ISSAAS - SEAPPRO
The International Society for Southeast Asian Agricultural Sciences
Southeast Asia Plant Protection

Joint International Seminar and Congress 2022
"Smart Agriculture: Challenges and Opportunities"

Organized by:

The International Society for Southeast Asian Agricultural Sciences

IPB University — Bogor Indonesia —
Department of Plant Protection
Faculty of Agriculture

Society for Agricultural Education Research Development Abroad

Certificate

This certificate is presented to:

ARIEF SUDARMAJI

as

ORAL PRESENTER

ISSAAS - SEAPPRO
(The International Society for Southeast Asian Agricultural Sciences - Southeast Asia Plant Protection)
Joint International Seminar and Congress 2022
"Smart Agriculture: Challenges and Opportunities"

November 3-5, 2022 - Bogor, Indonesia

Head of Department of Plant Protection	President of ISSAAS	Chairman of ISSAAS-SEAPPRO International Seminar & Congress 2022
Dr. Ali Nurmansyah	Dr. Suwardi	Prof. Dr. Dadang

ISSAAS - SEAPPRO
The International Society for Southeast Asian Agricultural Sciences
Southeast Asia Plant Protection Conference
Joint International Seminar and Congress 2022

Organizing Committee Department of Plant Protection, IPB University, St. Kamper, Bogor, Indonesia, Phone: +62 251 862 9364, Email: seappro-issaas2022@apps.ipb.ac.id

Arief Sudarmaji
Study Program of Agricultural Engineering, Agriculture Faculty,
Jenderal Soedirman

Letter of Acceptance

Dear Arief Sudarmaji

We are pleased to announce that your abstract entitled "*Design of Wireless Soil Moisture Network Based on Internet of Things WIFI ESP-32 for Horticulture Cultivation*" (AGE-243) have been accepted to be presented in the **Joint International Seminar and Congress 2022**.

This event is organized by The International Society for Southeast Asian Agricultural Sciences (ISSAAS) and The Southeast Asia Plant Protection Conference (SEAPPRO) - Department of Plant Protection, IPB University to be held at the IPB International Convention Center (IICC), Bogor, Indonesia on 3-5 November 2022.

If you have not yet completed the registration payment, we kindly request you complete it before **30 October 2022**. Please check the important dates/deadlines on the International Seminar and Congress website.

Your presentation schedule will be emailed to you later once it is finalized. You may also check the session you will presenting from the program to be announced on the website soon.

Please NOTE that this acceptance letter for presentation is not an acceptance letter for scientific publication in proceedings or others. Should you need any further information and guidance, please do not hesitate to contact us.

I look forward to meeting you in Bogor.

Sincerely yours,

Prof. Dr. DADANG
Chair, Organizing Committee

ISSAAS - SEAPPRO

The International Society for Southeast Asian Agricultural Sciences
Southeast Asia Plant Protection

Joint International Seminar and Congress 2022

November 3-5, 2022 | IPB International Convention Center (IICC) Bogor, Indonesia

"Smart Agriculture: Challenges and Opportunities"

PROGRAM BOOK

JOINT INTERNATIONAL SEMINAR AND CONGRESS 2022

"Smart Agriculture: Challenges and Opportunities"

November 3-5, 2022

IPB International Convention Center (IICC) Bogor, Indonesia

ISSAAS- SEAPPRO

(The International Society for Southeast Asian Agricultural Sciences)

(Southeast Asia Plant Protection)

2022

Contents

Welcome from the Organizing Committee

Ladies and gentlemen, distinguished guests,

It is my great pleasure to welcome everyone to ISSAAS-SEAPPRO International Seminar and Congress 2022 in Bogor.

First and foremost, I would like to extend my gratitude to the Rector of IPB University, Prof. Dr. Arif Satria, Acting Dean of the Faculty of Agriculture, Prof. Dr. Suryo Wiyono, ISSAAS President, Dr. Suwardi, ISSAAS Secretary General, Prof. Dr. Hironobu Shiwachi, ISSAAS vice president of Indonesia, Japan, Malaysia, Philippines, Thailand, and Vietnam Chapters, Keynote speakers, invited speakers, and all of the participants of the ISSAAS-SEAPPRO International Seminar and Congress 2022.

The Indonesia Chapter hosted the ISSAAS International Seminar and Congress in Denpasar, Bali, and Bogor in 2010 and 2011. Once again, we have been chosen to host the ISSAAS Seminar and Congress 2022. This year, we are collaborating with the Department of Plant Protection which organizes the Southeast Asia Plant Protection (SEAPPRO), and together we host a Joint Seminar, the ISSAAS-SEAPPRO International Seminar and Congress 2022. Both shares responsibility for managing the Congress and international seminar and proceedings, respectively. The expected output of today and tomorrow's seminar is the IOP Scopus indexes proceeding which we are hoping could enhance international publications. The ISSAAS SEAPPRO International Seminar and Congress 2022 brings up the theme "Smart Agriculture: Opportunities and Challenges" and will primarily focus on the advancement of agricultural technology in the 4.0 age.

Throughout the course of two days, two keynote speakers, 10 invited speakers, 170 oral presentations, and 56 poster sessions will bring their newest information and ideas to the table. On the third day, we organize a trip for the participants to PT Prima Agro tech, the biggest biological pesticide industry in Indonesia and mangrove restoration and land reclamation in Jakarta. I wish all of our participants coming from Indonesia, Japan, Malaysia, South Korea, Philippines, Thailand, Vietnam, and Srilangka, wonderful experiences.

On behalf of the Organizing Committee, I'd like to express my special thanks to our event sponsors, PT Syngenta Indonesia, PT Prima Agro Tech, PT Sumber Sawit Mas Sarana, Alishter, Indonesia Cropcare Association, Croplife Indonesia, PT Agricon Indonesia, and PT Inti Ever Spring.

Hopefully, attending this seminar will offer you a lot of positive impacts. Lastly, I wish you an enjoyable time in Bogor, the Rain City, along with its culture and cuisine.

Prof. Dr. Dadang
Chairman, Organizing Committee

Message from ISSAAS President

The honorable Rector of IPB University and ISSAAS Vice Presidents from each Chapter of Japan, Malaysia, Philippines, Thailand, and Vietnam, outstanding keynote speakers, invited speakers, presenters, and all participants.

For the first time since the Covid-19 pandemic, ISSAAS Indonesia chapter is hosting the ISSAAS International Seminar and Congress 2022, with face-to-face engagement similar to events prior to the Covid-19 pandemic. In arranging this seminar and congress, ISSAAS collaborates with the Southeast Asia Plant Protection (SEAPRO), IPB University. We hope that this seminar and congress can strengthen the ISSAAS and SEAPRO and serve as a starting point for collaboration among researchers, practitioners, and governments within and between members.

With the theme "*Smart Agriculture: Challenges and Opportunities*", we expect that research findings and smart agriculture approaches from many nations may be addressed and shared in this forum. Hopefully, this activity can be one way to promote the adoption of various technologies in the field of smart agriculture. With limited agricultural lands, smart agriculture has the potential to increase food, clothes, and board production while conserving the environment. Through smart agriculture, I also hope that the younger generation, who is currently less interested in agriculture, would become more enthusiastic about getting involved. Young people are becoming increasingly familiar with the use of current agricultural technological devices such as big data, agricultural machinery, the Internet of Things (IoT), cloud computing, drones, GPS, sensors, cameras, CCTV, and so forth.

The conference is an excellent forum for those who are involved in scientific disciplines on emerging issues and trends in innovative technology and science. The new era teaches us to become more adaptive and agile to many uncertainties, to enhance cooperation with soft diplomacy, and to develop our confidence in overcoming the problems relating to agriculture such as crop production, soil and water management, plant protection, landscape and urban farming, etc. For that reason, I am confident that this seminar and congress will be a successful event in sharing another new perspective on innovative technology in smart agriculture, which is rapidly evolving.

Lastly, I hope that this event will open up new possibilities for the advancement of science and technology for smart agriculture, which will ultimately provide healthy food products capable of meeting the world's food demands while preserving the environment.

Dr. Suwardi
President, ISSAAS Indonesian Chapter

Remarks from the Rector

Ladies and gentlemen, distinguished guests, and all of the participants of the ISSAAS-SEAPPRO International Seminar and Congress 2022.

It is my great pleasure and honor to welcome all of you to the opening ceremony of the ISSAAS-SEAPPRO International Seminar and Congress 2022, organized by ISSAAS Indonesia Chapter and the Department of Plant Protection, Faculty of Agriculture, IPB University.

In this opportunity, may I express my sincere gratitude to the Acting Dean of the Faculty of Agriculture, Prof. Dr. Suryo Wiyono, Head of the Department of Plant Protection, Dr. Ali Nurmansyah, ISSAAS President, Dr. Suwardi, ISSAAS Secretary General, Prof. Dr. Hironobu Shiwachi, ISSAAS vice president of Indonesia, Japan, Malaysia, Philippines, Thailand, and Vietnam Chapters, keynote speakers, invited speakers, and each of the participants joining us today.

