



## TENTATIVE PROGRAM

### TENTATIVE PROGRAM THE 7<sup>th</sup> FOOD INGREDIENT ASIA CONFERENCE (FiA) "ADVANCING FOOD INGREDIENTS TO PROMOTE HEALTHY LIFE AND SUSTAINABILITY"

Jakarta International Expo Kemayoran, Jakarta Indonesia  
Wednesday - Friday, 7-9 September 2022

#### A. OVERALL EVENTS

Time	Date		
	7 September 2022	8 September 2022	9 September 2022
AM	<ul style="list-style-type: none"><li>• Opening events</li><li>• Plenary Session I: Advances in Regulation, Education, &amp; Food Sciences</li><li>• Food Sensory Training</li><li>• Congress IAFI/PATPI</li><li>• 2<sup>nd</sup> SEAFast-Nestle Food Product Development Competition</li></ul>	<ul style="list-style-type: none"><li>• Parallel Presentation Sessions</li><li>• Food Sensory Training</li><li>• 2<sup>nd</sup> SEAFast-Nestle Food Product Development Competition (Product Display)</li></ul>	<ul style="list-style-type: none"><li>• Halal Workshop</li><li>• 2<sup>nd</sup> SEAFast-Nestle Food Product Development Competition (Product Display)</li></ul>
PM	<ul style="list-style-type: none"><li>• Plenary Session II: Engineering &amp; Processing</li><li>• Parallel Presentation Sessions</li><li>• 2<sup>nd</sup> SEAFast-Nestle Food Product Development Competition</li></ul>	<ul style="list-style-type: none"><li>• Parallel Presentation Sessions</li><li>• Plenary Session III: Food Safety and Quality</li><li>• Plenary session IV: Nutrition and Health</li><li>• Closing events</li></ul>	-

## B. DETAILED CONFERENCE ACTIVITIES

Time	Activity
<b>Day 1: Wednesday, 7<sup>th</sup> September 2022</b>	
08:00-09:00	<i>Registration</i>
09:00-10:00	Joint Opening Ceremony - Food Ingredients Asia Exhibition and Conference 2022 Remarks from Informa, GAPMMI etc. - guests determined by Informa Remarks from IAFI President
10:00-10:15	Morning Refreshment
10:15-10:20	Report from the Committee
10:20-10:30	Remarks by the Head of Department of Food Science and Technology IPB
10:30-10:40	Remarks by Rector IPB University <i>Support of IPB University in the Development of Food Science and Technology in Indonesia</i> <b>Prof. Dr. Arif Satria (TBA)</b>
<b>Plenary Session 1: Advances in Regulation, Education, &amp; Food Sciences</b> <b>Moderator: Prof. Ir. Aman Wirakartakusumah M.Sc., Ph.D.</b>	
10:40-11:00	Keynote Speech (TBA): <i>Role of National Standardization Agency of Indonesia in Regulation, Education, &amp; Food Sciences</i> <b>Drs. Kukuh S. Achmad, M.Sc</b> <i>(Head of National Standardization Agency of Indonesia (BSN))</i>
11:00-11:20	<i>Challenges of Food Processing Technology and Industry for the Achievement of SDGs</i> <b>Prof. Purwiyatno Hariyadi (IPB University, PATPI)</b>
11:20-11:40	<i>Sustainable Food and Functional Ingredient Production</i> <b>Dr. Philipp Fuhrmann (University of Natural Resources and Life Science - BOKU, Vienna, Austria)</b>
11:40-12:00	Discussion
12:00-14:00	Lunch, Break, Praying, Exhibition Visit
<b>Plenary Session 2: Engineering &amp; Processing</b> <b>Moderator: Robi Andoyo, PhD</b>	
14:00-14:30	Novel Ingredients & Compounds to Alleviate Metabolic Syndrome <b>Prof. Dr. Milen I. Georgiev (Institute of Microbiology, Bulgarian Academy of Sciences)</b>
14:30-15:00	Advance Thermal Process for Local Commodity Based Food Ingredients: Ohmic-based Seaweed Processing <b>Prof. Dr. Ir. Salengke, M.Sc (Hasanuddin University)</b>
15:00-15:20	Discussion
15:20-15:30	Afternoon Break

