Certificate

3rd International Conference on Bioscience and Biotechnology

"Bioscience and Biotechnology Research fot Environmental Sustainability"

This Certificate is proudly Awarded to

Dr. H. Ahmad Jupri, M. Eng

As

Presenter

University of Mataram 12-14th October 2020

Rector University of Mataram
Prof. Dr. H. Lalu Husni, SH., M.Hum.

Ketua
Prof. Ir. H. Sunarpi, Ph.D
NIP. 19620804198609 1 001

In Collaboration With:

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"Bioscience and Biotechnology Research for Enviromental Sustainability"

12-14th October 2020

ACCEPTANCE NOTICE FOR ABSTRACT

Dear Nurhayati,

On behalf of organizing committee of ICBB 2020, we are pleased to inform you that, based on submitted refreance, your abstract is accepted at the 3rd International Conference on Bioscience and Biotechnology as follow;

Abstract Submission No.	**ICBB2020-052**
Title	**The Combination of Pumpkin and Jackfruit Seeds for Making The Tortilla**
Presenting Author	**Nurhayati**
Presentation Type	**Video Presentation**

Due to the session allocation and publication schedule, the presenter should complete the registration with full payment of the registration fee by 18 September 2020. If you cannot complete registration with full payment until final due date, your abstract shall not be included in the abstract book.

ICBB 2020 Secretariat
Jl. Majapahit No.62
Bioscience and Biotechnology Reseacrh Centre, Mataram University
Mataram, NTB, Indonesia, 83115
- **0819-1734-7192 (Karin)**
- **0878-5997-2478 (Dr.Eka)**
- **e-mail : pubb.icbb2020@gmail.com**

THE 3rd INTERNATIONAL CONFERENCE ON BIOSCIENCE AND BIOTECHNOLOGY

Time (GMT+8; AM)	12th October 2020		
08.00-09.00	Registration		Committee
09.00-09.10	Opening		MC: Hilda Astriana, S. Si., M. Si
09.10-09.15	Opening Ceremony "Indonesia Raya"		All Participant
09.15-09.25	Dua/Praying		Khairul Umam, SH., M.H
09.25-09.45	Opening Chairman of ICBB 2020 (**Prof. Ir. H. Sunarpi, Ph.D**)		
09.45-10.00	Opening Remarks (**Prof. Dr. Lalu Husni, M.Hum**)		Rector of Mataram University
10.00-10.30	Keynote Speaker 1 (**Prof. Julian Heyes, DPhil**)		Moderator: Prof Sri Widyastuti, Ph.D
10.30-11.00	Keynote Speaker 2 (**Prof. Lim Phaik Eem, PhD**)		
11.00-11.30	QnA		
11.30-13.00	Breakout Session		
Parallel Session I			
13.00-15.30	**Host I**	**Host II**	**Host III**
	Moderator : **Prof. I Komang Damar Jaya, PhD**	**Moderator:** **Prof. Ir. Sulaiman Ngongu D. PhD**	**Moderator:** **Dr. Bambang Fajar Suryadi**
	Room: Agriculture **Code : AG**	**Room: Health** **Code : HS**	**Room: Natural Sciences** **Code : NS**
	ICBB2020-004: The Comparative Analysis of Row Proportions and The Effect on Nutrient Status Maize and Soybean Intercropping in Sandy Soil of North Lombok, Indonesia **W Astiko, N M L Ernawati, I P Silawibawa** *University of Mataram*	**ICBB2020-047:** Trends in Hemoglobin Levels in Patients With Nasopharyngeal Cancer Who Received Chemotherapy in NTB **Ima Arum Lestarini, Hamsu Kadriyan, Muhammad Alfian Sulaksana, Muhammad Sultan Ardhi, Ida Lestari Harahap, Titi Pambudi Karuniawati, Niti Wedayani** *University of Mataram*	**ICBB2020-094:** Application of *Sargassum crassifolium* Extract as a Natural Antimicrobial Agent for Chicken Egg Decontamination **Mutia Devi Ariyana, Ghalib Rifaldi Dharmita, Nazaruddin** *University of Mataram*
	ICBB2020-005: Smart Solar Powered Hydroponics System using Internet of Things and Fuzzy Association Rule Mining **Wirarama Wedashwara, Andy Hidayat Jatmika, Ariyan Zubaidi** *University of Mataram*	**ICBB2020-091:** Lipidomics analysis of Endocannabinoid profile in inflammated skin **Anggit L. Sunarwidhi, Alexandra Kendall, Suzanne Pilkington, Catherine O'Neill, Anna Nicolaou** *University of Manchester*	**ICBB2020-026:** Phytochemical Screening and Antioxidant Activity of Gyrinops Tea from Agarwood Plantation on Lombok Island, Indonesia **I G. A. S. Wangiyana, Supriadi, A.Nikmatullah, Sunarpi, D.S Putri** *Universitas Pendidikan Mandalika*
	ICBB2020-024: Response Of Three Maize (*Zea Mays* L.) Varieties to the Phonska Rates on Inceptosols of Lombok **IGM. Kusnarta and W. Sudika** *University of Mataram*	**ICBB2020-023:** The Density Functional Theory Study of Astaxanthin-Metal Complex to Native and Glycated Human Serum Albumin **S. Wibowo, S.Widyarti, A.Sabarudin, DS Soeatmadji, SB Sumitro** *Brawijaya University*	**ICBB2020-011:** Phenol Contents, Vitamin C, and Hedonic Test Tatat Leaf Tea Like (*Bauhinia Semibifida*) from Different Preparation and Drying **Dian Fitriarni** *Politeknik Negeri Ketapang*
	ICBB2020-037: The Growth and Production Responses of Shallot (*Allium ascalonicum* L.) on The K Fertilizer Application in The Peat Land **Suparman and Twenty Liana** *Indonesian Agency for Agricultural Research and Development, Ministry of Agriculture*	**ICBB2020-089:** Estrogen Receptors Status and Its Correlation with Age , Tumor Size and Histologic Grade of Invasive Ductal Type Breast Cancer in West Nusa Tenggara **Fathul Djannah and Novrita Padauleng** *University of Mataram*	**ICBB2020-007:**Laboratory Activities for Natural Product Chemistry **Aliefman Hakim, A. Wahab Jufri, Jamaluddin** *University of Mataram*

