

# CONFERENCE PROCEEDINGS

ENHANCING QUALITY OF LIFE  
THROUGH HUMAN WELL BEING  
AND ENVIRONMENTAL SUSTAINABILITY  
IN APPLIED SCIENCE

September 12-14, 2017  
Bogor City, Indonesia



DJUANDA UNIVERSITY

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**Djuanda University**

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**BICAS 2017**

**Bogor International Conference for Applied Science**



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SUSTAINABILITY IN APPLIED SCIENCE

## **BICAS 2017**

**Bogor International Conference for Applied Science**

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## Welcoming Speech



Local Host  
Dr. Rita Rahmawati

Public Administration  
Faculty of Social and Political Science, Djuanda University

Dear Committee and all participants

BICSS.UNIDA. – On behalf of Djuanda University I would like to welcome all of you to Bogor, Indonesia. Bogor is one of the cities in West Java province, Indonesia. It is located around 60 kilometers (37 mi) south from the national capital of Jakarta, Bogor is the 6th largest city of Jabodetabek (Jakarta metropolitan region) and the 14th nationwide. Bogor is an important economic, scientific, cultural and tourist center, as well as a mountain resort.

With several hundred thousand people living on an area of about 20 km<sup>2</sup> (7.7 sq mi), the central part of Bogor is one of the world's most densely populated areas. The city has a presidential palace and a botanical garden (Indonesian: *Kebun Raya Bogor*) – one of the oldest and largest in the world. It bears the nickname “the Rain City” (*Kota Hujan*), because of frequent rain showers. It nearly always rains even during the dry season.

Each year, many scholastic conferences of various disciplines take place in Bogor. Bogor has many national, public and private universities including graduate schools and public and private research institutions. Bogor takes pride in its education system, scholastic and research development. This is one of the reasons that many domestic and international conferences select Bogor to host their conferences.

This is our first time to proudly act as the local host of BICAS 2017 to welcome all the guests from all over the world. We have invited many professionals from different fields and exchanged knowledge from our researches to cultural experiences. We sincerely hope you will enjoy your staying in Bogor and bring home lots of experiences and knowledge from this conference.

Thanks for coming, wish all of you are succeed in presentation and live wonderfully along this journey...

Dr. Rita Rahmawati

## General Information for Participants

### ▪ Registration

The registration desk will be located at HOTEL ONIH JI. Paledang No. 52 Bogor 16720 Bogor, West Java, Indonesia

1. Location: Hotel Onih Bogor, Grand Ballroom, Main Lobby 1<sup>st</sup> Floor, Bogor-Indonesia
2. Open hours: 07:30-08:30 Tuesday, September 12, 2017  
07:30-08:30 Wednesday, September 13, 2017

### ▪ Organizer



#### Djuanda University

Bogor, Indonesia

Tel: +62 251 8240 773, Fax: +62 251 8240 985

Web: <http://unida.ac.id>

### ▪ A Polite Request to All Participants

Participants are requested to arrive in a timely fashion for all addresses, whether their own, or to those of other presenters. Presenters are reminded that the time slots should be divided fairly and equally between the number of presentations, and that they should not over run. The session chair is asked to assume this timekeeping role and to summarize key issues in each topic.



▪ **Preparation for Oral Presentations**

All presentation rooms are equipped with a screen, a LCD projector, and a laptop computer installed with Microsoft Office Power Point. You will be able to insert your USB flash drive into the computer and double check your file in Power Point software. We recommend you to bring two copies of the file in case that one fails.

