



International Conference on Food, Agriculture and Culinary Tourism 2015



FOODREVIEW
INDONESIA

kulinologi
INDONESIA

PUPUK



KALTIM

**International Conference on Food,
Agriculture and Culinary Tourism**

Samarinda, 4 – 6 August 2015

ICFACT 2015

Welcome Note from The ICFACT 2015 Committee

Assalamu'alaikum Warrahmatullahi Wabarakatuh,
A very good morning to you,

Welcome to Samarinda. I, would like to express greatest regard to the Almighty God, Allahu SWT, and also to extend my warmest gratitude to all the audiences, that assist, help, and support this event.

In the light of strengthening Indonesia through development of proficient and professional human resources, food is a major factor transforming to more productive society. This conference is in coherence with a grand agenda of increasing national and local food security and also improving nutritional statuses of the people. Hitherto, the conference will be focussed on food, agricultural products and culinary that support food security, safety, processing advancement and their aesthetical aspects.

We would like to report that about seventy national and international participants are attending the conference. This number is frankly beyond our expectation when we were arranging this at the first time. This suggests Samarinda is attractive and therefore has a potential to be developed as a tourist detination city in Kalimantan. We understand, to access Samarinda requires more effort. In near future, travelling to Samarinda will be less complicated as the new airport is ready to operate.

This conference will present international speakers from Chulalongkorn University, Associate Professor Salwarun Chalwanichsiri, University Putera Malaysia, Associate Professor Azmawani AbdRahman, and a leading presenter, Prof. Dr. Dato Othman Yatim from University Brunei Darussalam. Also, this conference will feature fellow professors and scientists from UMS, IPB, LIPI, BATAN, UGM, Widya Mandala, Gorontalo, Papua, Hasanuddin, Mataram, Jember, and other places.

The morning session is designed for keynote speeches and the afternoon session is for parallel sessions. In this regard, the conference will be

ICFACT 2015

sectioned in four: (1) food safety as an important factor to food security, (2) functional food development, (3) development of new food products, and (4) natural food production.

The Indonesian Association of Food Technologists chapter East Kalimantan Timur, as an organisation, would like to thank The Samarinda city government, Food Security and Agricultural Executive Counseling Board of Samarinda, PT Pupuk Kaltim, Food Review Indonesia, and Kulinologi Indonesia for their strong support to this conference.

We hope that you will enjoy the tropical climate of East Kalimantan while staying in Samarinda. Without further due, we kindly ask the Rector of Mulawarman University and the Mayor of Samarinda to give speech and also to open this conference, officially.

Wassalamu'alaikum Warahmatullahi Wabarakatuh,

The ICFACT 2015 Committee,

Anton Rahmadi
Chairman.

ICFACT 2015

Welcome Speech

**The Head of Food Security and Agricultural Executive Counseling
Board of Samarinda**

The honorary, the Mayor of Samarinda city,
Honorary Head of working units of Samarinda
Honorary Rector of Mulawarman University,
Honorary Professors, Academicians, Participants, Invited guests from
Indonesia and neighboring countries,
And all the audience.

A very good morning,

In this morning, I would like to thank God for His guidance and blessing. I am also would like to extend my gratitude to my fellow staffs in Food Security and Agricultural Executive Counseling Board of the Samarinda City and our colleagues from all over Indonesia and neighboring countries to attend the first international conference on food, agriculture, and culinary tourism, here in Samarinda, East Kalimantan.

To develop food security is a joint responsibility of government, private sectors, and more importantly the people, themselves. The food security is a condition where sufficient food is provided to a country and individuals. This is reflected by adequate supply of staple food, both in quantity and quality, its safety, diversity, nutritional contents that are accessible and affordable to people. It is also equally important that the provided food supports all religions, beliefs, and cultures, so that it will produce healthy, active, and subsequently productive society.

The Food Security and Agricultural Executive Counseling Board of Samarinda has responsibility to actively support and assist the successfulness of the program of the Mayor of Samarinda, specifically in the field of food security and agricultural counseling.

ICFACT 2015

The government established Food Security Council in Samarinda with the Mayor regulation number 21, year of 2002. To work towards food security in Samarinda, as an implementation of article 10 of Presidential decree number 18, year of 2006, about the Food Security Council, the function of Food Security Council is further expanded and aligned with the current development.

