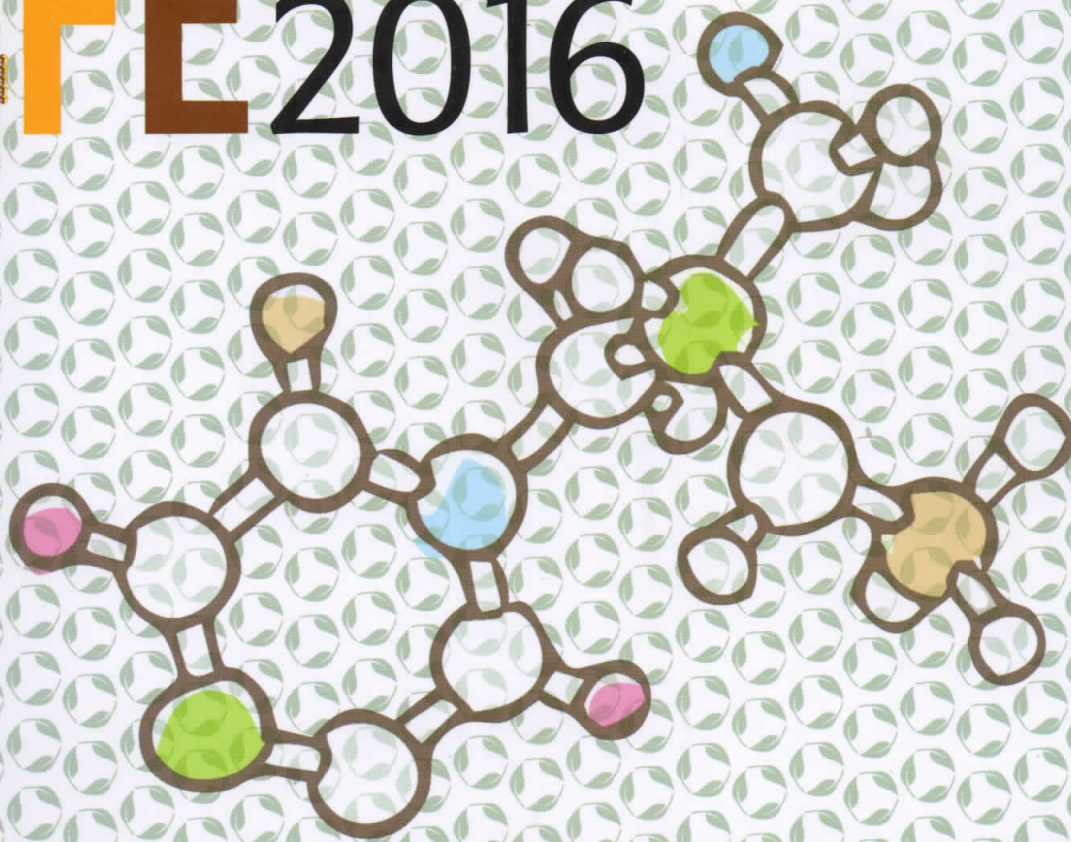


4th International Conference
Sustainable Agriculture, Food and Energy

**Conference Programme
Papers Abstracts**

Transforming Awareness of the
Importance of Sustainability
through Joint Action

SAFE 2016



SAFE Network

Asia Pacific Network for Sustainable Agriculture, Food and Energy



**4th International Conference
Sustainable Agriculture, Food, and Energy
SAFE2016**

October 20-22, 2016
Berjaya Hotel Colombo, SRI LANKA



***“Transforming Awareness of the
Importance of Sustainability through Joint
Action”***

Organized by:



University of Ruhuna, Sri Lanka



ANDALAS UNIVERSITY- INDONESIA



SAFE Network

Asia Pacific Network for Sustainable Agriculture, Food and Energy

“Home for connecting people for a better future of life”



This event is part of activities which is supported by
INTERNATIONAL OFFICE
ANDALAS UNIVERSITY-INDONESIA

Organized by:



University of Ruhuna, Sri Lanka



ANDALAS UNIVERSITY- INDONESIA



"Home for connecting people for a better future of life"

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Welcome Remark from the Rector of Andalas University-INDONESIA, **Prof. Dr. Tafdil Husni**.

Welcome Remark from Conference Chairman/Vice Chancellor of University of Ruhuna, SRI LANKA, **Senior Professor Gamini Senanayake**

The composition of SAFE2016 Organizing Committee

SAFE2016 Program

Networking Discussion

List of Abstract based on Code of Sub-theme

Abstracts

SUB-THEME 1 Sustainable Agriculture and Technology (SAT)

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SUB-THEME 5 Product Development (PD)



Welcome Message from SAFE-Network Coordinator

Welcome to the International Conference on Sustainable Agriculture, Food, and Energy (SAFE 2016)

We are proud to welcoming you to the **International Conference on Sustainable Agriculture, Food, and Energy (SAFE2016): Transforming awareness of the importance of Sustainability through Joint Action** which will be held from October 20-22, 2016 in Colombo. This conference is the fourth conference after the 1st International Conference on Sustainable Agriculture, Food, and Energy (SAFE2013) in Padang, Indonesia (12-14 May 2014), the 2nd conference **SAFE2014** in Bali, Indonesia (17-19 September 2014) and the 3rd conference **SAFE2015** in Ho Chi Minh City, VIETNAM (17-19 November 2015).

The objectives of the conference are:

1. To provide a forum for international researchers community to exchange and share the experiences, new ideas, sustainability concepts and research results on sustainable agriculture, food, and energy.
2. To promote collaboration in research on sustainable agriculture, foods, and energy production.
3. To establish a regional networking among participants on sustainable agriculture, food, and energy.
4. To increase awareness of the importance of living and working in the manner that enhances the economic, environmental and social well-being of our community through research, education, regional partnerships, and community engagement.

SAFE2016 provide resources and opportunities to interact with prominent leaders in the field of sustainability and greatly expand your global network of scholars and professionals. This event aims to bring together people from different areas and interests to share ideas, explore various discussions, maintain existing connections, establish new connections and partnerships, and share the achievements of the work.

We would like especially to thank **Senior Professor Gamini Senanayake**, Vice Chancellor of University of Ruhuna for hosting the conference; **Prof. Tafdil Husni**, Rector of Andalas University for his strong support to this event, **Prof. Mangala De Silva**, local conference coordinator and the members of the local organizing committee who helped with all the preparations required to make the conference a success, as well as the session organizers who worked to ensure a high level of science presented at the meeting. And, of course, we thank all honorable speakers and participants who have agreed to attend and discuss your work! Finally, please understand that while every effort was made to publish this book as the "final" program, we know that unavoidable withdrawals and other changes will occur.

Welcome to SAFE-2016, Colombo!
Welcome to Sri Lanka, Wonder of Asia!