Agriculture continues to play a vital part in human existence and economic development. Global demand for and consumption of agricultural products for food, feed, and fuel is rapidly expanding. For many years, there has been an increase in the demand for plant materials. Recent increases in meat consumption in emerging economies, along with the increased use of grain for biofuel production in industrialized countries, have put significant strains on global food resources. Because of the growing human population, agricultural productivity must be increased in both quantitative and qualitative terms. According to FAO, we lost nearly one-third of worldwide food production each year because of plant pests, diseases, and weeds. So, it is imperative we find a solution to cut production losses in an environmentally friendlier way.

We begin industrial revolution 4.0 in the 21st century – the age of artificial intelligence, robotic development, biotechnology, information technology, blockchain, big data, and the internet of things (IoT). The challenge, now, is how we use new technology to establish agricultural production systems that are both successful and efficient. IoT uses in farming, for example, include collecting data on temperature, rainfall, humidity, pest infestation, and soil content. This information can be utilized to automate farming techniques, make accurate decisions to improve quality and quantity, minimize risk and waste, and reduce crop management work. Farmers can now remotely monitor soil temperature and moisture, and even use IoT data in precise fertilization programs. The overarching objective is for sensor data, coupled with the farmer's expertise and intuition about his or her farm, to enhance agricultural output while simultaneously lowering expenses.

With the seminar's topic of *Smart Agriculture: Opportunities and Challenges*, now is an excellent moment to discuss smart agriculture from the standpoint of opportunities, possibilities, and challenges for improved agriculture and its ecosystem. I believe that all attendees will gain much from this event. Hopefully, you can all establish networking in research or education as well.

It is now my pleasure to declare that the ISSAAS-SEAPPRO International Seminar and Conference 2022 is officially opened, and I wish you, everyone, a successful event.

Prof. Dr. Arif Satria
Rector, IPB University

PROGRAM

Wednesday, 2nd November

Time	Activity	Venue	PIC
17:00-21:00	ISSAAS Board Meeting	Taman Koleksi Cafe - IPB University	OC Chairman, HO ISSAAS

Thursday, 3rd November

Time	Activity	Venue	PIC
07:30-08:30	Registration	IICC Ballroom	Dr. Dewi Sartiami Dr. Nurhayati Lia Nurulalia, MSi
08:30-09:00	Opening Ceremony: - Brief greeting from the OC Chairman - Welcome from the ISSAAS President - Remarks from The Rector, IPB University	IICC Ballroom	OC Chairman MC
09:00-10:00	Keynote speeches - Dr. Inez S. Loedin (IRRI) - Prof. Yandra Arkeman (IPB University)	IICC Ballroom	MC
10:00-10:10	Photo Session	IICC Ballroom	MC
10:10-10:30	Coffee break	IICC Ballroom lobby	Dr. Nina Maryana Dr. A Asih N
10:30-12:00	ISSAAS Conference	IICC Ballroom	President and Secretary General of ISSAAS
12:00-13:00	Lunch break	IICC Ballroom lobby	Dr. Nina Maryana Dr. A Asih N
13:00-15:00	Invited speakers I: Japan, Malaysia, Philippines, Thailand, Vietnam, and Indonesia	IICC Ballroom	OC Chairman MC
15:00-15:15	Coffee break	IICC Ballroom	Dr. Nina Maryana Dr. A Asih N
15:15-16:30	Invited speakers II: PT Syngenta, PT Agricon, PT GGP, and PT SSMS	IICC Ballroom	OC Chairman MC
16:30-17:30	Poster session and exhibition		Dr. Dewi Sartiami
17:30-19:00	Free Time		
19:00-21:00	Welcome Party: - Dinner - Entertainment (traditional dance performance)	IICC Ballroom	Dr. Dewi Sartiami Lia Nurulalia, MSi Dr. Nina Maryana Dr. A Asih N MC

Friday, 4th November

Time	Activity	Venue	PIC
08:30-09:30	Parallel session I	IICC Ballroom, Room A, B, C, D, E, F	Room PIC
09:30-10:30	Parallel session II	IICC Ballroom, Room A, B, C, D, E, F	Room PIC
09:30-11:30	Parallel session III	IICC Ballroom, Room A, B, C, D, E, F	Room PIC
11:30-13:30	Lunch break		Dr. Nina Maryana Dr. A. Asih N
12:30-14:30	Parallel session IV	IICC Ballroom, Room B, C, D, E, F	Room PIC
14:30-15:30	Parallel session V	IICC Ballroom, Room B, C, D, E, F	Room PIC
15:30-16:30	Parallel session VI	IICC Ballroom, Room B, C, D, E, F	Room PIC
16:30-17:30	Poster session and exhibition	IICC Ballroom	Dr. Dewi Sartiami
17:30-19:00	Free Time		
19:00-22:00	Farewell Party: - Dinner - Entertainment (cross-culture performances)	IICC Ballroom	Dr. Dewi Sartiami Lia Nurulalia, MSi Dr. Nina Maryana Dr. A Asih N MC

Saturday, 5th November

Time	Activity	PIC
09:00-17:00	Fieldtrip to: - PT Prima Agro Tech (Biological Pesticide Co.) - Mangrove Restoration - Land Reclamation	OC Chairman Nadzirum M, MSi Dr. Prayogo PA Lia Nurulalia, MSi Andhika SS, MSi

FRIDAY

4th November 2022

PIC: PRAYOGO PROBO ASMORO

Oral - Room - Parallel	Time	Abstract Code	Abstract Title	Presenter
OBallroom - P1 Moderator: Swastiko Priyambodo	08:30-08:45	PRO-145	Chemical Composition and Insecticidal Activity of Essential Oil from *Eucalyptus grandis* against *Sitophilus oryzae* (Coleoptera: Curculionidae)	Rismayani
	08:45-09:00	PRO-179	Survey of Diseases Affecting Tropical Fruit Trees in Central Panay Island, Philippines	Belinda G Leonida
	09:00-09:15	PRO-227	Potential Use of Pre-Mixture Pheromone for Controlling *Rhinoceros* Beetle and Weevil Stem Borer in Oil Palm Plantation	Hari Priwiratama
	09:15-09:30	PRO-305	*Trichoderma asperellum* Integrated with *Fusarium decemcellulare* and *Lasiodioplodia pseudotheobromae* Applications Increase Its Colonisation in Cacao Seedling Tissues and Suppression of Leaf Anthracnose Disease	Ade Rosmana
OBallroom - P2 Moderator: Ruly Anwar	09:30-09:45	PRO-383	Several Biological Factors of *Anagyrus lopezi* (Hymenoptera: Encyrtidae) in the Field and Laboratory	Fatayatun Naimah
	09:45-10:00	PRO-321	Inhibition Test of Secondary Metabolites Compounds *Bacillus subtilis* as Antifungal against *Phytophthora palmivora*	Fifi Puspita
	10:00-10:15	PRO-235	Biology Predator of Netter Caterpillar of *Eocanthecona furcellata* Wolff (Hemiptera: Pentatomidae) using Pray *Spodoptera litura* F. in The Laboratory	Rusli Rustam
	10:15-10:30	PRO-138	The Ability of *Trichoderma harzianum* in Graphite and Silica Nano Particles to Control Anthracnose Disease (*Colletotrichum sp.*) on Red Chili Seedlings (*Capsicum annuum* L.)	Luciana Djaya

OBallroom - P3 Moderator: Rusli Rustam	10:30-10:45	PRO-257	Evaluation of Toxicity Assay of The Methanolic Extract of *Nerium oleander* Leaves in *Spodoptera frugiperda*	Syifa Nabilah Subakti Putri
	10:45-11:00	PRO-261	Evaluate The Development Population of Green Leafhoppers as A Tungro Vector in The Endemic Area from Long-Term Data	Wasis Senoaji
	11:00-11:15	PRO-142	The Association of Entomopathogenic Fungi *Aschersonia placenta* and *Aleurodicus dugesii*	I Putu Sudiarta
	11:15-11:30	PRO-309	Effect of Soil Type on Root Infection of *Acacia mangium* and *Eucalyptus pellita* by *Ganoderma philippii* and *Phellinus noxius*	Bayo Alhusaeri Siregar
OBallroom - P4 Moderator: I Putu Sudiarta	13:00-13:15	PRO-219	Molecular Studies on the Etiology of Tayangawon Disease, Causing Kernel Rot of Pili (*Canarium ovatum*)	Elizabeth Parac
	13:15-13:30	PRO-296	The Sublethal Doses Effect on Controlling of The Nettle Caterpillar *Setothosea asigna* (Lepidoptera: Limacodidae) on Oil Palm Plantation	Tjut Ahmad Perdana Rozziansha
	13:30-13:45	PRO-242	Effect of Trap Height Level on The Capture of Fruit Fly (*Bactrocera* spp.) on Crystal Guava	Agus Susanto
	13:45-14:00	PRO-291	Mechanical and Chemical Management of Wildboar (*Sus Scrofa* L.) in Bireuen District, Aceh Province	Swastiko Priyambodo
OBallroom - P5 Moderator: Agus Susanto	14:00-14:15	PRO-316	Insecticidal Activity of Combination *Calatropis gigantea* L and *Crescentea cujete* Extract Fermentation against Pests and Natural Enemies	Sylvia Sjam
	14:15-14:30	PRO-250	The Influence of Male Inflorescences, Natural Enemies, and Climate on Population of *Elaeidobius kamerunicus* at Clay, Sand, and Peat Soil Types	Fizrul Indra Lubis
	14:30-14:45	PRO-247	Morpho-cultural and Molecular Characteristics of *Colletotrichum endophyticum* Manamgoda a Putative	Ruel S Hadcan