One highlighted activity of the food security council and agricultural executive counselling board is the International Conference on Food, Agriculture, and Culinary Tourism. This activity is held with an aim to disseminate information and to gather ideas of food security and nutrition practices in ASEAN and Indonesia for further Samarinda development.

Achieving food security and nutrition status is mandated by the Law number 18, year of 2013 and the presidential decree number 17, year of 2015. Of equal importance, it is a necessity to increase quality and quantity of public services to achieve minimum essential standard services as mandated by the Ministry of Agriculture regulation number 65/OT1040/12/2010, and the Interior Minister circular number 100/1023/SJ/2013 dated on 26 of March, 2012 about the acceleration of minimum essential standard services implementation in local governments.

Minimum essential standard services of food security in Samarinda city have achieved above 90 percent in four basic services and seven target indicators in 2015. To illustrate, the people consumption of energy is 1719.8 kilo calories per capita per day. This, however, is below the average daily intake of 2200 calories, as indicated by Widya Karya Pangan dan Gizi, year of 2004 and 2013. On the other hand, the protein consumption is above the national average, achieving fifty-two point four gram per capita per day. The general achievement for food pattern expectation is 81.9 points. In response to reduction of food insecurity region, the case of malnutrition is successfully reduce to less than 0.5 %. It is also noted that food reserves are increased in Samarinda.

This excellent moment of International Conference on Food, Agriculture, and Culinary Tourism is achieved as an excellent collaboration of the Food Security and Agricultural Executive Counselling Board of Samarinda with the

ICFACT 2015

Indonesian Association of Food Technologists chapter East Kalimantan, the Department of Agricultural Products Technology, Mulawarman University. We hope that this will produce a fruitful outcome to collect ideas and practices in developing food security and nutrition in Samarinda.

I, with all due respect to the Mayor of Samarinda, would like to ask Bapak Syaharie Jaang to officially open this conference.

Samarinda, 5 August 2015,

Food Security and Agricultural Executive Counseling Board of Samarinda,

Ari Yasir Pilipus

ICFACT 2015

Welcome Speech The Mayor of The Samarinda City

The honorary Head of National Food Security Council,
All the head of working units, SKPD, in Samarinda,
All professors, participants, and colleagues from foreign countries and
Indonesia,
And other invited guests.

Assalamu'alaikum Wr. Wb.

A very good morning and welcome to Samarinda, especially for those who are first time to arrive in Samarinda. We wish you to have a pleasant stay and a good impression of this city.

Samarinda faces rapid development in recent years. This includes upgrading and extending city infrastructures. To further develop the city, it is indispensable to have excellent quality of human resources as programmed already in the development plan of the city.

To talk about food, it is a primary need of every person and its fulfillment is an important part of human rights that is guaranteed by our constitution, UUD 1945. Quality food is a prerequisite to produce highly proficient human resources.

The Samarinda city, that covers 718 kilometer square and is populated by nearly one million people, requires adequate supply of foods. In this regard, the government and the people of Samarinda have a role to maintain stability of food supply. The potential agricultural field is less than ten percent, so Samarinda has to emphasize on its strengths that are services and industrial sectors.

Along with the growth of the population and the economy, the demand for food has also increased from time to time. Therefore, the availability and

ICFACT 2015

distribution of foods should be underlined as one priority. The agricultural development, regardless currently having a small contribution, should be further developed to not only in the production capacity but also the distribution and marketability. These require a good collaboration with market players, whether they play direct or indirect role to the availability and stability of food supply.

To assist food security in Samarinda, the government established Food Security Council in Samarinda with the Mayor regulation number 21, year of 2002. Further, as mandated by the article 26 of the Presidential decree number 83, year of 2006 about the Food Security Council, the function of Food Security Council is further expanded and aligned with the current development.

As mandated by the article 47 of Law number 18, year of 2013, paragraph 3, the central government along with local governments are responsible for distribution of foods in their authorities. This is also in conjunction with increasing public services to achieve minimum essential standard services as mandated by the Ministry of Agriculture regulation number 65/OT1040/12/2010, and the Interior Minister circular number 100/1023/SJ/2013, dated on 26 of March, 2012 about the acceleration of minimum essential standard services implementation in local governments.