Dr. Novizar Nazir
Executive Chairman
SAFE-Network Coordinator

SAFE Network



MESSAGE FROM THE RECTOR OF ANDALAS UNIVERSITY-INDONESIA

I would like to congratulate and convey my gratitude to the **SAFE Network** for undertaking the initiative to organize **SAFE2016** (4th International Conference on Sustainable Agriculture, Food and Energy). Andalas University is extremely delighted to be organizer of this conference since the 1st International Conference on Sustainable Agriculture, Food, and Energy (**SAFE2013**) in Padang, Indonesia (12-14 May 2014), the 2nd conference of **SAFE2014** in Bali, Indonesia (17-19 September 2014) and the 3rd conference of **SAFE2015** in Ho Chi Minh City, VIETNAM (17-19 November 2015). This year conference is one of the agenda in commemorating the **60th founding anniversary of Andalas University**.

The theme of this year's conference is "**Transforming awareness of the important of Sustainability through Joint Action**". Through the conference we hope to generate substantial contributions to the action research on sustainable agriculture, food and energy. Act locally and think globally! We are confident that valuable cooperation and further actions research are forged subsequent to attending this conference.

Sustainability is a difficult issue and complex. It is not a goal but a process. I would like to thank the organizing committee and the co-organizer institutions for the hard work and full commitment in preparation of this conference.

Finally, we congratulate University of Ruhuna, Sri Lanka for hosting this conference. My personal respect and thanks goes to all of honorable speakers and participants. Please enjoy the culture of Sri Lanka! I wish you an enjoyable and memorable conference in Colombo.

Thank you.

Prof. Dr. Tafdil Husni
Rector of Andalas University

Message From University of Ruhuna-SRI LANKA



I am pleased to issue this message to mark the “4th International Conference on Sustainable Agriculture, Food and Energy” to be held on the 20-22nd October 2016 in Colombo, Sri Lanka. Conferences provide an opportunity for academics to share the knowledge generated through their research to a wider scientific and industrial community. I am happy to see SAFE network together with the University of Ruhuna is organizing this event. I am also glad to learn that many academics and scholars, especially from Asia Pacific region, are expected to participate in this event.

Organizing an international research conference is a big challenge and I am confident that SAFE network together with the University of Ruhuna would hold this event to the expectations of the academic community throughout the world. I also believe this occasion will be used as a platform for our academics to strengthen their links with other universities and research institutes in knowledge generation and sharing. I extend my sincere thanks to the organizers of the conference and wish them all success. I wish all the international scholars, a productive and a memorable stay in our beautiful country.

Senior Professor Gamini Senanayake

The Vice Chancellor
University of Ruhuna
Sri Lanka

Sustainability is a difficult issue and complex. It is not a goal but a process. I would like to thank the organizing committee and the co-organizer institutions for the hard work and full commitment in preparation of this conference.

Finally, we congratulate University of Ruhuna, Sri Lanka for hosting this conference. My personal respect and thanks goes to all of honorable speakers and participants. Please enjoy the culture of Sri Lanka! I wish you an enjoyable and memorable conference in Colombo.

Thank you.

Prof. Dr. Tahir Huan
Rector of Andalus University



SAFE Network

Asia Pacific Network for Sustainable Agriculture, Food and Energy

Mission:

SAFE Network is an Asia Pacific network of university and college educators, researchers, and activists, who collaborate in analysis, synthesis, connecting and educating the people for a better economy, ecology, and equity in agriculture, food and energy system.

Objectives:

- Increase the capacity of the scientific community to address major sustainability challenges in agriculture, food and energy.
- Increase the capacity of the scientific community to enrich people through programs, services and support that help them increase their capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.

Activities:

- SAFE Network provides annual workshop and conference under the theme of sustainable agriculture, food and energy.
- SAFE Network publish an International Journal in sustainable agriculture, food and energy.
- SAFE Network enables scholars to collaborate more effectively in applying an International /regional research grant.
- SAFE Network provides Exchange scholars/lecturers between members.
- SAFE Network provides program, services and support to help people increase their capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.

Working Group

- WG1- Sustainable Agriculture
- WG2- Food Technology and Sustainable Nutrition
- WG3- Sustainable Energy
- WG4- Extension, Community Development and Scientific Communication

Let's Join!

Any organization or individual committed to Sustainable Agriculture, Food and Energy can join the Network to:

- Get the latest information on Sustainable Agriculture, Food and Energy
- Build connections with colleagues across the country
- Access helpful assistance, workshop, training and resources.
- Get support to programs, services and support that increase capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.
- Share your knowledge and experience on Sustainable Agriculture, Food and Energy

SAFE 2016 COMMITTEE

Patron

Senior Prof. Gamini Senanayake, Vice Chancellor, University of Ruhuna-SRI LANKA
Prof. Dr. Tafdil Husni (Rector of Andalas University)

Executive Chairman

Dr. Novizar Nazir-Andalas University-INDONESIA

Local Conference Coordinator

Prof. P.M.C.C de Silva, PhD, University of Ruhuna, SRI LANKA

Advisory Committee

Dr. Paul Kristiansen-University of New England, AUSTRALIA (Co-ordinator)
Prof. Dr. Werry Darta Taifur, Andalas University, INDONESIA
Dr. Endry Martius, Andalas University, INDONESIA
Dr. Delia Catacutan, ICRAF VIETNAM
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Prof. Dr. Djumali Mangunwijaya- Bogor Agricultural Agriculture, INDONESIA.
Prof. dr. Dewa Putu Widjana, DAP&E. Sp.Par.K-Warmadewa University-INDONESIA
Dr. Anak Agung Gde Oka Wisnumurti, M.Si-Warmadewa University-INDONESIA
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Prof. Dr. Wan Mohtar Wan Yusoff-Universiti Kebangsaan Malaysia, MALAYSIA
Prof. Dr. Tsutomu Morinaga-Prefectural University of Hiroshima, JAPAN

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Prof. Dr. Helmi- Andalas University-INDONESIA (Co-ordinator)
Prof. Dr. Fauzan Azima - Andalas University-INDONESIA
Assoc. Prof. Dr. Nurul Huda- Universiti Sains Malaysia. MALAYSIA
Prof. Dr. Amitava Basu- Bidhan Chandra Krishi Vidyalyaya, INDIA
Dr. Pattarawadee Sumthong Nakmee- Kasetsart University, Si Racha Campus-THAILAND
Prof. Nasser Aliasgharzar-Department of Soil Science- Faculty of Agriculture. University of Tabriz-Iran.
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Prof. Kohei NAKANO, Ph.D- Gifu University-JAPAN
Assoc. Prof. Dr. Nurul Huda, Universiti Sains Malaysia - USM, MALAYSIA
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Dr. Norman de Jesus L-Pampanga State Agricultural University, Philippines
Dr. Helen Martinez- Philippine Center for Postharvest Development and Mechanization, PhilMech
Prof. Dr. Santosa-Andalas University, INDONESIA
Dr. Gusmalini, Agriculture Polytechnic of Payakumbuh. INDONESIA
Dr. Ir. Ujang Paman Ismail, MSc. Universitas Islam Riau-INDONESIA
Prof. Dr. Othman Sulaiman- Universiti Sains Malaysia-MALAYSIA
Prof. Dr. Yuli Haryati, Jember University-INDONESIA
Prof. Dwinardi Aprianto, Bengkulu University-INDONESIA
Dr. Ir. I G Bagus Udayana - Warmadewa University-INDONESIA
Prof. Dr. Mohd Razi Ismail- Universiti Putra Malaysia, MALAYSIA

