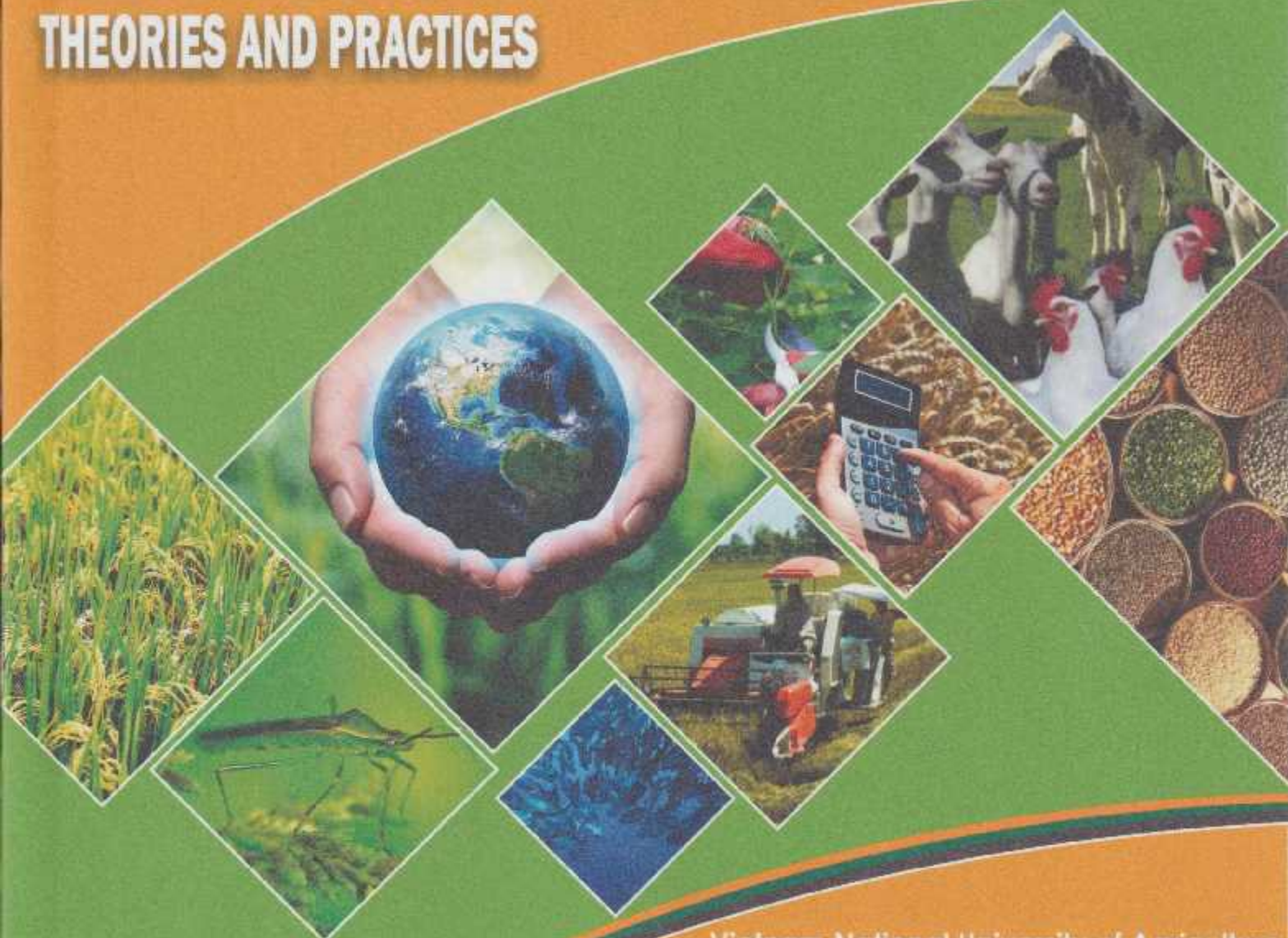




ISSAAS 2017

INTERNATIONAL CONGRESS & GENERAL MEETING

GREEN AGRICULTURE IN SOUTHEAST ASIA: THEORIES AND PRACTICES



Vietnam National University of Agriculture
Hanoi, October 14 - 16, 2017

ISSAAS 2017
International Congress and General Meeting
**“Green Agriculture in Southeast Asia:
Theories and Practices”**
BOOK OF ABSTRACTS



**International Society for
Southeast Asian Agricultural Sciences (ISSAAS)**
In collaboration with
Vietnam National University of Agriculture (VNUA)
Society for Agricultural Education Research Development Abroad (SAEDA)
Tokyo University of Agriculture (Tokyo NODAI)

