Agus Eko Prasetyo1
Indonesian Oil Palm Research Institute

ABSTRACT

After more than 30 years of introduction, *Elaeidobius kamerunicus* was one of the main factor which increases oil palm productivity in Indonesia. Nowadays, due to limited planted areas, the oil palm was not only planted in lowland but also in highland. Several reports showed the highland oil palm productivities lower than lowland, it could be caused a few changes in the biology of the weevil which affect the *E. kamerunicus* activities and population. This research was objected to gain the information about biology *E. kamerunicus* in lowland and highland. This observation was conducted by measuring the biology of egg, larvae, pupae and imago. The results showed the life cycle of

E. kamerunicus was 12.25 ± 0.51 days in lowland and 29.5 ± 8.58 days in highland. The number of egg laid during life was about 69-252 eggs (average 197.97 eggs), the number of eggs laid per day about 1-15 eggs (average 3.60 eggs) in lowland and 15-24 eggs (average 20.36 eggs) during life, 1-15 eggs/female/day (average 3.6 eggs). The *E. kamerunicus* population and activity in highland was lower than lowland, due to temperature, humidity and climate which unsuitable for *E. kamerunicus* development.

3. INSECTICIDES APPLICATION ON CONTROLLING THE POPULATION OF BUNCH MOTH, *Tirathaba rufivena* IN OIL PALM PLANTATION

Mohamad Rosman Sulaiman,
Muhammad Nurul Yaqin Syarif,
Mohamed Mazmira Mohd Masri, Ramle
Moslim, Saharul Abillah Mohamad,
Norman Kamarudin
Malaysian Palm Oil Board

ABSTRACT

Bunch moth also known as *Tirathaba rufivena* is one of the serious pest which attacks young matured palms that leads to serious damage of fresh fruit bunches especially in areas where the pollination is poor. Hence, a study to assess the effects of insecticides such as permethrin, chlorantraniliprole and chlorpyrifos was conducted in a young mature palm Sibuloh, Sarawak. The results showed that treatment using chlorantraniliprole recorded significant difference compared to control plots and other treatments at 7 days after treatment (DAT). The mean of live larvae per sample (LPS) were reduced

from 12 LPS to 0.45 LPS and the population remained below threshold level of 5 LPS until 21 DAT. Significant difference was also recorded in treatment using cypermethrin compared to control plot at 14 DAT until 21 DAT with mean of LPS range from 1.30 to 3.85 LPS. In the plot treated with chlorpyrifos, population of live larvae reduced from 10.29 to 2 LPS as early as 7 DAT compared to control plot. However at 21 DAT, the population started to increase above threshold level with 8.90 LPS. The study showed that all treatments were equally good in controlling the larvae population below the threshold level. The monthly spraying application could be reduced from two to one round using chlorantraniliprole and permethrin. Nevertheless, more comprehensive study need to be carried out by incorporating treatment on mass trapping of adults and also census of the weevil population to evaluate the effects of the chemicals and also its correlation with the fruit set formation.

FOR MORE INFORMATION;

**PLEASE VISIT
ISOPA WEBSITE AT**

<http://isopa.mpob.gov.my>