	ICBB2020-001: Design of Temperature and Humidity Control of Miniature Oyster Mushrooms Using Wemos D1 Microcontroller Based on Internet of Things (IOT) **Diah Ajeng Setiawati, Murad, Suryansa Gunali Utomo, Guyup Mahardhian, Dwi Putra** *University of Mataram*	**ICBB2020-067:** The Effect of Tamsulosin and Dutasteride Combination Drug Therapy on Prostate Volume in Patients With Benign Prostatic Hyperplasia **Pandu Ishaq Nandana, Lalu Rizky Adipura, Haerani Rasyid** *University of Mataram*	**ICBB2020-058:** Genetic diversity of *Lithocarpus* sp. population at Taman Nasional Gunung Merapi based on RAPD analysis **Maria Setiyo Cahyani, Purnamila Sulistyawati, AYPBC Widyatmoko, Suhendra Pakpahan, Dhira Satwika** *Universitas Kristen Duta Wacana*
	ICBB2020-092: Growth and Yield of Carrot Plants Under Eco-Friendy Cultivation Method: Effects of Variety, Potting Media and Planting Density **Aluh Nikmatullah, M. Zaenuddin Syahril Sidiq, Riema Rimanda Putri, Rizkiani Dwi Lestari, Karwati Zawani, Khaerul Muslim, Herman Suheri** *University of Mataram*	**ICBB2020-035:** The Association between Duration of Daily Contact and Working Period to extended-spectrum beta-lactamase Producing *Escherichia coli* (ESBL-Ec) Colonization in Poultry Workers, Teruwai Poultry Village **EH Wardoyo, IW Suardana, IWS Yasa, IDM Sukrama, K Kuntaman, SAE John, E Triani** *University of Mataram*	**ICBB2020-048:** The Effect Propolis Concentration on Chemical, Microbiological, and Organoleptic Qualities of Yoghurt **M Amaro, Nazaruddin, N Rahmayani** *University of Mataram*
	ICBB2020-040: Improving Maize (*Zea mays* L.) Growth and Yield by the Application of Inorganic and Organic Fertilizers Plus **Mulyati, Baharuddin A.B, Tejowulan R.S** *University of Mataram*	**ICBB2020-080:** Anticancer Activity of *Curcuma xanthorrhiza* Active Compound in Cancer Cells via Bcl-2 Inhibition **Nur Fitriana, Masruri, Muhaimin Rifa'i, Nashi Widodo** *Brawijaya University*	**ICBB2020-003:** The Richness and Diversity of Dragonfly Species at Various Habitat Types in Suranadi Natural Park, West Lombok, Indonesia **Mohammad Liwa Ilhamdi, Agil Al Idrus, Didik Santoso** *University of Mataram*
15.30-15.45	Breakout Session		
Parallel Session II			
	Host I	**Host II**	**Host III**
	Moderator : **Prof. I Komang Damar Jaya, PhD**	**Moderator:** **Prof. Sulaiman Ngongu D, Ph.D**	**Moderator:** **Dr. Bambang Fajar Suryadi**
	Room: Agriculture **Code : AG**	**Room: Health** **Code : HS**	**Room: Natural Sciences** **Code : NS**
15.45-17.00	**ICBB2020-033:** Resistance of F1 Inter-specific Crosses Kenaf Results to Root-Knot Nematode (*M. incognita*) **Parnidi, Naufal Zaki, Lita Soetopo, Damanhuri, Marjani** *Brawijaya University*	**ICBB2020-010:** Analisis Cytology Features With *Monocyte-Lymphocyte Ratio* of Limfadenitis Tuberculosis in West Nusa Tenggara **Fathul Djannah, A.A Ngurah Bagus Nugraha, Catarina Budyono** *University of Mataram*	**ICBB2020-002:** Comparison of Antimicrobial Activities of Ethanol Extract From Three Species of Ganoderma Original Lombok Island **Faturrahman, Sukiman, Bambang Fajar Suryadi, Sarkono, Ernin Hidayati** *University of Mataram*
	ICBB2020-076: A Comparative Study on Assessing Rodent Damage Intensity in Rice Crop Based on Two Different Methods **Rachmawati, Tedi Purnawan, Nur 'Aini Herawati** *Indonesian Center for Rice Research*	**ICBB2020-016:** Risk factors and characteristics of laryngeal carcinoma in the developing region of Indonesia **Hamsu Kadriyan, Mochammad Alfian Sulaksana, I Gusti Ayu Trisna Aryani, Didit Yudhanto, Eka Arie Yuliani, Ida Lestari Harahap, AA Niti Wedayani** *University of Mataram*	**ICBB2020-027:** Correlation Quantity of Fish Floating Cage and Water Quality With The Reduction of Endemic Fish in Maninjau Lake, West Sumatra **Reni Nastuti, Tri Retnaningsih, Sudarno Utomo** *Diponegoro University*
	ICBB2020-093: Growth and Yield of Potato Plant (*Solanum Tuberosum* L.) in the Medium Latitude Treated With Biofertilizer Extragent **Nurlaili, Aluh Nikmatullah, Mansur Mas'hum** *University of Mataram*	**ICBB2020-020:** Characteristic of Postmortem Swab Probable Covid-19 Victim by Rapid Molecular Testing **A Syamsun, H Kadriyan, FR Andiwijaya, I Hunaifi, NPS Lestari, SK Sari, H Mahaputra, B Setia** *University of Mataram*	