TECHNICAL SESSION 1		
	<b>Food Safety</b> <b>Moderator:</b> <b>Harum Fadhillatunnur, MSc</b> <b>(IPB University)</b>	<b>Novel Ingredients &amp; Processing</b> <b>Moderator:</b> <b>Dr. Dias Indrasti (IPB University)</b>
15.30-15.42	Comparative Study of Antioxidant And Antibacterial Activity Of Tropical Citrus (Extract And Peel) <b>Intan Nurul Azni (Sahid University)</b> <b>FS - 1</b>	Characteristic of Gallic Acid Conjugated Corn Starch <b>Samsu Udayana Nurdin (Lampung University)</b> <b>NI - 1</b>
15.42-15.54	Antibiotic Resistance of <i>Salmonella</i> Isolated from Kampung Chicken and Broiler Carcasses <b>Ni Gusti Ayu Made Widyatari Asthiti (IPB University)</b> <b>FS - 2</b>	Synthesis of Butyl Cinnamate Using Enzymatic Membrane Reactor in a Free Solvent System <b>Helena Listiarini (IPB University)</b> <b>NI - 2</b>
15.54-16.06	Expression of the Virulence Gene of <i>Salmonella typhimurium</i> during Freezing and Chilling Treatment <b>Siti Nurjanah (IPB University)</b> <b>FS - 3</b>	Study of Basil Seed Gum Usage Potential In The Food Industry <b>Ghaida' Inas (IPB University)</b> <b>NI - 3</b>
	<b>Novel Ingredients &amp; Processing</b> <b>Moderator:</b> <b>Harum Fadhillatunnur, MSc</b> <b>(IPB University)</b>	<b>Novel Ingredients &amp; Processing</b> <b>Moderator:</b> <b>Dr. Dias Indrasti (IPB University)</b>
16.06-16.18	Chemical, Microbiological, and Sensory Characteristics of Low Molecular Weight Fraction of Tauco Products <b>Vika Tresnadiana Herlina (IPB University)</b> <b>NI - 8</b>	Synthesis of Mono-Diacylglycerol (MDAG) from Refined Bleached Deodorized Palm Oil (RBDPO) Using Glycerolysis Method on Pilot Plant Scale <b>Nur Wulandari (IPB University)</b> <b>NI - 4</b>
16.18-16.30	Folate Biosynthesis by Lactic Acid Bacteria from Different Food Sources <b>Fenny Amilia Mahara (IPB University)</b> <b>NI - 9</b>	Chemical And Physical Properties of Porang ( <i>Amorphophallus oncophyllus</i> ) Flour Modified with Enzymes <b>Gusti setiavani (Polbangtan Medan)</b> <b>NI - 5</b>
16.30-16.42	Characteristics of Kathak Porang Bulbil Flour <b>Hanifa Dermawan (IPB University)</b> <b>NI - 10</b>	Synthesis Of Biodegradable Plastic From Mulu Bebe Banana Peel Starch With Addition Of Chitosan And Glycerol Plasticizer <b>Erna Rusliana M. Saleh (Universitas Khairun)</b> <b>NI - 6</b>
16.42-16.54	Evaluation of Roasting Conditions to Improve Bioactive Compounds and Antioxidant Activities of Grafted Pine Nut Shell and Skin <b>Nadya Mara Adelina (Universitas Al-Azhar Indonesia)</b> <b>NI - 11</b>	Extraction of Umami Components in Peci Shrimp Head ( <i>Penaeus merguensis</i> ) with Ultrasonication <b>Hanifah Nuryani Lioe (IPB University)</b> <b>NI - 7</b>