▪ **Preparation for Poster Presentations**

**Material Provided by the Conference Organizer:**

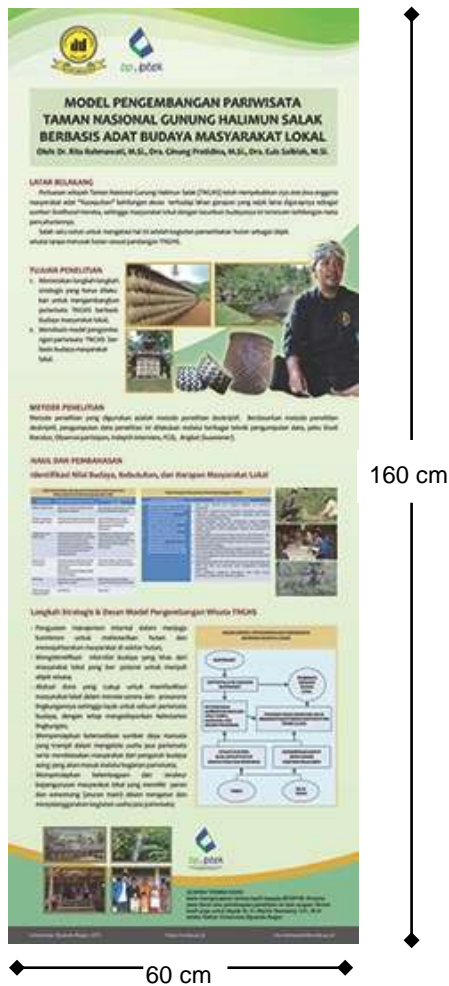
1. X-frame display & base fabric canvases (60\*160 cm)
2. Adhesive tapes or binder clips.

**Material Provided by the Presenters:**

1. Home-made poster(s).
2. Material: not-limited, can be posted on the canvases
3. Recommended poster size: 60\*160 cm



Sample:



# Conference Venue Information

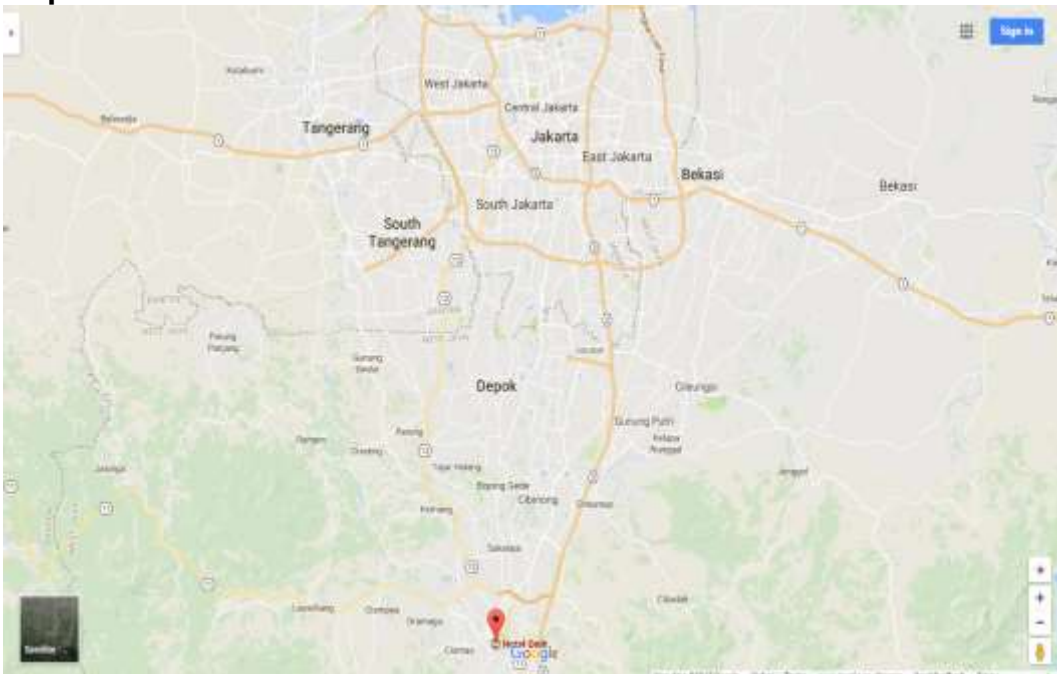
## Hotel Onih



Address:  
Jalan Paledang No. 50 - 52, Paledang, Bogor Tengah, Kota Bogor, Jawa Barat  
16122