Secretary:

Dr. Irawati Chaniago, International Office of ANDALAS University. INDONESIA

SAFE-Network Regional Secretariat:

Dr. Wahyudi David – *Bakrie University-INDONESIA*
Rahmat Hidayat, ST, M.Sc.IT- *State Polytechnic of Padang –INDONESIA*
Nurselvi Safril, *Gadjah Mada University-INDONESIA*
Annisiya Zarina Putri, *Gifu University-JAPAN*
Aisman Rasinin, *MSc-Andalas University-INDONESIA*
Ario Beta Juanssilfero, M.Eng- *Kobe University-JAPAN*

Scientific Committee

Prof. Dr. Takashi Oku-*Prefectural University oh Hiroshima, JAPAN*
Prof. Tomoyuki NAKAGAWA-*Gifu University, JAPAN*
Dr. Muhammad Ishfaq Khan, *The University of Agriculture Peshawar. PAKISTAN*
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Dr. Hasbullah, *Khairun University, Ternate, INDONESIA*
Dr. Rislina Sitompul, *Indonesian Institutes of Sciences-INDONESIA*

Contact Person

Prof. Dr.P.Mangala C.S.De Silva, Resident Coordinator (SRI LANKA)

Department of Zoology-Faculty of Science
University of Ruhuna. Matara,81000- Sri Lanka.
TP: +94-41-2222682(4702)- office. +94-718150718 – mobile
Fax:+94-41-2222701
Email:chathura@zoo.ruh.ac.lk
<http://muthu.ruh.ac.lk/~chathura/>

Dr. Nguyen Huy Bich, SAFE-Network Resident Coordinator

Nong Lam University Ho Chi Minh city, VIETNAM
Linh Trung Ward, Thu Duc Dist., Ho Chi Minh City, Viet Nam
Phone: (+84-8) 37242529; 38960721
Email: nhbich@hcmuaf.edu.vn

Dr. Novizar Nazir, SAFE-Network Coordinator

Faculty of Agricultural Technology-Andalas University
Kampus Unand Limau Manis Padang 25163-INDONESIA
Telp/Fax: +62 751 72772
E-mail: nazir_novizar@yahoo.com, novizarnazir@safetainability.org

Dr. Agr. Wahyudi David, MSc, SAFE-Network Operation and Communication

Food Science and Technology Univ. Bakrie. Jl. HR. Rasuna Said Kav C22 Kawasan Epicentrum
Kuningan Jakarta Selatan 12920
Phone : +62 21 1448 ext 374. Fax : +62 21 526 3191
E-mail: wahyudi.david@bakrie.ac.id

SAFE2016 PROGRAM

DAY 0: Wednesday, October 19, 2016

ARRIVAL OF PARTICIPANTS	
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DAY 1: Thursday, October 20, 2016

ONE DAY TOUR	
Densitation: Kandy	
Starting Point: Berjaya Hotel, Colombo at 8.00 am	

DAY 2: Friday, October 21, 2016
VENUE: BERJAYA HOTEL COLOMBO, SRI LANKA

Time	Activity
7.30-8.30 AM	Registration
8.30-9.00	Opening Ceremony Venue: Berjaya Hotel Colombo
8.30-8.35	Conference Program Introduction by Local Conference Coordinator, Prof. P.M.C.S De Silva, SAFE-Network National Co-ordinator (Sri Lanka). University of Ruhuna, Sri Lanka
8.35-8.40	Welcome Remark from Rector of Andalas University, Prof. Dr. Tafdil Husni
8.40-8.45	Welcome Remark from Vice Cancellor of University of Ruhuna, Senior Professor Gamini Senanayake
8.45-8.50	Welcome Remark by the Ambassador of the Republic of Indonesia in Sri Lanka

8.50-8.55	Presentation of Certificate of Appreciation and Special Gift from Dr. Novizar Nazir (SAFE-Network) to University of Ruhuna and Andalas University
8.55-9.00	Presentation SAFE2017 logo to Prof. Azizah Hanom Ahmad (UiTM-Malaysia) and Photo Session
9.00-10.15	KEY NOTE ADDRESSES Venue: Berjaya Hotel, Colombo
TRANSFORMING AWARENESS THE IMPORTANCE OF SUSTAINABLE AGRICULTURE, FOOD AND ENERGY INTO ACTION	
Session Chair: Dr. Norman de Jesus, SAFE-Network National Coordinator (Philippines), Pampanga State Agriculture University.	
9.10-9.25	Presenter 1: Ranjith Senaratne PhD (Vienna), PhD (Durham), Professor and Chair, Department of Crop Science, Faculty of Agriculture, University of Ruhuna
NEEDED: TRANSFORMATION OF CONVENTIONAL AGRICULTURE INTO A KNOWLEDGE-BASED INDUSTRY	
9.25-9.40	Presenter 2: Prof. Dr. Helmi Syarifuddin, SAFE-Network Regional Office, Andalas University-INDONESIA
FRAMING THE APPLICATION OF SUSTAINABILITY SCIENCE TO SUPPORT DELIVERY OF SDG'S IN AGRICULTURE AND ENVIRONMENT: SAFE-NETWORK PERSPECTIVE	
9.40-9.55	Presenter 3: Honorio M. Soriano JR, Ph.D., Pampanga State Agriculture University-Philippines
INTEGRATED PRODUCTION SYSTEM MODEL OF PAMPANGA STATE AGRICULTURAL UNIVERSITY IN CENTRAL LUZON, PHILIPPINES	
9.55-10.15	Q & A Presentation of Certificate of Appreciation and Special Gift to Session Chair and Keynote Speakers