Time	Activity	
Day 2: Thursday, 8 <sup>th</sup> September 2022		
TECHNICAL SESSION 2		
	<b>Health and Nutrition</b> <b>Moderator:</b> <b>dr. Mira Dewi, PhD (IPB University)</b>	<b>Food Quality</b> <b>Moderator:</b> <b>Dr. Dian Herawati (IPB University)</b>
09.00-09.12	Assessment of Nutrient Intakes on Pregnant Women, Pair of Lactating Women and Exclusive Breastfed Infants in Kabupaten Sumbawa Besar, West Nusa Tenggara <b>Lukman Azis</b> <b>(Universitas Al-Azhar Indonesia)</b> <b>HN - 1</b>	Application High Resolution Melting (HRM)-real time PCR Method for Identification of CITES-indexed shark <i>Carcharinus falciformis</i> in Seafood Products <b>Dr. Asadatun Abdullah (IPB University)</b> <b>FQ - 1</b>
09.12-09.24	Physicochemical and Sensory Evaluation of Functional Drink Made from Butterfly Pea ( <i>Clitoria ternatea</i> ) and Lemon Peel <b>Hamidatun (Sahid University)</b> <b>HN - 2</b>	Physicochemical and Organoleptic Characteristics of Canned Vegetable candle ( <i>Saccharum edule</i> Hasskarl) as a Traditional Food of North Maluku <b>Hamidin Rasuu (Universitas Khairun)</b> <b>FQ - 2</b>
09.24-09.36	Continuous Production of Antihypertensive Peptides from Velvet Bean <b>Nadine Kurniadi (IPB University)</b> <b>HN - 3</b>	Physical and Sensory Properties of Ice Cream Containing Gelatin Extracted from Yellowfin Tuna ( <i>Thunnus albacares</i> ) Skin <b>Sarah Giovani</b> <b>(Universitas Al-Azhar Indonesia)</b> <b>FQ - 3</b>
09.36-09.48	Lactic Fermentation of Germinated Soymilk to Increase Antioxidant Activity <b>Hendry Noer Fadlillah (IPB University)</b> <b>HN - 4</b>	Application of optimized <i>Streptococcus thermophilus</i> and <i>Lactobacillus bulgaricus</i> on coconut milk in the production of niyogurt <b>Dewi Yunita (Universitas Syiah Kuala)</b> <b>FQ - 4</b>
09.48-10.00	Formulation of Beverages Made of Ginger and Cinnamon as Sources of Flavonoids <b>Neneng Munifah S (Sahid University)</b> <b>HN - 5</b>	Impact of Adding Different Emulsifiers on the Physical Stability of Coconut Milk Emulsions <b>Ichlasia Ainul Fitri</b> <b>(University of Mercu Buana Yogyakarta)</b> <b>FQ - 5</b>
10.00-10.12	The Effect of Water from Various Sources on the Chemical and Physical Properties of Boiled Broccoli <b>Rinentahan Rahadjeng (IPB University)</b> <b>HN - 6</b>	Analysis of Physicochemical and Organoleptic Properties of Tomato Sauce with the Addition of Mocaf and Konjac Flour as Alternative Thickener <b>Satrijo Saloko (University of Mataram)</b> <b>FQ - 6</b>
10.12-10.24	The Study of Ginger Rhizome ( <i>Citrus Amblycarpa</i> ) Mass Ratio Supplementation on Physicochemical of Rich-Antioxidant of Liang Tea Pontianak <b>Yohana Sutiknyawati Kusuma Dewi</b>	Physical and Chemical Properties of Residual Flour from Purple Sweet Potato Var. Ayamurasaki <b>Elisa Julianti (Universitas Sumatera Utara)</b> <b>FQ - 7</b>

	(Tanjungpura University) <b>HN - 7</b>	
10.24-10.36	Development of Black Soybean Gluten-Free Bread Prepared Using Ohmic Heating (The Effect of Proofing Time And Transglutaminase Addition) <b>Aji Sutrisno (Universitas Brawijaya)</b> <b>HN - 8</b>	Chemical Characteristics of Sui Wuu, Traditional Food From Bajawa, Flores Island, East Nusa Tenggara, Indonesia <b>Yuliana Tandi Rubak (Universitas Nusa Cendana)</b> <b>FQ - 8</b>
10.36-10.48	Physicochemical Characteristics and Antioxidant Activity of Andaliman Fruit and Fruit Extract ( <i>Zanthoxylum acanthopodium</i> DC) <b>Elisa Julianti (Universitas Sumatera Utara)</b> <b>HN - 9</b>	Physicochemical and Sensory Properties of Dark Chocolate with Palm Sugar Added <b>Addion Nizori (Jambi University)</b> <b>FQ - 9</b>
10.48-11.00	Break	
	<b>Regulator &amp; Global Issues</b> <b>Moderator:</b> <b>Dr. Nancy Dewi Yuliana (IPB University)</b>	
11.00-11.12	Systematic Review on Volatile Compound Profile And Its Application in Species Identification for Halal Authentication <b>Siti Hanifah Rifan Ramadhina (Universitas Sumatera Utara)</b> <b>RG - 1</b>	
11.12-11.24	Physicochemical Characterization of Patties Made from Beef, Pork, and Their Mixture <b>Muthia Kautsar Rusydah (IPB University)</b> <b>RG - 2</b>	
11.24-11.36	Frying Oil Authentication Method Using Fourier Transform Infra-Red (FTIR) And Chemometrics <b>Silmiyah Putri, SH, S.TP (IPB University)</b> <b>RG - 3</b>	
11.36-11.48	Vegetable Oil Adulteration Detection using Fourier-Transform Infrared Spectroscopy (FTIR) and Chemometrics <b>Aulia Arningtyas (IPB University)</b> <b>RG - 4</b>	
11.48-12.00	Sensory Variables Effect on The Emotional and Behavioral Intention To Buy Services Case study KFC Ahmad Yani Padang Branch <b>M. Syaefudin Andrianto (IPB University)</b> <b>RG - 5</b>	
12:00-13.15	Lunch, Break, Praying, Exhibition Visit	