			Pathogen of Pili (*Canarium ovatum* Engl) Leaf Spot	
	14:45-15:00	PRO-314	Study of *Trichoderma* sp. to Control *Phytophthora nicotianae* on Pineapple	Ratdiana
OBallroom - P6 Moderator: Elizabeth Parac	15:30-15:45	PRO-268	Knowledge and Practices of Rice farmers in Pesticide Usage in Selected Municipalities in Maguindanao	Shajara Fatima M Dimasingkil
	15:45-16:00	PRO-273	Adaptability and Damage Capacity of *Spodoptera frugiperda* J.E Smith (Lepidoptera: Noctuidae) on Various Gramineae	I Wayan Supartha
	16:00-16:15	PRO-168	Study on Corn Stem Disease (The Causal Agent, Distribution and Vectors) in Tanah Laut District, South Kalimantan	Salamiah
	16:15-16:30	PRO-171	Effect of Botanical Insecticide Application on Population of *Nilaparvata lugens* and Its Natural Enemies on The Growth and Production of Rice Plants	Rismayani

FRIDAY

4th November 2022

PIC: NADZIRUM MUBIN

Oral - Room - Parallel	Time	Abstract Code	Abstract Title	Presenter
OA - P1 Moderator: I Wayan Supartha	08:30-08:45	PRO-294	*In vitro* Evaluation of Potential Biological Control Agents Isolated from Tissues and Rhizospheres of Pili (*Canarium ovatum*) to Control *Stenotrophomonas* spp. Causing Tayangawon Disease	Joanne A Langres
	08:45-09:00	PRO-265	Insect Diversity on Siam Citrus (*Citrus nobilis* Lour.) Plants in Sungkai, Padang	Hidrayani
	09:00-09:15	PRO-194	Molecular Identification of Banana Bunchy Top Virus (BBTV) on *Heliconia* sp. in Bali	I Made Arimbawa
	09:15-09:30	PRO-325	Mutagenesis Phenomenon on the Thermo Competent *Escherichia coli* DH10B Colony with Combination of Golden gate and Gateway Cloning Protocol	Ali Wafa
OA - P2 Moderator: Joanne A Langres	09:30-09:45	SOL-322	Correlation of Hg-N On Ex-Gold Mining Soil Ameliorated with Sub-Bituminous Coal and Activation of Sub-Bituminous Coal–NaOH	Amsar Maulana
	09:45-10:00	PRO-215	Isolation and Identification of Antagonistic Fungi for Disease Control in Solanaceae Plant	I Putu Wirya Suputra
	10:00-10:15	PRO-284	Population Dynamics of the Bagworm, *Clania tertia* Templeton (Lepidoptera: Psychidae) on Immature Oil Palm at PT Inti Indosawit Subur, Pangkalan Kerinci, Pelalawan Regency, Riau	R Anwar
	10:15-10:30	PRO-363	Distribution and Genetic Diversity of Allexiviruses Affecting Garlic Production in Ilocos Region	Mary Joy Cuevas Mendoza
OA - P3 Moderator: Susan M F Calumpang	10:30-10:45	PRO-210	Characterization of Non-Ribosomal Peptide Synthesis Operon for Bacillomycin L Biosynthesis in *Bacillus* sp. TCG15	Kojiro Ito

	10:45-11:00	PRO-228	Potential of Entomopathogenic Fungi *Beauveria bassiana* as Biofertilizers and Biostimulants to Increase The Growth of Cayenne Pepper Plants (*Capsicum frutescens* L.)	Yusniwati
	11:00-11:15	PRO-315	Current Infestation Status and Damage Severity of Eucalyptus gall wasps, *Leptocybe invasa* (Fisher & La Salle) and *Ophelimus maskelli* (Ashmead) (Hymenoptera: Eulophidae), in *Eucalyptus germplasms* in Tanzania	Jameseth Lazaro
	11:15-11:30	SOL-267	Characteristics of Glyphosate Adsorption with Biochar from Young Coconut Waste	Herviyanti
OA - P4 *Moderator:* Idham Sakti Harahap	13:00-13:15	PRO-229	High Impact of Seaweed Extract *Eucheuma cottonii* as Antiviral Candidates to Suppress Pepper Yellow Leaf Curl Indonesian virus	I Gede Rai Maya Temaja / Dewa Gede Wiryangga Selangga
	13:15-13:30	PRO-349	Alginate Toxicity of *Beauveria bassiana* (Balsamo) Vuill against *Spodoftera frugiperda* (J.E. Smith) (Lepidoptera: Noctuidae)	Itji Diana Daud
	13:30-13:45	PRO-297	Development of Ginger Essential Oil Loaded Chitosan Nanobactericide Formulation for Effective Control of Bacterial Panicle Blight Disease in Rice	Khairulmazmi Ahmad
	13:45-14:00	PRO-218	Bioactivity of Citronella Oil Nano Emulsion Formulation against The Insect Stored Pest *Callosobruchus Maculatus* (Fab.) (Coleoptera: Bruchidae)	Rohimatun
OA - P5 Moderator: Pudjianto	14:00-14:15	PRO-231	Method Development in Determining Atrazine and Triclopyr in Peat Soil and Water Matrices	Khairatul Azmah binti Mohamed
	14:15-14:30	PRO-347	Phytonematode Community on Pineapple (*Ananas comosus* L. Merrill) GP3 Clone with Symptoms of Pineapple Mealybug Wilt-Associated	Fatimatuzzahroh

			Virus (PMWaV) in Vegetative and Generative Phases	
	14:30-14:45	PRO-355	Review of Species, Host Plants, and Distribution of Fruit Flies (Diptera: Tephritidae) in Indonesia	Purnama Hidayat
	14:45-15:00	PRO-211	Effect of Corn Steep Liquor on Strawberry Powdery Mildew (*Podosphaera* sp.) in Hydroponic Cultures	I Wayan Diksa Gargita
OA - P6 Moderator: Sri Hendrastuti Hidayat	15:30-15:45	PRO-361	Effects of Flowering Herbs on Parasitoid Diversity and Pest Suppresion in Oil Palm Plantation	Van Basten Tambunan
	15:45-16:00	PRO-233	The Presence Status of the Virus that Causes Stunt Disease on Rice in Gianyar, Bali	Listihani
	16:00-16:15	PRO-350	Detection and Identification of Viruses Associated to Mealybug Wilt Pineapple in Blitar, East Java, Indonesia	Hari Valentino
	16:15-16:30	SOL-384	Composition of Macro and Micro Fertilizers in Zeoponics for Formula of Variegata Ornamental Plants	Suwardi

FRIDAY

4th November 2022

PIC: ANDIKA SEPTIANA SURYANINGSIH

Oral - Room - Parallel	Time	Abstract Code	Abstract Title	Presenter
OB - P1 Moderator: Abdjad Asih Nawangsih	08:30-08:45	PRO-245	Endophytic Antiquorum Sensing Bacteria of from Cocoa as a Potential Biocontrol Agent for Pathogens *Phytophthora sp.* and *Colletotrichum sp.*	Deden Dewantara Eris
	08:45-09:00	PRO-364	Virus Indexing in Local Garlic Cultivars in Central Java	Sari Nurulita
	09:00-09:15	FOR-320	Mirid Bugs Attack on *Eucalyptus pellita* Forest Plantation in Central Kalimantan, Indonesia	Mohamad Suheri
	09:15-09:30	PRO-371	Molecular and Biological Approaches in Managing Fusarium Wilt of Banana in Malaysia	Noor Baity Saidi
OB - P2 Moderator: Abdul Munif	09:30-09:45	PRO-213	Specific Interaction of PepYLCIV and Its Enhancement of Infectivity by TYLCKaV Co-Infection	I Gusti Ngurah Prabu Wira Sanjaya
	09:45-10:00	PRO-272	Effect of Nano Chitosan and Nano Silica on the Growth of *Sclerotium rolfsii* Sacc. and Damping-off Disease on Tomato Seedlings	Hersanti
	10:00-10:15	PRO-370	Pollinator Population in Two Cocoa Plantation Management Systems	Sylvia Sjam
	10:15-10:30	FOR-287	The Acclimatization Compartment and Growth Hormone Impact on The Life Percentage of Endangered *Hopea gregaria* Tree Species	D Prameswari
OB - P3 Moderator: Sylvia Sjam	10:30-10:45	PRO-357	Effect of Installation Time and Mesh Size of Fruit Wrapping to Scab Symptoms on Cavendish Banana	Nina Maryana
	10:45-11:00	PRO-381	Effectiveness of Homemade Repellents and Spray Timing in Controlling Insect Pest in Okra (*Abelmoschus esculentus*) and Chinese Mustard (*Brassica rapa* var. *Parachinensis*)	Norida Mazlan

