



**The ninth International Conference on
Integration of Science and Technology for Sustainable
Development (9th ICIST 2021)**
Faculty of Agricultural Technology, King Mongkut's Institute of
Technology Ladkrabang (KMITL), Bangkok, Thailand.
November 19, 2021


This
CERTIFICATE OF MERIT


is hereby awarded to

Reny Herawati

as Oral Presenter

at the ninth International Conference on Integration of Science and
Technology for Sustainable Development (9th ICIST 2021) held at the
Faculty of Agricultural Technology, King Mongkut's Institute of
Technology Ladkrabang (KMITL), Bangkok, Thailand
on November 19, 2021


Hiroyuki Konuma, Ph.D.
Chairman of International
Organizing Committee


Kasem Soyong, Ph.D.
Founder and President
AATSEA



The 9th International Conference on Integration of Science and Technology for Sustainable Development 2021 (9th ICIST 2021)

Ref 08/024

Dear Reny Herawati,

The acceptance letter

I would like to inform that your title of presentation **“Field Evaluation of Blast Resistance on Inbred Lines Rice Derived from Crossing Bengkulu Local Varieties”** is accepted for oral presentation at the 9th International Conference on Integration of Science and Technology for Sustainable Development 2021 (9th ICIST 2021) through Webinar-zoom in November 19, 2021 which will be organized from Faculty of Agricultural Technology, King Mongkut’s Institute of Technology Ladkrabang (KMITL), Bangkok, Thailand.

Due to COVID19 situation worldwide has still seriously distributed epidemically. All presenters must submit the full texts to us not later than 15 September 2021.

All participants request to submit the recorded presentation as MP4 file for 15-20 min not later than 15 October 2021. You can see the guideline for powerpoint save to video file (.MP4) in www.aatsea.com.

We will upload your presentation as MP4 recorded file at the presentation date and time and you must online to appear at that time for questions and answers after displaying your presentation. This is to avoid the interrupted internet during presentation time.

Please clearly inform us your full text will be needed to publish in Conference Proceedings or International Journal of Agricultural Technology (IJAT) indexed by SJR-Scopus, Q4. All full texts must proceed for evaluation process of peer review.

With this, a draft of scientific program is attached herewith.

I am looking forward to hear you and thank you very much for supporting AATSEA.

Yours sincerely,


Rujira Tongon
General Secretariat

FOREWORD

Association of Agricultural Technology in Southeast Asia (AATSEA) is non profitable organized which the aim to support agricultural societies to meet the sustainable development goals (SDGs) and has been organized International Conference on Integration of Science and Technology for Sustainable Development (ICIST) since 2011 which starting from Thailand to Laos, Vietnam, Myanmar, Philippines, Indonesia, China and this time is being in Thailand.

The ICIST Organizing Committee welcome all participants to the 9th International Conference on Integration of Science and Technology for Sustainable Development held at Faculty of Agricultural Technology, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand in 19 November 2021.

AATSEA concerns the recent advanced research and progress development in science and technology with the theme "Soil, water and environmental conservation, biological diversity, food safety, food security, and sustainable agriculture" in this year.

Due to COVID19 situation worldwide has still distributed epidemically. We agree to organize the 9th ICIST 2021 as online presentation through Webinar-zoom. All participants request to present their research through the recorded presentation with MP4. This is to avoid the interrupted internet during presentation time. The full texts must be evaluated by of peer review to publish either in conference proceedings or International Journal of Agricultural Technology (IJAT) indexed in SJR-Scopus, Q4.

The theme of the conference is aptly chosen to address the current needs for academic, research and farm demands for further development and improvisation.

The integration of various topics in science and technology in agriculture is needed to build up the sustainable development goals (SDGs) of human being. As being a resource of knowledge, AATSEA realizes that it is responsibility to serve the community by providing education, research and development in science and technology, particularly in the multi-disciplinary aspects. Accordingly, this conference is targeted to initiate an international network among academic members, researchers, scientists and interesting peoples in science and technology. It is aimed to a venue for knowledge exchange and discussion among those seeking for new vision and insight in all topics related. For the technical point of view, the conference will be explored various topics as following oral sessions: Organic Agriculture and Related Fields, Microbial technology, biodiversity and food technology, Animal, Fishery Sciences and related fields, Entomology and related fields, Agricultural Sciences and biology, Environmental science, agricultural education and development, Advanced Research in Agricultural and Biological Sciences for Sustainable development goals (SDGs), Advanced Research in Biological Agriculture, and Advanced Development in Agricultural Sciences.

This year, there will be 10 plenary and keynote speakers, 206 oral presentations a from 22 countries. The 9th ICIST 2021 are organized by Association of Agricultural Technology in Southeast Asia (AATSEA), Faculty of Agricultural Technology, King Mongkut's Institute of Technology Ladkrabang, KMUTL (Thailand), Bengkulu University (Indonesia),

General Incorporated Association for the Promotion of Self-reliance in Asia (GIAPSA, Japan), Bio-Agritech Co Ltd (Vietnam), CGC organic coffee (Laos), Shwe Bio Hi-tech (Cambodia), Kant Kaw, SKK (Myanmar), Society for Applied Biotechnology (India), Rajamangala University of Technology Tawan-ok, Chantaburi Campus (Thailand), Rambhai Barni Rajabhat University (Thailand) and CAS Asian Agriculture Bio Engineering (PR China). AATSEA committee would like to give special thanks to all co-organizers who has been constantly supported our activities and be hosted our conference.

Academicians, researchers, policy makers as well as extension experts who contributed their expertise, experiences and research results to this conference. May the book of abstracts and proceedings provide useful information and serve to be references for those who are interested in the specific discipline.

Finally, We would like to thaks to all organizing committee, agencies, speakers, participants and to whom it may concerns in this conference to be successfully managed. Hopefully all of you will continue to support AATSEA activities to build up and sacrifice work to the society in the future.

Kasem Soyong

President, AATSEA

Welcome Address

by

Hiroyuki Konuma (Ph.D.); Executive Director of GIAPSA (and former UN/FAO Regional Representative for Asia and the Pacific and former Professor of Meiji University, Japan). Dr. Kasem Soyong, President of AATSEA and the Organizer of 9th ICST 2021, Dr. Thogchai Putthongsiri, Dean of Faculty of Agricultural Technology, King Mongkut's Institute of Technology, Ladkrabang (KMUTL). Distinguished Guests, Participants, Ladies and Gentlemen, I have the honor to welcome you all to the 9th International Conference on Integration of Science and Technology for Sustainable Development 2021. Despite of various constraints and disadvantages associated with New Coronavirus pandemics, I can see over 200, indeed, so many scientists from 24 countries registered for participation and ready for making presentations during this conference. This is something like a miracle. I never thought such a hug number of participants.