10.15-10.30	COFFEE BREAK
10.30-11.40	Plenary Session : Current Issue of Sustainable Agriculture, Food and Energy Venue: Ball Room, Beriava Hotel Colombo Session Chair: Prof. Dr. RUDI PEBRIAMANSYAH, Andalas University-INDONESIA Presenter 4: Prof. Dr. Amitava Basu, SAFE-Network National Co-ordinator (INDIA), Bidhan Chandra Krishi Vismavidyalaya, INDIA SILVER NANO PARTICLES AND THEIR ROLE IN PHYTOPATHOGEN MANAGEMENT UNDER SUSTAINABLE AGRICULTURE
10.45-11.00	Presenter 5: Prof. Tomovuki NAKAGAWA, Faculty of Faculty of Applied Biological Sciences Gifu University-JAPAN NOVEL METABOLIC PATHWAY REQUIRING RARE EARTH ELEMENTS AS ESSENTIAL FACTOR IN PLANT SYMBIOTIC BACTERIA -ITS FUNCTION AND APPLICATION TO PLANT GROWTH PROMOTION"
11.00-11.15	Presenter 6: Prof. Dr. Erivatno, Bogor Agriculture University, INDONESIA FOOD DEFENSE SYSTEM WITH APPLICATION OF REGULATORY SCIENCE
11.15-11.30	Presenter 7: Prof. Dr. Wan Mohhtar Wan Yusoff-Universiti Kebangsaan Malaysia, MALAYSIA SYSTEM OF RICE INTENSIFICATION (SRI) : ADDRESSING AGRICULTURAL WATER WOES IN RICE FARMING
11.30-11.45	Q & A Presentation of Certificate of Appreciation and Special Gift to session chair and invited Speakers

11.45-12.45

Plenary Session

PUTTING THE AWARENESS OF SUSTAINABILITY OF AGRICULTURE, FOOD AND ENERGY INTO PRACTICE

Venue: Ball Room, Berjaya Hotel Colombo

Session Chair: Prof. Nguyen Huy Bich, SAFE-Network National Coordinator (VIETNAM), Nong Lam University Ho Chi Minh City, VIETNAM

11.45-12.00

Presenter 8:

Prof. Ivh-Chen Chen, National Central University, TAIWAN

CURRENT AND FUTURE DEVELOPMENT OF SOLAR CELL”

12.00-12.15

Presenter 9:

Prof. Dr Azizah Hanom Ahmad, University Teknologi MARA (UiTM), MALAYSIA

SODIUM-ION AS A CHARGE CARRIER IN COMPOSITE POLYMER ELECTROLYTE FOR FUTURE ENERGY STORAGE

12.15-12.30

Presenter 10:

Channa Jayasumana MBBS, PhD, Faculty of Medicine, Rajarata University of Sri Lanka

EPIDEMIC OF CINAC: DESTINY OF PADDY FARMERS IN RURAL SRI LANKA

12.30 – 12.45

Q & A

Presentation of Certificate of Appreciation and Special Gift to session chair and invited Speakers

12.45-14.00

Lunch Break, Poster Session & Prayer

14.00-16.00 Breakout Session I

Venue: Berjaya Hotel Colombo

Parallel Session	Room 1	Room 2	Room 3	Room 4	Room 5
	Session Chair: Prof. Alnopri #Department of Sustainable Agriculture, University of Bengkulu, University of Bengkulu, Indonesia	Session Chair: Dr. Rislina Sitompul. Indonesian Institutes of Sciences-INDONESIA	Session Chair: Dr. Wan Zunairah University Putra Malaysia	Session Chair: Dr. Vanny Indah Mutiara, GIFU University-JAPAN	Room 5 NETWORKING DISCUSSION
14.00-14.10	Prof. Dr. Md. Mizanur Rahman Bhuiyan, SAFE-Network National Coordinator (Bangladesh). Soil Science Discipline Khulna University-Khulna, Bangladesh ASSESSMENT OF THE BENEFITS OF FLOATING BED AGRICULTURE PRACTICE IN BANGLADESH"	Prof. Yudi Pranoto, Gadjahmada University-INDONESIA EFFECT OF FERMENTATION BY AMYLOMYCES ROUXII OR RHIZOPUS OLIGOSPORUS ON IN-VITRO STARCH AND PROTEIN DIGESTIBILITY OF DECORTICATED RED SORGHUM (SORGHUM BICOLOR L. MOENCH)	Dr. Hanilyn Hidalgo[#] #Department of Agribusiness and Entrepreneurship, Central Bicol State University of Agriculture, Pili, Camarines Sur, Philippines. E-mail: hanilyn77@gmail.com MARKET POTENTIAL OF PASTEURIZED COCONUT WATER IN THE PHILIPPINE BEVERAGE INDUSTRY	Prof. Irfan Suliansyah, ANDALAS UNIVERSITY-INDONESIA GENETIC DIVERSITY AND ASSOCIATION AMONG WEST SUMATRA BROWN RICE GENOTYPE BASED ON MORPHOLOGICAL MARKER	
14.10-14.15	SAT-01	FT-04	PDM-02	SAT-28	
14.15-14.20	SAT-02	FT-05	PDM-03	SAT-30	
14.20-14.25	SAT-06	FT-07	PDM-04	SAT-31	
14.25-14.30	SAT-07	FT-09	PDM-05	SAT-32	
14.30-14.35	SAT-09	FT-10	PDM-06	SAT-33	
14.35-14.40	SAT-11	FT-12	PDM-07	SAT-34	
14.40-14.45	SAT-13	FT-14	PDM-08	SAT-35	
14.45-14.50	SAT-14	FT-16	PDM-09	SAT-36	
14.50-14.55	SAT-15	FT-17	PDM-10	SAT-37	
14.55-15.00	SAT-17	FT-18	PDM-12	SAT-39	
15.00-15.05	SAT-19	FT-20	PDM-13	SAT-40	