	11:00-11:15	PRO-373	Parasitic Wasp Records from Oil Palm Cultivations: A Journey Toward Sustainable Ecosystem	Bandung Sahari
	11:15-11:30	PRO-258	Effect of Entomopathogenic Fungi *Beauveria bassiana* on Seed Germination and Seedling Growth of Tomatoes	Trizelia
OB - P4 Moderator: Nina Maryana	13:00-13:15	PRO-212	Effectiveness of Antifungal Activity of Ultrafine Bubble Combined with Calcium Hypochlorite	Kenji Yokota
	13:15-13:30	PRO-259	Occurrence and Phylogenetic Analysis of Onion Yellow Dwarf Virus and Shallot Latent Virus in Indonesia	Nurenik
	13:30-13:45	AGE-264	Automation and Monitoring System for Hydroponic Melon Cultivation in Greenhouse Based on Internet of Things	Eni Sumarni / Priswanto
	13:45-14:00	PRO-290	Laboratory Test on Palatability of Rice Field Rats to 4-Vinyl Cyclohexene Diepoxide (VCD) with Different Bait Shape	Rachmawati
OB - P5 Moderator: Gusti Ngurah Alit Susanta Wirya	14:00-14:15	PRO-266	Pepper Yellow Leaf Curl Indonesia Virus (PepYLCIV) Associated with Yellow Disease of Chilli (*Capsicum annuum*) in Bengkulu, Indonesia	Mimi Sutrawati
	14:15-14:30	AGE-170	Status of Farm Mechanization in Northern Mindanao, Philippines: A Case of Increasing Productivity through Farm Mechanization Efficiency	Ronelo G Cablinda
	14:30-14:45	PRO-288	Selection and Evaluation of Endophytic Bacteria to Control White Rust Disease (*Puccinia horiana*) on Chrysanthemum Plants	Abdjad Asih Nawangsih
	14:45-15:00	PRO-367	The Abundance of Gall Fly *Cecidochares connexa* as Biocontrol Agent of *Chromolaena odorata* in Several Habitat Types	Mahardika Gama Pradana
OB - P6 Moderator: Mimi Sutrawati	15:30-15:45	PRO-301	Detection and Identification of Polerovirus Infecting Chilipepper in Java	Andri Saputra

	15:45-16:00	PRO-293	Identification of The Causal Agent of Gummosis Citrus Disease in Bali and The Potential of Antagonistic Microbes for Their Control	Gusti Ngurah Alit Susanta Wirya
	16:00-16:15	AGE-243	Design of Wireless Soil Moisture Network Based on Internet of Things WIFI ESP-32 for Horticulture Cultivation	Arief Sudarmaji
	16:15-16:30	PRO-368	Isolation and Preservation of Fungal Plant Associated Diseases on *Begonia* spp.	Nilam Fadmaulidha Wulandari

FRIDAY

4th November 2022

PIC: SARI NURULITA

Oral - Room - Parallel	Time	Abstract Code	Abstract Title	Presenter
OC - P1 Moderator: Kukuh Setiawan	08:30-08:45	AGR-299	Tree Sizes and Yield Potential of 'Thong Dee' Pummelo Grown in The Eastern Region of Thailand	Lop Phavaphutanon
	08:45-09:00	AGR-147	Response of Banggai Yam Plant (*Dioscorea alata*) and Peanut (*Arachys hypogaea*) to Liquid Organic Fertilizer in Intercropping system	Ramal Yusuf
	09:00-09:15	AGR-140	Performance Evaluation of Pechay (*Brassica Rapa* var. Chinensis) using Different Organic Growing Media Under Hydroponic System	Erecson Sipin Solis
	09:15-09:30	AGR-225	Growth Performances of Maize (*Zea mays* L.) Intercropped with Soybean (*Glicine max* (L.) Merrill.) on Legowo Row System Applied by Bokashi Plus Fertilizer in Marginal Soils	La Karimuna
OC - P2 Moderator: Kenji Yokota	09:30-09:45	AGR-156	Correlation and Path Analysis of Three Elite Cassavas (*Manihot esculenta* Crantz)	Kukuh Setiawan
	09:45-10:00	AGR-143	Agronomic Performance of Robusta Coffee (*Coffea canephora*) as Influenced by Biofertilizer and Different Levels of Inorganic Fertilizers	Apolinario B Gonzaga, Jr
	10:00-10:15	AGR-226	Response of Rice Plants to The Application of Organic Mulch Using The SRI (The System of Rice Intensification)	Nalwida Rozen
	10:15-10:30	AGR-197	Effect of Mono Potassium Phosphate and Calcium Fertilizer on Yield and Sweetness of Siam Orange Fruit on Off-Season Production	Ni Komang Alit Astiari
OC - P3 Moderator: Erecson Sipin Solis	10:30-10:45	AGR-158	Productivity of Saba Banana (*Musa acuminata* x *balbisiana*) as Influenced by Different Levels of NPK Fertilizer under Jasaan Series	April Mae T Batuigas
	10:45-11:00	AGR-184	Test the Viability and Effectiveness of The AMF Biofertilizer Prototypes using	I Nyoman Rai

			Different Spore Carrier Media on Production and Quality of Organic Cocoa	
	11:00-11:15	AGR-214	Morpho-Physiological Characterization of Multi-Canopy Rice Cultivation Systems in Various Genotype Combinations	M B R Khamid
	11:15-11:30	AGR-260	Various Growth Responses of Three Rice Cultivars after Treatment with Eco-Enzyme	Ida Ayu Astarini
OC - P4 Moderator: Mami Irie	13:00-13:15	AGR-185	Can Boron Application Increase The Starch Content in Cassava Roots?	Muhammad Syamsoel Hadi
	13:15-13:30	AGR-172	Resilient Food Systems in The New Normal: Integration of Biochar in Enhancing Productivity of Lettuce (*Lactuca sativa* L.) for Hilly Land Gardens	Cyril John C Nagal
	13:30-13:45	AGR-236	Effects of Mycorrhizes and Rzobacteria on Vegetative Growth and Root Development of Potato Plants (*Solanum tuberosum* L.)	W Warnita
	13:45-14:00	AGR-146	Potential of Strawberry (*Fragaria* x *ananassa* Duch) Production under Greenhouse and Open Field Condition in Misamis Oriental, Philippines	Renante D Taylaran
OC - P5 Moderator: Cyril John C. Nagal	14:00-14:15	AGR-220	The Agronomic Performance of Ratoon and Modified Ratoon Salibu in Multi-Canopy Rice Cultivation System	M J Simarmata
	14:15-14:30	AGR-186	The Role of Mycorrhizae for The Growth of Plantlets of Banana Cultivar Raja (*Musa paradisiaca* c.v. Raja) at Post Acclimatization	Rindang Dwiyani
	14:30-14:45	AGR-148	Enhancing The Yield of Rice and Corn using Field-Specific Crop Production Management Recommendations in Selected Areas in the Province of Iloilo, Philippines	Leonie G Consabo
	14:45-15:00	AGR-278	In Vitro Propagation of Red Ginger (*Zingiber officinale* Roxb. var. rubrum Rosc.) in Different Concentration of Sucrose and Growth Regulator	Sitti Inderiati

OC - P6 Moderator: Muhammad Syamsoel Hadi	15:30-15:45	AGR-222	Catalog of Some Pili (*Canarium ovatum* Engl) Tree Accessions in Albay, Philippines	Judith Chavez
	15:45-16:00	AGR-187	Meristem Culture of Strawberry (*Fragraria* X *ananassa* Duch) var. Sachinoka on Various Types of Basic Media In Vitro	Yuyun Fitriani
	16:00-16:15	AGR-285	Improved Cassava (*Manihot esculenta* Crantz) Growth and Production by Application of Potassium	Sungkono
	16:15-16:30	AGR-144	Effect of Pre-Harvest Colored Wrapping on The Postharvest Quality of Red-Fleshed Dragon Fruit (*Hylocereus polyrhizus*)	Apolinario B Gonzaga Jr