The achievement of minimum essential standard services of food in Samarinda city includes four basic services and seven target indicators with minimum achievement of 90 percent in 2015. As an illustration, energy consumption for people of Samarinda is 1719.8 kilo calories per capita per day. This is below the average daily intake, as indicated by Widya Karya Pangan dan Gizi, year of 2004 and 2013, that stated 2200 kilo calories. The protein consumption is 52.4 gram, is above the national average. The general achievement for food pattern expectation is 81.9 points.

As a follow up to further develop services to people of Samarinda, according to Law number 32, year of 2004 about the local government, it is mentioned that food security is an essential and obligatory service provided by the provincial and city or municipal governments, mainly due to the fact that food security is basic right along with access to living necessities.

ICFACT 2015

The food security, at the end, is not only in production, but is also affected by quality of human resources in the production, distribution, and services, as mentioned in the Law number 18, year of 2012. The production system upgrade is relentlessly achieved by implementing technology and Innovation, with the assistance of all related working units, SKPD. This is quint essential to suffice food security status in Samarinda.

This also highlights the importance of the International Conference on Food, Agriculture, and Culinary Tourism that is jointly carried out by the Indonesian Association of Food Technologists chapter East Kalimantan, the Department of Agricultural Products Technology, Mulawarman University, and Food Security Council of Samarinda. It is expected that the conference will produce ideas and a lot of inputs to further develop food security status in Samarinda and Indonesia.

I, the Mayor of Samarinda city, in the name of the Almighty God, and with high appreciation, officially open the International Conference on Food, Agriculture, and Culinary Tourism, 2015.

Wassalamualaikum Wr Wb.

Samarinda, 5 August 2015
The Mayor of the Samarinda city

Syaharie Jaang

The 1st ICFACT2015 Rundown

Date	Time	Agenda
04 Aug	19.00	Dinner and guest welcoming with Rector of Mulawarman University and Major of Samarinda City
	08.00-08.30	Registration
	08.30-09.45	Opening ceremony Welcome Speech by Committee of ICFACT Welcome Speech by Head of Food Security Bureau Samarinda Welcome Speech by Rector of Mulawarman University Welcome Speech by The Major of Samarinda
05 Aug	09.45-10.00	Coffee Break
	10.00-11.15	PLENNARY SESSION 1 Chair: Prof. Dr. Winiati Pudji Rahayu (IAFT) <ol style="list-style-type: none"> 1. Agricultural Policy and Efforts to Feed People and to Support Tourism with Quality Food (National Board of Food Security) 2. Experiences on Establishing Food Self-Sufficiency (Dr. Anton Apriyantono, Former Indonesian Minister of Agriculture): 3. Strategy and innovation to Increase Food Processing Quality Embracing

Date	Time	Agenda
		<p>ASEAN Economy Community (Assoc. Prof. Saiwarun Chaiwanichsiri, Chulalongkorn University, Thailand)</p> <p>PLENNARY SESSION 2 Chair: Prof. Dr. Mariam AbdLatif (UMS)</p> <p>4. Culinary and Halal Food Prospective to Support ASEAN's Growing Tourism and Population (Prof. Azmawani AbdRahman, University Putra Malaysia, Malaysia)</p> <p>5. Food Industrial Prospective for Regional Food and Culinary Markets (Adhi S. Lukman, Chairman of GAPMMI)</p> <p>6. Lead Presentation: Prof. Dato Dr. Othman Yatim (University of Brunei Darussalam)</p>
	12.30-13.30	Lunch Break
	13.30-14.30	PARALLEL SESSION 1
	14.30-15.30	PARALLEL SESSION 2
	15.30-15.45	Coffee Break
	15.45-16.30	PARALLEL SESSION 3

Agenda		
Date	Time	
	16.30-17.00	Closing Remarks from conference chairman of International on Food, Agriculture and Culinary Tourism.
06 Aug	08.00-14.00	Field trip to cultural village of Pampang and Souvenir Shop (Citra Niaga)