15.05-15.10	SAT-22	FT-21	PDM-16	SAT-41	
15.10-15.15	SAT-23	FT-23	PDM-17	SAT-42	
15.15-15.20	SAT-25	FT-24	PDM-18	SAT-43	
15.20-15.35	SAT-26	FT-26	PDM-16	SAT-44	
15.35-15.40	SAT-27	FT-27	PDM-17	SAT-46	
15.40-15.45	SAT-45	FT-19	PDM-19	SAT-47	
15.45-15.50	SAT-48	FT-22	PDM-21	SAT-69	
15.50-15.55	SAT-49	FT-27	PDM-22	SAT-71	
15.55-16.00	SAT-50			SAT-72	
16.00-16.15	Coffee Break				
16.15-18.00	Breakout Session 2				
Venue: Berjaya Hotel Colombo					
Parallel Session	Room 1 Session Chair: Dr. Khandra Fahmy, Andalas University-INDONESIA	Room 2 Session Chair: Prof. Naniek Setyowati, University of Bengkulu, Indonesia	Room 3 Session Chair: Prof. Hanilyn Hidalgo, Central Bicol State University-Philippines	Room 4 Session Chair: Prof. Estrella Zabala, Pampanga State Agriculture University, Philippines	Room 5 Session Chair: Dr. Anis Shobirin Meor Hussin, Universiti Putra Malaysia-MALAYSIA
16.15-16.25	Prof. Nurpilihan Bafdal[#] Dept. Soil and Water Engineering, Padjadjaran University Jl Raya Bandung-Jatinangor 40600 Indonesia E-mail: nurpilihanbafdal@yahoo.com RAINFALL HARVESTING AS A RESOURCES OF SELF WATER FERTIGATION WITH VARIOUS CROP MEDIAS	Prof. Munif Ghulamahdi¹⁾ , ¹⁾ Teaching Staff of Department of Agronomy and Horticulture, Bogor Agricultural University University, Address: Jl Meranti Kampus IPB Darmaga, Bogor, Indonesia THE EFFECT OF FOLIAR FERTILIZER AND PLANTING DISTANCE ON THE GROWTH AND PRODUCTION OF SOYBEAN UNDER SATURATED SOIL CULTURE ON TIDAL SWAMP	Dr. Romualdo C. Martinez[#] , [#] Philippine Center for Postharvest Development and Mechanization, Munoz, Nueva Ecija 3120, Philippines. E-mail: romualdomartinez@yahoo.com * Philippine Center for Postharvest Development and Mechanization, Munoz, Nueva Ecija 3120, Philippines E-mail: robdaquilaph@yahoo.com DEVELOPMENT AND FIELD TESTING OF IMPROVED SOLAR TUNNEL DRYER FOR FERMENTED COCOA BEANS IN THE PHILIPPINES	Dr. Janice M Baysa, Ramon Magsaysay Technological University, Iba, Zambales, 2201 Philippines; UTILIZING AN INTEGRATED PEST MANAGEMENT DECISION GUIDE FOR THE CONTROL OF CALLIMETOPUS CAPITO PASCOE IN CENTRAL LUZON, PHILIPPINES	Prof. Evawani Aritonang University of North Sumatra, INDONESIA. MIXED COOKED RICE WITH PURPLE SWEET POTATO IS POTENTIALLY TO BE THE LOW GLYCEMIC INDEX FOOD

16.25-16.30	SAT-51	SAT-72	AE-01	PDM-24	PD-01
16.30-16.35	SAT-52	SAT-73	AE-05	PDM-25	PD-02
16.35-16.40	SAT-53	SAT-74	AE-06	PDM-27	PD-03
16.40-16.45	SAT-54	SAT-75	AE-09	PDM-28	PD-05
16.45-16.50	SAT-55	SAT-76	FT-28	PDM-29	PD-07
16.50-16.55	SAT-56	SAT-78	FT-29	PDM-30	PD-12
16.55-17.00	SAT-57	SAT-79	FT-30	PDM-32	PD-13
17.00-17.05	SAT-58	SAT-80	FT-32	PDM-33	PD-14
17.05-17.10	SAT-59	SAT-82	PD-24	PDM-34	PD-15
17.10-17.15	SAT-60	SAT-86	PD-25	PDM-35	PD-17
17.15-17.20	SAT-61	SAT-86	PD-27	PDM-36	PD-18
17.20-17.35	SAT-62	SAT-89	PD-28	PDM-37	PD-19
17.35-17.40	SAT-64	SAT-91	PD-29	PDM-38	PD-20
17.40-17.45	SAT-65	SAT-92	PD-30	PDM-40	PD-21
17.45-17.50	SAT-66	SAT-94	PD-35	PDM-41	PD-22
17.50-17.55	SAT-67	PD-06	PD-36		PD-23
17.55-18.00	SAT-68	PD-09	PD-37		

18.00 – 18.15 CLOSING CEREMONY**Venue: Ball Room, Berjaya Hotel****Key points/highlight from the Conference****Prof. Helmi, Andalas University-INDONESIA****Prof. Mangala C.S. De Silva, University of Ruhuna, Sri Lanka****Dr. Irawati Chaniago, Andalas University-INDONESIA****Closing Message: Senior Professor Gamini Senanayake, University of Ruhuna-SRI LANKA****18.30 – 20.00****Farewell Dinner on the Beach, Berjaya Hotel Colombo**

DAY 3: Saturday, October 22, 2016
DEPARTURE OF PARTICIPANTS



SAFE Network

Asia Pacific Network for Sustainable Agriculture, Food and Energy

NETWORKING DISCUSSION Term of Reference



Having Awareness of the Importance of Sustainability through Joint Action

To share and support proposals submitted by SAFE Network's members to provide an opportunity for each member to discuss the possibility of joint cooperation around their individual initiatives.

PARTICIPANTS

CHAIRMAN

1. Prof. Dr. Norimi, 2015 Research Fellow, Senior Coordinator, Asia Pacific Network (APN), ICR
2. Dr. Norimar Marín, 2015 Research Coordinator, Assistant Director, ICR
3. Prof. Dr. Armitava Basu, 2015 and 2016 Coordinator, ICR
4. Prof. Dr. P. Hingula C. & Dr. Siva, Training Coordinator (ICR)
5. Dr. Harrison de Jesus, Training Coordinator (Philippines)
6. Prof. Nguyen Huy Bach, Ph.D. Research Coordinator (VLT/ICR)
7. Prof. Dr. HO MINHQUAN, 2015 Research Fellow, Research Coordinator (ICR)
8. Dr. Long Khan, Senior Coordinator (ICR)

INTRODUCTION

SAFE-Network was initiated by Andalas University and declared on 12nd May 2013 in Andalas University-Padang INDONESIA by 16 scholars from university and college educators, researchers, and activists from Australia, Indonesia, Japan, Malaysia, Thailand, Vietnam. The objectives of this network are to increase the capacity of the scientific community to address major sustainability challenges in agriculture, food and energy and to increase the capacity of the scientific community to enrich people through programs, services and support that help them increase their capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.

There are 5 main activities of SAFE-Network: [1] provides annual workshop and conference under the theme of sustainable agriculture, food and energy; [2] publish an International Journal in sustainable agriculture, food and energy; [3] enables scholars to collaborate more effectively in applying an international /regional research grant; [4] SAFE Network provides Exchange scholars/lecturer between members and [5] provides program, services and support to help people increase their capacity to produce a better economy, ecology, and equity in agriculture, food and energy system. Until recently, SAFE-Network have already performed 3 annual conference and published conference papers in International Journal.

SAFE-network is growing. At the beginning of its establishment, there are 124 individuals involved in the SAFE-Network activity. At a conference in Bali in 2014, the members involved increased to 267. Currently, individuals involved in the SAFE-Network already numbered 454 people who come from 19 different countries and 30 institutions.

To improve the activity of SAFE-Network, then we need to jointly agree to undertake activities which are in line with the mission of SAFE-Network. In the context of that improvement, Networking Discussion is very important to be held.