Time (GMT+8; AM)	13th October 2020		
08.00-09.00	Registration	Committee	
09.00-09.30	Opening	MC: Hilda Astriana, S. Si., M. Si	
09.30-10.00	Keynote Speaker 3 (**Prof. Akihiro Hazama MD, PhD**)	Moderator: Prof. Ir. Sulaiman Ngongu D. Ph.D	
10.00-10.30	Keynote Speaker 4 (**Prof. Jong-Min Lee, PhD**)		
10.30-11.00	Keynote Speaker 5 (**Eka S. Prasedya, PhD**)		
11.00-12.00	QnA		
12.00-13.00	Breakout Session		
Parallel Session I			
	Moderator: **Ir.Aluh Nikmatullah, PhD**	**Moderator:** **Anggit L Sunarwidhi, PhD. Apt.**	**Moderator:** **Prof.Sri Widyastuti, PhD**
13.00-15.30	**Room: Agriculture** **Code : AG**	**Room: Health Sciences** **Code : HS**	**Room: Natural Sciences** **Code : NS**
	ICBB2020-050: Morpho-Physiological Responses of Brown Seeded Soybean Genotypes Under Low Light Intensity **Kisman, IGP Muliarta Aryana, Bambang Budi Santoso, Lolita Endang Susilawati** *University of Mataram*	**ICBB2020-063:** The Potency and Conservation of Medicine Plants in Central Kalimantan **Ronny Yuniar Galingging, Purwandari S, T. Hijrah** *Assessment Institute for Agricultural Technology (AIAT)*	**ICBB2020-021:** The Use of a Very Small Bussines-Scale Oven to Enhance the Quality of "Ready-to-eat" Beef Jerky **Baiq Rien Handayani, Sri Widyastuti, Kertanegara, Asri Hidayati, Wiharyani Werdiningsih, Novitasari, Anugrah R Ekaputri** *University of Mataram*
	ICBB2020-054: Effects of Mycorrhiza Biofertilizer and Additive Intercropping with Peanut on Growth, Bulb Formation, N and P Contents of Several Varieties of Shallot **Wayan Wangiyana, I Komang Damar Jaya, Sunarpi** *University of Mataram*	**ICBB2020-065:** Peculiar Growth of *Pseudomonas* sp. LS3K With the Addition of Untreated Tannery Wastewater **Nanung Agus Fitriyanto, Wirasti Karenia Nursyahbani, Ragil Adi Prasetyo, Mohammad Zainal Abidin, Yuny Erwanto, Novita Kurniawati** *Gadjah Mada University*	**ICBB2020-043:** Observation of Heavy Metal Hazard on Processing Frozen Oilfish *(Lepidocybium Flavobrunneum)* Fillets **Yuliati H. Sipahutar, Widodo Sumiyanto, Rizqi Khaerudin, M R Suryanto** *Politeknik Ahli Usaha Perikanan*
	ICBB2020-056: Application of Silicon Foliar Spray to Increase Growth and Yield of Shallot (*Allium Ascalonicum L*) Under Sprinkler and Furrow Irrigation System **Lia Hadiawati, Titin Sugianti, Fitria Zulhaedar, Ahmad Suriadi** *Assessment Institute for Agricultural Technology, West Nusa Tenggara*	**ICBB2020-084:** Aplication of Crude Natural Enzymes for Extraction of Wali Seed [*Brucea Javanica* (L) Merr] **Handa Muliasari, Agus Dwi Ananto, Rizqa F. Deccati, Diva Almira, Solahuddin** *University of Mataram*	**ICBB2020-079:** Optimization of Mechanical Properties of Bioplastics with the Addition of ZnO and Glycerol Plasticizers **Ida Ayu Widhiantari, Agriananta Fahmi Hidayat, Diah Ajeng Setiawati** *University of Mataram*
	ICBB2020-034: Ultrasound-assisted production of corn starch: Process design and optimization **Rohmah Nur Fathimah, Ahmad Fawwaz Al Ishlahi, Muhammad Nur Cahyanto, Widiastuti Setyaningsih** *Gadjah Mada University*	**ICBB2020-031:** An Aphrodisiac compound found in wild Kemangi (*Ocimum spp.*) in Bali **I Gede Putu Wirawan, Ida Ayu Dianggi, Maria Maliga Vernanades Sasadara, Ida Ayu Putri Darmawati, Nyoman Wijaya** *Udayana University*	**ICBB2020-022:** Good Agricultural and Postharvest Handling Practices of Cocoa Pods in Lombok to Meet Cocoa Bean Quality for Global Market **Zainuri, Taslim Sjah, Nedia Prameswari, Wiharyani Werdiningsih, Tarmizi** *University of Mataram*
	ICBB2020-041: Mungbean-Maize Rotation Improved Soil Properties and Maize Yield in a Dryland **I Komang Damar Jaya, Sudirman, I Wayan Sudika**	**ICBB2020-049:** Effect of Giving *Rhizophora Sp* Mangrove Leaves Extract Against Reducing of Blood Glucose Levels in Mice *Mus musculus in-vivo* **A Efendi, Aini, Idham Halid, Jumari**	**ICBB2020-086:** Investigation of Causes of Neonatal Mortality in Bali Cattle on Sumbawa Island **M Sriasih, P J Back, W E Pomroy, S T Morris, R E Hickson,**