In this connection, I wish to express my sincere gratitude to Dr. Kasem and his able staff for the preparation. My special thanks goes to the Faculty of Agricultural Technology, King Mongkut's Institute of Technology, Ladkrabang which has kindly hosted this conference venue. I wish to acknowledge my deep gratitude to the members of organizing committee for their contributions, all co-organizers and co-sponsors for their valuable support, all participants for their interest, commitments and active participation, and all those who provided valuable support for the successful organization of this event today.

Ladies and gentlemen, As you are aware, when it started 6 years ago, we have committed to achieve Millenium Development Goals (MDGs) by 2030. Now, we have only 9 years left to reach the deadline. Yet, there are little progress in many cases nor in some cases, the situation is actually worthening. SDG goal No. 2 that is to ending hunger, food insecurity and all forms of malnutrition by 2030, is not an exception. We are facing increased number of conflicts and civil wars, negative impacts of climate changes, and worthening the impacts of natural disasters including infectious diseases such as Covid-19.

COP26 held recently reminded us that there would be increased frequency of extreme weather events towards year 2100, if we do not keep average global temperature increase at 1.5 Degrees Celsius or below from pre-industrial levels. Yet, contrary, we may face an increase of 2.4 Degrees Celsius by year 2100, if we continue with present pace of greenhouse gas emission. Can you imagine how many extreme weather events such as droughts, floods, cyclones, etc., might occur and how they would negatively impact our agriculture and food security. UN estimates that nearly 690 million global undernourished (hungry)population existed in early 2020 would have increase by 132 million to 822 million by the end of same year (16 % increase in one year), and acutely food insecure people, or people at a risk of starvation, would have increased from 149 million in early 2020 to 271 million in November 2020 (nearly 50% increase in one year) due to Covid-19 pandemics. Indeed, it affected seriously in food systems such as transport and marketing, high food production cost and food price increase, agricultural labor shortage, etc., while purchasing power of people especially those living in urban

areas declined considerably. It also created widening the gap and inequality between those who lost jobs and negatively affected by COVID19, and those who didn't.

In addition, we should not forget that we have been experiencing various constraints and uncertainties in food production and food security, such as the stagnation of expansion of arable lands, increasing scarcity of water resources, stagnation of crop productivity growth, loss of bio-diversity, high food losses and waste, and negative impacts of natural disasters and climate changes, while as United Nations FAO predicted that global food production needs to be increased by 49% by the year 2050 from the level in 2012 to meet increasing population and food demands at that time. FAO also stated clearly that almost all (nearly 90 %) of food production increase is expected to come from existing arable lands by yield increase through harnessing agricultural research and improved farm management technology. If we are unable to achieve this challenging goal, the world, especially the people in food deficit developing countries would face serious food shortage and starvation, and the world security and stability would be seriously jeopardized. Indeed, it is science and technology which have a solution to solve our future problems. This includes meeting the challenges of Covid-19 and global warming. We all should recognize that "Science and technology" are such an important sector which would play a key role in feeding the future world and ensuring world peace and stability.

In this occasion, I wish to congratulate our researchers and scientists, including young researchers who are present today and who have committed to contribute in research, science and technology as a professional carrier towards achieving sustainable development of the world.

Ladies and Gentlemen, Overall, with the combination of serious impacts caused by Covid-19 pandemics and slow progress in reducing greenhouse gas emissions, it is safe to say that we are facing unprecedented multi-dimensional challenges combine by different factors, It is the time for research, science and technology in harnessing their role. They must be integrated and play an inter-sectoral approach with increased investment, collaborative research and concerted efforts among all actors including those from governments, academic/research institutions and private sectors. This international conference organized every year, brings all actors together, reaffirm the importance of wider-range of collaboration and joint efforts. Thank you Dr. Kasem for your dynamic leadership and tireless efforts.

Before closing, I wish to thank all participants in joining this important gathering, and I will look forward for a successful deliberations and outcomes.

Thank you.

Hiroyuki Konuma

Executive Director of GIAPSA

Opening address

Dear All participants, On behalf of Faculty of Agricultural Technology, King Mongkut's Institute of Technology Ladkrabang (KMITL), Bangkok, Thailand, I wish to welcome all participants for participating the 9th International Conference on Integration of Science and Technology for Sustainable Development (ICIST) in 19 November 2021. I know that the ICIST has been organized every year in many countries eg. Laos, Vietnam, Myanmar, Philippines, Indonesia and China.

This year, it is very good opportunity to our faculty to be hosted this conference together with Association of Agricultural Technology in Southeast Asia (AATSEA), Faculty of Agricultural Technology, King Mongkut's Institute of Technology Ladkrabang, KMITL (Thailand), Bengkulu University (Indonesia), General Incorporated Association for the Promotion of Self-reliance in Asia (GIAPSA, Japan), Bio-Agritech Co Ltd (Vietnam), CGC organic coffee (Laos), Shwe Bio Hi-tech (Cambodia), Kant Kaw, SKK (Myanmar), Society for Applied Biotechnology (India), Rajamangala University of Technology Tawan-ok, Chantaburi Campus (Thailand), Rambhai Barni Rajabhat University (Thailand) and CAS Asian Agriculture Bio Engineering (PR China).

The conference organizes thru online presentation in Webinar-zoom with the theme of the conference is "Soil, water and environmental conservation, biological diversity, food safety, food security, and sustainable agriculture".

I welcome all participants from 23 countries with 10 keynote speakers and 206 oral presentation in 11 sessions to be successfully organized. I would like to thanks to all co-organizers, organizing committee, keynote speakers, oral presenters and participants to join 9th ICIST2021.

Finally, I am very much appreciated for further collaboration to develop science and technology in agriculture with our faculty in the future, and hopefully the 9th ICIST 2021 will successfully managed. Thank you very much and stay with good health.