Phone: (0251) 8315008

## Airport



# Conference Schedule

**TUESDAY, SEPTEMBER 12, 2017**

<b>Time</b>	<b>Schedule</b>	<b>Venue</b>
07.30 - 08.30	Registration	
08.30 - 09.15	Opening Speech by BICSS Conference Chair	Ballroom
09.15 - 09.30	Coffee Break	
09.30 - 11.45	Keynote Speech: Dr. Martin Roestamy, Prof. Dr. Juha Kaskinen, Prof. Dr. Tomoyasu Sano, Prof. Dr. EkoPrasojo, Prof. Dr. Nuarrual Hilal MdDahlan ACIS	Ballroom
11.45 - 13.00	Lunch break	
13.00 -15.30	Concurrent Session BICSS Economics (10)	Ballroom Corner 1
	Concurrent Session BICSS Communication (8)	Ballroom Corner 2
	Concurrent Session BICSS Society (10)	Executive Meeting Room, Floor 5
	Concurrent Session BICAS Agriculture 1 (8) Food Science (1)	Meeting Room 5 Mezzanine Floor
15.30 -15.40	Coffee Break	
15.40 -17.00	Concurrent Session BICSS Management (8)	Ballroom Corner 1
	Concurrent Session BICSS Education (8) Society (1)	Ballroom Corner 2
	Concurrent Session BICSS Economic (3) Banking (3); Business and Business Sharia (2)	Executive Meeting Room, Floor 5
	Concurrent Session BICSS Law (8)	Meeting Room 5 Mezzanine Floor

**WEDNESDAY, SEPTEMBER 13, 2017**

<b>Time</b>	<b>Schedule</b>	<b>Venue</b>
07.30 - 08.30	Registration	
08.30 –10.50	Keynote Speech: Dr. DedeKardaya, Prof. Noriyuki Tanaka, Prof. Marco Tieman, Prof. Saskia Van Ruth, and Prof Winai Dahlan	Ballroom
10.50 - 11.00	Coffee Break	
11.00 - 11.45	Keynote Speaker: Ambassador Hazairin Pohan	Ballroom
11.45– 13.00	Lunch break	
13.00 -15.15	Concurrent Session BICSS Law (9)	Ballroom Corner 1
	Concurrent Session BICSS Society (4) Politic (5)	Ballroom Corner 2
	Concurrent Session BICAS Food Science (11)	Meeting Room 5 Mezzanine Floor
	Concurrent Session BICSS Education (9)	Executive Meeting Room, Floor 5
15.15 -15.30	Coffee Break	
15.30 – 17.00	Concurrent Session BICSS Education (5) Administration (3)	Ballroom Corner 1
	Concurrent Session BICSS Administration (7)	Meeting Room 5 Mezzanine Floor
	Concurrent Session BICAS Animal Science (5); Biological Sciences and Biotechnology (2); Soil and Environmental Sciences (1)	Executive Meeting Room, Floor 5
17.00 – 17.30	Closing	Ballroom

**THURSDAY, SEPTEMBER 14, 2017**

<b>Time</b>	<b>Schedule</b>	
08.00 – 17.00	OC	Kebun Teh Puncak, kunjungan ke pabrik teh walini, makan siang @Cimory (Pilihan 1) Full Paket Taman Safari (Pilihan 2)

## Keynote Speech

### Ballroom

**08.30 – 10.30, Wednesday, September 13, 2017**

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TOPIC: DEVELOPMENT MODEL OF BEEF CATTLE BUSINESS

Dr. Dede Kardaya, M.Si  
Rector of Djuanda University Indonesia

Email: dede.kardaya@unida.ac.id

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DEVELOPMENT MODEL OF BEEF CATTLE BUSINESS ALONG SEA  
COASTLINE OF SOUTHERN WEST JAVA  
(Dede Kardaya, Wini Nahraeni, Elis Dihansih, Deden Sudrajat, Ristika Handarini)

