



**ISSU**  
*International Summer  
School Unpad*

# BOOK OF ABSTRACT

Series 1: International Student Conference  
The 4th International Summer Course Unpad

## SUSTAINABLE FARMING SYSTEMS: ADOPT AND ADAPT TECHNOLOGIES

1 - 2 December 2021



# The 4<sup>th</sup> International Summer Course Unpad Series 1: International Student Conference

**“SUSTAINABLE FARMING SYSTEMS: ADOPT AND ADAPT  
TECHNOLOGIES”**

**Jatinangor, Indonesia**

**1 - 2 December 2021**

**Book of Abstracts**



## **Editors :**

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Widi Septiadi

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## **Welcome**

It is our pleasure to welcome you to the 4<sup>th</sup> International Summer School Unpad Series 1: International Student Conference at Universitas Padjadjaran. The Faculty of Agriculture is delighted to organize this event every year. This year, we would like to welcome all delegates from many more universities in both Indonesia and Asia (Cambodia, Japan, Kazakhstan, Thailand and Vietnam).

The increase of population growth causes the increase of human need on agricultural product quantity and quality. The presence of sustainable agriculture is the best solution to produce a high quantity and also a good quality agricultural product. Therefore, present conference would like to discuss about sustainable farming systems: adopt and adapt technologies. This conference invited by Anne Nurbaity Ph.D from Universitas Padjadjaran, Prof Keitaro Tawaraya from Yamagata University, Dr. Supatida Abdullakasim from Kasetsart University, and Almaz Sadykov, Ph.D. from Kazakh National Agrarian Research University. The conference will be held in two days of December 1<sup>st</sup> - 2<sup>nd</sup> , 2021. This conference composed of main international conference, parallel scientific seminar and also mini workshop.

Last but not least, we would like to thank Faculty of Agriculture, Universitas Padjadjaran and all committee for their collaboration to held this event.

We hope you enjoy this international student conference.

Jatinangor, 29 November 2021

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## SCHEDULE

Wednesday, 1 December 2021

Zoom Room

<https://zoom.us/j/92386161532?pwd=K1NaUln3U3FhT2xFNXprU3p3UC91Zz09>

Meeting ID: 923 8616 1532 , Passcode: 084460

TIME (West Indonesia Time)	PROGRAMME
08.00-08.30 am	<b>Registration</b>
08.30-08.45 am	<b>Opening Remarks (MC: Lilian Rizkie, S.P., M.Si)</b> <b>National Anthem of Indonesia</b>
08.30-08.45 am	<b>Welcome Speech</b> <b>(Chairman ISSU – Dr. Rahmat Budiarto, S.P., M.Si)</b>
08.45-09.00 am	<b>Welcome Speech</b> <b>(Vice Dean – Nono Carsono, SP., M.Sc., Ph.D)</b>
09.00-09.30 am	<b>Anne Nurbaity, Ph.D</b> <i>(Adoption of Biofertilizers Technology for Sustainable Farming System)</i>
09.30-10.00 am	<b>Dr. Supatida Abdullakasim</b> <i>(Enhancing growth and phytochemicals of some microgreens using nutritional additive and LEDs light irradiation)</i>
10.00-10.25 am	<b>Discussion</b> <b>Moderator (Nadia Nuraniya Kamaluddin, Ph.D)</b>
10.25-10.30 am	<b>Appreciation &amp; Photo session</b>
10.30-11.00 am	<b>Almaz Sadykov, Ph.D</b> <i>(Current condition and perspective of development of agribusiness in Kazakhstan)</i>
11.00-11.30 am	<b>Prof. Keitaro Tawaraya</b> <i>(Use of Arbuscular Mycorrhizal Fungi for Sustainable Phosphorus Utilization)</i>
11.30-11.55 am	<b>Discussion</b> <b>Moderator (Nadia Nuraniya Kamaluddin, Ph.D)</b>
11.55-12.00 pm	<b>Appreciation, Photo session</b> <b>Closing (Muhamad Kadapi, Ph.D)</b>
01.20-05.00 pm	<b>Parallel Session</b> <b>(Student Presenters &amp; Participants)</b>

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## SCHEDULE

Thursday, 2 December 2021

Zoom Room :

<https://zoom.us/j/96612560471?pwd=QnMzdUxiOGpPNDFzTVFuZnRGczVjUT09>

Meeting ID: 966 1256 0471, Passcode: 510047

TIME (West Indonesia Time)	PROGRAMME
08.00-09.00 am	Registration
09.00-09.15 am	Opening Remarks
09.15-09.45 am	<b>Wahyu Ridwan Fadhillah</b> <i>(Liquid organic fertilizer on mini plant factory : a step toward sustainable farming system)</i>
09.45-10.15 am	<b>Noviani Putri, S.P</b> <i>(Analysis Interpretation of Land Surface Temperature and Vegetation Index Using Satellite Imagery Data)</i>
10.15-10.45 am	<b>Dwi Harya Yudistira, S.P</b> <i>(Black Soldier Fly: From Waste to Table)</i>
10.45-11.15 am	Discussion (Moderator : M.Rifki Faisal,SP)
11.15-11.25 am	Appreciation & Photo session
11.25-11.35 am	Announcement <ul style="list-style-type: none"><li>• Best Presenter</li><li>• Best Participants</li></ul>
11.35-11.45 am	Closing