Thogchai Putthongsiri,
Dean of Faculty of Agricultural Technology (FAT),
KMITL

9th ICIST 2021

Organized by

Association of Agricultural Technology in Southeast Asia (AATSEA), Faculty of Agricultural Technology, King Mongkut's Institute of Technology Ladkrabang, KMITL (Thailand), Bengkulu University (Indonesia), General Incorporated Association for the Promotion of Self-reliance in Asia (GIAPSA, Japan), Society for Applied Biotechnology (India), Bio-Agritech Co Ltd (Vietnam), Bio Hi-tech (Cambodia), CGC organic coffee (Laos), Shwe Kant Kaw, KKS (Myanmar), Rajamangala University of Technology Tawan-ok, Chantaburi Campus (Thailand), Rambhai Barni Rajabhat University (Thailand), CAS Asian Agriculture Bio Engineering (PR China),

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Dr. Hoang Pham (Vietnam)

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Prof. Dr. Vadim Fedorov (Russia)

Chen Yi Sung (Taiwan)

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Maxim Mitrokhin (Russia)

Prof. Dr. Oksana Belous (Russia)

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Asst. Prof. Sampan Promhom (RMUT, Srivijaya)

Assoc. Prof. Dr. Adisak Singseewo (MSU)

Assoc. Prof. Dr. Anurug Poeaim (KMUTL)

Prof. Dr. Kwanjai Kanokmedhakul (KKU)

Assoc. Prof. Dr. Rungtawan Yomla (KMUTL)

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Chantaburi)

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Chantaburi)

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Vice-General Secretariat: Ms. Rungrat Vareeket (Thailand)

Master of ceremony (MC): Asst. Prof. Dr. Jakrapan Wongpa, Dr. Wanlada Klangnurak

Financial management: Dr. Rujira Tongon (Thailand)

Food & Coffee break, reception: Ms. Rungrat Vareeket (Thailand), Mr. Pheaktra Phal (Cambodia)

Proceedings and souvenirs: Dr. Rujira Tongon (Thailand)

Audiovisual, Photographer, IT and Session Convenors:

Mr. Akkharat Jantub

Mr. Sarayos Puangkrasear

Mr. Piyawat Srisawat

Mr. Attasit Wattanakitpisan

Mr. Komgrich Khamsor

Mr. Pisit Vinichayakul

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Mr. Athipu Mongkolkachit

Mr. Nares Srijad

Mr. Noraset Yimprasert

Mr. Manop Vandee

Mr. Sommart. Yoosukyingsataporn

Oral Session: Dr. Jiaojiao Song (China), Dr. Rujira Tongon (Thailand)

Session Chair and co-chairpersons

Plenary and Keynote Speakers

Chair: Dr. Kasem Soyong

Session 1

Chair: Prof. Nanik Setyowati (Indonesia)

Co- Chair: Dr. TSSK Patro (India), Dr. Bancha Wiangsamut (Thailand), Dr. Lampan Khurpoon (Thailand), Dr. Teerawat Sarutayophat (Thailand)

Session 2

Chair: Prof. Mohamad Chozin (Indonesia)

Co- Chair: Prof. Lalitha, S. (India), Prof. Tatik Suteky (Indonesia), Dr. Suprattra Poeaim (Thailand), Dr. Nonglak Parinthawong (Thailand)

Session 3

Chair: Prof. Zainal Muktamar (Indonesia)

Co- Chair: Dr. Sutisa Chaikul (RBRU), Dr. Duanrung Benjamas (RBRU), Dr. Anurug Poeaim (Thailand), Dr. Rungtawan Yomla (Thailand)

Session 4

Chair: Prof. Fahrurrozi Fahrurrozi (Indonesia)

Co- Chair: Dr. Ronachai Sitthigripong (KMUTL, Thailand), Dr. Bhutharit Vittayaphattananurak Raksasiri (SU), Dr. Yardrung Suwannarat (RBRU)

Session 5

Chair: Prof. Dwi Wahyuni Ganefianti (Indonesia)

Co- Chair: Dr. Chongko Saetung (RMUTTO), Dr. Gopi Krishnan (India), Dr. N. Emmanuel (India), Dr. Kamronwit Thipmanee (KMUTL, Thailand)

Session 6

Chair: Dr. Danilo Josue (Philippines)

Co- Chair: Dr. Teodoro C. Mendoza (Philippines), Prof. Dwatmadji (Indonesia), Dr. Kannikar Charoensuk (RMUTTO, Thailand), Dr. Komkhae Pilasombut (KMUTL, Thailand)

Session 7

Chair: Dr. Preeyanan Sittijinda (Thailand)

Co- Chair: Dr. Adisak Singsewo (Thailand), Dr. Phattraporn Soyong (Thailand), Joselito Dar (Philippines), Prof. Dr. Pakkpong Pongsuk (Thailand)

Session 8

Chair: James Kennard Jacob (Philippines)

Co- Chair: Prof. Somdej Kanokmadhakul (KKU, Thailand), Dr. Raphael Okigbo (Nigeria), Dr. Wanlada Klangnurak (KMUTL, Thailand), Rungrat Vareeket

Session 9

Chair: Dr. Wikanya Prathumyot (RBRU)

Co- Chair: Prof. Sridhar Kandikere (India); Dr. Jatuporn Aroonkamonsri (RMUTTO); Dr. Somlit Vilavong (Lao PDR);
Dr. Jiaojiao Song (China)

Session 10

Chair: Dr. Naruemon Mongkontanawat (RMUTTO)

Co- Chair: Prof. Ivan Tarakanov (Russia), Dr. Nithya Priya (India); Dr. Rujira Tongon (Thailand)

Session 11

Chair: Dr. Hoang ND Pham (Vietnam)

Co- Chair: Dr. Wichai Supalucksana (Thailand), Dr. Virapol Jamsawat, (Thailand), Dr. Pornpan Sukhumpinij (RBRU)

AATSEA Outstanding Achievement Awards 2021

AATSEA Outstanding award in Education and Research

Assist. Prof. Dr. S. Lalitha (India)



Department of Botany, Periyar University, Alem, Tamilnadu., India.

She has focused on the development of microbial inoculants for biologically controlling plant diseases and for enhancing crop growth. Her experience in Plant Pathology, Microbiology, Microbial Ecology and Biological Control of Plant Disease spans over 20 years including the advanced technology-supported research on *Bacillus*, *Pseudomonas* and *Trichoderma* spp. as PGPR on vegetables, cereals, fruits and forests, induced systemic resistance, mechanisms of biocontrol, plant-microbial interactions, etc. She have published over 42 papers in peer-reviewed international journals. She was the invited speaker in many countries to deliver keynote presentations. She is now acting as a reviewer for several international journals and local & international advisory committee member in conferences. Experience in modern teaching and good at use of modern technology for teaching and presents materials clearly to diverse audiences. She visited several national and international conferences and presenting important research findings and successful collaborations with other researchers. As microbial-derived products are poised to disrupt the agriculture industry, fundamental challenges remain in understanding the complexity of plant-soil microbial interactions, identifying microbial candidates amenable to fermentation and formulation on a large scale, demonstrating added value of a biologicals in an agrochemical dominated market and delivering a biological products into the hands of growers.

She received many national and international awards includes Smt Goman Devi Award and Best Women Scientist Award by Asian PGPR Society for Sustainable Agriculture. She is an significantly scientist to contribute to research, extension education and teaching missions.