	University of Mataram	**Ustiawaty** *Polytechnic of Medica Farma Husada*	**Dahlanuddin, L A Zaenuri, R Soebari, M Kurniawan, S Qamar** *University of Mataram*
	ICBB2020-069: Soil Nematodes of the Duku (*Lansium domesticum* Corr.) Orchard in Tabalong District, South Kalimantan **Betris Fitria Marga and Abdul Gafur** *Universitas Lambung Mangkurat*	**ICBB2020-009:** Profilling and Histopatology Features of Top Three Cassess of Extra Pulmonary Tuberculosis in West Nusa Tenggara **Fathul Djannah** *University of Mataram*	**ICBB2020-090:** Bali Cattle Breeding in an Open Core Form Based on Group House in Lombok Island West Nusa Tenggara **Bulkaini and Ahmad Jupri** *University of Mataram*
	ICBB2020-029: Developing Porang Agribusiness for Multiple Stakeholder Benefits and Supporting Sustainable Development in Dryland Areas of Lombok **Taslim Sjah, Halil, I Ketut Budastra, I Gusti Lanang Parta Tanaya** *University of Mataram*	**ICBB2020-085**: Comparison of Digestion Methods for Determination of Selenium In Green Tea Samples Using Fluorescent Spectrometry **Siti Raudhatul Kamali, Tsai Che Hao, Chen Chang-Nan** *Chaoyang University of Technology*	**ICBB2020-057:** The Effects of Fermenters and Incubation Periods on Chemical Composition of Mixtures of Rice Bran and Water Hyacinth Leaves **Wahyu Karyani, Syamsuhaidi, K.G. Wiryawan** *University of Mataram*
15.30-15.45	Breakout Session		
Parallel Session II			
	Moderator: **Prof Sulaeman Ngongu D, PhD**	**Moderator:** **Anggit L Sunarwidhi, PhD, Apt.**	**Moderator:** **Prof.Sri Widyastuti, PhD**
15.45-17.00	**Room: Health** **Code : HS1**	**Room: Health Sciences** **Code : HS2**	**Room: Natural Sciences** **Code : NS**
	ICBB2020-078: Improvement Ejection Fraction After 11 Days Treatment in Pediatric Dilated Cardiomyopathy : Case Report **Alief Abni Bernindra and Yusra Pintaningrum** *West Nusa Tenggara Province Hospital*	**ICBB2020-030:** Prevalence and Degree of Gastrointestinal Nematode Infection of Cidomo Horses in Mataram City, Indonesia **Kunti Tirtasari, Candra Dwi Atma, Kholik** *Universitas Pendidikan Mandalika*	**ICBB2020-066:** Quality of Rabbitfish Sauce (Siganus spp.) by the Addition of Pineapple Fruit Extract (*Ananas comosus*) Rich in the Enzyme Bromelain **Mahrus, Agil Al Idrus, Abdul Syukur, Lalu Zulkifli** *University of Mataram*
	ICBB2020-059: Ear Disease Determination on Computer-Assisted Outer and Middle Ear Images **Hamsu Kadriyan, I Gede Pasek Suta Wijaya, Didit Yudhanto, Eka Arie Yuliani, Heru Mulyana** *University of Mataram*	**ICBB2020-075:** Overview of Fractures Caused by The 2018 Lombok Earthquake in the Radiology Department of North Lombok Regency West Nusa Tenggara Regency **Fauzy Ma'ruf, Bachtiar Murtala, Muhammad Ilyas, Muhammad Hatta** *Unizar Mataram*	**ICBB2020-017:** Processed Milkfish Products (Milkfish Extract Thorns, Shredded Milkfish and Milkfish Meatballs) in Borimasunggu Village, Maros Regency **Andi Abriana, Erni Indrawati, Rahmawati Rahman** *Bosowa University Makassar*
	ICBB2020-061: Evaluation of Dietary Antioxidant Intake of School Age Children in ASGM Area Sekotong West Lombok **Ardiana Ekawanti, Seto Priyambodo, Deasy Irawati, Rifana Cholidah** *University of Mataram*	**ICBB2020-060:** Evaluation of Feeding Program for Infants and Children (PMBA) for Stunting Children in Lombok **Lina Nurbaiti, Gede Wira Buanayuda, Nurpudji Astuti, Taslim, Mochammad Hatta, Agussalim Bukhari** *University of Mataram*	**ICBB2020-038:**In-Vitro Anthelmintic Activities Of Shrub Plants Extracts For *(Haemonchus Contortus)* Worms **Rendi Fathoni Hadi, E. Handayanta, S.D. Widyawati, A. Hanifa, W.P.S Suprayogi, Sudibya, Sudiyono** *Universitas Sebelas Maret*
		ICBB2020-077: Sick Sinus Syndrome and Reccurent Hypoalbuminemia in Alcoholic Cardiomyopathy : a Case Study **Yusra Pintaningrum and Baiq Widaning** *University of Mataram*	

Time (GMT+8; AM)	14th October 2020		
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09.30-10.00	Opening	MC: Hilda Astriana, S. Si., M. Si	
10.00-10.30	Keynote Speaker 6 (**Prof. Deo Florence L. Onda, Ph.D.**)	Moderator: Anggit L. Sunarwidhi, PhD, Apt	
10.30-11.00	Keynote Speaker 7 (**Prof. Ir. H. Sunarpi, PhD**)		
11.00-12.00	QnA		
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13.00-15.30	**Host I**	**Host II**	**Host III**
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	Room: Agriculture **Code : AG**	**Room: Marine Science** **Code : MS**	**Room: Natural Sciences** **Code : NS**
	ICBB2020-062: Can Organic Soil Ameliorant and Liquid Fertilizer Improve Maize Yield and Reduce Inorganic Fertilizer Input in a Semiarid? **I Komang Damar Jaya, Herman Suheri, Wayan Wangiyana** *University of Mataram*	**ICBB2020-071:** Effect of elevated temperature on the physio-biochemical responses of *Kappaphycus alvarezii* (Rhodophyta) **Y.N. Kumar, S.W Poong, C.Gachon, J.Brode, A.Sade, P.E Lim** *Malaya University*	**ICBB2020-081:** Effect of Virgin Coconut Oil-Orange Juice Ratio on the Stability and Viscocity Properties of the Emulsion **Lastri Wiyani, Andi Aladin, Rahmawati, Mustafiah** *Universitas Muslim Indonesia, Makassar*
	ICBB2020-072: Spikelet Sterility and Yield of Aerobic Rice **Lia Hadiawati, J. Mitchell, S.Fukai** *Assessment Institute for Agricultural Technology, West Nusa Tenggara*	**ICBB2020-070:** Comparative Analysis of Transcriptional Regulation in Tropical and Polar Green Algae under Heat Stress **S-W. Poong, K.K Lee, P.E Lim, C.H Yang, T.W Pai** ***Malaya University***	**ICBB2020-046:** The Expired Bread Substitution and Its Effect on the Blood Profile Goat PE **Aqni Hanifa and Susi Dwi Widyawati** *Universitas Sebelas Maret*
	ICBB2020-083: Changes in physical properties of puddled soil and their effect on mungbean yield **L.A.A. Bakti, Sukartono, B.H Kusumo, L.E Susilowati, I. Yasin, I.G.M Kusnarta** *University of Mataram*	**ICBB2020-055:** The Distribution and Prevalence of Epiphytic Macroalgae on Cultivated Macroalgae in Lombok Island **Mursal Ghazali, Rina Kurnianingsih, Sri Puji Astuti, Bambang Fajar Suryadi, Catur Retnaningdiyah, Wahyu Widoretno, Estri Laras Arumingtyas** *University of Mataram*	**ICBB2020-052:** The Combination of Pumpkin and Jackfruit Seeds for Making the Tortilla **Nurhayati, Syirril Ihromi, Earlina Shintia Dewi** *University of Muhammadiyah Mataram*
	ICBB2020-051: Effect of Calcium Carbonate Addition on The Growth and Feed Consumption Rate of Gouramy (*Osphronemus goramy*) Seed **Dewi Nur'aeni Setyowati, Anita Prihatini Ilyas, Awan Dermawan, Sanca Rahmatullah** *University of Mataram*	**ICBB2020-013:** Enzymatic Activity of Microbe Associated with Marine Sponge from Ambon Bay **Hendra Munandar** *Indonesian Institute of Sciences*	**ICBB2020-006:** Preliminary Study of Black Aspergilli Inhabiting *Piper* Rhizosphere from Eka Karya Botanical Garden, Bedugul Bali **Muhammad Ilyas, Dian Alfian Nurchayanto, Yeni Yuliani Wibowo Mangunwardoyo, Iman Hidayat** *Indonesian Instutite of Sciences*

