The first Southeast Asia plant protection conference: Plant protection sciences for future life

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1. Background
The world population continues to increase. In 2018 the world population reached 7.63 billion people and continued to rise in 2019 to 7.71 billion. As consequences there is an increase in demand for agricultural products, especially food products for providing the daily needs. The loss of agricultural products due to pests, diseases and weeds in the world reaches 9%, or equivalent to US $8.05 billion dollars per year.

Countries in the Southeast Asia with characteristics of tropical climate have very high agricultural potential as world food source, while on the other hand the characteristics of tropical agro-climate allow the development of pests, diseases, and weeds, that can cause greater crop damage or loss compared to temperate or sub-tropical countries. Climate change has significant effect on the presence of pests. This requires close cooperation among Southeast Asia countries in facing the impacts of climate change and the threat of pests to the agriculture sector. The development of science and technology has an impact on pest management, such as pest detection and identification systems, estimation of yield loss, techniques for applying pesticides and others have shown very rapid development, especially related to the utilization of satellite image data, spectral technology and drones. Furthermore, efforts to manage crop pests, diseases, and weeds continue to develop in accordance with the development of science and technology.

Knowledge about pest management has mostly developed through research in subtropical countries. These are the models in the management of pests in tropical countries which has a very different agro-climate. Information on pest control technology in tropical countries, a very specifically in the Southeast Asia countries has not been widely developed and communicated. Research results of countries in the region, especially in the field of crop protection has not been well coordinated.

Thus, it is necessary to gather information on the results of research conducted in Southeast Asia countries and to establish a forum for exchanging information among Southeast Asia member countries, for instance in the form of international quality journals related to plant protection. Scopus indexed journal may become a forum for researchers in Southeast Asia including Indonesia to publish the research result so that they can be used as references by the international community.
2. Objective of the conference
The objectives of the conference were:
1. To collect current knowledge related to plant protection
2. To exchange information among scientists in SOUTHEAST ASIA countries, especially on the research finding related to the field of plant protection
3. To conduct a routine two-year period of conference on plant protection that will be held in turns among countries in Southeast Asia
4. To produce scopus-indexed international proceedings from the implementation of the conference as a media to disseminate research findings
5. To build an agreement between scientists in the field of plant protection in SOUTHEAST ASIA countries to publish an international journal in the field of plant protection.

3. Conference activities
The conference consisted of paper presentations by keynote and invited speakers (Table 1); followed by 5 parallel session of paper presentation by participants. During the conference, posters of scientific paper were also displayed as well as product promotions by partner companies.

Table 1. List of Keynote and Invited Speakers Attended the 1st Southeast Asia Plant Protection Conference 2019.

| Keynote Speaker                | Institution                  | Topics                                           |
|--------------------------------|-------------------------------|-------------------------------------------------|
| Prof. Dr. Ir. Arif Satria, M.Si| Rector of IPB University (Indonesia) | Agriculture 4.0                                 |
| Invited Speaker               | Institution                  | Topics                                           |
| Dr. Ir. Suryo Wiyono, M.Sc.Agr| IPB University (Indonesia)    | Building new phase of IPM in Indonesia           |
| Prof. Dr. Chiharu Hongo       | Chiba University (Japan)      | Remote sensing for future protection on crop    |
| Prof. Dr. Christian H. Schulze| Vienna University (Austria)   | Archipelagic biodiversity                        |
| Dr. Christopher Wheeler       | Provivi Inc. (USA)            | Mating disruption: A tech for crop protection   |
| Dr. Nur Azura Adam            | University Putra Malaysia (Malaysia) | Implementation of biological control method in pest management: challenges and opportunities |
| Dr. Marita Sanfuego P.        | University of the Philippines Los Baños (Philippines) | Identification and characterization of sources of resistance to major diseases from native corn germplasm in the Philippines: a mechanism of disease mitigation in support to the rice-corn sufficiency program in the country |
| Lakshmipathi Srigiriraju, Ph.D| Provivi Inc. (USA)            | Adoption of advanced technologies to manage invasive insect pests – mating disruption as a foundation to manage fall armyworm on corn |
4. Time and venue
The conference was held on Wednesday, August 14th 2019 in IPB International Convention Center (IICC), Bogor, Indonesia (Table 2).

| Date     | Time       | Activity                                                                 |
|----------|------------|--------------------------------------------------------------------------|
| August   | 08.00-08.40| Registration                                                             |
| 14th 2019|            | Opening                                                                  |
|          | 09.00-09.15| Chairman of the Conference: Dr. Giyanto (report of the activity)          |
|          | 09.15-09.35| Rector of IPB University: Prof. Dr. Ir. Arif Satria, M.Si (Opening Ceremony) |
|          | 09.35-10.00| Keynote Speech: Prof. Dr. Ir. Arif Satria, M.Si                          |
|          | 09.15-09.35| Dr. Suryo Wiyono, M.Sc.Agr (Indonesia)                                   |
|          | 10.00-11.30| Prof. Dr. Christian H. Schulze (Austria)                                 |
|          |            | Prof. Dr. Chiharu Hongo (Japan)                                          |
|          |            | Dr. Christopher Wheeler (USA)                                            |
|          | 11.30-12.30| Poster Session (40 poster)                                               |
|          | 12.30-13.30| Lunch Break                                                              |
|          | 13.30-14.30| Parallel Session 1 (5 parallel class @ 5 speakers)                       |
|          | 14.30-15.30| Parallel Session 2 (5 parallel class @ 5 speakers)                       |
|          | 15.30-16.00| Coffee Break                                                             |
|          | 16.00-17.00| Parallel Session 3 (5 parallel class @ 5 speakers)                       |
|          | 17.00      | Closing Ceremony                                                         |
5. The participants and scopes of conference
The participants of SEAPPRO 2019 came from the host country, Indonesia and other countries including United State of America, Austria, Japan, Malaysia, and Philippine. In total, there were 217 participants consisted of oral and poster presenters (130 participants) and attendant participants. The conference was divided into 8 main topics, i.e. (1) Smart pests management, (2) Emerging pests and diseases, (3) Invasive species, (4) Biological control and pheromone, (5) Policy and social economic aspects of plant protection, (6) Pests, diseases and weeds management, (7) Molecular biology, and (8) Modelling and forecasting.

6. Organizer
The conference was organized by The Departement of Plant Protection, Faculty of Agriculture, IPB University in collaboration with The International Society for Southeast Asian Agricultural Sciences (ISSAAS) chapter Indonesia, Universiti Putra Malaysia (UPM). The conference was supported by Indonesian Phytopathological Society chapter Bogor, and Entomological Society of Indonesia chapter Bogor.

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