AATSEA Outstanding award in Education and Research

Prof. Dr. Pakkapong Pongsuk (Thailand)



Work Address: Department of Agricultural Education, Faculty of Industrial Education and Technology, King Mongkut's Institute of Technology Ladkrabang (KMUTL), Chalongkrung Road, Ladkrabang, Bangkok, 10520 THAILAND

He has written the textbooks and teaching materials related to agricultural education, community development and environmental studies (Three in English and Five in Thai) (2007-Present). He wrote the English Textbooks named Issues and Problems of Rural Development in Thailand. Bangkok: Mean Service Supply Limited Partnership in 2010. The Selected Rural Development Programs and Projects in Thailand" in Battad, T.T., et al. 2003. Administration of Rural Development Projects. Central Luzon State University, Science City of Muñoz, Philippines. In 2010 he wrote English for Agricultural Extension and Rural Development Students. He has also wrote many Thai textbook in agricultural education. The Sustainable Development on Organic Agriculture in School and community, and a New Way of Agricultural Education for Sustainable Development His Research and academic articles related to agricultural education, environmental studies, environmental conservation, organic farming, food promoting health care, and community development including 70 issues are at the international level and 59 issues are at the national level from 2007 to Present.

His academic services are served as Academic Council Committee, Surindra Rajabhat University (2018-Present), Organic Inspector, Association of Agricultural Technology in Southeast Asia (AATSEA), External Graduate Special Lecturer, Maharakham University (MSU), National Institute of Development Administration (NIDA), Maejo University (MJU), Ubon Ratchathani Rajabhat University (URBU), Visiting lecturer at: Maejo University (MJU), Maharakham University (MSU), National Institute of Development Administration (NIDA), Nakhon Phanom University (NPU), Surindra Rajabhat University (SRU), Buriram Rajabhat University (BRU), Maharakham Rajabhat University (RMU), Ramphaibarnni Rajabhat University (RBRU), Songkhla Rajabhat University (SKRU), and Rajamangala University of Technology Phitsanulok (RMUTL), Visiting lecturer abroad at: Central Luzon state University, Philippines (CLSU); Northern Agriculture and Forest College, Department of Personnel and Organization, Ministry of Agriculture and Forestry, Laos PDR.; Champasak Technical Vocational College, Laos PDR. He has appointed to be Journal Editorial Boards: International Journal of Agricultural Technology (IJAT), Association of Agricultural Technology in Southeast Asia (AATSEA), Journal for the Agriculture, Biotechnology and Education (JABE), International Journal of Education and Development Studies (CLSU), Journal of Vocational Institute of Agriculture (JVIA), Journal of Industrial Education (JIE), Nakhon Phanom University Journal (NPUJ), Creating an international journal and national journal to provide a

platform for agricultural academics agricultural educators, community and rural developers, agricultural extension workers and related area, External assessment staff at the vocational level (2008-Present), Internal quality education assessment staff at the higher education level (2012-Present), Sufficiency economy school advisor, Huay Hin Lub School, Namnang district, Phetchaboon province, Advisor of School Agricultural Learning Center (SALC) to promote model of organic agriculture in school and community as follows: Living Agricultural Learning Center, Phaibueng Wittayakom School, Phaibueng district, Srisaket province, Ban Huai Suea School, Thong Pha Phum district, Kanchanaburi province, Ban Pom Prachanukul School, Khiri Mat district, Sukhothai province, Ban Dong Salao School, Dan Chang district, Suphan Buri province, Sanamchaikhet School, Sanam Chai Khet district, Chachoengsao province, , Sirirachanusorn School, Mueang district, Sa Kaeo province, Phrae Panyanukul School, Mueang district, Phrae Province. ZHe has also appointed to be Trailblazer and advisor “Development Volunteers and Community Forest Reforestation Camp” (1996-2016), Trailblazer and advisor “Agricultural Teacher Student Trait Development Camp of Agricultural Education Club Volunteer for Development” (2007-Present), Trailblazer on development and advisor of School Agricultural Learning Center based on the learning integration of agricultural education, organic farming, community development, and environment (2007-Present), Advisor of the sufficiency economy school project based on the integration of education for the community (2012-Present).

AATSEA Outstanding award in Community Development

Mr. Ruangsak komkhuntod Agricultural Scientist (Breeder) Thailand



The world would never forget him for development of new hybrid varieties of *Annona*, Germplasm Collection and Selection of Sugar apple, Atemoya and *Annona* Hybrids. His special selection techniques is unique for Hand Pollination on Fruit set of Sugar apple and Atemoya for Breeding, Development of Production Technology for Sugar Apple and *Annona* Hybrids, The Propagation of Petch Pakchong cv. (*Annona* Hybrid) by Grafting, Status of Sugar Apple and *Annona* Hybrids Production in Pakchong District, Nakhon Ratchasima Province, Thailand, Germplasm Surveying Collection and Identification of Sugar Apple and *Annona* Hybrids in Thailand, Selection for Superior Growth, Yield and Fruit Quality of Sugar Apple and *Annona* Hybrid Cultivars in Pakchong Research Station, Production System of *Annona* Hybrid cv. Petch Pakchong in Nakhon Ratchasima and Saraburi Province, Characteristics of Sugar Apple and *Annona* Hybrid cv. A0013, B0003, C0001 and D0005 , Guidelines for Implementing GAP for Sugar Apple and *Annona* Hybrids Production in Pakchong District, Nakhon Ratchasima Province, Fruit Development of *Annona* Hybrid cv. Petch Pakchong , Postharvest Changes of *Annona* Hybrid Fruit cv. Petch Pakchong, Harvesting Indices of *Annona* Hybrid Fruit cv. Petch Pakchong, Propagation Procedure of *Annona* spp. at Pakchong District, Nakhon Ratchasima Province, Grading Evaluation of Sugar Apple Fruits, Tamarind Breeding Program, Germplasm Collection and Selection of Tamarind (*Tamarindus indica* Linn.) Program , Superior Growth and Yield of Tamarind (*Tamarindus indica* Linn.) Cultivars at Pakchong Research Station, Nakhon Ratchasima Province . He has appointed to be Head of Training and Technology Transfer Program (Plant Propagation), Head of Training and Technology Transfer Program of Insechandrastitya Institute for Crops Research and Development. He has released and contributed the New Cultivars of Sugar Apple as follows:-Petch Pakchong, Nue Thong, Pakchong 46, Pakchong KU 1, Pakchong KU 2, Pakchong KU 3, Fai Khiew Kaset Nong Khiew Kaset 1, and Fai Khiew Kaset 2. Recently he has released the New Cultivars of Tamarind as follows:- G1 Hybrid (Dok kinghuk X Pakchong 1), G2 Hybrid (Dokkinghuk X Pakchong 1), G3 Hybrid (Dokkinghuk X Pakchong 1), G4 Hybrid (Dokkinghuk X Pakchong 1) I1 Hybrid (Dokkinghuk X Fuktrong Ratchaburi) , Hybrid (Dok kinghuk X Fuktrong Ratchaburi, Hybrid (Dok kinghuk X Fuktrong Ratchaburi