	ICBB2020-045: Shade Stress in Various Growth Phases and its Effect on Agronomic Characters and Chlorophyll Content of Peanut Genotypes **A.F. Hemon, Sumarjan, A.R. Hanafi** *University of Mataram*	**ICBB2020-036:**Measurement Antioxidant Activity of Seaweed (*Eucheuma Cottonii)* And Coconut (*Cocos Nucifera)* Masks **Andi Maria Ulfa and Amirul Hilmi** *Cordova University*	**ICBB2020-025:** An Online Pictorial Key to Orders and Families of Soil and Freshwater Nematodes **Abdul Gafur** *Universitas Lambung Mangkurat*
	ICBB2020-087: Spatial Study of Landscape Structure In Nyalindung Regency, Sukabumi, West Java And Its Linkages With Rice Productivity **Sabda Adhisurya, Supriatna, Tuty Handayani** *University of Indonesia*	**ICBB2020-032:** Effect of extraction solvent on total phenolic content, total flavonoid content, and antioxidant activity of Bulung Sangu (*Gracilaria* sp.) Seaweed **Maria Maliga Vernandes Sasadara and I Gede Putu Wirawan** *Udayana University*	**ICBB2020-044:** Potential of Ashitaba leaf (*Angelica keiskei*) as a phytobiotic source in feed on choleresterol and blood tryglyceride levels of broiler chicken **Dina oktaviana, Gusti Ayu Esty Windhary, Mashur, Supriadi, Kholik** *Universitas Pendidikan Mandalika*
	ICBB2020-019: Spatial Study of Land Use Change with Salinity and Total Suspended Solid Conditions in Ci Mandiri Estuary, West Java **Faiz Maulani Ilmawan, Supriatna, Kuswantoro** *University of Indonesia*	**ICBB2020-074:** Seagrass Conservation Needs Base On Assessment Of Local Scale Economic Value on The Diversity of Its Associated Biota on Lombok Island, Indonesia **Lalu Zulkifli, Lalu Raftha Patech, Abdul Syukur** *University of Mataram*	**ICBB2020-096:** Mass spectrometry analysis revealed the production of siderophore from *Klebsiella oxytoca* strain STA01 isolated from sago palm field in Tulehu, Maluku, Indonesia **A Frediansyah, S.Aziz, WA Ramadaningrum, AL Sunarwidhi** *University of Tuebingen*
15.30-15.45	Breakup Session		
Parallel Session II			
	Host I	**Host II**	**Host III**
	Moderator: **Ir.Aluh Nikmatullah, PhD**	**Moderator:** **Eka S Prasedya, PhD**	**Moderator:** **Prof.Ir. H. Sunarpi, PhD**
	Room: Agriculture **Code : AG**	**Room: Marine Science** **Code : MS**	**Room: Natural Sciences** **Code : NS**
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	ICBB2020-082: Soil Characteristics and Maize Yield Under Various Conservation Agriculture Practices in The Tropical Semi Arid of South Lombok, Indonesia **Sukartono, B.H Kusomo, L. Ujianto, L.E Susilowati, I. Yasin, Kisman, L.A.A. Bakti, Fahruddin** *University of Mataram*	**ICBB2020-073:** The Suitable of the Marine Environment for the Development of Cuttlefish Farming Technology as a Seagrass Conservation Solution in East Lombok, Indonesia **A Al-Idrus, ASyukur, Lalu Muhammad Imam Husaini, M.Nasir** *University of Mataram*	**ICBB2020-028:** Wind vector anomaly in the maritime continent of Indonesia: it's impact on local environmental sustainability in West Nusa Tenggara **Mahrup, IGM Kusnartha, Soemeinaboedhy, Fahrudin, Padusung, M.Ma'shum** *University of Mataram*
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The combination of pumpkin and jackfruit seeds for making tortilla

The combination of pumpkin and jackfruit seeds for making tortilla

Nurhayati[1*] Syirril Ihromi[1] and Earlyna Sinthia Dewi[1]

Departement of Agricultural Products Technology, Faculty of Agriculture, Universitas Muhammadiyah Mataram, Mataram, Indonesia

