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2nd International Conference SUSTAINABLE AGRICULTURE, FOOD AND ENERGY

2nd International Conference  
SUSTAINABLE AGRICULTURE, FOOD, AND ENERGY

Promoting Global Action  
for Sustainable Agriculture,  
Food and Energy



Warmadewa University, Denpasar  
Bali, INDONESIA  
September 17 (Wed) - 19 (Fri), 2014



Conference Programme  
Papers abstracts

Bali, 2014



**SAFE**2014  
International Conference  
Sustainable Agriculture, Food, and Energy  
Bali, 17-19 September 2014. INDONESIA

Organized by  
Faculty of Agricultural Technology, Andalas  
University-Padang, Indonesia



**2<sup>nd</sup> International Conference  
Sustainable Agriculture, Food, and Energy  
SAFE2014**

**17-19 September 2014  
Warmadewa University, Denpasar-Bali-INDONESIA**

**“Promoting Global Action for Sustainable Agriculture,  
Food and Energy”**

**Conference Program  
Papers Abstract**

**Organized by:**

**Faculty of Agricultural Technology, Andalas University  
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## Sustainability of Food in Science and Technology (SFST)

CODE	NAME	COUNTRY	TITLE OF PAPERS
SFST-01	Kesuma Sayuti	INDONESIA	Antioxidant Activity and LC50 of Soursop Leaves Jelly Candy with Addition of Soursop Fruit Extract ( <i>Annona muricata</i> L.)
SFST-02	Nurul Huda	MALAYSIA	[1] Protein Quality of Fish Fermented Product: Budu and Rusip. [2] Effect of Fat Extraction Treatment on The Physicochemical Properties of Duck Feet Collagen and Its Application in Surimi
SFST-03	Nurul Huda	MALAYSIA	The Effect Of Repeated Heating On Fatty Acid Profile Of Beef And Spices Of Rendang
SFST-04	Rina Yernina	INDONESIA	Spider flower ( <i>Gynandropsis gynandra</i> ), an alternative source of micronutrient: Effect of fermentation process on its properties
SFST-05	Rashidah	MALAYSIA	Perception of Young People toward their Traditional Food
SFST-06	Wahyudi David	INDONESIA	Mathematical Model for Optimal Modified Atmosphere Packaging Design to Prevent Chilling Injury in Cucumber Fruit
SFST-07	Khandra Fahmy	JAPAN	The Substitution Of Wheat Flour With Mixed-Cassava ( <i>Manihot Utilissima</i> ) And Red Beans-Flour ( <i>Phaseolus Vulgaris</i> L.) Toward The Characteristics Of Instant Noodles
SFST-08	Novelina	INDONESIA	
SFST-09	AMIR HUSNI MOHD SHARIFF	MALAYSIA	Halal Cat Food for the World Market
SFST-10	Diana Sylvi	INDONESIA	Effect Of Addition Of Dextrin Againsts Beverage Product Quality Instant White Dragon Fruit ( <i>Hylocereus Undatus</i> ) And Red Dragon Fruit ( <i>Hylocereus Polyrhizus</i> )
SFST-11	Tuty Anggraini	INDONESIA	The Exotic Plants of Indonesia: Mahkota Dewa ( <i>Phaleria macrocarpa</i> ), Sikaduduak ( <i>Melastoma malabathricum</i> Linn) and Mengkudu ( <i>Morinda citrifolia</i> ) as Potent Antioxidant Sources
SFST-12	Omil Charmyn Chatib	INDONESIA	Study of Pressing Equipment Performance of Cocoa Powder ( <i>Theobroma cacao</i> ,L) to Produce High Quality of Cocoa Fat
SFST-13	Rini	INDONESIA	Nutritional Components of Rendang Minangkabau
SFST-14	Rince Alfia Padri	INDONESIA	The Mixture Of Yogurt And Strawberry Juice To Repair Blood Lipid Profile
SFST-15	Evawati	INDONESIA	Utilization Of Solid Waste Of Tofu Waste And Out Of Grade Carrot As A Source Of Vegetable Protein And Fibre In Nugget Processing
SFST-16	Mimi Harni	INDONESIA	Processing Method Effect To Virgin Coconut Oil (VCO) Quality After Storing
SFST-17	Muthia Dewi	INDONESIA	Effect Of Garlic ( <i>Allium Sativum</i> ) On Duck Sausage Quality During Refrigerated Storage
SFST-18	Yusnelti	INDONESIA	Test Dihidroisocoumarin Activity Against Murine Leukemia Cells P-388 From the Stem Bark Extract of <i>Shorea Singkawang</i> (Miq) .Miq
SFST-19	Maede ahmady	IRAN	Preservation of juices using hurdle technology
SFST-20	Hafnimardiyanti	INDONESIA	Edible Film Making from Starch of Canna Tuber ( <i>Canna Edulis</i> Kerr) and Application to Galamai Packaging
SFST-21	Emely Escala	Philippines	Jackfruit ( <i>Artocarpusheterophyllus</i> Lam.) By-Product

