

PROCEEDINGS

PERIPI-2017 International Seminar

Sustainable Use of Genetic Resources for Quality and Productivity Improvement



October 2nd, 2017
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Bogor, Indonesia

PERIPI
Indonesian Breeding Science Society
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Proceedings of PERIPI-2017 International Seminar

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Sustainable Use of Genetic Resources for Quality and Productivity Improvement

Organizing Committee:

Chairperson – Desta Wirnas, Vice Chairperson – Awang Maharijaya, Secretary – Anggi Nindita, Treasurer – Siti Marwiyah, Member – Syarifah Iis Aisyah, Megayani Sri Rahayu, Trikoesoemaningtyas, Yudiwanti Wahyu, Willy Bayuardi

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Foreword from the Chairman of the Organizing Committee

Rector of the Bogor Agricultural University, Dean of the Faculty of Agriculture, Distinguished Speakers, PERIPI members, honored guests, participants, audiences, good morning and good wishes to all of us.

The Indonesian Breeding Science Society (PERIPI) organized a National and International Seminar as well as PERIPI Congress on 2-3 October 2017 in Bogor with the theme "Sustainable Use of Genetic Resources for Productivity and Quality Improvement". The seminar and congress were held in collaboration with the Center for Tropical Horticulture Study, Bogor Agricultural University.

The objectives of this seminar and congress are to: (i) to bring together ideas on the role of genetic resources to improve productivity and quality, (ii) to present research results from PERIPI members to disseminate in the form of proceedings of seminars, (iii) to improve cooperation network among members PERIPI, and (iv) to consolidate the organization while strengthening cooperation with all stakeholders and beneficiaries.

Scientific papers are presented in oral or poster form for national seminars in Indonesian language or for international seminars in English language. All scientific papers presented are 236 consisting of 61 international oral papers, 28 international posters, 93 national oral papers, and 54 national posters. The scientific papers are grouped into 6 fields, i.e (1) Exploration, conservation, and characterization of plant genetic resources, (2) Increasing plant genetic diversity, (3) Development of superior varieties and plant strains, (4) Genomic studies and molecular-based plant breeding, (5) Seed technology, and (6) Animal breeding.

PERIPI annual meeting is attended by researchers, faculty and students from various universities and research institutes throughout Indonesia, the private sector and practitioners, policy makers and all stakeholders and beneficiaries who are interested and concerned in the field of breeding.

On behalf of the committee, please allow me to thank to the Center for Tropical Horticulture Study, Bogor Agricultural University, as a co-host, also to the Department of Agronomy and Horticulture, Faculty of Agriculture, Bogor Agricultural University. We also thank the sponsors: PT Alphasains, PT East West Seed Indonesia, PT BISI International Tbk., PT Sampoerna Agro Tbk., PT Astra Agro Lestari Tbk, and SABRAO regional secretariat of Indonesia, which has supported this event.

Congratulations seminars and congresses, good luck.

Bogor, October 2nd 2017

Chairman of the organizing committee

Dr Desta Wirnas

Welcoming Address from the President of PERIPI (Indonesian Breeding Science Society)

The Honorable Rector of Bogor Agricultural University, the Dean of the Faculty of Agriculture, Distinguished Speakers, dear Colleagues of PERIPI Regional Commissariats, Honorable Guests, Participants, Ladies and Gentlemen,

***Assalaamu'alaikum Warahmatullaahi Wabarakaatuh,
Good Morning***

We are indeed honored to have you here with us. Welcome to Bogor.

First of all let us give thanks to a loving and merciful God that today we are given health and happiness so that we can gather to attend National and International Seminar and PERIPI Congress 2017. This activity is one of the most important activity for PERIPI as the only society of breeding professions in Indonesia.

PERIPI was founded in 1976 by a number of breeders in a seminar in Lembang, Bandung. The year 2017 is the 8th PERIPI Congress. The purpose of PERIPI is to continuously improve breeding science in Indonesia. This means that PERIPI together with the Government and all stakeholders are involved in managing genetic resources, developing breeding science, fostering human resources, establishing the systems and regulations necessary for the advancement of breeding, as well as promoting the results of breeding to be useful for the community. Currently the number of PERIPI members is about ± 1000 people spread across Indonesia, which consists of researchers, academicians, practitioners, bureaucrats and observers. The members are organized in 18 Regional Commissariats.

Ladies and Gentlemen,

National and international seminars on the theme "Sustainable Use of genetic resources to improve productivity and quality" is very relevant to the condition of Indonesia and the world today. Optimal management of genetic resources is expected to respond to global challenges that are very dynamic as a result of climate change due to the influence of Greenhouse Gases (GHG) and free trade. It can be achieved, one of them, if a reliable seed and seed industry is built on the results of research using domestic genetic resources (SDG). Breeding based on local genetic potential is one way to produce high-adapted varieties in various environments.