Vietnam National University of Agriculture, Hanoi, Vietnam
October 14-16, 2017

TIME SCHEDULE

October 13, 2017 Friday

Arrival of Participants

18:00-21:00 ISSAAS Executive Board Meeting

October 14, 2017 Saturday

Venue: Nguyen Dang 207 Hall

- | | |
|-------------|--|
| 08:00-09:30 | Registration |
| 09:30-10:30 | Opening Ceremony |
| | Opening Remarks |
| | Awarding Ceremony |
| | Dr. Yusman Syaukat, Chairman, Awards Screening Committee |
| 10:30-11:00 | Coffee Break |
| 11:00-12:00 | ISSAAS General Meeting |
| | Prof. Hironobu Shiwachi, Secretary General, ISSAAS |
| | Country report presentation |
| 12:00-13:00 | Lunch Break |
| 13:00-15:00 | Plenary Scientific Session |
| Indonesia | Prof. Dr. Dermiyati (Lampung University) |
| | "Towards Sustainable Agriculture in Indonesia" |
| Japan | Prof. Dr. Shigenori Morita (Tokyo University of Agriculture) |
| | "Energy Crop Production for Sustainable and Resilient Society" |
| Malaysia | Prof. Dr. Abdul Shukor Juraimi (Universiti Putra Malaysia) |
| | "Green Agriculture Technologies and Practices in Malaysia" |

- Philippines Prof. Dr. Danilda Hufana-Duran
(Philippine Carabao Center-Department of Agriculture and Affiliate)
"Livestock Reproductive Biotechnologies: Role in Land Preservation and Green Agriculture"
- Thailand Dr. Chainarong Rattanakreetakul (Kasetsart University)
Familiar of green agriculture with Kasetsart University
- Vietnam Prof. Dr. Pham Tien Dung (Vietnam National University of Agriculture)
"Present situation and future perspectives on green agriculture in Vietnam"
- 15:00-15:30 Coffee Break and Poster Presentation
- 15:30-17:30 Oral Scientific Session (1)
- 18:00-20:00 Welcome Reception

October 15, 2017 Sunday

- 08:30-10:30 Oral Scientific Session (2)
- 10:30-11:00 Coffee Break and Poster Presentation
- 11:00-12:30 Oral Scientific Session (3)
- 12:30-13:30 Lunch Break
- 13:30-15:00 Oral Scientific Session (4)
- 15:00-15:30 Coffee Break and Poster Presentation
- 15:30-17:00 Oral Scientific Session (5)
- 17:30-20:00 Farewell Party

October 16, 2017 Monday

- 07:30 Field trip to Trang An, Ninh Binh

WELCOME REMARKS

Distinguish guests, ladies and gentlemen,



It is my great honour and delight to greet you all, and to particularly extend a warm welcome to the distinguished delegates from abroad. Welcome to ISSAAS 2017 International Congress and General Meeting - **"Green Agriculture: Theories and Practices"**.

Following the successful congress last year, Vietnam National University of Agriculture is honored to host an ISSAAS congress once again. I believe we have chosen a venue that guarantees a successful congress amid the rich culture and green scenery of Hanoi.

Ladies and Gentlemen,

Understanding the importance of green agriculture in the era of urbanization, industrialization and technology development, in response to the impact of global climate change, the theme of this year's congress is entitled "Green Agriculture: Theories and Practices". The congress covers a wide range of very interesting topics related to green agriculture, including Plant Science, Integrated Pest Management, Natural Resource and Environment Management, Value Chain for Food and Agricultural Product, Aquatic Science, Agro-engineering, Animal Life Science and Veterinary Medicine, Agricultural Science in Society and Economy, and Boundary Agriculture.

During the next few days, participants from Japan, Indonesia, Malaysia, The Philippines, Thailand, Vietnam, Cambodia, Korea, and other countries will deliver a total of 55 posters and 162 oral presentations. I believe that this congress will be a wonderful forum for you to share your research and experience, explore innovations, and create new collaboration across boundaries. The congress will also offer an one-day field trip for you to discover Hoa Lu - the Vietnamese ancient capital and Trang An - the Ha Long Bay on land, to understand more about Vietnamese nature, culture and people.

Ladies and Gentlemen,

Before I conclude, I wish to take this opportunity to express on behalf of the Vietnam ISSAAS Chapter, our most sincere gratitude to all of our partners in the preparation of the congress. Please allow me to make a special mention of ISSAAS, SAEDA and TUA for their constant support along the way to this year congress. My sincere thank also goes to the ISSAAS 2017 organizing team at VNUA, who have worked extremely hard in planning and organizing both the technical program and supporting social arrangements. Last but not least, I would like to thank all of you for attending the congress and bringing your expertise to our gathering.

Thank you very much!

*Assoc. Prof. Dr. Pham Van Cuong
Vice President, VNUA
Director, Vietnam ISSAAS Chapter*



ISSAAS MATSUDA AWARDEE

Dr. Priscilla Chinte Sanchez

The life and works of Dr. Priscilla Chinte Sanchez attest to her distinction as a Researcher and a Scientist, as someone who values sharing knowledge and information, as a public servant, mentor and an ISSAAS advocate.