FRIDAY

4th November 2022

PIC: LIA NURULALIA

Oral - Room - Parallel	Time	Abstract Code	Abstract Title	Presenter
OD - P1 Moderator: I Nyoman Rai	08:30-08:45	AGB-135	Jatiluwih Agritourism Management in Bali Based on The Important and Performance Analysis	Agung Suryawan Wiranatha
	08:45-09:00	AGR-151	Rapid Clonal Propagation of Stevia (*Stevia rebaudiana* Bertoni) Grown Organically: A Trailblazing Innovation for Health Awareness Amid Pandemic	Eric Randy R Politud
	09:00-09:15	AGR-190	Feasibility of Off-Season Red Chili Farming Technology on Acid Dry Land in Lampung	Zahara / Rismawita Sinaga
	09:15-09:30	AGR-154	The Effect of Pulsing and Wrapping on The Vase Life of Cut Chrysanthemum (*Chrysanthemum morifolium*) Cut Flower: A Study in Extending Shelf Life of Cut Flowers	Lasaro A Gomez
OD - P2 Moderator: Lasaro A Gomez	09:30-09:45	AGR-244	Assessment of Cropping System of the Pili Farmers in the province of Albay, Philippines	Aileen Comprado Malo
	09:45-10:00	AGR-359	Chitosan-Based Fruit Coatings as Postharvest Treatments on Two Pineapple (*Ananas comosus* L Merr) Clones	Putri Mariska Fahmi
	10:00-10:15	AGR-223	A Study Comparing the Effect of Picloram and 2,4-D in Somatic Embryogenesis of Vamas-1 Cassava Clone	Fitri Yelli
	10:15-10:30	AGR-292	Yield Performance of Sorghum Ratoon-1 As Affected by Different Dosages of N Fertilization	Muhammad Kamal
OD - P3 Moderator: Ahmad Junaedi	10:30-10:45	AGR-224	Detection of Early Age Cassava Clone through Growth Development in Dry Land of Central Lampung	Ardian
	10:45-11:00	AGR-246	Postharvest Quality of Bell Pepper (*Capsicum annuum* L) in Soilless Media with Fertigation of Organic Amendments	John Paul R Gapasin

	11:00-11:15	AGR-354	Responses of GP3 and MD2 Pineapple Clone to Post-Harvest Application of Some Fruit Coating Materials	Ahmad Ziaurrahman
	11:15-11:30	AGR-372	Growth Response of Oil Palm Seedling from Decanter Cake Application as Fertiliser Substitute in Nursery	Abdullah Abdul Rahman
OD - P4 Moderator: Muhammad Kamal	13:00-13:15	AGR-253	Performance and Heterosis Estimation on Agro-Morphological Traits in F1 Rice Generations Crossed among Mutant Rice Cultivar IS21 and Selected Donors	Faiz Ahmad
	13:15-13:30	AGB-366	Role of Farmers Group on the Development of Nutmeg Oil Industry in South Aceh Regency, Indonesia	Riskina Juwita
	13:30-13:45	AGB-221	Supply Chain of Processed Sago Products in Java, Indonesia: A Qualitative Study	Ierera Frida Rahmadena
	13:45-14:00	AGB-217	Approaches and Practices for Muslim-Friendly Tourism in Japan -A Comparison of Three Initiatives and Certifications	Rika Terano
OD - P5 Moderator: Nina N Shimoguchi	14:00-14:15	AGB-239	Factors Influencing on Consumers' Intention to Purchase Vietgap Certified Vegetables in Vietnam	Ngo Xuan Duc
	14:15-14:30	AGB-234	The Impact of Land Conversion on Farmers' Incomes in Tidal Land South Sumatra Province	Muhammad Yamin
	14:30-14:45	AGB-358	Risk Management and Financial Behavior of Organic Rice Farmers Under Contract Farming in Preah Vihear Province, Cambodia	Chanmony Sok
	14:45-15:00	AGB-199	Sustainability Design of Rice Availability in Bali	I Nyoman Gede Ustriyana
OD - P6 Moderator: Rika Terano	15:30-15:45	AGR-188	The Study of Parthenocarpy on Grapes (*Vitis vinifera* L.) Var. Prabu Bestari with GA3 (Giberellin Acid) Application	Ni Ketut Karina Sari
	15:45-16:00	AGB-360	Business Models for Sustainable Agribusiness: The Cases of Organic Farming in Japan, Indonesia, and The Philippines	Nina N Shimoguchi

	16:00-16:15	AGB-353	Development of Ethical Business Using Smart Agri-Technology in Tohoku Region, Japan: A Case Study of Company A in Aomori Prefecture	Hiroyuki Yasue
	16:15-16:30	AGB-208	Factors Influencing Food Shopping Behavior amid COVID-19 in The Philippines	Mozelle Ramos

FRIDAY

4th November 2022

PIC: DEDI HUTAPEA

Oral - Room - Parallel	Time	Abstract Code	Abstract Title	Presenter
OE - P1 Moderator: Asep Sudarman	08:30-08:45	ANM-279	Growth Performance of Broiler as Affected by Different Kinds and Levels of Pasture Legumes in The Diet	Jason P Jimenez
	08:45-09:00	ANM-306	Antihelmintic Effect of Squash Seeds (*Cucurbita Moschata*) and Papaya Seeds (*Carica papaya*) in Gastrointestinal Parasites in Native Chicken (*Gallus Gallus Domesticus*)	Charles Philip Azamar Catedral
	09:00-09:15	ANM-139	Growth and Laying Response of Quail (*Coturnix coturnix japonica*) Fed with Dietary Fermented Earthworm Meal Silage	Warlito M Tomas Jr
	09:15-09:30	ANM-162	Reproductive Performance of Swamp Buffalo with Various Dosages of Gonadotropin-Releasing Hormone (GnRH)	Tinda Afriani
OE - P2 Moderator: Tinda Afriani	09:30-09:45	AQU-256	The Study of Pempek Morphology based on the SEM Image	Agus Supriadi
	09:45-10:00	ANM-152	Gene Polymorphism of Melanocortin 4-Receptor (MC4R) and Its Association with Milk Yield Performance in Crossbred Anglo-Nubian Dairy Goats	Jessah P Trillo
	10:00-10:15	ANM-202	Replacement Rate of Fish Meal with *Tenebrio molitor* Caterpillar in The Diet of Laying Quail on Performance and Egg Quality	Nuraini
	10:15-10:30	ANM-163	Milk Production Efficiency and Ketosis Vulnerability of Cows under Different Feeding Regimens	Jover Jabagat
OE - P3 Moderator: Warlito M Tomas Jr	10:30-10:45	ANM-280	Factors Affecting Success Rate of Fourier Harmonic Analysis-Classified High and Low Fertility Water Buffalo Bulls in Artificial Insemination Under Tropical Condition	Peregrino G Duran
	10:45-11:00	ANM-164	Efficiency of Fabricated Pest Control Pilotless Aircraft in Commercial Poultry and	Mendoza, Bryll

			Livestock Farms in Oriental Mindoro	Christian S
	11:00-11:15	ANM-262	The Effects of Low Salt (NaCl) Seaweed (*Turbinaria decurrens*) Utilization in Diets on The Lipid Profile of Blood Serum, Liver and Meat of Broilers	Yose Rizal
	11:15-11:30	ANM-174	Creating a Locally Prepared Animal Products-Based Menu in THE MUNICIPALITY of Lambunao, Province of Iloilo, Philippines: The Smart Preparation, Guests' Preference, Organoleptic Evaluation of Recipes and Food Action	Anthony L Leal
OE - P4 Moderator: Yose Rizal	13:00-13:15	ANM-271	The Quality of Digestibility Pellet *Indigofera zollingeriana* In Vitro	Anggriawan N T P
	13:15-13:30	AQU-263	Convolutional Neural Networks for Coral Lifeforms Classification	Jannie Fleur V Oraño
	13:30-13:45	ANM-176	In Situ Digestibility of Selected Fibrous Feedstuffs at High and Low Levels of Concentrate Supplementation in Rumen-Fistulated Brahman Bull	Richelle Arriesgado Niepes
	13:45-14:00	ANM-241	Influence of Different Fermentation Starters on Corn (*Zea mays*) Silage Quality, Sensory Attributes and Growth of Dairy Calves	Imelda U Hebron
OE - P5 Moderator: Imelda U. Hebron	14:00-14:15	ANM-249	Knowledge and Practices of Meat Processors and Street Food Vendors and The Quality of Processed Foods in Albay Philippines	Lourdita A Llanto
	14:15-14:30	ANM-300	The Effect of Different Energy Sources on The Performance and Blood Metabolites of Sheep	Asep Sudarman
	14:30-14:45	ANM-274	Mastitis Detection in Dairy Cattle (*Bost taurus*) using Different Brands and Dilution Levels of Liquid Anionic Surfactants	Ronaldo C Briones

	14:45-15:00	AQU-270	Wound Healing Effectiveness of The Film Containing Collagen Isolated from Channa striata Bloch 1793 Skin on Diabetic Mice	Armenia
OE - P6 Moderator: Ronaldo C Briones	15:30-15:45	AQU-178	Cross-Species Microsatellite Marker for Identity Identification and Parentage Analysis in Dolphin and Whale on ANDAMAN SEa and Gulf of Thailand	Janjira Phavaphutanon
	15:45-16:00	ANM-326	Effects of BSF (Black Soldier Fly) Oil and Calcium Soap Supplementation on Rumen Fermentability of Garut Sheep	Ratna Homsatun Cahya Ningsih
	16:00-16:15	SOL-385	Zeoponic Formula for Plant Growth Media of Ornamental Plants *Aglaonema sp*. and *Anthurium crystallinum*	Hermanu Wijaya
	16:15-16:30	SMA-386	Application of Remote Sensing and GIS to Research Coastline Changes in Nha Trang City, Khanh Hoa Province	Le Thi Giang