AATSEA Outstanding award in Special Community Service

Prof. Dr. Thanuku Samuel Sampath Kumar Patro (India)



His Field of specification in Plant Pathology. Present Position: Principal Scientist (Plant Pathology) & Head, ICAR-AICRP on Small millets, Agricultural Research Station, ANGRAU, Vizianagaram, A.P., India. He has worked hard to investigate new challenge research works in plant pathology, published 9 Text books on Millets, 25 Technical Bulletins and Folders, 203 Research Papers in NAAS rated International and national Journals, 105 popular articles on Millets. 57 Television Programs in Annadatha, Jaikisan in Etv., 25 radio talks, 17 Invited lectures on millets at Phillipines, USA, China, Indonesia, Srilanka, Thailand, Singapore, Nepal, Myanmar and Maldives, 82 Sessions Chaired as Chairman, Visited 18 Countries for Millets Promotion.

He received many International Awards: Award of excellence in Plant Pathology by SONGYANG Government, P.R. China in promoting organic agriculture for disease management, Outstanding leadership and community development award by Association of Plant Pathologists in SE Asia at 7th International Conference on Integration of Science and Technology for Sustainable Development held at Bali, Indonesia- 2018, EAES International Award for Environmental Agriculture-2018 at Maldives, Outstanding Scientist in Agriculture Award -2017 at 2nd International conference on Innovative approaches in applied sciences and technologies (iCiAsT-2017) during 19-23 June 2017 at Nanyang Executive Centre, Nanyang Technological University, Singapore, Innovative scientist of the year award-2015 at the International conference on Innovative approaches in applied sciences and technologies (iCiAsT-2016). February 1-5, 2016 at Faculty of Science Kasetsart University, Bangkok, Thailand, Best Paper award in oral presentation at the International conference on Innovative approaches in applied sciences and technologies (iCiAsT-2016). February 1-5, 2016 at Faculty of Science Kasetsart University, Bangkok, Thailand, Outstanding Scientist award-2016, at IJTA 3rd International Conference on Agriculture, Horticulture & Plant Sciences, New Delhi, India from 25th to 26th June 2016, Leading Scientist of the World-2013 by International Biographical Society, Cambridge, England, Best Research Paper Award-2002 in Plant Protection and Taxonomy session at 14th International Annual Congress organized by University of Peradeniya, Sri Lanka, 20th- 21st November, 2002 for Doctoral degree research work in an oral competition, Best Research Paper Award-2000 in Genetic Engineering session at 12th International Annual Congress organized by University of Peradeniya, Sri Lanka, 16-17th November, 2000 for Master's Degree research work in an oral competition, Best Oral Presentation Award-2018 at Second international scientific conference on Environmental research: Issues, Challenges and Strategies for Sustainable Development and Livelihood Security held at the Maldives National university- 2018.

Identification of New reports/ diseases:

He has new recorded in sciences such as First time in India identified the “Top rot phase” of red stripe disease caused by *Acinetobacter baumannii* on Sugarcane crop (MTCC No.7618). Published as New Record in *Indian Phytopathology*, 59(4):501-502 (2006), First time in India identified the Banded Sclerotial Disease caused by *Rhizoctonia solani* on Sugarcane crop. Published as New Record in *Indian Phytopathology*, 59(3):373 (2006,) First time in India identified the Red spot of leaf sheath caused by *Mycorellosiella viginiae* on Sugarcane crop. Published as New Record in *Journal of Mycology and Plant Pathology*, 37(1):117-118 (2007), First time in India identified the Banded Blight Disease caused by *Rhizoctonia solani* on Finger millet crop. Communicated as New Record in *Indian Phytopathology*, (2013), *HCIO No.46, 916*, First time in India identified the Smut Disease caused by *Melanopsichium eleusinis* on Finger millet crop. Published as New Record in *Indian Phytopathology*, 61 (1): 137 (2008), *HCIO No.46, 914*, First time in India identified the Rust Disease caused by *Uromyces eragrostidis* on Finger millet crop. Published as New Record in *Indian Phytopathology*, 61(1):137(2008), *HCIO No.46,915*.

He has contributed his research works in the Field application as follows:- Developed talc based formulation of *Trichoderma viride*, an endophytic strain for the management of Sugarcane red rot caused by *Colletotrichum falcatum* Went and this has been using as a protective bio agent in red rot prone areas in susceptible varieties like Co C 671. The efficiency of *Pseudomonas fluorescence* as a seed treatment (0.6%) and foliar spray (0.6%) for blast management of finger millet was established. This treatment went as a recommendation to farmers on All India basis during AICRP small millet workshop. Identified the etiology of sugarcane rust Pathogen *Puccinia erianthi* Padwk. and the specimen was deposited at *Herbarium Cryptogamae Indiae Orientalis* (HCIO No. 45,885), IARI, New Delhi and rust scale was developed for scoring Sugarcane rust disease. Published in *Proceedings of Global Conference-II, held at MPUAT, Udaipur, Rajasthan from 25-30 November, 2005* organized by *Indian Society of Mycology and Plant Pathology*. He has contributed in Soil application of *Pseudomonas fluorescens* + *Trichoderma viridi*+ *Bacillus subtilis* for management of banded blight of all the millets (finger millet, foxtail millet, kodo, little, proso and barnyard millet) was established. This treatment went as a recommendation to farmers on All India basis.