The theme of discussion:

"Transforming Awareness of the Importance of Sustainability through Joint Action"

Objective:

1. To discuss and approve proposals submitted by SAFE-Network Secretariat.
2. To provide an opportunity for each member to discuss the possibility of joint cooperation between their individual institutions

PARTICIPANTS

Hosted by:

1. **Prof. Dr. Helmi**, SAFE-Network Head of Steering Committee/ Andalas University. INDONESIA
2. **Dr. Novizar Nazir**, SAFE-Network Coordinator-Andalas University. INDONESIA
3. **Prof. Dr. Amitava Basu**, Resident Coordinator (INDIA)
4. **Prof. Dr.P.Mangala C.S.De Silva**, Resident Coordinator (SRI LANKA)
5. **Dr. Norman de Jesus**, Resident Coordinator (Philippines)
6. **Prof. Nguyen Huy Bich, Ph.D.** Resident Coordinator (VIETNAM)
7. **Prof. Dr. MD MIZANUR RAHMAN BHUIYAN**, Resident Coordinator (BANGLADESH)
8. **Dr. Isfaq Khan**, Resident Coordinator (Pakistan)

Secretary:

9. **Dr. Irawati Chaniago**, Director International Office of Andalas University-INDONESIA

INVITED PERSON:

10. **Senior Professor Gamini Senanayake**, The Vice Chancellor of University of Ruhuna (SRI LANKA)
11. **Dr. Endry Martius**, Vice Rector Andalas University (INDONESIA)
12. **Prof. Dr. Rudi Febriamansyah**, Dean of Graduates School of Andalas University (INDONESIA)
13. **Honorio M. Soriano Jr.**, President of Pampanga State Agricultural University, Philippines
14. **Dr. Georgina J. Bordado**, President of CENTRAL BICOL STATE UNIVERSITY OF AGRICULTURE, Philippines
15. **Dr. Amelia Nicolas**, Central Bicol State University of Agriculture. Pili, Camarines Sur, Philippines.
16. **Prof. Hanilyn A. Hidalgo**, Central Bicol State University of Agriculture. Pili, Camarines Sur, Philippines.
17. **Dr. NORMITA PASALO**, Deputy Director. PHILIPPINE CENTER FOR POSTHARVEST DEVELOPMENT AND MECHANIZATION (PHilMech), CLSU Compound. Philippines
18. **Gusmalini**, Director of Agricultural Politechnic of Payakumbuh-INDONESIA
19. **Dr. Fahrurrozi**, Dean of Faculty of Agriculture. University of Bengkulu-INDONESIA
20. **Dr. DWI WAHYUNI GANEFIANTI** /Dr. Dean of Faculty of Agriculture. University of Bengkulu. INDONESIA
21. **Prof.Dr. Wan Mochtar Wan Yusoff**, Universiti Kebangsaan Malaysia, MALAYSIA
22. **Dr. JAMILAH SYAFAWATI BT YAACOB** /Dr., University of Malaya. MALAYSIA
23. **Prof. YUDI PRANOTO**, Gadjah Mada University, INDONESIA
24. **Prof. T Nakagawa**, Gifu University-JAPAN
25. **Prof. Dr. Eriyatno**, Bogor Agricultural University-INDONESIA
26. **Prof. MUNIF GHULAMAHDI**, Bogor Agricultural University-INDONESIA
27. **Prof. Dr. Fauzan Azima** – Andalas University-INDONESIA
28. **Prof. Razak Wahab**, Dean-Universiti Malaysia Kelantan-MALAYSIA
29. **Prof.Dr. Santosa**- Dean of Fac. Of Agricultural Techn. Andalas University, INDONESIA
30. **Dr. Aswaldi Anwar**, Vice Dean of Faculty of Agriculture, Andalas University. INDONESIA
31. **Dr. Ujang Paman Ismail**, MSc. Dean of Faculty of Agriculture. Universitas Islam Riau-INDONESIA
32. **RANJITH SENARATNE Ph.D (VIENNA), PHD (DURHAM)**, UNIVERSITY OF RUHUNA. SRI LANKA
33. **PROF. DR AZIZAH HANOM AHMAD**, UNIVERSITY TEKNOLOGI MARA (UITM). MALAYSIA
34. **PROF. JYH-CHEN CHEN**, NATIONAL CENTRAL UNIVERSITY. TAIWAN
35. **CHANNA JAYASUMANA MBBS, Ph.D.** UNIVERSITY OF SRI LANKA. SRI LANKA
36. **Dr. Ir. I G Bagus Udayana** – Warmadewa University-INDONESIA
37. **Prof.Dr.Yuli Hariyati**, Jember University, INDONESIA
38. **Dr. Yuli Wibowo**, Jember University, INDONESIA
39. **Dr. Luluk Sulistyo Budi**, Vice Rector of Merdeka University, INDONESIA.
40. **Dr. Rislina Sitompul**, Indonesian Institutes of Science-LIPI. INDONESIA
41. **Prof. Dr. Evawany Aritonang**, University of North Sumatra-INDONESIA

Proposal I: Book Writing Activities

Title:

"Agriculture, Food, Energy and Sustainability: Asian Perspectives"

Editors: Dr. Novizar Nazir, SAFE-Network Coordinator. Andalas University-INDONESIA

Contributor's

Prof. Dr. Helmi, SAFE-Network Head of Steering Committee/Vice Rector of Andalas University-INDONESIA

Prof. Dr. Wan Mochtar Wan Yusoff, Universiti Kebangsaan Malaysia, MALAYSIA

Prof. Dr. Rudi Febriamansyah, Andalas University (INDONESIA)

Prof. Dr. Amitava Basu, BCKV (INDIA)

Dr. Ishfaq Khan, Peshawar University of Agriculture (PAKISTAN)

Prof. Thimmaiah Sudir, Maharishi University of Management-Iowa (USA)

Prof. Nasser Aliasgharzad, University of Tabriz (IRAN)

Prof. Dr. P. Mangala C. S. De Silva, University of Ruhuna (SRI LANKA)

Nguyen Huy Bich, Ph.D., Nong Lam University Ho Chi Minh City (VIETNAM)

Prof. Nobutaka Ito, Visiting Professor. Faculty of Engineering, Chiang Mai University, Thailand

Dr. Ravindra Chandra Joshi, Ph.D. (Philippines), FRES (Lon.), FRSB (Lon.), MIBiol, CBiol (Lon.), Sigma Xi (USA), NRCP (Phils.). Visiting Professor, Pampanga State Agricultural University (PSAU), Philippines

Dr. Mohd Makky, Andalas University (INDONESIA)

Prof. Kohei NAKANO, Ph.D., Resident Coordinator (JAPAN)

Dr. Condro Wibowo, University of Jendral Soedirman (INDONESIA)

Dr. Wahyudi David, Universitas Bakrie. (INDONESIA)

Prof. Taufiq Yap, Universiti Putra Malaysia (MALAYSIA)

Prof. Mohd Razi Ismail, Universiti Putra Malaysia (MALAYSIA)

Dr. Piyush Soni, Asian Institute Technology. (THAILAND)

Dr. Ir. I G Bagus Udayana – Warmadewa University-INDONESIA

Prof. Dr. MD MIZANUR RAHMAN BHUIYAN, Resident Coordinator (BANGLADESH)

Prof. Dr. Torsten Weber and Katharina Baier, Cologne Business School, Hardefustr. 1, Cologne, 50677, Germany

Dr. Rika Ampuh Hadiguna, Andalas University (Indonesia)

Publisher:

This book will be printed and published by SPRINGER.