FRIDAY

4th November 2022

PIC: NURHOLIS

Oral - Room - Parallel	Time	Abstract Code	Abstract Title	Presenter
OF - P1 Moderator: Jaafar Juju Nakasha	08:30-08:45	AGX-382	Impact of the Covid-19 on Poor, Marginalized and Vulnerable Household Income and Expenditure: A Case Study on Agricultural and Non-Agricultural Household	Yusman Syaukat
	08:45-09:00	AGX-286	Scholarship of Engagement Practices and Its Convergence with University Functions: A Case Study of an HEI Educational Farm in Nakhon Pathom Province, Thailand	Issaree Supnui
	09:00-09:15	AGX-356	Assessing the Perspective and Current Situation of Indonesian Alumni of The Japanese Foreign Agriculture Technical Internship and Training Program (TITP)	Fadhilla Izzaty Syaukat
	09:15-09:30	AGX-207	Evaluating Irrigation System Performance through Assessment of Farmers' Satisfaction: The Challenge of The New Normal	April Mae T. Batuigas
OF - P2 Moderator: Nizar Nasrullah	09:30-09:45	AGR-248	Improving Yield and Fruit Quality of Grafted and Scion-Trimmed Sweet Pepper (*Capsicum annuum* L.) by Application of Diluted Table Salt	Jacquilyn C Golle
	09:45-10:00	AGX-205	Agricultural Extension Communication Strategies in The New Normal: USTP PANDEMIC Farm Agriculture Innovation Systems	Nelda R Gonzaga
	10:00-10:15	AGX-312	Competency Development of Youth in Ecological Soil Conservation through Higher education Student Mentors	Patcharapa Klahan
	10:15-10:30	SMA-374	Consumers' Awareness and Acceptance Towards Meat Substitutes in Klang Valley, Malaysia	Nolila Mohd Nawi
OF - P3 Moderator: Nur Azura Adam	10:30-10:45	SMA-308	Deep Learning for Real-Time Monitoring of *Eucalyptus pellita* Nursery Diseases	Tegar Alami

	10:45-11:00	SMA-191	Application of Data Science in Small-Scale Greenhouse Farming -A Case Study of A Commercial Greenhouse Tomato Farm, Hino City, Tokyo	H S L Gunasekara
	11:00-11:15	SMA-376	Factors Influencing The Adoption Intention of Disease Prevention Technologies among Shrimp Farmers	N H Kamarulzaman
	11:15-11:30	SMA-334	Assessing Paddy Field Health Using High Resolution Multi Spectral Camera in Subang Indonesia to Implement Precision Agriculture 4 0	Bernadetta Alnybera Febriannaningsih
OF - P4 Moderator: Patcharapa Klahan	13:00-13:15	SMA-313	Mapping of Potential Locations and Incentives for Sustainable Food Agriculture Land (LP2B) Based on Regional Biophysical Conditions in Tangerang Regency	Vely Brian Rosandi
	13:15-13:30	SMA-141	Solar-Sharing Smart Lighting Artificial Intelligence Driven Platform for High-Valued Crops on Hydroponics System	Myrtel S Bernardo
	13:30-13:45	SMA-237	Analysis of Community Enterprise Development Strategies for Solar-Dried Banana Products, Ratchaburi Province, Thailand	Apichart Jai-aree
	13:45-14:00	SMA-375	Factors Influencing The Intention of Farmers to Adopt/Hiring Drone Services in Kada, Iada Kemasin Semerak and Iada Ketara, Granary Areas	Norsida Man
OF - P5 Moderator: Nguyen Thi Thuy Hanh	14:00-14:15	ENV-153	Insect Diversity and Abundance Associated with The Oil Palm Agroecosystem	Azlina Zakaria
	14:15-14:30	ENV-255	Impact of The Spread of COVID-19 on Household Food Waste: Approach Using the Trajectory Equifinality Modeling	Shiho Tamaki
	14:30-14:45	ENV-298	Review on Socioeconomic and Sustainability of Oil Palm Plantations Among Rural Communities in Malaysia	Mohamad Jafri bin Ahmad

	14:45-15:00	ENV-307	Underutilized and Neglected Plants in Karangasem Regency, Bali	Ida Ayu Astarini
OF - P6 Moderator: Siti Jahroh	15:30-15:45	LAN-362	Planning for Greenery under Light Rail Transit (LRT) in The Section of Kelapa Gading North Jakarta	Nizar Nasrullah
	15:45-16:00	ENV-328	Valorization of Oil Palm Biomass: Compost as Nutrient Recycling	Mohd Rafein Zakaria
	16:00-16:15	SMA-198	Canopy Structure Analysis of Time Series Image Analysis using Rice with Two Different Tiller Angles	Miku Suda
	16:15-16:30	ENV-340	Prediction of Malathion Residue on Cabbage using Spectroscopic Method	Nazmi Bin Mat Nawi

Poster Panel	Panel Section	Abstract Code	Abstract Title	Presenter
Poster – PL1	P01	AGB-238	Effects of Providing Information on Local Characteristics on Consumer Preferences for Produce Tied to Traditions and Local Characteristics	Kimiko Kuano
	P02	AGR-149	Agronomic Growth and Yield Response of Bell Pepper Emperor F1 (*Capsicum annum*) Fertilized with Different Levels of Lactic Acid Bacteria Serum and Frequency of Irrigation	Leonie G. Consabo
	P03	AGR-150	Performance of Sweet Potato (*Ipomea batatas* l.) cv. 'Miracle' Grown Organically in Sacks: A Promotion for Urban Agriculture Farming in The Philippines	Eric Randy R. Politud
	P04	AGR-155	Growth and Nutrient Evaluation of Green Onion (*Allium cepa* L.) In Response to The Different Growing Media Combinations Applied with Varying Rates of Fermented Plant Juice (FPJ)	Lasaro A. Gomez
Poster – PL2	P05	AGR-157	Productivity of Red-Fleshed Dragon Fruit (*Hylocereus polyrhizus* Britton and Rose) as Influenced by Different Post Heights Cultivated under Jasaan Series	Christian Paul R. Regidor
	P06	AGR-160	Postharvest Quality of White-Fleshed Dragon Fruit (*Hylocereus undatus* var. Vietnam White) as Influenced by Preharvest Fruit Bagging	Jhomarie C. Vallez
	P07	AGR-166	Physiological and Economic Efficiency of Lettuce (*Lactuca sativa* L.) Production in Different Levels of Hydroponics Nutrient Solutions	Estelito C. Bebit Jr.
	P08	AGR-195	Genetic Relationships Between South American and Asian Accessions of Capsicum Chinense based on DNA Polymorphism, Aroma Components and Morphological Characterization	Claudia Fiorella Ortega Morales
Poster - PL3	P09	AGR-196	Studies on functional property and genetic diversity of *M. charantia*. spp in Southeast Asia and Japan	Hikaru Ito

	P10	AGR-204	Efficiency and Productivity of 'Pinakbet' Vegetables as Influenced by Various Production Systems for Household Sustainability amidst Pandemic Crisis	Bryan Glomel S. Silverio
	P11	AGR-206	Ensuring Household Food Security through Enhanced Production of Pechay (*Brassica rapa* L.) as Influenced by Different Levels of Carbonized Rice Hull Integration	Nelda R. Gonzaga
	P12	AGR-252	Comparative Study of Maceration Extraction and Steam Distillation Methods of Female Oil Palm Inflorescence on The Organic Volatile Compounds (Vocs) Composition	Fizrul Indra Lubis
Poster - PL4	P13	AGR-282	Analysis of Different Direct Wet Seeded and Transplanted Methods of Rice Crop Establishment on Rice Production Areas	Irene M. Adion
	P14	AGR-289	The Survival Rate and Growth of Grafted-Seedling of Durian (*Durio zibethinus* Murr.) Using Various Age of Rootstocks and Different Numbers of Scion Bud	Asmawati
	P15	AGR-304	The Effect of Picloram and Naphthalene Acetic Acid (NAA) on Somatic Embryogenesis of Cassava (*Manihot esculenta* Crantz) Unila UK-1 Clone	Panca Rahayu Anggi
	P16	AGR-311	Dynamics of Nutrient Availability of Anorganic Fertilizers in Soil Oli Palm (*Elaeis guinensis*) Nursery	Didik Wahyu Prasetyo
Poster - PL5	P17	AGR-331	Development of Low-Cost Cultivation Protocol on Lingzhi Mushroom (*Ganoderma lucidum*)	Emily A. Soriano
	P18	AGR-335	Product Development and Shelf-Life Extension of Pleurotus-Based Mushroom Frozen Products	Emily A. Soriano
	P19	AGR-342	Performance and Characterization of Water Kefir in Various Culture Media	Emily A. Soriano
	P20	AGR-344	Growth Improvement and Yield Performance of Pleurotus Species Using Different Substrate Combinations	Emily A. Soriano
Poster - PL6	P21	AGR-352	Evaluation of Rice Crop Manager (RCM) Target Yield Adjustment in Relation to Nutrient Omission Plot Technique (NOPT)	Irene M. Adion