PARALLEL SESSION 3

<p>SESSION A Food Safety as an Important Factor to Food Security Panel 3A Moderator: Dr.Ir. Harsi D. Kusumaningrum</p>	<p>SESSION B Development of Food Functional Panel 3B Moderator: Ir. Eni Kusumaningtyas, M.Sc.</p>
<p>Paper 1: Antifungal activity of kebar grass (<i>Biophytum petersianum</i> Klotsch) stem ethanol extract on the growth of aflatoxigenic <i>Aspergillus flavus</i> in corn and peanut based media (Meike M. Lisangan)</p> <p>Paper 2: Assessment of combined red ginger (<i>Zingiber officinale</i> var. Rubrum) and red galangal (<i>Alpinia purpurata</i> k. Schum) essential oils as preservatives in chicken meat (Tita Rialita)</p>	<p>Paper 1: Formulation of Bawang Dayak Bulb Water Extract As Antidiabetic Instant Drink (Andi Early Febrinda)</p> <p>Paper 2: Evaluation of Glycemic Index Determination Method On Cookies Made from HMT-Modified Arrowroot Starch (Ratna Sari Listyaningrum)</p>

Paper 3:

The impact of intervention feeding parenting women on nutritional status of children in the Village Sangkima Kutai National Park East Kutai (Bernatal Saragih)

Paper 4:

The potential of indigenous lactic acid bacteria isolated from spontaneous fermented goat milk as candidate probiotic bacteria (Alfriza Yelnetty)

Paper 3:

Plant sterols as functional food and its genetic study (Nurhasanah)

Paper 4:

Determination of Endo- β -Glucanase Molecular Weight and CMCase Activity of Cellulase Producing Actinomycetes Using SDS-Page and Zymogram Electrophoresis (Hamka Nurkaya)

DETERMINATION OF ENDO- β -GLUCANASE MOLECULAR WEIGHT AND CMCase ACTIVITY OF CELLULOSE PRODUCING ACTINOMYCETES USING SDS-PAGE AND ZYMOGRAM ELECTROPHORESIS

Hamka Nurkaya¹ and Salpin Chalyanan²

¹ *Politeknik Pertanian Negeri Samarinda, Samarinda 75131,
Indonesia, hamka_nurkaya@yahoo.com*

² *Department of Microbiology, Faculty of Science, King Mongkut's
University of Technology Thonburi, Bangkok 10140, Thailand,
saipin.cha@kmutt.ac.th*

Abstract

This research aimed to determine of endo- β -glucanase molecular weight and CMCase activity of cellulase producing actinomycetes using SDS-page and Zymogram electrophoresis with the utilize of oil palm empty fruit bunch (OPEFB) as medium for the production of cellulase. A potential of using OPEFB to accelerate cellulase production by cellulolytic microorganism was tested. The high cellulase producing actinomycetes isolate 12.3.A that was collected from the Microbiology Department of King Mongkut's University of Technology Thonburi, Thailand was used in this study. The isolate 12.3.A was preliminary appointed to be *Streptomyces hirsutus* from the result of 16S-rRNA gene analysis. The optimal conditions for cellulase production of *S. hirsutus* isolate 12.3.A were determined. The best yields were derived from culturing the cells at pH 7, 30°C, and substrate concentration at 1% for 6 days. The highest cellulase activity from OPEFB as a medium was 0.71 U/ml respectively. The suitable nitrogen source for the culture medium made of OPEFB was ammonium sulfate, respectively. The partial purification of cellulase was shown specific activity from ammonium sulfate precipitation was raised as 3.74 Units/mg and for cellulase purified by dialysis was 7.38 Units/mg. The zymogram assay with polyacrylamide amended with Carboxy methyl cellulose (CMC) demonstrated that the isolate 12.3.A produced a band of CMCase (endo- β -glucanase) which had shown a clear zone area on

the polyacrylamide gel. Meanwhile the molecular weight of endo- β -glucanase was 27.64 kD with a SDS-page as tested method.

Keywords: Endo- β -glucanase, molecular weight, CMCase, oil palm empty fruit bunch, *Streptomyces hirsutus* isolate 12.3A, cellulase activity



Secretariat for ICFAC 2015
Dept. of Agricultural Products Technology
Agricultural Faculty, Building C-10
Jl. Pasir Balengkong, Gunung Kelua Campus, Mulawarman University, Samarinda
Email: icfact2015@unmul.ac.id
Website: <http://icfact.parpt.or.id>