<b>Plenary Session 3: Food Safety and Quality</b>	
<b>Moderator: Prof. Dr. Ir. Winiati Pudji Rahayu M.S</b>	
13:15-13:45	<i>Food Safety and Quality</i> <b>Dr. Dian Anggraini Suroto, S.T.P., M.P., M.Eng. (Gadjah Mada University, PATPI)</b>
13:45-14:15	<i>Risk-based Improvement in Food Safety Status in Indonesia</i> <b>Prof. Dr. Ratih Dewanti-Hariyadi (IPB University)</b>
14:15-14:30	Discussion
14:30-14:45	Afternoon Break
<b>Plenary Session 4: Nutrition and Health</b>	
<b>Moderator: Dr. Dwi Larasatie Nur Fibri</b>	
14:45-15:15	NUTRIX - One of the worlds first fish based RUTF, to fight Malnutrition <b>Lyndon Paul (Danish Care Foods-Phnom Penh, Cambodia)</b>
15:15-15:45	Healthy Hydration for Pregnant & Lactating Mothers <b>Prof. Dr. Ir. H. Hardinsyah, MS (PT. Tirta Investama (Danone Aqua))</b>
15:45-16:00	Discussion
16:00-16:15	Break
16:15-16:30	Competition Winner Announcement
16:30-16:40	Closing Remarks - President Director of Informa Market
16:40-16:50	Closing Remarks - President of IAFT (elected)

## Day 3: Friday, 9<sup>th</sup> September 2022 (Halal Workshop)

08:00-09:00	Registration
	<b>Moderator:</b> Prof. Dr. Ir. Umar Santoso, M.Sc.
09:00-09:30	Challenging and Prospective View of Implementation New Halal Regulation in Indonesia <b>Dr. H. Muhammad Aqil Irham, M.Si - Head of Halal Product Assurance Agency (Badan Penyelenggara Jaminan Produk Halal - BPJH) (TBC)</b>
09:30-10:00	Challenging and Prospective of Science, Technology and Methodology for Halal Research <b>Dr. Nancy Dewi Yuliana, STP., MSc - Researcher of Halal Science Center (HSC) IPB &amp; SEAFast Center LPPM IPB, Lecturer Dept. Food Science and Technology IPB University</b>
10:00-10:30	Challenging and Prospective of Process Halal Certification in New Era Halal Regulation and World Global Halal <b>Ir. Hj. Muti Arintawati, M.Si. - Director of LPPOM MUI</b>
10:30-11:00	Role and Prospect Global Halal Market <b>Adhi S Lukman - Chairman of GAPMMI</b>
11:00-11:30	Discussion

### C. DETAILED FOOD SENSORY TRAINING ACTIVITIES

Time	Activities
<b>Day 1: Wednesday, 7<sup>th</sup> September 2022</b>	
08.30 - 09.00	Registration for the first day
09.00 - 10.30	<b>Advanced Sensory and Consumer Science (<i>online</i>)</b> <b>Prof. Gie Liem (Deakin University, Australia)</b>
10.30 - 12.30	Measurement beyond liking: <b>THE SECRET OF QDA UPON GOOD SENSORY PRACTICE</b> <b>Prof. Dede R Adawiyah (IPB University)</b>
12.30 -13.30	Lunch break
13.30 - 15.30	The trends in Sensory Sciences <b>Dr.-Ing. Dase Hunaefi (IPB University)</b>
<b>Day 2: Thursday, 8<sup>th</sup> September 2022</b>	
08.30 - 09.00	Registration for the second day
09.00 - 10.30	Sensory related with Physical and Texture Properties <b>Dr. Phillip Fuhrman (<i>University of Natural Resources and Life Science - BOKU, Vienna, Austria</i>)</b>
10.30 - 12.00	Practical class Consumer Sensory Profiling <b>Dr.-Ing. Dase Hunaefi (IPB University)</b>
12.00 - 13.30	Lunch break
13.30 - 15.30	Maximizing Product Understanding through Emotional Sensory Mapping and Branding Personification <b>Zen Fauzan S, STP (PT Mane Indonesia)</b>