AATSEA Outstanding award in Special Community Service

Prof. Younes Rezaee Danesh (Iran)



Address: Soil, Fertilizer and Water Resources Central Research Institute, Ankara, Turkey, Department of Plant Protection, Faculty of Agriculture, Urmia University, Iran

Prof. Younes Rezaee Danesh received his first class BSc degree in 1996 at the Ferdowsi University in Mashhad, Iran, which was followed by successfully obtained first class MSc (1999) and PhD (2007) degrees from the Tarbiat Modares University, Tehran, Iran. His scientific career developed further rapidly at the Department of Plant Protection, Faculty of Agriculture, Urmia University, where he started as Assistant Professor in 2006, which was followed by appointments to Associate Professor (2013) and Professor (2016). He also acted as Research Vice-chancellor. Besides Urmia University, recently he is also affiliated to the Central Research Institute in Ankara, Turkey. The main scientific fields of interest of Prof. Danesh are mycology, plant pathology and biological control. His scientific results already established him in the international forefront of these research areas. He conducts his work with great diligence and came up with new, important results. His research interest focuses on symbiotic (mycorrhiza-, and mycorrhiza-like) as well as plant growth promoting fungi, with special emphasis on their application as eco-friendly agents for biofertilization, biostimulation and bioprotection of crop plants and for inducing plant resistance against different abiotic and biotic stresses. He has been working with various fungi including arbuscular mycorrhizal fungi, the mycorrhiza-like fungus *Pyriformospora indica*, as well as potential biocontrol candidates from the genus *Trichoderma*. In Iran he firstly established a culture collection of plant growth promoting fungi. In the above mentioned research fields he has outstanding contribution to the application of science and technology to sustainable development. The work of Prof. Danesh played a key role in the successful and fast achievement of a series of projects. He has been initiating and coordinating a series of fruitful international collaborations with Iranian, Russian, Finnish, US, Chinese, Italian, Indian, Thai, Austrian, Turkish and Hungarian partners.

A long list of highly ranked international scientific publications (full articles in prestigious international journals, edited books and book chapters in high ranked publishers as well as abstracts and full texts of oral lectures and posters presented at international conferences) and nearly 600 citations of Prof. Danesh's work reflect a scientific research achievement of outstanding significance by a very well trained, skilfull, perfectly organized and intellectually brilliant person with a successful scientific career. Prof. Danesh is also involved in the activities of scientific societies including

the Association of Agricultural Technology in Southeast Asia, the Asian Mycorrhizal Society, the Iranian Society of Plant Pathology, the International Symbiosis Society, as well as the Iranian Mycological Society where he is the head of the Symbiotic Fungi Research Section. He is acting as member of the Editorial Board in the Journal of Stored Products and Post-harvest Research, the International Journal of Agricultural Technology, the Journal of Soil Science and Environmental Management and the Journal of Agricultural Extension and Rural Development. During his career he received numerous "Best Researcher", Best Scientist" and „Best Presentation" awards. His very intense education activities are reflected by the supervision of 30 MSc and PhD students.

AATSEA Outstanding Award for emerging leader of young generation

Dr. Ramon Lorenzo Luis Rosa Guinto MD (Philippines)



Doctor of Public Health Class of 2019, Harvard T.H. Chan School of Public Health

Website: <http://scholar.harvard.edu/renzoguinto>

LinkedIn: <https://ph.linkedin.com/in/renzoguinto>

He recently finished medicine at the University of the Philippines, and currently serve as Regional Coordinator for the Asia-Pacific of the International Federation of Medical Students' Associations (IFMSA), a global network of 1.2 million medical students. He was also recently appointed one of the members of the Youth Commission on Global Governance for Health, convened by the Lancet and the University of Oslo in collaboration with the Harvard Global Health Institute.

A Filipino physician with broad interests in global health and sustainable development, Dr. Ramon Lorenzo Luis "Renzo" Rosa Guinto is a third-year Doctor of Public Health (DrPH) candidate at the Harvard T.H. Chan School of Public Health. Currently, Renzo is based in the Philippines, conducting his doctoral thesis (known as Doctoral Engagement in Leadership and Translation for Action or DELTA Project) which focuses on building 'climate-smart' local health systems in the Philippines. For his DELTA Project, he is hosted by the Civika Asian Development Academy as a Planetary Health Innovation Fellow. At present, he is also a "Thought Leader" columnist for Rappler, the Philippines' largest online news organization, and is establishing PH Lab, a "glocal think-and-do tank" for generating innovative solutions for Philippine health, public health, and planetary health.

As a global health generalist in the business of translation, he is finding innovative ways to tackle some of the seemingly intractable health challenges through projects, discourses, and other initiatives – from building climate-smart health systems and cities and developing upstream strategies for combatting noncommunicable diseases, to strengthening regional health governance in Southeast Asia and promoting the health rights of migrants, to creating effective teams in public health settings and preparing countries for the next big epidemic. He has a diverse range of experiences in government, academia, private sector, and civil society at local, national, regional, and international levels.

While in Harvard, Renzo is president and founder of two organizations - the Sustainability & Health Student Forum at the Harvard Chan School, and the Harvard Chan ASEAN Student Organization; member of the university-wide Council of Student Sustainability Leaders; Associate Editor of the Harvard Public Health Review; co-convenor of the Teams for Health Study Group; researcher in the Climate, Energy, and Health Program at the Harvard Center for

Climate, Health and the Global Environment; Graduate Student Associate of the Harvard University Asia Center; Student Fellow of the Voices in Leadership Series at the Harvard Chan School; Teaching Fellow at the Global Health Education and Learning Incubator and the Harvard University Graduate School of Design; Graduate Student Ambassador of the Harvard Global Health Institute; Fellow of the Walker Study Group on Nutrition and Agriculture; core member of the One Harvard Climate Initiative; and member of the steering committee of the annual Planetary Health Meetings in 2017 and 2018. Deeply committed to the advancement of health and wellbeing in his home region, he organized in April 2017 a forum entitled “Future of Health in Southeast Asia” in partnership with the Harvard University Asia Center and in commemoration of ASEAN’s 50th anniversary.

Currently, Renzo is the sole student member of the Editorial Advisory Board of The Lancet Planetary Health, and he recently joined an international collaborative of emerging scholars convened by The University of Edinburgh and Georgetown University which examines the nexus of universal health coverage and global health security. Previously, Renzo was a Climate CoLab Fellow at the Massachusetts Institute of Technology; consultant for climate and health at the World Bank; 2016 New Voices Fellow at the Aspen Institute; local convener of the NCDFREE advocacy and innovation bootcamp in Boston; and one of the 'talents' at the inaugural UNLEASH Global Innovation Lab for the Sustainable Development Goals in Denmark.

Renzo also served as Asia coordinator, and later acting Global Coordinator of the Healthy Energy Initiative, Health Care Without Harm's flagship program focusing on the nexus of climate change, energy, and health. He also worked as consultant on cancer care to the Ministry of Health in Chile; co-founder and director of youth ‘think-and-do’ tank #ReimagineGlobalHealth; co-investigator in a national study on reconfiguring primary health care under the Universal Health Care Study Group of the University of the Philippines (UP) Manila; migrant health consultant in the International Organization for Migration and Philippine Department of Health; convener of ASEAN Youth Dialogues, a movement promoting ASEAN awareness among Southeast Asian youth; lecturer on “Futures Thinking” in the Section of History of Medicine in UP Manila; guest lecturer for a Coursera online course entitled “An Introduction to Global Health” offered by the Copenhagen School of Global Health; and intern at the Department of Ethics and Social Determinants of Health (SDH), World Health Organization (WHO) in Geneva.