The research endeavors of Dr. Priscilla C. Sanchez generated 24 technologies, many of which were adopted by the food industry. She did pioneering research in traditional Filipino fermented foods as well as contributed to the advancement of knowledge in the quality control aspects of various food products and in microbial diversity in the Philippines. Her research endeavors merited various awards and recognition, which include the **Distinguished Alumnus Award (Food Fermentation)** in 1984, **Outstanding Microbiologist Award** in 1989 and the **2008 Centennial Outstanding Alumnus for Science and Technology**, among the many she received

Making sure that her research findings and innovations are documented for use and reference by the future generation of researchers, Dr. Priscilla C. Sanchez authored numerous technical publications, textbooks, conference proceedings, handbooks, manuals and modules. Foremost in her publications is the book entitled, "**Philippine Fermented Foods: Principles and Technology**", the Philippines' first book on food bio-processing. Launched in 2009, Dr. Sanchez said that it was the culmination of 25 years of research. The comprehensive data presented on ethnic foods are not found elsewhere, making it an indispensable resource for scientists, food technologists, students, teachers, as well as the food industry. As such, her 516-page book was conferred the **2010 Outstanding Book Award** by the National Academy of Science and Technology (NAST) Philippines in July 15, 2010 at the Manila Hotel, Philippines.

Dr. Sanchez also dedicated a good part of her active professional life in mentoring students and serving in various capacities in the University, in the country and in the international community. Starting with her entry at the Institute of Food Science and Technology in the University of the Philippines Los Baños as an Instructor in 1971 up to her retirement from the University in 2002, Dr. Sanchez has been an adviser and mentor to about 80 students, either at the Bachelor's, Master's or PhD level. Many of these former students are themselves successful and accomplished in various fields and capacities. While a faculty at the College of Agriculture, UP Los Baños, she also served as Affiliate Faculty in different colleges of the University, a testament to her desire of spreading and providing knowledge to a wider spectrum of the studentry in the University.

In the international and local arena, Dr. Sanchez served in various capacities. She was a Philippine representative to the UNESCO Regional Network for Microbiology and Biotechnology in 1988 to 1997. She also chaired the Biological Sciences Division of the National Research Council of the Philippines from 2003 to 2009. She is a member of the Scientific and Technical Review Panel of the Bureau of Plant Industry, Department of Agriculture for the Biotechnology program from 2002 to present. She served as Head Curator of the Microbial Culture Collection of the Museum of Natural History in UP Los Baños from 1988 to 2002 and continues to be an Adjunct Curator up to the present.

The International Society for Southeast Asian Agricultural Sciences (ISSAAS) was lucky to have Dr. Priscilla C. Sanchez as one of its charter members and officers. Starting with its establishment in 1994 through the initiative of Professor Emeritus Jiro Sugi, Dr. Sanchez was very much a part of it. She served as the first ISSAAS Vice President for the Philippines and was also the focal person during the International Executive Board and Annual General Membership Meeting held in the Philippines in October 1995 at Manila Garden Hotel. Her support for ISSAAS is unwavering and is a symbol of dedication to the cause of the Society for the younger members of ISSAAS to emulate, whether from the Philippines or from other member-countries.

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G20

EVALUATION OF PROBIOTIC *LACTOCOCCUS PLANTARUM* AND *PEDIOCOCCUS PENTASACEUS* WITH PREBIOTIC PURPLE SWEET POTATO ON THE PRODUCTION PERFORMANCE OF ISA BROWN LAYING HEN

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The utilization of probiotics and prebiotics to improve the performance of chicken production has been done, but each probiotic has different characteristics and different effects on poultry. Previous research has proven that *Lactococcus plantarum* and *Pediococcus pentasaceus* in fresh form can improve poultry performance. The purple sweet potato has a high potential as a prebiotic. This study aims to evaluate the impact of probiotic *Lactococcus plantarum* and *Pediococcus pentasaceus* using purple sweet potato prebiotics on the production performance of Isa Brown. The study used 210 laying hens of 28-week-old strain of Isa Brown, placed in 21 units of battery cages measuring 40x30x30 cm. The research design used was Completely Randomized Design with 7 treatments and 3 replications, ie without probiotics (P0); Administration of *L. plantarum* dose 1x (P1); Administration of *L. plantarum* dose 2x (P2); Administration of *P. pentasaceus* dose 1x (P3); Administration of *P. pentasaceus* dose 2x (P4); Administration of *L. plantarum* and *P. pentasaceus* dose 1x (P5); And administration of *L. plantarum* and *P. pentasaceus* dose 2x (P6). The 1x dose contains probiotics equivalent to 1.3×10^8 cfu. The observed variables were feed consumption, Hen Day Egg Productions (HDP), egg mass production and feed conversion. The data were analysed using SPSS version 19.0 and orthogonal for further test. The results of analysis of variance showed that probiotic and prebiotic treatment had no significant effect ($P > 0,05$) on feed consumption but significantly ($P < 0,05$) to HDP, egg mass production and feed conversion. Giving probiotics singly or together has the same effect ($P > 0.05$) to the production performance of Isa Brown, but the higher dosage given the resultant real performance ($P < 0.05$) is better. From the research, it can be concluded that the use of 2x probiotic doses resulted in better production performance with HDP of 76.35%, egg mass production of 45.27 g / head / day, and *L. plantarum* dose of 2 gram resulted in a conversion of 2.86 rations.

Keywords: Isa brown, performance production, *Lactococcus plantarum*, *pediococcus pentasaceus*, purple sweet potato



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