Proposal II: Bali Summer Course (BSC2017) on Sustainability Development

Host Institution:

Warmadewa University- Bali, INDONESIA. Warmadewa

Participants:

This one week course is intended for students who come from each member country of SAFE-Network. Total number of participants between 20-30 students. Participants who join BSC2016 were 18 students from Vietnam, Malaysia, Cambodia and Indonesia.

Lecturer:

The lecturers is on voluntary basis comes from each member country of SAFE-Network who have a commitment to share their experience, expertise and knowledge. The lecturer come at their own expense. SAFE-Network invite Gifu University-JAPAN, Prefectural University of Hiroshima-Japan, University of Ruhuna-Sri Lanka, Universiti Kebangsaan Malaysia, Universiti Sains Malaysia, Universiti Teknologi Mara (UiTM), Universiti Putra Malaysia, Andalas University-Indonesia, Kasetsart University-THAILAND, Nong Lam University Ho Chi Minh City, Pampanga State Agricultural University, Philippines, Central Bicol University of Agriculture, Philippines, University of Bengkulu, Gadjah Mada University, Padjadjaran University, Bogor Agricultural University, Jember University and other institution to participate.

Proposal III: JOINT ACTION DISCUSSION

1. Food Defence Issue - **Prof. Dr. Eriyatno**, Bogor Agricultural University-INDONESIA
2. International Advisory Panel on Sustainable Agriculture, Food and Energy-**Prof. Wan Mochtar Wan Yussoff**, Universiti Kebangsaan Malaysia-MALAYSIA
3. Book Chapter Project on Food Issue, **Prof. Yudi Pranoto**- Gadjah Mada University, INDONESIA
4. TRANSFORMATION OF CONVENTIONAL AGRICULTURE INTO A KNOWLEDGE-BASED INDUSTRY- **Ranjith Senaratne PhD (Vienna), PhD (Durham)**. University of Ruhuna. SRI LANKA

TIME SCHEDULE

Venue: Berjaya Hotel Colombo

Date: October 21, 2016

Time: 14.00-17.20

14.00-14.05	INTRODUCTION REMARK-Dr. Novizar Nazir, SAFE-Network Coordinator
14.05-14.10	NETWORKING DISCUSSION INTRODUCTION Chairman: Prof. Dr. Helmi, Head of Steering Committee of SAFE-Network
14.10-14.20	Discussion TOPIC I: Book Writing Activities Dr. Novizar Nazir- Andalas University, INDONESIA Prof. Yudi Pranoto- Gadjah Mada University, INDONESIA
14.20-14.30	Discussion TOPIC II: BALI SUMMER COURSE 2017 Dr. I Gusti Bagus Udayana, Warmadewa University. INDONESIA
	Discussion TOPIC III: JOINT ACTION!
14.30-14.45	Food Defence Issue - Prof. Dr. Eriyatno, Bogor Agricultural University-INDONESIA
14.45-15.00	International Advisory Panel on Sustainable Agriculture, Food and Energy- Prof. Wan Mochtar Wan Yussoff, Universiti Kebangsaan Malaysia-MALAYSIA
15.00-15.15	TRANSFORMATION OF CONVENTIONAL AGRICULTURE INTO A KNOWLEDGE-BASED INDUSTRY- Ranjith Senaratne PhD (Vienna), PhD (Durham). University of Ruhuna. SRI LANKA
15.15-15.30	TOPIC IV: SHARING IDEA
15.30-15.40	SUMMARIZING IDEA Dr. Irawati Chaniago, Director International Office of Andalas University-INDONESIA
15.40-15.50	CLOSING Prof. Dr. Helmi, ANDALAS University-INDONESIA
15.50-16.00	PHOTO SESSION
16.00-16.15	COFFEE BREAK