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ABSTRACTS OF ORAL PRESENTATION 26

**Social Security in The Republic of Kazakhstan**

Baimoldina Nazerke<sup>1</sup>, Berdimurat Nazymgul<sup>1</sup>

<sup>1</sup>Department of Accounting, Audit and Finance

fourth course student, Specialty - Water resources and water use

Kazakh National Agrarian Research University, Kazakhstan

**Abstract**

Social security is a system established by the state in connection with the onset of retirement age, disability, loss of breadwinner and on other legal grounds to provide citizens with pensions, benefits, state targeted social assistance, provision of social services, compensations, benefits. The following types of social security currently take place in the Republic of Kazakhstan: pensions, benefits, state targeted social assistance, social services, compensations, benefits. Currently, in the legal literature, scientists agree that the subject of social security law consists of three groups of relationships. These are procedural, material, procedural relations regulated by the norms of social security law. The law of social security of the Republic of Kazakhstan has its own, independent method of legal regulation, which consists of several techniques and methods in their entirety and combination forming a single method of this branch of law. Analysis of social security in the Republic of Kazakhstan Over the past 20 years, Kazakhstan has emerged as a successful and strong state with a democratic political system, a liberal market economy and a developed civil society. Thanks to Since January 2005, the country has had a system of compulsory social insurance, which provides additional protection for working citizens in the event of social risks, depending on the size and duration of social contributions paid by payers (employers and (or) self-employed persons). At the same time, payers reduce the amount of social tax by the amount of social contributions paid for employees. The first level: social benefits guaranteed by the Constitution of the Republic of Kazakhstan (basic pension payment, state benefits, lump-sum payments for the birth of a child), which are assigned to all citizens at the same level, depending on the labor contribution and previously received income.

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ABSTRACTS OF ORAL PRESENTATION 60

**Hydroponic as an Effort to Support Community Self-reliance in the City of Surabaya**

Zahwah Qotrun Nada <sup>1</sup>, Rahmat Budiarto<sup>2</sup>

<sup>1</sup>Student of Agrotechnopreneur Study Program, Faculty of Agriculture, Universitas Padjadjaran

<sup>2</sup>Department of Agronomy, Faculty of Agriculture, Universitas Padjadjaran

Corresponding author:

**Abstract**

This study aims to review the hydroponic as an effort to support community self-reliance in the city of Surabaya. This paper was composed of several references derived from Google Scholar. The result reviewed that the rapid development in urban areas of Surabaya caused the reduction of agricultural land. This issue triggered the decreasing food supply leading to the high dependence of urban need to rural agricultural products. The city of Surabaya has implemented urban areas since 2009 and one of which was hydroponic farming in the yard of the house. Urban agriculture with the hydroponic method became the right choices to overcome the problem of limited land and create an independent urban community to food supply.

Keywords: farming, food supply, limited land, urban people

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ABSTRACTS OF ORAL PRESENTATION 61

**Bottom-up Effect Organic Fertilizers on Composition and Community  
Structure Complexity of Terrestrial Arthropods in Black Paddy  
Ecosystem**

Yongki Umam Sandi<sup>1</sup>, Vira Kusuma Dewi<sup>2</sup>, Hersanti<sup>2</sup>, Fitri Widiyanti<sup>2</sup>, Martua Suhunan S<sup>2</sup>

<sup>1</sup>The Graduate School of Agricultural Sciences, Faculty of Agriculture, Yamagata University,  
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<sup>2</sup>Pest and Plant Disease Department, Faculty of Agriculture, University Padjadjaran

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**Abstract**

Composition and community structure of terrestrial arthropods in black paddy ecosystem influenced by the ecosystem condition. Terrestrial arthropods have roles as herbivore, natural enemies, and neutral in black paddy ecosystem. The aim of this research was to analyze composition and community structure complexity in black paddy ecosystem through bottom-up effect mechanism of organic fertilizers using *Chromolaena odorata* (siam weed) compost and neem cake. The case study at Cinenggang village, Sub-district Jatinangor, District of Sumedang, Province of West Java, which was conducted in December 2019 – June 2020. The research was using experiment method with randomized block design with five treatments (siam weed compost, neem cake, cow manure, synthetic fertilizer and control), and six repetition to each treatment. The fertilizers treatment to paddy plant is to see the bottom-up effect in black paddy ecosystem. Neem cake and siam weed compost treatments gave the result of higher abundance of terrestrial arthropods genus than cow manure, synthetic fertilizer and control treatments. Those treatments also gave the score index of diversity ( $H'$ ) in medium level, high richness index ( $R$ ), low dominance index ( $C$ )  $< 1$ , and high evenness index ( $E$ )  $> 0,5$ . The indicator of plant performances (height, tiller and chlorophyll value (SPAD)) on neem cake and siam weed compost treatments also gave the highest score of plant performances. The application of organic fertilizers using neem cake and siam weed compost can increase the complexity of composition and community structure in black paddy ecosystem.