In order to realize food security and overcome the threat of world food crisis, we must be able to increase productivity and production of agriculture, livestock and fisheries. One of the prerequisites to achieve this is the availability of competent human resources to develop superior varieties, superior fish lines and superior livestock that are productive, adaptive, tolerant to abiotic environmental stress and resistant to pests and diseases.

Breeders have been heavily involved in developing superior varieties, fish and livestock and have made a real contribution to improving national and world productivity and quality of life. The role of the breeders in realizing the green revolution and self-sufficiency of rice is unquestionable. The superior varieties

followed by the technology package have spared the world from starvation. Thus, the breeder is the front guard in overcoming the world food crisis.

In the future, the role of breeders will certainly be even greater, especially in realizing independence in seed / breeding to realize sustainable food sovereignty. Facing the nation's future challenges, the development of breeder human resources is essential. The quality of human resources can be improved through professional certification. The breeder's profession certification is conducted in order to apply the breeder's professional standard to demonstrate that the certificate holder is capable of performing a breeder's work. Thus, a breeding certification body should be established.

Honorable Guests, Ladies and Gentlemen,

As we have said before that one of the activities of PERIPI is to socialize the results of breeding to be useful for the community. Breeding results that have been done for years, with cost and energy that is not small, will be very wasteful if not introduced to the community. This activity is part of the dissemination of the results of breeding research activities.

In addition to the seminar, another series of activities is the 8th PERIPI Congress. This Congress will elect the Chairman of PERIPI Period 2017-2021. Congress participants are representatives of 18 Regional Commissioners of PERIPI, representatives of the PERIPI Advisory Board and representatives of PERIPI Period 2013-2017.

We hope this seminar and congress will benefit all parties.

PERIPI would like to express special appreciation to the Center for Tropical Horticulture Studies, Bogor Agricultural University, as co-host, for the cooperation and contribution toward the commencement of this seminar.

We would like to express our thank and gratitude to our sponsors; PT. Alphasains, PT East West Seed Indonesia, PT. BISI Internasional Tbk., PT Sampoerna Agro Tbk., PT. Astra Agro Lestari Tbk, and SABRAO Regional Secretary for Indonesia, for their support. We hope to have a continued collaboration to strengthen breeding science in Indonesia.

To Dr Desta Wirnas, and the members of the organizing committee, I would like to thank you and congratulate on the commencement of this seminar. To all participants please use this opportunity to interact with each other to the full during this seminar and exchange your experience and create ideas for the future of plant breeding.

Bogor, October 2nd 2017

President of PERIPI
(Indonesian Breeding Science Society)

Professor Sobir

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09.15-09.30	Opening Ceremony	Rector of Bogor Agricultural University	Ballroom 1
09.30-10.00	Keynote Speech	Prof Dr Bunjamin Tar'an, MSc (University of Saskachewan, Canada) <i>Genomic Studies in Germ Plasm Utilization</i>	Ballroom 1
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10.00-10.20	Invited Speaker	Prof. Ghizan Bin Saleh (University of Putra Malaysia) <i>Utilization of Genetic Resources for Breeding of Vegetable Crops in Malaysia</i>	Ballroom 1
10.20-10.40	Invited Speaker	Ir Asep Harpenas (PT East West Seed Indonesia) <i>Germplasm Management for the Development of Horticultural Varieties Based on Consumer Preference</i>	
10.40-11.00	Invited Speaker	Prof Dr Sobir (Bogor Agricultural University) <i>Genetic Stability Analysis, Strategy for Climate Change Adaptation</i>	
11.00-11.30	Discussion	Moderator: Prof Dr Muladno	
11.30-12.00	Poster viewing		Ballroom 3
12.00-13.00	Lunch Break		Ballroom 3
13.00-14.00	Parallel Session I		Meeting rooms
14.00-15.00	Parallel Session II		Meeting rooms
15.00-15.30	Poster Session and Coffee Break		Ballroom 3
15.30-16.30	Parallel Session III		Meeting rooms
19.00-21.00	National Congress of PERIPI		TBA

The Committee

Steering Committee:

1. Prof Dr Sobir (The President of Indonesian Breeding Science Society - PERIPI)
2. Dr Ir Dwi Asmono (Director, PT Sampoerna Agro Tbk)
3. Prof Dr Ir Surjono Hadi Sutjahjo (Head of the Division of Genetic and Plant Breeding, Bogor Agricultural University)
4. Dr Ir Agus Purwito, MScAgr (Dean of the Faculty of Agriculture, Bogor Agricultural University)
5. Dr Ir Sugiyanta, MSi (Head of the Department of Agronomy and Horticulture, Bogor Agricultural University)
6. Dr Ir Darda Efendi, MSc (Director of Center for Tropical Horticulture Studies, Bogor Agricultural University)
7. Dr Ir Agung Karuniawan (Chairman of the West Java Regional Commissariat of PERIPI)

Scientific Committee:

1. Prof Muhammad Syukur (Bogor Agricultural University)
2. Prof Muladno (Bogor Agricultural University)
3. Prof Ismet Inounu (Indonesian Research Institute for Animal Production)
4. Prof Iskandar Zulkarnain (Bogor Agricultural University)
5. Prof Bambang S Purwoko (Bogor Agricultural University)
6. Prof Sudarsono (Bogor Agricultural University)
7. Dr Hajrial Aswidinnoor (Bogor Agricultural University)
8. Dr Alimudin (Bogor Agricultural University)

Organizing Committee:

Chairperson	: Desta Wirnas
Vice Chairperson	: Awang Maharijaya
Secretary	: Anggi Nindita
Treasurer	: Siti Marwiyah
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Fund Raising and Sponsorship	: Asep Stiawan Syarifah Iis Aisyah

Hospitality	: Megayani Sri Rahayu Maryati Sari Juang Gema Kartika Pipit Werdiwati
Seminar Program	: Trikoesoemaningtyas Dewi Sukma Sulassih Hapidz Baidowi
Manuscript and Proceeding	: Yudiwanti Wahyu Darda Efendi Anneke Anggraeni Arya Widura Ritonga Shandra Amarilis
Web Manager and Publication	: Willy Bayuardi Kusuma Darma Saiful
Poster and Exhibition	: M Rahmad Suhartanto Ni Made Armini Wiendi Diny Dinarti Eka Septian Rahman
Competition of Poster and Oral Presentation	: Sintho W Ardie Ketty Suketi Adolf Pieter Lontoh Neni Rostini Bahagiawati Endang Gunawan
Accommodation and Logistics	: Hafith Furqoni Naekman Naibaho Nurwanita Ekasari Putri Iansyah Wibisono Bagas Akmal Putra Usamah Jaisurahman Rizki Anjal Heni Rusmiyati Tyas Arlianti Suryadi Daniel Jorex Momongan

List of Oral Presentation Titles

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O1-2	Rina Kartikawati, Miranti Ariani, Anicetus Wihardjaka, Prihasto Setyanto	Characteristic of Rice Variety for Low Greenhouse Gases (GHGs) Emission in Facing the Challenges of Climate Change and National Food Security
O1-3	Maria Stefanie Dwiyanti, Cheol Woo Park, Jun Abe	Genetic Analysis Underlying High Alpha-Tocopherol Content in Wild Soybean
O1-4	Rizki Anjal Puji Nugroho, Muhamad Syukur, Willy Bayuardi Suwarno	Genetic Modeling in Shape and Color of Kernel trough Quantitative and Qualitative Method in Crossing between Sweet Corn and Flint Corn
O1-5	Sakka Samudin, Enny Adelina, Yusran	Early Detection of Local Upland Rice Resistance to Drought
O1-6	Isnaini, Isna Rahma Dini, Aslim Rasyad	Genetic Diversity and Relationship Among Local Rice Accessions in Regency of Kampar, Riau Based on Morphological Characters
O1-7	Andari Risliawati, Hakim Kurniawan, Mat Sohan, Nurul Hidayatun	Development of Sorghum Core Collection Based on Phenotypic Traits in IAARD Genebank
O1-8	Sesilia Anita Wanget, Neni Rostini, Agung Karuniawan, Sugijono Moeljopawiro	Genetic Diversity of Local Groundnut Varieties Based on Agronomic Characters
O1-9	Azri Kusuma Dewi, Ita Dwimahyani, Reflinur	Characteristic of Kewal Local Rice Mutant Lines to Yield and Yield Components and Their Genetic Relationships Using STS Markers
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O1-11	Agung Karuniawan, TA Ulimaz, Kusumiyati, E Yulia, F Widiyantini, N Wicaksana, Dudi, T Suganda	Early Identification on the Genetic Diversity of Indonesian Butterfly Pea Accession as Colorant Food Based on Morphological Traits
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No	Authors	Title
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O3-38	Nailan Nabila, Yudiwanti Wahyu, Winarso Drajat Widodo	Correlation and Path Analysis of Baby Corn Traits in Field Corn and Sweet Corn Types
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