			Concentrate Supplementation For Early Weaning Of Suckling Kids
SFST-22	Soontree Khuntong	THAILAND	Inhibition of Cancer Disease in Selected Citrus Plant by <i>Gelonium multiflora</i> extract
SFST-23	Razauden Mohamed Zulkifli	MALAYSIA	Processed Pineapple, a Future Sustainable Nutrition Supply to the Population
SFST-24	Dwi N Susilowati	INDONESIA	Rhizosphere Bacteria associated with <i>Oryza sativa</i> L. cv Mekongga growing on different level of coastal soil salinity
SFST-25	Nguyen Huy Bich,	Vietnam	A Planning Experimental Investigation on Tobacco Leaves Dryer Using Paddy Husk and Coal
SFST-26	Jariyah	INDONESIA	Phytochemical and acute toxicity studies of ethanol extract from Pedada ( <i>Sonneratia caseolaris</i> ) fruit flour
SFST-27	Ni Made Ayu Suardani	INDONESIA	Characteristics of Traditional Food "Pedetan" in Jembrana Regency
SFST-28	Toshifumi Sakaguchi	JAPAN	Selenium Recovery and Conversion by a Filamentous Fungus, <i>Aspergillus oryzae</i> Strain RIB40
SFST-29	Luh Putu T. Darmayanti	INDONESIA	Physicochemical Characteristic and Protein Profile of Fermented Urutan (Balinese Sausage)
SFST-30	Hamidin Rasulu	INDONESIA	Improved Quality Wood Flour Sweet Var. Local Ternate Through Fermentation Method And Application On "Sagulempeng" Traditional Foods North Molucas
SFST-31	Hasbullah	INDONESIA	Inhibition Effect of Mace Extract Microemulsion on Photooxidation of Vitamin C in Aqueous System
SFST-32	Aida Syarif	INDONESIA	Characterization of Geochemical Waste Rock on Indicate and Mitigation Acid Mine Drainage at Coal Mining Bukit Asam, Tanjung Enim
SFST-33	Evy Rossi	INDONESIA	Variation Of Concentration Skim Milk And White Oyster Mushroom ( <i>Pleurotus Ostreatus</i> ) Powder On The Quality Of Fruty Soyghurt Drink
SFST-34	Renny Futeri	INDONESIA	Substituting Flour Wheat Flour With Banana Skin Mixture Of Various Skin Types Banana On Making Donuts
SFST-35	Ayu Diana	INDONESIA	Determination of Fatty Acid Profile Profile and Quality of Oil Extracted From by-Products of Processed Fish Tuna ( <i>Thunnus Albacares</i> ) Through Different Methods
SFST-36	Wellyalina	INDONESIA	The Effect Of Heating On The Processing Of Potential Antimicrobials From Rendang Spices
SFST-37	I Made Sugitha	INDONESIA	Study Of Ami Maka Ana( Traditional Fermented Buffalo Milk ) As Nutritional Food At Los Palos East Timor
SFST-38	Alvi Yani	INDONESIA	Consumer Preferences Of New Rice Varieties (Vub) In Lampung Province (Case Study In Tanjung Rejo Village, Negeri Katon Subdistrict, Pesawaran District )
SFST-39	Alvi Yani	INDONESIA	Physicochemical Characteristics Of Composite Flour Made From Cassava, Sweet Potato, Corn And Rice Bran
SFST-40	Noveria Sjafrina	INDONESIA	Consumers Preferences To Sweet Potato Flakes (Spf) From Sweet Potato Pasta As A Raw Material, With Enrichment Mung Bean Flour As Source Protein
SFST-41	Fitriani Kasim	INDONESIA	HARD CANDY MAKING OF GARLIC
SFST-42	I Gde Suranaya Pandit	INDONESIA	Innovation Process of Pindang ( Boiled Fish)
SFST-43	Rosnita	INDONESIA	Analysis Of Pineapple Chips Agroindustry In Kualu Nenas Village Kampar District