[*]Corresponding author: nurhayati.faperta.ummat@gmail.com

Abstract. Consumers' tendency to prefer practical and ready-to-eat snack products such as tortillas provides new ideas for food diversification that can be accepted by the community. Pumpkin has been developed as an alternative food ingredient that has been processed into flour. It has been used as an alternative for making some products. The high nutritional content of pumpkin, vitamin A and vitamin C is very suitable for raw material in making tortillas expected to produce tortillas with a high level of proteins and vitamins. Not only pumpkin flour, but there is also a potential ingredient for making tortillas, the jackfruit seeds. Jackfruit seeds are waste from jackfruit. This waste becomes a problem of environmental pollution if not addressed immediately. Jackfruit seeds still have a high nutritional content. This study aims to determine the best formulation combination between pumpkin and jackfruit seeds for making tortillas and determine the effect of the combination of pumpkin and jackfruit seed on tortillas' chemical and organoleptic properties. The research data were analyzed using an experimental design, CRD (completely randomized design) with one factor, the pumpkin and jackfruit seeds combination, treatment A (pumpkin 20%: jackfruit seeds 80%), B (pumpkin 35%: jackfruit seeds 65 %), C (pumpkin 50%: jackfruit seeds 50%), D (pumpkin 65%: jackfruit seeds 35%), E (pumpkin 80%: jackfruit seeds 20%) which is repeated three times to get 15 units trial. The analysis results were continued with the Honestly Significant Difference test (HSD) at the 5% level. The parameters were moisture content, ash content, fiber content, and organoleptic tests (color, aroma, texture, and taste). The results showed that the combination of pumpkin and jackfruit seeds significantly affected the content of moisture, ash, and fiber, and the score of color, taste, and texture but did not affect the tortilla aroma score. The result showed that the decrease of the pumpkin using, the decreased of the moisture, ash, and crude fiber content. The best treatment based on chemical and organoleptic properties is treatment C (50:50). In the future, issues related to the environment will become a concern for humanity in line with industrialization, which causes harmful excess in increased waste. For this reason, the development of agro-industry in the future is a sustainable agro-industry, such as the use of jackfruit seed waste into tortillas.

1. Introduction

The pumpkin is a local food that has abundant bioavailability. It is rich in nutrients such as fiber, especially pectin, bioactive compounds, beta carotene, vitamins (B6, K, C, A), and minerals (K, P, Ca, Fe, and Na) [1]. The provitamin A and Vitamin C content on pumpkin are 180 mg 52 mg (respectively), which are expected to help children's vitamin needs [2]. The pumpkin is found to be the richest source

of dietary fiber. This result is in line with previous research [3]. The nutritional content is quite complete and beneficial for body health; the community's price is affordable.

Pumpkin is widely available in Lombok, but its utilization has not been done optimally to develop processed products. However, the use of pumpkin as food is still limited. In the food sector, pumpkin is processed into flour as a substitute for processing products. [4]The pumpkin can be used as a raw material for making modified flour to reduce wheat flour consumption. Several researchers have published several pumpkin preparations such as cakes, biscuits, bread, chips, and tortillas.

The addition of composite flour can overcome tortilla processing technology opportunities. The addition of pumpkin will be a great option to increase the nutritional profile, especially the fiber, and improve the tortilla's physical attributes and texture. The addition of fiber-rich flour-like pumpkin can improve the rolling and binding ability of tortilla chips. Therefore, it is hoped that these snacks will become healthy food for all people, including parents, teenagers, and children [5].

Apart from pumpkin flour, a potential ingredient used in making tortillas is jackfruit seeds. Jackfruit seeds are an organic waste underutilized and less acknowledged by people even though jackfruit seeds have a relatively high nutritional content. They have considerable nutritionalbenefits and constitute about 10% to 15% of the fruit weight [6].

Jackfruit seeds arerich in carbohydrates, protein, and a source of minerals. Jackfruit seeds contain carbohydrates, potassium/potassium, phosphorus, and fat. The energy content (165 kcal) and carbohydrate (36.7 kcal) of jackfruit seeds are higher than young jackfruit and ripe jackfruit. It is apparent from the information summarized that jackfruit is the richest source of protein (1.72 g) when compared to other fruits, followed by banana (1.09 g), mango (0.82 g), fig (0.75 g), and pineapple (0.54 g) [7]. Jackfruit seeds possess anti-microbial activity, which prevents foodborne diseases [8].

Jackfruit seeds have not been used optimally. They are an option for people in South Asia as one of the anti-hunger snacks. The high carbohydrate content makes jackfruit seeds potential in making flour.According to [9], jackfruit seeds can also be used as business opportunities such as crackers, dodol, and tortillas.

Tortillas are a typical food from Mexico made from corn[10]. Currently, tortillas are discovered in many supermarkets in Indonesia. Tortillas come in many shapes, including triangular and rectangular shapes with different thicknesses [11].Apart from corn, tortillas can be processed using two combinations of flour, namely pumpkin flourand jackfruit seed flour. Both ingredients are the result of local food products, which have opportunities as home industry businesses. The use of these two raw materials can also improve product quality to be accepted by consumers.

Now, consumers tend to prefer practical and ready-to-eat snack products such as tortillas. The products provide a new idea that the community can be accepted local food diversification into tortillas. Tortilla processing is a relatively simple process, so that it has an opportunity as a home industry business. In a different aspect, future industrial developments will be related to environmental problems, especially improvements. Therefore, the utilization of jackfruit seed waste can be an alternative for developing a sustainable agro-industry. Sustainable agro-industry development is agro-industry that considers the management and conservation aspects of natural resources, using technology that does not cause degradation or damage. The results obtained are profitable and can be accepted by the community.This study aims to determine the best formulation combination between pumpkin and jackfruit seeds for making tortillas and determine the effect of the combination of pumpkin and jackfruit seed on the chemical and organoleptic properties of tortillas'

2. Materials and Methods

The materials used in this study were pumpkin, which was obtained from farmers in East Sakra, East Lombok, and jackfruit seeds obtained from Narmada, West Lombok. Indonesia. The tapioca flour (rose brand), refined sugar (rose brand), and salt (Cap Kapal) were bought at the supermarket. The instruments used in this research were the oven and steamer pan.

This research began with the pumpkin puree and jackfruit seed flour processing then continued with tortilla products.The pumpkin puree was made by cleaning the pumpkin, then cutting the skin and

washing it thoroughly. After that, the pumpkin is sliced thinly with a thickness of 1-2 cm and put in a steamer pan to be steamed for 10 minutes [12]. Thenthe pumpkin is mashed until smooth using a blender.Making jackfruit seeds was done by peeling jackfruit seeds, then thinly slicing them with a 2-3 mm thick slicer. Furthermore, the jackfruit seeds dried in an oven at 55 ° C for 20 hours to dry. After that, the chips are crushed using a flour machine, and a blender is then sieved into 80 mesh sieve.The making of tortillas was done by mixing the ingredients, namely treatment A (pumpkin puree 80%: jackfruit seed flour 20%), B (pumpkin puree 65%: jackfruit seed flour 35%), C (pumpkin puree 50%: jackfruit seed flour 50%) %), D (pumpkin puree 35%: jackfruit seed flour 65%), and E (pumpkin puree 20%: jackfruit seed flour 80%). The sample weight of the mixed formulation was 300 gr. After that, mixing it with other ingredients (15% tapioca flour, 2% salt, 2% refined sugar, and 100 ml water), then steamed for 15 minutes, then cut thin and dried for 24 hours.