The final scientific program

The 9th International Conference on Integration of Science and Technology for Sustainable Development
2021 (9th ICIST 2021) through Webinar-Zoom
in November 19, 2021 at Faculty of Agricultural Technology, King Mongkut's Institute of Technology
Ladkrabang (KMITL), Bangkok, Thailand

Conference theme "Soil, water and environmental conservation, biological diversity, food safety, food
security, and sustainable agriculture"

Organized by

Association of Agricultural Technology in Southeast Asia (AATSEA), Faculty of Agricultural Technology, King
Mongkut's Institute of Technology Ladkrabang, KMITL (Thailand), Bengkulu University (Indonesia), General
Incorporated Association for the Promotion of Self-reliance in Asia (GIAPSA, Japan), Society for Applied
Biotechnology (India), Bio-Agritech Co Ltd (Vietnam), Bio Hi-tech (Cambodia), CGC organic coffee (Laos),
Shwe Kant Kaw, KKS (Myanmar), Rajamangala University of Technology Tawan-ok, Chantaburi Campus
(Thailand), Rambhai Barni Rajabhat University (Thailand), CAS Asian Agriculture Bio Engineering (PR China)

PROGRAM

19 November 2021

Time

- | | |
|------|---|
| 8:00 | Master of Ceremony (MC): Asst. Prof. Dr. Jakrapan Wongpa, Dr. Wanlada Klangnurak
Thai dance presentation |
| 8:10 | Welcome Addresses & opening remarks
Prof. Dr. Hiroyuki Konuma (Japan)
Dr. Tongchai Putthongsiri Dean
Dr. Kasem Soyong, President of AATSEA |
| 8:20 | AATSEA Awarding Announcement |

AATSEA Outstanding Leader Award 2021

Education and Research: Assist. Prof. Dr. S. Lalitha (India), Prof. Dr. Pakkapong
Pongsuk (Thailand)

Community Development: Mr. Ruangsak Komkhuntod (Thailand)

Special Community Service: Prof. Dr. Thanuku Samuel Sampath Kumar Patro (India)
and Prof. Dr. Younes Rezaee Danesh (Iran)

Award for emerging leader of young generation: Dr. Ramon Lorenzo Luis Guinto
(Philippines)

Special reserved person awards

Recognition awards for organizers

Theme song: IMAGINE (Mr. Sarayos, P.)

Plenary and Keynote Speakers (Main conference room)

Chairs: Dr. Kasem Soyong (Thailand). 25 minute each

08:30-08:55	Prof. Dr. Hiroyuki Konuma (Japan): Sustainable Development and New Challenges (Covid-19)
08:55-09:20	Dr. Ramon Lorenzo Luis Guinto (Philippines): The Planetary Health Diet: advancing human nutrition and safeguarding the environment in the anthropocene
09:20-9:45	Dr. Teodoro C. Mendoza (Philippines): True, full, and fair costs accounting of rice, the staple food of half the people of the world
09:45-10:10	Prof. Dr. Kampon Sriwatanakul (Thailand): Health Benefits of Organics: Herbal formulations to fight against the Pandemic Sar-Cov-2 corona virus
10:10-10:35	Prof. Dr. Jin-Cheol Kim (Korea): Can we effectively control pine wood nematode by plant resistance inducers ?
10:35-11:00	Prof. T.S.S.K. Patro (India): Investigation on the efficacy of bio-agents and chitosan against finger millet blast disease
11:00-11:25	Prof. Dr. Moammar Dayoub (Finland): Internet of thing (Iot) for smart agriculture in rural areas
11:25-12:50	Prof. Ivan Tarakanov (Russia): Agricultural Technologies of the Future: Intelligent Plant Factory
11:50-12:15	Prof. Rajeev Bhat (Estonia, EU): Circular bio-economy perspectives for sustainable management and effective valorization of food industrial wastes and by-products
12:15-12:40	Kasem Soyong (Thailand): Research investigation and application in organic agriculture for sustainable development goals (SDGs)
12:40-13:00	Questions and Answer

RESEARCH FORUM

ORAL PRESENTATIONS

Session 1: ORGANIC AGRICULTURE AND RELATED FIELDS

Chair persons

Chair: Prof. Nanik Setyowati (Indonesia)

Co-chair: Dr. TSSK Patro (India), Dr. Bancha Wiangsamut (Thailand), Dr. Lampan Khurpoon (Thailand), Dr. Teerawat Sarutayophat (Thailand)

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|----|-------------|---|
| 1 | 13:00-13:20 | IS: Nanik Setyowati: Allelopathic effect of sorghum root extract and its potential use as a bioherbicide |
| 3 | 13:20-13:40 | IS: Pablito Malabanan Villegas: A paradigm shift in the promoting the adoption of organic agriculture |
| 4 | 13:40-14:00 | IS: Somlit Vilavong: The organic coffee production in Lao PDR |
| 5 | 14:00-14:20 | IS: Thet Lwin Htay: Organic agriculture in Myanmar |
| 6 | 14:20-14:40 | IS: Lalitha Sundaram: Yield enhancement of <i>Lycopersicon esculentum</i> Mill. using microbial consortium |
| 7 | 14:40-15:00 | IS: Yao Min Hong: Circular economy of oyster shell in Taiwan |
| 8 | 15:00-15:20 | IS: Oksana Belous: Influence of exogenous growth-regulators on physiological and growth processes of dwarf mandarin cv. 'Miagava-Vase' |
| 9 | 15:20-15:40 | IS: Chen Yi-sung: Weed and pest management on paddy rice cultivation based on farmers practices |
| 10 | 15:40-16:00 | IS: Nithya Priya: Mass production of pseudomonas biofertilizer and its large scale application in arachis hypogaea |
| 11 | 16:00-16:20 | IS: Md. Asaduzzaman Sarker: The art and myth of organic agriculture for nature conservation and sustainable food production: perspective of Bangladesh |
| 12 | 16:20-16:40 | IS: Boun Oum Douangphrachanh: The situation of organic production in Lao PDR |
| 13 | 16:40-17:00 | IS: Vojtech Nemeč: Practical experience in application of bioproducts for crop production in Cambodia and ways how to make them work more effectively. |
| 14 | 17:00-17:20 | IS: Nathala Emmanuel: Organic beekeeping and value addition of bees wax and honey for livelihood of rural women and youth in andhra pradesh, India |
| 15 | 17:20-17:40 | IS: Younes Rezaee Danesh: Community structure of arbuscular mycorrhizal fungal species in saline soils of Turkey. |
| 17 | 17:40-18:00 | IS: Gopi Krishnan: Exploration of earthwormcast associated actinobacteria for plant growth promoting properties |
| 18 | 18:00-18:20 | IS: Duong Minh Lam: Biological activities of extracts and beauvericin from <i>Cordyceps cateniannulata</i> CPA14V. |