SFST-44	Tirta A.IN	INDONESIA	The Effect Of Starbio On Broiler Meat Mikrobial's Profil And The Environmental Impact Of Sustainable Farm
SFST-45	Kurnia Harlina Dewi	INDONESIA	Study Of Characteristics Chemical And Physical Properties Of Sea Cucumber Ginger Coffee On Effervescent
SFST-46	I Gst. Nym. Gde Bidura, MS	INDONESIA	Isolation Of Cellulolytic Bacteria From Rumen Liquid Of Buffalo Both As A Probiotics Properties And Has Cmc-Ase Activity To Improve Nutrient Quality Of Soybean Ditellery By-Product As Feed
SFST-47	Yuli Witono	INDONESIA	CHEMICAL AND FUNCTIONAL PROPERTIES OF PROTEIN ISOLATE FROM COWPEA ( <i>Vigna unguiculata</i> )
SFST-48	Kohei Nakano	JAPAN	Easy and Low-cost Evaluation Method for the Freshness of Green Beans Based on the Stachyose Detection
SFST-49	Salma Mohamad Yusop	MALAYSIA	Evaluation of Antioxidant Activities of Elastin Hydrolysates from Poultry By-Products
SFST-50	Salma Mohamad Yusop	MALAYSIA	The Potential of Pomelo Peel ( <i>Citrus grandis</i> Osbeck) As a Source of Fibre for Food Enrichment
SFST-51	Yuli Hariyati	INDONESIA	Value-added and Supporting - Inhibiting Factors for the Wet Processing of Coffee
SFST-52	SHARIFUDIN MD.SHAARANI	MALAYSIA	Sustainable Food System for Food Security and Nutrition

## Sustainable Bioenergy Sources and Management (SBSM)

CODE	NAME	COUNTRY	TITLE OF PAPERS
SBSM - 01	Najeeb Kaid Nasser Al-Shorgani	MALAYSIA	Selectivity of Biobutanol Production by Electron Carriers Addition in batch culture of a Novel Strain of <i>Clostridium acetobutylicum</i> YM1
SBSM - 02	Alfi Asben	INDONESIA	Potential Cellulase Produced from Indegeneous Isolates from the Sago Hampas
SBSM - 03	Novizar Nazir	INDONESIA	Bioenergy in Indonesia: Now and Beyond
SBSM - 04	Sri Aulia Novita	INDONESIA	Processing of Coconut Fiber and Shell To Biodiesel
SBSM - 05	Aminuddin Mohamad	MALAYSIA	Trial plot study: Growth and Yield Potential of <i>Leucaena leucocephala</i> for biomass production
SBSM - 06	Nanik Rahmani	INDONESIA	Optimization of production xylanase from marine bacterium <i>Bacillus safensis</i> on sugar cane bagasse by submerged fermentation
SBSM - 07	Dhimas Handhi Putranto	INDONESIA	Growth and Physiological Response of <i>Jatropha</i> Interspecific Hybrid ( <i>Jatropha curcas</i> x <i>Jatropha integerrima</i> ) under Salt Stress
SBSM - 08	Dewa Ekayana	INDONESIA	Saving Energy by Increasing Efficiency of Room Air Conditioners in Indonesia
SBSM - 09	M.N.ESHTIAGHI	THAILAND	Non-thermal cell permeabilization of sugar cane using high electric field pulse technique
SBSM - 10	M.N.ESHTIAGHI	THAILAND	Application of subcritical water technique for extraction of beta-glucan from yeast cells;
SBSM - 11	Nguyen Manh Cuong	Vietnam	Comparison of the Engine Performance of Biodiesel and Diesel in Internal Combustion Engine
SBSM - 12	Dani Permana	INDONESIA	Biodegradation of Tofu Wastewater Using Single Chamber Microbial Fuel Cell With Variations of Microorganism Cultures