#### D. DETAILED FOOD PRODUCT DEVELOPMENT COMPETITION ACTIVITIES

Time	Activity
<b>Day 1: Wednesday, 7<sup>th</sup> September 2022</b>	
07:00-08:00	Display Preparation
08:00-09:00	<i>Registration</i>
09:00-10:40	Joint Opening Ceremony - 2nd SEAFast-Nestlé Food Product Development Competition (FPDC) and Food Ingredients Asia Exhibition and Conference 2022 Opening Remarks
10:40-11:00	Preparation for FPDC
11:00-11:05	FPDC Presentation Stage Opening
11:05-11:10	Remarks by Project Officer
11:10-11:15	Remarks by Head of HIMITEPA
11:15-11:20	Remarks by Head of SEAFast Center
11:20-11:25	Transition Time
11:25-11:50	Team 1 Presentation
11:50-13:00	Lunch, Break, Praying, Exhibition Visit
13:00-14:46	Team 2-5 Presentation
14:46-15:30	Break, Praying, Exhibition Visit
15:30-17:10	Product Display Assessment - 10 teams, 10 minutes per Assessment
17:10-17:15	Closing Day 1
<b>Day 2: Thursday, 8<sup>th</sup> September 2022</b>	
08:00-08:30	Display Preparation
08:30-09:00	<i>Registration</i>
09:00-09:05	Opening Day 2
09:15-11:00	Product Display
11:00-13:05	Lunch, Break, Praying, Exhibition Visit
13:05-14:25	Attending FIA Plenary Session III: Food Safety and Quality
14:25-14:45	Break
14:45-16:00	Attending FIA Plenary Session IV: Nutrition and Health
16:00-16:15	Break, Praying, Exhibition Visit
16:15-16:30	Competition Winner Announcement and Awarding
16:30-16:50	Closing Remarks and Official Closing of 2nd SEAFast-Nestlé Food Product Development Competition (FPDC) 2022
<b>Day 3: Friday, 9<sup>th</sup> September 2022</b>	
07:30-08:00	Display Preparation
08:00-08:30	<i>Registration</i>
08:30-08:50	Opening Day 3
08:50-10:30	Product Display and Exhibition Visit
10:30-10:40	Closing Day 3