Session 2: MICROBIAL TECHNOLOGY, BIODIVERSITY AND FOOD TECHNOLOGY

Chair persons

Chair: Prof. Mohamad Chozin (Indonesia),

Co-chairs: Prof. Lalitha, S. (India), Prof. Tatik Suteky (Indonesia), Dr. Suprattra Poearim (Thailand), Dr. Nonglak Parinthawong (Thailand)

- 20 13:00-13:20 **IS: Samantha C. Karunarathna:** How to be a “fungi” not a dead guy.
- 21 13:20-13:40 **IS: Lalitha Sundaram:** Phytostabilization of glyphosate contaminated soil using Plant Growth Promoting Rhizobacteria
- 22 13:40-14:00 **Reny Herawati:** Field Evaluation of Blast Resistance on Inbred Lines Rice Derived from Crossing Bengkulu Local Varieties
- 23 14:00-14:20 **Hoàng Nguyễn:** The trial of fresh straw mushroom (*Volvariella volvacea*) preservation in 9 days
- 24 14:20-14:40 **Thitiporn Ditsawanon:** Protein hydrolysates from agricultural wastes for plant bacterial disease control
- 25 14:40-15:00 **Boda Praveen:** Evaluation of bacterial bio-agents against *Alternaria alternata* (Fr.) Keissler causing leaf blight in little millet
- 27 15:00-15:20 **IS: Raphael Okigbo:** Fungal flora of mechanic workshops and its bioremediation
- 28 15:20-15:40 **Dung T. K. Nguyen:** An Assessment of Sustainable Agro-Forestry Livelihood of K’Ho Cil Minority in Da Nhim Commune, Lac Duong District, Lam Dong Province, Vietnam.
- 29 15:40-16:00 **Minh T. Ton:** Implementing payment environmental services in Langbiang Biosphere Reserve, Vietnam.
- 30 16:00-16:20 **Naruemon Mongkontanawat:** Development and evaluation the formula of healthy mushroom beverage with high β -glucan from *Schizophyllum commune* Fr. in Thailand
- 31 16:20-16:40 **Yupa Pootaeng-On:** Antifungal activity and phytochemical analysis of *Miliusa sessilis* twig extract to control anthracnose disease in mango (*Mangifera indica*)
- 32 16:40-17:00 **Loc V. Pham:** Mycelial growth and yield of different *Pleurotus* mushroom cultivars in southern Vietnam.
- 33 17:00-17:20 **Sararat Monkhang:** Antifungal activity of *Bacillus subtilis* subsp. *spizizenii* BL-59 to control some important postharvest diseases of mango fruits (*Mangifera indica* L.)
- 34 17:20-17:40 **Nguyen V. Lam:** Identification of lovastatin analogs-producing *Pleurotus* cultivars in southern Vietnam.
- 35 17:40-18:00 **Kittichon U-Taynapunn:** Species diversity, tetracycline resistance and virulence factor gene profile of pathogenic *Aeromonas* spp. isolated from Nile tilapia seed farms in southern Thailand
- 36 18:00-18:20 **Quyên B. T. Ho:** Biological characteristics of the *Pleurotus* cultivars in southwestern Vietnam
- 37 18:20-18:40 **Waritchon Ninlanon:** Growth and survival of lactic acid bacteria during the fermentation of durian yogurt
- 38 18:40-19:00 **Joannalyn Montemayor:** Phytochemical analysis and antifungal activities of *Passiflora edulis* var. *flavicarpa* on *Fusarium verticillioides*
- 39 19:00-19:20 **Phraeo Vijitrotai:** Proximate analysis, Mineral and germanium of *Ganoderma lucidum* (Lingzhi) powder by spray dry as affected by different species and maltodextrin

Field Evaluation of Blast Resistance on Inbred Lines Rice Derived from Crossing Bengkulu Local Varieties

Herawati, R.^{1*}, Nurmegawati², Miswanti², Satrio, A.³, Zubaedi, A.³, Ganefianti, D.W.¹, Marlin¹, Romeida, A.¹

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²Indonesian Agency for Agricultural Research and Development, Ministry of Agriculture, Bengkulu Province, Indonesia;

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Abstract Blast caused by the fungus *Pyricularia grisea* (Cooke) Sacc, is an important disease in rice. In the tropics, blast is generally more important in dryland than in lowland rice. Blast disease is one of the biotic constraints in the development of upland rice. This pathogen causes a yield loss of 1-50%. Evaluation of blast resistance was carried out in the Desa Aur Gading, Kerkap District, North Bengkulu. The materials were 18 lines derived from crossing local varieties (landraces) Bengkulu (Sriwijaya and Bugis) with drought resistant lines (IR7858 and IR148+), Situpatenggang and Kencana Bali were used as a check, respectively, as resistant and sensitive varieties. Data gathered included plant height, number of productive tillers, number of filled grain per panicle, percentage of empty grain, flowering age, weight of 1000 grains, weight of grain per hill, and yield potential. Blast symptoms and severity were assessed using a scale based on the IRRI Standard Evaluation System for Rice. All of the evaluated lines showed a level of severity below the susceptible variety Kencana Bali which reached 65%. The lines evaluated had the highest severity ranging from 30-43%, namely the G3, G5, G11, G12, G15, and G16 genotypes with scores between 5-6 which had moderately susceptible criteria. Situ Patenggung as a resistance check showed a score of 1. Several lines showed the same score as Situ Patenggung which had a severity level of <10% with a scale of 0-2 for the resistance criteria, namely G1, G2, G4, G6, G7, g8, g13, G17, and G18 lines.

Keywords: field evaluation, blast resistance, inbred lines, local varieties

The trial of fresh straw mushroom (*Volvariella volvacea*) preservation in 9 days

Nguyen T. Hoang^{1,2*}, Le T. Nhan³, Nguyen T. M. Thu², Pham T. T. Tuyen², Ho B. T. Quyen² and Pham N. D. Hoang³

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Abstract Straw mushroom (*Volvariella volvacea*) was the largest mushroom production in Vietnam and fresh mushroom consumed popularly in southern Vietnam. However, fresh straw mushrooms were difficult to store and easily damaged after a few days, leading to unstable supplies and fluctuating market prices from month to month. This research aimed to