	P22	AGR-365	Distribution of Plant Species in The Area Affected by Tidal Flood (Case Study in Panjang Wetan District, Pekalongan City, Central Java).	Anis Wirda Idris
	P23	AGR-377	Optimizing Protoplast Production and Transformation of *Ganoderma boninense* with GFP Gene	Mui-Yun Wong
	P24	AGR-378	Effects of Different Concentrations of Chitosan And Wood Vinegar on Germination and Volume of Water on The Microgreen Performance of Sweet Basil (*Ocimum basilicum*)	Jaafar Juju Nakasha
Poster - PL7	P25	AGR-379	Selection of Antimicrobial Agent Added to Pectin-Alginate Biofilm to Enhance The Effectiveness of Passion Fruit Preservation	Trong Thang Nguyen
	P26	AGR-380	Effect of Maturity Stages on Total Polyphenol, Anthocyanin Content and Antioxidant Acitivity in Fresh Perilla Leaves (*Perilla frutescens* L.) and Their Drying Powder	Trong Thang Nguyen
	P27	AGX-167	Community-Based Participatory Action Research (Cpar) on Upland Vegetable-Mushroom Farming System in The Kankana-Ey and Kalanguya Indigenous People in Nueva Ecija	Emily A. Soriano
	P28	AGX-330	Support to Mass Production of Mushroom Quality Planting Materials Through Mass Propagation Protocol in Central Luzon	Emily A. Soriano
Poster - PL8	P29	AGX-348	Community-Based Participatory Action Research (Cpar) on Onion Farming Management in Bongabon, Nueva Ecija	Irene M. Adion
	P30	AGX-324	Community-Based Participatory Action Research on Integrated Rice-Based Farming System in The Rainfed Areas of Anao, Tarlac	D. Irene M. Adion
	P31	AGX-169	Socio-economic Profile of Farmers in Northern Mindanao, Philippines: Case Status of Crops and Livestock Industry in the Region	Ronelo G Cablinda
	P32	ANM-161	Genetic Polymorphism of CSN2 Gene and Its Association with Milk Yield Traits in Anglo-Nubian Dairy Goats	Catherine A. Buyan

Poster - PL9	P33	ANM-181	The Influence of Genotypic Variability in The Stearoyl-Coenzyme A Desaturase 1 Gene with Milk Yield Performance in Crossbreed Anglo-Nubian Dairy Goats	Eloise Ann Kristine B Makasiar
	P34	ANM-182	The Association of Polymorphisms in Lactoferrin Gene and Milk Yield Performance in Crossbred Anglo-Nubian Dairy Goats	Pontevedra, Reshe M.
	P35	ANM-183	Identification of Diacyglycerol Acyltransferase 1 Gene (Dgat1) Polymorphism and Its Influence in Milk Production Performance in Crossbred Anglo-Nubian Dairy Goats	Trixia S. Macalam
	P36	ANM-317	Longevity and Fecundity of Female Black Soldier Fly (*Hermetia Illucens* L.) Maintained with Honey Solution at Different Concentrations	Syafitriani Ardiasani
Poster - PL10	P37	ANM-343	Amplification of CHD-1 Gene Fragment In Z and W Sex Chromosome of Cemani Chicken Using A Different Set of PCR Primers	Galih Pambuko
	P38	ANM-345	Growth Response and Hematological Profile of Rhode Island Red Chicken as Affected by Different Level of Forage-Based Feeds	Irene M. Adion
	P39	ANM-346	Effect of Formulated Ration With Inclusion of Different Calcium Sources on The Egg Quality, Productivity and Blood Calcium Level of Chicken	Irene M. Adion
	P40	AQU-177	Quantity and Quality of DNA from Long-Term Storage Samples of Sea Turtle	Janjira Phavaphutanon
Poster - PL11	P41	AQU-180	Exploring Development Pathways Using Scenario Building Towards Sustainable Production and Consumption in Laguna De Bay, Philippines	Lea Mari Santos
	P42	FOR-203	Above-Ground Carbon Stock in Secondary Mangrove Forest In Mahakam Delta, East Kalimantan, Indonesia	Rita Diana
	P43	FOR-319	Management Control of *Zeuzera* spp. (Lepidoptera: Cossidae) on *Eucalyptus pellita* using	Mohamad Suheri

			entomopathogenic fungus, *Beauveria bassiana*	
	P44	ENV-240	Near Future Projections of Precipitation and Temperature Over Lanao Watershed, Philippines Based on G6Solar and G6Sulfur Experiments of Global Climate Models	Hannah Jose
Poster - PL12	P45	PRO-193	Survey of Coffee Damage by Coffee Berry Borer (*Hypothenemus hampei* Ferr.) Attack In Purwabakti, Pamijahan – Bogor	Nadzirum Mubin
	P46	PRO-209	Characterization of Fengycins, Cyclic Lipopeptides, Derived from *Bacillus subtilis* YAE51	Yuki Emata
	P47	PRO-230	Effectiveness of *Trichoderma* spp. Secondary Metabolites Formulation in Controlling Vascular Streak Dieback in Cacao	Rita Harni
	P48	PRO-254	Genomic Analysis on *Ewingella americana*, The Causal Agent of Bacterial Brown Rot Disease on Mushrooms	Chisato Tanaka
Poster - PL13	P49	PRO-275	Efficacy of Organic Fertilizer, Biofertilizer and Endophytic Bacteria to Control Nematodes in Robusta Coffee	Rita Harni
	P50	PRO-295	*Etiella zinckenella* Treische (Lepidotera; Pyrallidae) as a new important pest on groundnut and their potential biocontrol agents in West Sumatra Indonesia	Reflinaldon
	P51	PRO-310	Antagonistic Nature of Plant Growth Promoting Fungi Against Rhizoctonia sp., *Fusarium* sp. and *Colletotrichum* sp., Major Pathogens of *Eucalyptus* and *Acacia* in Nurseries	Bayo Alhusaeri Siregar
	P52	PRO-327	Sensitivity of Entomopathogenic Fungi to Fungicide Modes of Action Registered for Corn in The Philippines	Melissa P Montecalvo
Poster - PL14	P53	PRO-329	Diversity and Population Dynamics of Pest in Sambawa Tea Plantation, West Java	Nida Nur Rahmah
	P54	SMA-351	Improvement of Rice Crop Manager (RCM) as Information Communication Technology (ICT) Based Extension Tool in Central Luzon	Irene M. Adion

	P55	PRO-173	The Abundance and Diversity of Tungro Vector Insects and the Incidence of Tungro Disease in the Rainfed Rice Field of Lanrang Sidenreng Rappang, South Sulawesi	Listihani

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The registration desk is located in the foyer of Level 2 at the IPB International Convention Centre (IICC) near information center. Please visit the registration desk to pick up your name badge and conference kit. The registration desk will be opened at 7:30 AM during the conference.

Plenary and Conference Sessions
The ISSAAS Board meeting (November 2nd, 2022 at 5.00 PM) is held in *Taman Koleksi* café, Baranang Siang Campus, IPB University. ISSAAS-SEAPPRO International Seminar and Conference (November 3-4, 2022) is held in the Ballroom (Lv. 2) and Rooms A – F (Lv. 3) of IICC. For further details, please see the Program section.

COVID-19 Safety
Substantial kit (hand sanitizer and mask) and hand wash station will be provided by the organizer. We encourage you to stay at your hotel room if you feel unwell and/or have any COVID symptoms and immedietely inform us. All participants and committees have to wear mask during the conference.
Further requirements:
For international participants:

- Please make sure that you have been vaccinated for booster (3rd vaccination) and have the printed or digital international vaccination certificate
- Please show your vaccination certificate at the security checkpoint to enter IICC.

For domestic participants:

- Please make sure that you have been vaccinated for booster (3rd vaccination).
- Use "Peduli Lindungi" app to enter IICC or you can show your certificate at the security checkpoint.

Security
Please ensure that you take all your important belonging items (bags or laptops) at all times when leaving a room. Do not leave them unattended.

Wi-Fi
Free Wi-Fi is available throughout the IICC. You can get the Wi-Fi details at the Information Center.

Presenters

Oral presentation

- Each presenter shall use the name badge provided by the committee.
- The presentation materials (format: Ppt) will be collected at least 30 minutes prior to your session schedule. Please see the PIC of your session room.
- Please ensure that you are available in your presentation room at least 20 minutes prior to the session schedule.
- Each presenter is allocated 15 minutes of presentation in total, which includes 12 minutes of presentation and 3 minutes of Q&A.
- Please note that each presentation will be judged and the best three presenters will be selected.