## Analysis Of Pineapple Chips Agroindustry In Kualu Nenas Village Kampar District

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**Abstract**— The purpose of this study is to analyze the production cost, efficiency level and marketing process of pineapple chips business, and to analyze the institutional support of pineapple chips agroindustry. The study was conducted by survey method from 12 pineapple chips entrepreneurs, chosen by census sampling method in Kualu nenas village in 2012. Data were analyzed by descriptive method. The growing number of pineapple chips entrepreneur was followed by the increasing number of machine owned by the entrepreneur, ranging from 1-4 unit facum frying machine for each entrepreneur. The average production cost of pineapple chips produced by 4 times production process scheme/ day are Rp.15.514.749 for 1 machine, Rp. 34.199.267 for 2 machine, and Rp. 62.515.120 for 3 machine. The average production cost of pineapple chips, produced by 3 times production scheme/ day with 4 unit machine is Rp. 57.478.340. The efficiency levels ranging between 1,27 (the average efficiency of 1 unit machine) up to 1,78 (the average efficiency of 4 unit machine). While the value added obtained per unit machine is about 9 million rupiah or 38.000/kg. Some of the products (60%) were marketed through broker or wholesaler, the others (40%) were directly sold to the consumer using their own brands. In the accessibility of the entrepreneurs to financial institution, the entrepreneurs were able to obtain the capital assistance from BMUN, micro economic and banking institutions.

**Keyword**— Agroindustry, Pineapple chips, Cost, Efficiency

## The Effect Of Starbio on Broiler Meat Mikrobial's Profil And The Environmental Impact Of Sustainable Farm

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**Abstract**— This research has been conducted to determine the effect of dried probiotic (type Starbio) on the shelf life of broiler meat and impact on the environment farm to be implemented. The research used Completely Randomized Design (CRD), with the two treatments, namely: giving starbio 0% (NS) and the provision of 0.25% starbio (ST). Each treatment was repeated 100 times, so the number of broilers were used in this research were 200 DOC. Parameters in this study are: the shelf life of meat includes observation of the growth of microbial pathogens / TPC (Total Plate Count) every 3 hours for 24 hours, and environmental impacts such as contamination or the content of ammonia and microbial pathogens (E. coli, coliform, TPC) in feces. The results showed that the microbial profile (TPC) NS meat in the first 3 hours of observation were not significantly different ( $P > 0.05$ ) with ST. After 6 hours of observation, both in the meat NS and ST occur with rapid microbial growth. At 15-18 hours of observation, TPC at the sample reached  $10^{7-8}$  cfu / cm<sup>2</sup>, but the real NS sample more than TPC ST samples ( $P < 0.05$ ). Observation for 15-24 hours, the second sample rate changes to smell decay with TPC  $10^{10}$  cfu / cm<sup>2</sup> and TPC at NS samples was significantly higher than ST ( $P < 0.05$ ). Observations of ammonia, TPC, Coliform, and E. coli in the feces as a source of pollution to the environment obtained respectively 29.5%, 15.4%, 0.0%, and 33% in NS samples was significantly higher when compared with ST samples ( $P < 0.5$ ). The conclusion of this research, is the addition of dried probiotic starbio (0.25%) in broiler ration can improve the shelf life of meat and reduce the environmental impact of sustainable broiler farms.

**Keyword**— Starbio, broilers, the shelf life of meat, environment impact.