Keywords : Principal component analysis, neem cake, bottom-up effect, siam weed, relative abundance

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### GUEST SPEAKERS

Name	Institution
Prof. Keitaro Tawaraya	Yamagata University, Japan
Anne Nurbaity, Ph.D	Universitas Padjadjaran, Indonesia
Almaz Sadykov, Ph.D	Kazakh National Agrarian Research University, Kazakhstan
Dr. Supatida Abdullakasim	Kasetsart University, Thailand

### LIST OF ORAL PRESENTERS

No	Name	Institution
1	Pattamawan Anusornpornpong	Kasetsart University
2	Oranee Chusuwan	Kasetsart University
3	Thantheera Choipan	Kasetsart University
4	Adisak Kaewkam	Kasetsart University
5	Kota Sagae	Yamagata University
6	Hidetoshi Ishikawa	Yamagata University
7	Rahima Nassir	Yamagata University
8	Mao Odonera	Yamagata University
9	Yongki Umam Sandi	Yamagata University
10	Dwi Harya Yudistira	Yamagata University
11	Yosuke Saito	Yamagata University
12	Zhengis Mukayds	Kazakh National Agrarian Research University
13	Baimoldina Nazerke	Kazakh National Agrarian Research University
14	Gulderay Zhumazhanova	Kazakh National Agrarian Research University
15	Ikhsan Suhendro	IPB
16	M. Adrian	IPB
17	Inditrya Wisnu	IPB
18	Muhammad Soleh	Universitas Prof. Dr. Hazairin, SH
19	Eka Putri Lingga Tasti	Universitas Prof. Dr. Hazairin, SH
20	Mohammad Andhika Purnama	Universitas Trunojoyo Madura
21	Aji Sukoco	University of Jember
22	Ristina Siti Sundari	Universitas Padjadjaran
23	Abdullah Rais Putra Menak Geti	Universitas Padjadjaran
24	Avivah Sari Budiyaniti	Universitas Padjadjaran
25	Barli Ervanthe Galen Hutauruk	Universitas Padjadjaran
26	Shiddiq Abdusy Syakur	Universitas Padjadjaran
27	Rafsan Meluna	Universitas Padjadjaran

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28	Sefira Indah Ramadhani Tanief	Universitas Padjadjaran
29	Farah Fauziah	Universitas Padjadjaran
30	Gayatri Nirvana Devi	Universitas Padjadjaran
31	Brigitta Verren Kasih Pramesti	Universitas Padjadjaran
32	Siti Nurfadillah Hasibuan	Universitas Padjadjaran
33	Nugrah Alya Ramadhani	Universitas Padjadjaran
34	Theresia Angelina	Universitas Padjadjaran
35	Devina Ratnaningtyas Kristy Alimin	Universitas Padjadjaran
36	Etika Saputri	Universitas Padjadjaran
37	Rafi Athallah	Universitas Padjadjaran
38	Muhammad Al Faatih Mufiid	Universitas Padjadjaran
39	Fitri Nur Hidayah	Universitas Padjadjaran
40	Nathanail Pramesuary Shalihah	Universitas Padjadjaran
41	Miryam Rotua Lovita Sinaga	Universitas Padjadjaran
42	Sheryl Valentina	Universitas Padjadjaran
43	Iin Lailatul Ma'rifah	Universitas Padjadjaran
44	Nurul Fadilah	Universitas Padjadjaran
45	Alika Mandisha Faisa Suherman	Universitas Padjadjaran
46	Joy Keleng Tiann Montung	Universitas Padjadjaran
47	Alin Robiah Al Adawiah	Universitas Padjadjaran
48	Shania Virlina Kusumaputri	Universitas Padjadjaran
49	Azka Algina	Universitas Padjadjaran
50	Vanya Juliandini	Universitas Padjadjaran
51	Syakra Tazkia	Universitas Padjadjaran
52	Agung Panca Wangi	Universitas Padjadjaran
53	Zahra Marina Hakim	Universitas Padjadjaran
54	Angelina Ayu Putri Andrea	Universitas Padjadjaran
55	Alzahra Munawaroh	Universitas Padjadjaran
56	Bembi Alesta	Universitas Padjadjaran
57	Lia Sugiarti	Universitas Padjadjaran
58	Teddy Wahyana Saleh	Universitas Padjadjaran
59	Salma Shafa Insani	Universitas Padjadjaran
60	Putri Dwi Anggreini Lestari	Universitas Padjadjaran
61	Fradela Nazhara Ghassani	Universitas Padjadjaran
62	Yulianto	Universitas Padjadjaran
63	M. Rifki Faisal	Universitas Padjadjaran
64	Muhammad Rizqi Hartoyo	Universitas Padjadjaran
65	Zahwah Qotrun Nada	Universitas Padjadjaran
66	Sylvia Nika Puspitasari	Universitas Padjadjaran
67	Rizky Maulana Ramadhan	Universitas Padjadjaran

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**ISSU 2021 International Student Conference**  
**Jatinangor, 1-2 December 2021**

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