Poster presentation

- Each presenter shall use the name badge provided by the committee.
- Please place your poster on the poster board based on the poster code (see Program-Poster section). The adhesive tape will be provided by the organizer.
- Please stand-by next to your poster during the poster session (see Program Schedule section)

Session Chairs

- Each session chair/moderator shall use the name badge provided by the committee.
- Please ensure that you are available in your session room at least 20 minutes prior to the session schedule. Should you have any requests, please contact the PIC of your session room.
- Session chair leads the panel discussion.

Broad Resistance to Rice Bacterial Leaf Blight using Genome Editing and A Snapshot of IRRI Pathogen Surveillance System, Pathotracer

Inez H Slamet-Loedin
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Abstract. Bacterial blight of rice (*Xanthomonas oryzae* pv. *oryzae* (*Xoo*), a devastating disease, causes significant rice crop loses in Asia. This bacteria secretes the transcription-activator-like effectors (TALes) pathogen, that bind specific promoter sequences and induce rice sucrose transporter expression of which is required for disease susceptibility. We used CRISPR–Cas9-mediated genome editing to introduce mutations in all three *SWEET* gene promoters. Four promoter mutations were simultaneously edited in the rice elite mega varieties IR64 and Ciherang-Sub1. Paddy trials showed that genome-edited *SWEET* promoters showed robust, broad-spectrum resistance. The test was repeated in the subsequent generations with a set of new strains from Southeast Asia. A snapshot of PathoTracer, a decision support system that integrates early-season pathogen diagnostics and disease resistance genomic profiles intended for use by public and private enterprises to accurately defining breeding priorities and in implementing coordinated actions to manage crop diseases in real-time, will be presented.

Keywords: genome, rice crop loses, *Xanthomonas oryzae* pv. *oryzae*

Implementation of Artificial Intelligence and Blockchain on Agricultural Supplychain Management

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Abstract. Today's agricultural sector cannot avoid the need for advanced digital technology, such as robots, artificial intelligence, and the Internet of Things, to deal with various agricultural problems that can disrupt national stability. Agro-industrial supply chain management ensures that agricultural products reach consumers in quantity, quality, and safety required. The supply chain includes farmland to consumers, farms to dining tables, farmers to processors, and distribution to consumers, as well as other long chains that cover from upstream to downstream. Some of the problems that need to be solved include a lack of information on raw materials needed in processing, transparency of product sources, production process information, logistics distribution information to consumers, lack of traceability and traceability (product, quality, documents, costs, halal status, and value chain). Digital transformation along the supply chain must be carried out immediately through: (1) implementation and improvement of traceability systems using blockchain technology and (2) blockchain integration with smart and rapid tests or Internet of Things (IoT) using Artificial Intelligence (AI) to increase intelligence blockchain. Smart and rapid tests are needed to detect and identify the substance content of a product, while the IoT architecture applied throughout the supply chain connects various supply chain actors to share data. Machine learning and cloud computing are used for data processing and communication networks for information transfer. Blockchain-based digital systems and AI enable consumers to track transaction history and product status in just a few seconds. Blockchain integration with AI will bring about a more reliable system called the smart blockchain.

Keywords: agricultural supply chain management, artificial intelligence, blockchain

Shaping A Better Primary Industry through Smart Technologies

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Abstract. In this paper, we present the development of smart technologies application for shaping a better primary industry (agriculture and fishery) with several study case in Asia, namely Japan and Indonesia. In the next decades, increasing the productivity from small scale crop, livestock, fishery and forestry production systems will be key to achieving global food security. Smart technologies in the primary industry certainly help farmers and fishermen to monitor many aspects in the production part which can lead to better decision making, management, efficiency and eventually productivity. In order to shape a better primary industry, we applied smart technologies combined with data science for the agriculture and fishery sector in several case studies. Specifically, (1) application of low-cost sensor network and data science to analyze the variables influencing fruit tomato sweetness in a Japanese greenhouse farm; (2) fish finder and data science utilization to evaluate catch amount and fish kind classification within set-net in Japan; (3) application of smart technologies for a better mariculture in Indonesia.

Keywords: data science, smart technologies, primary industry

Plant Diseases Challenges in the Future Agriculture and Novel Strategy Approaches

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Abstract. Plant diseases are major constraint in production of agricultural plants all over the world. It may become more serious challenge in future agriculture. Losses due to the diseases in some cultivated crops can reach a fantastic quantity. Future development of technology, trade, environment is predicted result in more severe plant disease problem. Major drivers may affect disease development are elaborated i.e. new varieties, new pathogen races, change of agronomical practices, more intensive trade among area and among countries, climate change, soil quality depletion and environment degradation. Recent development show increase of importance of plant disease and emerging of new diseases on various agricultural plants in various countries. Indonesia faces numerous emergence of plant diseases for last thirty years. Bacterial grain rot of rice, die back of nut meg trees, begomovirus of chili pepper, stem rot of shallot are example of emerging diseases in this periods. In other side, technology for disease diagnosis, assessment and control develop also rapidly. Recent development of diagnosis technology is discussed includethe use of various sensor, remote sensing, information technology, and molecular approach. Moreover, current development in disease control technology such as biocontrol, resistant varieties, precision approach is also discussed. An appropriate strategy with more diverse options of technology is needed to anticipate and manage future plant disease challenge to ensure high and sustainable plant production.

Keywords: emerging diseases, technology, strategy, sustainable

Smart Agriculture in Vietnam and the Role of Universities

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Vietnam National University of Agriculture

Abstract. Over time, several technological innovations have been developed to increase yields while facilitating the work of farmers, reducing costs and optimizing the use of natural resources. Today, the agricultural sector is further accelerating its transformation, driven by digitalization and the democratization of connected objects and other sensors in the fields. The term smart agriculture refers to the usage of technologies like Internet of Things (IoT), sensors, location systems, robots and artificial intelligence on farm. The ultimate goal is increasing the quality and quantity of the crops while optimizing the human labor used. Smart agriculture development is an important trend not only for the Vietnamese economy but also on a global scale. Vietnam is pursuing the trend of developing smart agriculture with the selection of advanced techniques of the 4.0 industrial revolution period applied in high-tech agricultural production. This is an agriculture that is applied in combination with new and advanced technologies for production, in order to improve efficiency and create a breakthrough in productivity and quality of agricultural products. The formation of high-tech agricultural zones with the participation of many businesses has helped Vietnam develop the next step, which is to build a smart agriculture with many new agricultural production models. Participating in and underpinning the development of smart agriculture in Vietnam is the appearance of technology applicators providing IoT applications. However, stepping into smart agriculture, Vietnam is still facing many difficulties such as the shortage of high-quality human resources capable of integration and not many enterprises participate in the application of science and technology in agricultural production, especially the application of information technology in agricultural development. Therefore, universities and vocational schools play an important role in providing high-quality human resources, research and technology transfer into production practice. Vietnam National University of Agriculture has made changes to adapt to development of the agriculture as well as country.

Development of Volatile Organic Compounds Monitoring Tools based on Smart Benzene Detector for Oil Palm Plantation

Fizrul Indra Lubis *et al*.
PT Sawit Sumbermas Sarana Tbk

Abstract. Oil Palm productivity (Elaeis guineensis Jacq.) is determined by the effectiveness of insect-assisted pollination, Elaeidobius kamerunicus. Pollination occurs when E. kamerunicus visited oil palm inflorescence, this behavior is affected by emission from specific compound of plant secondary metabolites. Distinctive aroma is emitted by Oil palm inflorescence known as Volatile Organic compounds (VOCs). VOCs concentration difference is affected by biotic and abiotic factors. VOCs concentration observation method in plantation areas with various response levels of E. kamerunicus is rarely known. Although the process takes time and is not cost-effective, reliable results are provided by observation using the Benzene Detector. Smart Agriculture 4.0 is revolutionizing the way companies manufacture, improve and distribute their products. Manufacturers are integrating new technologies, including Internet of Things (IoT), cloud computing and analytics into their production facilities and throughout their operations. Smart Agriculture 4.0 will be adapted into the system so the result (coordinate points and measurement data) can be obtained in real time via website and mobile application. By installing the system at several locations, it is possible to map areas with low VOCs emission and take follow-up response to assist pollination.

ORAL ABSTRACTS

AGE-243

Design of wireless soil moisture network based on internet of things WIFI ESP-32 for horticulture cultivation

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Abstract. One essential aspect of horticulture cultivation in the coastal areas is the effectiveness of water use for optimum plant growth to keep the water availability for plants. It is necessary to monitor soil moisture continuously as the basis for watering time. However, it is hard for farmers to be in the field frequently to monitor the land humidity, even using an instrument to measure it at the site. It is needed a monitoring technique that can conduct the land humidity remotely. This paper presents a design of wireless soil moisture measurement based on internet of things. We applied 6 low-cost probes as sand soil moisture sensors coupled with an ESP32 WIFI which built-in ADC function for reading analogue sensors output and establishing a wireless connection to the internet network. A 12 volt battery with solar panel system is used as power supply. The ESP32 was programmed using Arduino software. And, we made a user interface using the Node-Red browser which is a programmable platform to show soil moisture and store the data into a spreadsheet cloud file.

Keywords: soil moisture sensor, wireless sensor, IoT, ESP32, Arduino