The parameters in this study include chemical and organoleptic properties. Chemical properties, namely moisture content by the oven method, ash content by ashing, crude fiber content using the gravimetric method [13]. The organoleptic analysis includes color, texture, and taste with the scoring test, while the hedonic test[14].

Results in figures are presented as mean ± standard deviation of analyses done in triplicate. Chemical and organoleptic data obtained were tabulated andanalyzed using variance analysis (ANOVA). Differencesamong samples would be tested using Honestly SignificantDifferent (HSD) with the significance level set at α =0.05.

3. Results and Discussion

3.1. Chemical Properties

In this study, the chemical properties analyzed include the moisture, ash, and crude fiber content of the tortilla produced by a combination of pumpkin and jackfruit seeds. The results of the study could be seen in Table1.

Table1. Chemical properties of tortilla with various pumpkin and jackfruit seedscombination.

Parameters	Treatment				
	A	B	C	D	E
Moisture	6.64 ± 0.035^{e}	5.143 ± 0.033^{d}	4.523 ± 0.022^{c}	3.990 ± 0.055^{b}	3.463 ± 0.123^{a}
Ash	6.270 ± 0.006^{e}	5.403 ± 0.029^{d}	4.790 ± 0.025^{c}	4.633 ± 0.022^{b}	4.443 ± 0.029^{a}
Crude Fiber	11.263 ± 0.042^{d}	10.663 ± 0.060^{c}	9.353 ± 0.229^{b}	7.897 ± 0.109^{a}	7.490 ± 0.010^{a}

Values are mean ± standard deviation of triplicates. According to the Honestly Significance Difference test, different letters in the same row mean that the values are not significantly different ($p<0.05$) at a = 0.05.

The terms of moisture content have been used to designate the amount of water present in foodstuffs-the ingredients' moisture content to the extent of 70% of their weight or greater. The abundance and chemical reactivity cause moisture and moisture determination to be of great concern to the food industries. Water can adversely affect food quality, value, and freshness [15].

The variance analysis at the 5% significance level showed that the combination of pumpkin and jackfruit seeds treatment significantly affected tortilla moisture content. The tortilla of moisture content determination using the thermogravimetric method was shown in Table1.Table 1 showed that the tortilla moisture content ranged from 3.463% to 6.640%. The highest moisture content occurred in treatment A while the lowest moisture content occurred in treatment E. This result is almost the same as reported[5] that tortillas ash content with 20% pumpkin flour is 4.98%.

The data showed that the moisture content tortilla decreased with the pumpkin used. That is due to the moisture content of the raw materials used, where the moisture content of pumpkin is higher than the moisture content of jackfruit seeds. According to [16], the moisture content of fresh pumpkin and fresh jackfruit seeds is 86.6 % and 57.7 %. Besides, the characteristics of the two ingredients used are different, where the puree is for pumpkin and flour for jackfruit seeds. Jackfruit seeds flour is reported to contain a moisture content of 13.19% [17]compared to pumpkin puree, which is still fresh and wet.

That will affect the moisture content of the product (tortilla) produced.Another phenomenon is that pumpkin contains gluten, which functions as a water binder and forms dough elasticity[18].

Reduction in moisture content is due to the method of preparation. Hence due to the low moisture content of the end product [19]. Quantification of moisture content is directly affected by the drying rate of a food sample. The moisture content reduction occurs during the drying process. The water in the material will evaporate due to the drying process using temperatures above 50^{o}C so that the material becomes dry. Moisture content has a significant role in the quality of a product. These requirements must be met because the presence of water levels that exceed the standard will cause the product to be overgrown with microbes or other microorganisms to affect its stability[20].

Ash content is a mixture of mineral or inorganic components found in a food ingredient. The ash content can show the total minerals in a food ingredient. Organic materials in the combustion process will burn, but the inorganic components will not because that is what is referred to as ash content. The incinerating temperature is adjusted according to the material to avoid the various parts undergoing decomposition or even evaporate at high temperatures [21]. The variance analysis at the 5% significance level showed that the combination of pumpkin and jackfruit seeds treatment significantly affected tortilla ash content.

Based on the result,tortilla ash content ranged from 4.443% to 6.270%.The sample's ash content was higher than the value reported for a tortilla with the addition of squid ink (3.57%) by [22]. The highest ash content occurred in treatment A (80% puree pumpkin: 20% jackfruit seeds flour), while the lowest ash content occurred in treatment E (20% puree pumpkin: 80% jackfruit seeds flour). The addition of 20% of pumpkin flour will result in 5.7% tortilla ash content [5]. The data showed that the decrease of the pumpkin using, the decreased tortilla ash content. That is due to the ash content of raw materials used, where the ash content of fresh pumpkin and fresh jackfruit seeds is 1.3 % and 1.2 %[16].

The increase in ash content is thought to occur because the evaporated material's moisture content is more so that the minerals left in the material increase. The ash content shows the residual material that remains after the material is destroyed and describes the number of minerals that are not burned into non-volatile substances. The higher the ash content, the higher the minerals contained in these food ingredients. Ash is a chemical component found in food;ash in food ingredients can indicate that the food ingredients have minerals[15], [23].

Based on the study results, the higher the pumpkin use, the higher the crude fiber content of the tortillas. The highest fiber content occurred in treatment A while the lowest fiber content in treatment E. Tortilla crude fiber content ranged from 7.49% to 11.263%.The sample's crude fiber content was higher than 1.9 – 3.1% reported for a tortilla with broccoli fluor[24]. Higher than 3.57 reported tortilla with the addition of squid ink by [22].

The data showed that the tortilla fiber content decreased with the decrease of the pumpkin using. That is due to the use of the raw materials used, where the fiber content of pumpkin is higher than the fiber content of jackfruit seeds.According to [16], the fiber content of fresh pumpkin and fresh jackfruit seeds is 2.7 % and 1.8 %.The pumpkin is found to be the richest source of dietary fiber. This result is in line with previous research [3]. Likewise, [25]says that the tortilla rolling and breaking can be minimized by adding high fiber to the tortilla. Therefore, the addition of fiber-rich flour-like pumpkin can improve the rolling and binding ability of tortilla chips.Different products also show that the Pumpkin dietary fiber and bioactive ingredients and dietary fiber much determine pumpkin bakery products' preventive properties.