# **Program & Abstracts**

## **The 7<sup>th</sup> FiA Conference 2022**

**"Advancing Food Ingredients  
to Promote Healthy Life and Sustainability"**



**Jakarta International EXPO  
Kemayoran Indonesia  
September, 7-9<sup>th</sup> 2022**



**TECHNICAL SESSION**

Code	Title of Paper
<b>Food Safety</b>	
FS-1	<b>Comparative Study of Antioxidant and Antibacterial Activity of Tropical Citrus (Extract And Peel)</b> <i>Julfi Restu Amelia<sup>1</sup>, Fildzah Hashfi Safitri<sup>1</sup>, Giyatmi<sup>1</sup>, Intan Nurul Azni<sup>1,2*</sup></i> <sup>1</sup> Study Program of Food Technology, Sahid University, Jakarta <sup>2</sup> Study Program of Food Science, IPB University, Bogor
FS-2	<b>Antibiotic Resistance of <i>Salmonella</i> Isolated from Kampung Chicken and Broiler Carcasses</b> <i>Ni Gusti Ayu Made Widyatari Asthiti<sup>1</sup>, Siti Nurjanah<sup>*1,2</sup>, Winiati P. Rahayu<sup>1,2</sup></i> <sup>1</sup> Department of Food Science and Technology, Faculty of Agricultural Technology, IPB University, Bogor Indonesia <sup>2</sup> South-East Asia Food and Agricultural Science and Technology (SEAFast) Center, IPB University, IPB Dramaga, Bogor 16680, Indonesia
FS-3	<b>Expression of the Virulence Gene of <i>Salmonella typhimurium</i> during Freezing and Chilling Treatment</b> <i>Siti Nurjanah<sup>1,2*</sup>, Mareta Dwi Purbandari<sup>1</sup>, Winiati P. Rahayu<sup>1,2</sup></i> <sup>1</sup> Department of Food Science and Technology, Faculty of Agricultural Technology, IPB University, Bogor Indonesia <sup>2</sup> South East Asia Food and Agricultural Science and Technology (SEAFast) Center, IPB University, Bogor Indonesia
<b>Novel Ingredients &amp; Processing</b>	
NI-1	<b>Characteristic of Gallic Acid Conjugated Corn Starch</b> <i>Samsu Udayana Nurdin<sup>1*</sup>, Subeki<sup>1</sup>, Novita Herdiana<sup>1</sup></i> <sup>1</sup> Department of Agricultural Technology, Faculty of Agriculture, University of Lampung
NI-2	<b>Synthesis of Butyl Cinnamate Using Enzymatic Membrane Reactor in a Free Solvent System</b> <i>Helena Listiarini<sup>1</sup>, Azis Boing Sitanggang<sup>1*</sup>, Slamet Budijanto<sup>1</sup></i> <sup>1</sup> Department of Food Science and Technology, Kampus IPB Dramaga, IPB University, Bogor 16680, Indonesia
NI-3	<b>Study of Basil Seed (<i>Ocimum basilicum</i> L) Gum Usage Potential In The Food Industry</b> <i>Ghaida' Inas<sup>1*</sup>, Dede Robiatul Adawiyah<sup>2</sup>, Eko Hari Purnomo<sup>2</sup></i> <sup>1</sup> Food Science Graduate Study Program, Department of Food Science and Technology, Faculty of Agricultural Technology, IPB University <sup>2</sup> Department of Food Science and Technology, Faculty of Agricultural Technology, IPB University

FS-1

### Comparative Study of Antioxidant and Antibacterial Activity of Tropical Citrus (Extract And Peel)

Julfi Restu Amelia<sup>1</sup>, Fildzah Hashfi Safitri<sup>1</sup>, Giyatmi<sup>1</sup>, Intan Nurul Azni<sup>1,2\*</sup>

<sup>1</sup> Study Program of Food Technology, Sahid University, Jakarta

<sup>2</sup> Study Program of Food Science, IPB University, Bogor

\* Corresponding author: intanurulazni@apps.ipb.ac.id

#### ABSTRACT

Tropical citrus consists some major biologically active compounds, such as d-limonene, eriocitrin,  $\alpha$ -terpineol, terpinen-4-ol, etc. These compounds possess several health beneficial properties like antioxidant and antibacterial. This study provided comparative data of antioxidant and antibacterial activity of tropical citrus extract and peel, such as local lemons (*Citrus assamensis*), imported lemons (*Citrus limon* (L.) Burm. f), and limes (*Citrus aurantifolia*). Antioxidant activity of tropical citrus was determined using DPPH and expressed as IC50. Antibacterial activity was evaluated using the agar diffusion method against pathogenic bacteria (*E.coli*, *B.subtilis*, and *S.aureus*). The results showed that very strong antioxidant was determined in the extract and peel of local lemons (33.45 ppm and 44.50 ppm) and the extract and peel of import lemons (31.43 ppm and 15.89 ppm), but the extract and peel of limes had strong antioxidant activity (60.35 ppm and 59.54 ppm). The highest inhibition zone was observed against *S.aureus*, while the lowest was recorded against *E.coli*. The inhibition zones diameter of local lemons, import lemons, and limes extract for *S.aureus* (gram-positive cocci) was 26.40 mm, 27.95 mm, and 27.31 mm; *E.coli* (gram-negative bacilli) was 15.64 mm, 16.84 mm, and 16.63 mm, *B.subtilis* (gram-positive bacilli) was 17.88 mm, 21.77 mm, and 21.24 mm, respectively. The extracts of tropical citrus demonstrated higher activities against the gram-positive bacteria than the gram-negative bacteria tested. Gram positive bacteria have a peptidoglycan layer which is more accessible to permeation by the extracts. The results also showed that the antibacterial activity was higher against cocci bacteria than against bacilli bacteria. Moreover, the peel of local lemons, import lemons, and limes did not inhibit *E.coli*, *B.subtilis*, and *S.aureus*.

**Keywords:** antibacterial, antioxidant, lemon, limes, tropical citrus