FT-22	<p>^aWan Zunairah WI., ^bNor Afizah Mustapha, ^bDafina Dzulkarnain, ^bAnis Shobirin Meor Hussin</p> <p>^aDepartment of Food Science, Faculty of Food Science and Technology, Universiti Putra Malaysia, Serdang, 43400, Malaysia E-mail: wanzunairah@upm.edu.my</p> <p>^bDepartment of Food Technology, Faculty of Food Science and Technology, Universiti Putra Malaysia, Serdang, 43400, Malaysia E-mail: nor_afizah@upm.edu.my; shobirin@upm.edu.my</p>	MALAYSIA	Effects Of Hydrocolloids On Development Of Goat Milk Ice Cream
FT-23	<p>Rince Alfia Fadri, Salvia, Sri Kembaryanti Putri</p> <p>Program Studi Teknologi Pangan (Food Technology Study Programme). Politeknik Pertanian Negeri Payakumbuh (Agricultural Polytechnic State Of Payakumbuh). E-mail: rince.alfia@yahoo.co.id</p>	INDONESIA	Strawberry Drink Type Giving Effect Pass Through Additional Meals To The Nutrient Status, Diarrhea And Acute Respiratory Infection Stunted Children Kenagarian (Area) Of Muaro Pauh, Kapur Ix Subdistrict.
FT-24	<p>Laksmyn Kadir¹, Noviana Mohi² Syam S.Kumaji²</p> <p>¹Public of Health Department. ²Biologi Department, Gorontalo State University. email: asi_1403@yahoo.co.id</p>	INDONESIA	The Quality Of Milk Of White Corn (<i>Zea Mays Ceratina</i>) Combination With Mung Bean (<i>Phaseolus Radiatus</i>)
FT-25	<p>Hamidin Rasulu¹, Hasbullah¹, Risal Jafar¹, Sofyan Samad²</p> <p>¹Departemen of Food Science and Technology, Faculty of Agriculture, University of Khairun Ternate, Indonesia, 97121</p> <p>²Departemen of Agro-technology, Faculty of Agriculture, University of Khairun Ternate, Indonesia, 97121</p> <p>Authors correspondence e-mail: hamidinrasulu@yahoo.com</p>	INDONESIA	Physico-Chemical Properties Of "Smart Sagu" Production By Cassava Composite Flour Varieties Of Jame-Jame And Fish Flour
FT-26	<p>Yetti Marlida¹, Harnentis¹ Nurmiati²</p> <p>¹Department of Animal Nutrition and Feed Technology, Faculty of Animal Science, Andalas University, West Sumatera, Indonesia. Corresponding Author: +6281363445528, Email: yetti_marlida@faterna.unand.ac.id</p> <p>²Department of Biology, Faculty of Natural Sciences, West Sumatera, Indonesia.</p>	INDONESIA	Potency Lactic Acid Bacteria From Dadih (Traditional Fermentation Food From Minang Kabau, West Sumatera, Indonesia) For Glutamic Acid Production As Precursor Of γ -Amino Butyric Acid (Gaba)
FT-27	<p>Indah Rodianawati¹, Hasbullah¹</p> <p>¹Faculty of Agricultural, Khairun University e-mail: rodiana79@gmail.com</p>	INDONESIA	Study Of Chemical Composition And Antioxidant Potency Of Nutmeg Juice With Rosella (<i>Hibiscus Sabdariffa</i> Linn.)
FT-28	<p>Nancy Kiay^{1*} and Sofyan Abdullah^{2*}</p> <p>^{1,2}Program Studi Teknologi Hasil Pertanian – Fakultas Pertanian – Universitas Gorontalo, Jl. Jenderal Sudirman – Gorontalo 95115</p> <p>Author Correspondence Address: email: nancykiay@yahoo.co.id, ofhan2001@yahoo.com</p>	INDONESIA	Instant Sago (Metroxylon Sp) Chemical Characteristics And Organoleptic High Calorie Foods
FT-29	<p>Muhammad Azizan Samad¹, Siti Hajar Hashim¹, and Jamilah Syafawati Yaacob^{1,2,*}</p> <p>¹Institute of Biological Sciences, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia.</p> <p>²Center for Research in Biotechnology for Agriculture, University of Malaya, 50603 Kuala Lumpur, Malaysia.</p> <p>*Corresponding author: jamilahsyafawati@um.edu.my, tel: +603-79674090</p>	MALAYSIA	Effects Of Fruit Chilling And Extract Storage On Antioxidant Activity, Total Phenolic And Anthocyanin Content Of Four Date Palm (<i>Phoenix Dactylifera</i>) Cultivars
FT-30	<p>Puspita Sari^{1*}, Cintya Hastry¹, Maryanto¹, Mahriani²</p> <p>¹ Department of Agricultural Product Technology, Faculty of Agricultural Technology, Jember University</p> <p>²Department of Biology, Faculty of Mathematics and Natural Sciences, Jember University, Kampus Tegal Boto Jl. Kalimantan 1 Jember 68121, East Java, Indonesia. *Email: poespiha_s@yahoo.com</p>	INDONESIA	Antioxidative Properties And Anthocyanin Stability Of Jambolan (<i>Syzygium Cumini</i>) Fruit's Juicemake With Addition Of Rosemary Polyphenolic Extract
FT-31	<p>Salvia. S, Rince Alfia Fadri</p> <p>Lecturer of Politeknik Pertanian Negeri Payakumbuh, west Sumatra, Indonesia. Email : salviasani@gmail.com</p>	INDONESIA	Quality Profile Of Traditional Coffee Of Bukik Apik, Bukittinggi

FT-23

Strawberry Drink Type Giving Effect Pass Through At The Nutrient Status, Diarrhea And Acute Respiratory Children In Kenagarian (Area) Of Muaro Paiti, Kapur IX

Rince Alfia Fadri, Salvia, Sri Kembaryanti Putri

Program Studi Teknologi Pangan (Food Technology Study Programe)
Politeknik Pertanian Negeri Payakumbuh (Agricultural Polytechnic State Of Payakumbuh)

Abstract—The high number of stunted children (around 12% to 45%) is about nutrient problem in indonesia and diarrhea tragedy also acute respiratory infection. It had been done a research to analyze the effect of strawberry drink type giving as functional drinking water to the children of aged 1 - 5 years old in kenagarian (area) muaro paiti, kapurix subdistrict. The purpose of this research was to analyze strawberry drink type to the nutrient status, diarrhea tragedy and also acute respiratory infection to the stunted children. An experiment research had done for 120 days in pre-post test research of 90 stunted children divided to a group of treatment and control group. The weight measured by digital scale with 0,01kg acuration and the height mesured by microtoise with 0,1 cm acuration. Meal intake using 2x24 hours of recall system. Recall done at the beginning, middle and at the end of research. Acute respiratory infection and diarrhea tragedy to be asked every day. The mean intake of strawberry drink type reached 100 ml / day containing 1.6×10^9 cfu bal/ g. Energy and protein intake were above 100%. There wasa significant increase z-score h/a in experiment group ($p=0,000$) at the end of study, which did not in control group ($p>0,05$). However, there was a significant decreased in z-score w/h in the experiment group ($p=0,000$) which did not in control group ($p>0,05$). The datas analyzed using shapiro-wilk, pairing-test and ancova. The result described the descent of diarrhea and acute respiratory infection tragedy to the both of group that more stand out to the experiment group. Adding strawberry drink type to the additional meals to increase linear growth and descent diarrhea also acute respiratory infection tragedy to the stunted children at the aged of 1 - 4 years old. It is a good decition strwaberry drink type presented as additional meals for children every day.

Keywords—nutrient status, bal, strawberry drink type

FT-24

The Quality of Milk of White Corn (*Zea Mays Ceratina*) Combination With Mung Bean (*Phaseolus Radiatus*)

Laksmyn Kadir¹, Noviana Mohi² Syam S. Kumaji²

¹Public of Health Department, ²Biologi Department, Gorontalo State University
email:asi_1403@yahoo.co.id

Abstract—Malnutrition, poverty and corn yields abundant giving it the potential to do innovation manufacture green beans corn milk "SUJAKAJU" so that the above problems obtaining a good solution for the welfare and health of children in Gorontalo. This research aims to see the quality of nutrional content and organoleptic of white corn and mung bean mil. This is a pre experimental research with three treatments (1:1, 2:1 and 3:1). The nutritional content data are analyzed descriptively in narrative form, meanwhile the organoleptic test are analyzed descriptively in percentage form. It reveals that the carbohydrate in the form of starch for treatment A1 is 0,12%, A2 is 0,13%, and A3 is 0,19%, fat content in treatment A1 is 11,04%, A2 is 15,73%, and A3 is 10,44%. Meanwhile, the protein cantent in treatment A1 is 10,12%, A2 is 10,45%, and A3 is 10,65%. On the other hand, the organoleptic test of color presentation, the highest goes to treatment A3 with the percentage of 80% and within the like category (3), the highest percentage of flavor also received by treatment A3 with the percentage of 57% and within the like category (3), the best texture also found in treatment A3 with the percentage of 50% and within the like category (3), and the best taste also belongs to treatment A3 with the percentage of 57% and within the like category (3).

Keywords—White Corn, Mungbean, Nutritional Content, Organoleptic

Organizing Institution



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SAFE 2016 - International Conference
Sustainable Agriculture, Food and Energy
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