3.2. Organoleptic Properties

The organoleptic test (preference test) is the often used test to measure food products' preference scores. The organoleptic scale can be applied to a numerical scale to make it easier for analysis using statistics. In this study, the preference level analyzed includes the color, texture, taste, and aroma of the tortilla produced, made by a combination of pumpkin and jackfruit seeds. The variance analysis at the 5% significance level showed that the combination of pumpkin and jackfruit seeds treatment had a significant effect on color, texture, taste, and aroma score of tortilla could be seen in Table 2.

Table 2. Organoleptic properties of tortilla with various pumpkin and jackfruit seedscombination.

Parameters	Treatment				
	A	B	C	D	E
Color	1.95 ± 0.050^{a}	1.20 ± 0.156^{a}	3.00 ± 0.126^{b}	3.40 ± 0.210^{bc}	4.15 ± 0.264^{c}
Texture	3.35 ± 0.167^{ab}	3.20 ± 0.200^{a}	3.85 ± 0.182^{ab}	4.00 ± 0.192^{b}	3.45 ± 0.198^{ab}
Taste	3.30 ± 0.128^{b}	3.50 ± 0.224^{b}	3.30 ± 0.272^{ab}	2.55 ± 0.114^{a}	3.15 ± 0.302^{ab}
Flavor	2.90 ± 0.161	2.90 ± 0.176	2.80 ± 0.186	3.10 ± 0.204	2.95 ± 0.211

Values are mean ± standard deviation of triplicates. According to the Honestly Significance Difference test, different letters in the same row mean that the values are not significantly different ($p<0.05$) at a = 0.05.

The panelist score on the tortilla color was obtained the highest score in treatment E (20% pumpkin formulation with 80% jackfruit seeds) of 4.15 with the like criteria. The lowest score was obtained in treatment B (pumpkin formulation 65% with 35% jackfruit seeds) 1.20 with the criteria rather dislike. The use of a mixture of pumpkin and jackfruit seeds causes differences in the resulting tortillas' color, where the color degradation occurs from dark brown to light brown. When the use of pumpkin is increasing, it will be dark brown. On the contrary, when the use of jackfruit seeds is higher, it will be light brown.

Pumpkin is also rich in betacarotene, a pigment that is yellow, orange, and orange-red. The more pumpkin for making tortillas, the beta-carotene content will increase so that the more pumpkin is causing the color to be darker. Jackfruit seeds have a white base color, so when more jackfruit seeds are added, the tortilla will be light brown. In other words, the product produced is influenced by the primary color of the raw material.

Color significantly affects food quality. The color can be appreciated as an indicator to assess the severity and predict the degradation of materials' nutritional quality due to process treatment [26]. Whether or not the presence of an even color indicates the mixing method or processing method. A color change of food can be estimated indirectly by assessing the chemical analysis simpler and faster [27].

The texture is influenced by the moisture content contained in foodstuffs[28]. The low moisture content will increase the product's crunchy because the more water comes out of the material, the space is in the network[29]. Increasing the water content in a product can reduce its hardness value. That is because the water present in the material causes plasticization and softening of the starch protein matrix. It is, thereby, changing the strength of the product [28].

Apart from water content, the texture is also influenced by amylose levels. The higher amylose content in jackfruit seeds will allow the product to be more rigid. Amylose will affect the retrogradation process, especially when the tortilla is cooking. Retrogradation is the process of forming bonds between the amylose that has been dispersed into water. The more amylose dispersed, the higher the starch retrogradation process, thus becoming harder [11]. The level of panelist score on the texture of the tortilla was obtained the highest score in treatment D (35% pumpkin formulation with 65% jackfruit seeds) of 4.00 with criteria like (crunchy), the lowest score was obtained in treatment B (pumpkin formulation 65% with 35% jackfruit seeds) of 3.20 with slightly crunchy criteria.

The variance analysis at the 5% significance level showed that the combination of pumpkin and jackfruit seeds treatment significantly affected the tortilla taste score in Table 1. The panelist score on the tortilla taste was obtained the highest score in treatment A dan B (80:20 and 65;35) of 3.4 with like criteria, and the lowest score was obtained in treatment D (35:65) of 2.40 with dislike criteria. The more pumpkin used, the more unique the taste will be. Yellow pumpkin has a sweet taste.

The taste of tortillas was due to treatment A and B, which contained more pumpkin in which the pumpkin still had sugar compounds. Preference involves more of the five senses of the tongue. The taste of food can be recognized by the taste buds located on the papillae. Taste sensing can sense four types of taste: salty, sour, sweet, and bitter.

The flavor is used as an indicator of product damage. The smell of food is an interaction caused by food that is distinguished by the sense of smell. In this case, acceptance is determined by the aroma.

Although the food's appearance is preferred, it will reduce its acceptability if there is a distortion of the flavor by the product.

The flavor is tested based on the panelist's preference level (hedonic test). The research results found that the panelists' preferred level ranged from 2.80 to 3.10 with somewhat similar criteria. The results showed that the combination of pumpkin and jackfruit seeds were not significantly different from the tortilla flavor.Both of the two raw materials influence a unique flavor, where the panelists prefer treatment D (35:65). In general, the food products' flavor is formed by the constituent ingredients. During the manufacturing process, mostly high frying, boiling, and dry temperatures can reduce flavor. One of the main disadvantages of dehydration is the loss of volatile flavors [26].

4. Conclusion

The combination of pumpkin and jackfruit seeds significantly affected the content of moisture, ash, and fiber, and the score of color, taste, and texture but did not affect the tortilla aroma score. The result showed that the decrease of the pumpkin using, the decreased of the moisture, ash, and crude fiber content. The best treatment based on chemical and organoleptic properties is treatment C (50:50). Furthermore,utilization of jackfruit seed waste into tortillas can be used as an alternative to reduce environmental pollution problems.

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