#### Abstract

The study aimed to identify general condition of the study locations, to analyze beef cattle population and its productivities, potency of local feed availability, role of livestock institutions, to design an optimal development model of beef cattle business along street corridor of Southern West Java, and to apply the optimal development model as a pilot project. The study used a survey method in which purposive sampling technique was applied to collect data from some kecamatan of five Kabupaten along street corridor of Southern West Java. Result of the study showed that beef cattle farmers who reared three beef cows and adopted a cow-calf rearing system in semi intensive manner, fed grass, legume leaves, and pretreated agriculture by-products, grazed on grass land along sea coastline, applied artificial insemination, accessed to livestock institutions, such as farmer groups, inseminators, livestock extensions, financial institutions, markets, and teaching farms, and sold calf of either six or 12 months ages and pretreated agriculture by-products (organic fertilizers, rice straw silages, etc.) returned cash income of Rp22,473,000.00 with R/C ratio of 1.27.

Keyword: beef cattle business model, semi intensive, sea coastline,



## **Keynote Speech**

### **Ballroom**

**08.30 – 10.30, Wednesday, September 13, 2017**

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TOPIC: MANY SHADES OF FOOD FRAUD

Prof. Saskia Van Ruth, PhD  
Wageningen University and Research, PO Box 230, 6700 AE Wageningen, the Netherlands

Email: [saskia.vanruth@wur.nl](mailto:saskia.vanruth@wur.nl)

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#### **Abstract**

Food fraud is a form of criminal behavior, no matter the definition of crime. Its consequences are devastating. The interaction between motivated offenders, and the opportunities presented by victims and lack of control measures favor occurrence of food fraud. Control measures help to counteract the opportunities and motivations to commit fraud. Analytical testing is one of those control measures. Traditional measurements have focused on the analysis of one or a few product characteristics. However, nowadays often analytical techniques generating detailed analytical fingerprints are used to determine the identity of foods. In the presentation an example will be given for nutmeg. Both spectrometry and spectroscopy techniques are useful to authenticate nutmeg and other spices. Hyperspectral imaging adds the spatial dimension and provides us with even more precise measurements.

Keywords: The interaction between motivated offenders; Traditional measurements; the identity of foods; spectrometry and spectroscopy techniques.

## Keynote Speech

### Ballroom

**08.30 – 10.30, Wednesday, September 13, 2017**

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TOPIC: LESSONS LEARN FROM OLD BUSINESS ESTABLISHMENT -  
ESSENTIALS FOR SUSTAINABILITY

#### **Noriyuki Tanaka, Dr., Professor, Director**

Sanriku Fisheries Research Center,  
Division of Regional Development and Creativity, Graduate School of Art and  
Sciences,  
Iwate University,  
3-75-1, Heita, Kamaishi City, Iwate Prefecture 026-0001, Japan  
norit22999@hotmail.com or norit@iwate-u.ac.jp

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#### **Abstract.**

It was well known among Japanese that there are many old business establishments in Japan. In 2008, Bank of Korea published a report, entitled “Japanese companies longevity secrets and revelation”. The report has made Japanese economic and social practices unique subject to be studied for sustainability and resilience by academia and organizations for corporate credit and market research. Based on the systematic survey on randomly selected old companies, there are three essentials, 1) polishing up core business and provide better customer value, 2) operating within means or frugal, and 3) creating social and economic value networks. It is well known that excellent company has CSV(creating shared value) practices for its growth. However, old business in Japan has CCV(creating coexistence value) practices for resilience and sustainability. In 2011, Tsunami devastated coastal regions in Tohoku region in Japan. Now, we could see the CCV really worked for old company in the region.

Key words: Lessons Learn, Business Establishment, Sustainability

## Keynote Speech

### Ballroom

**08.30 – 10.30, Wednesday, September 13, 2017**

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TOPIC: A HALAL REPUTATION MEASUREMENT FRAMEWORK

*Dr. Marco Tieman, Adjunct Professor,  
Universiti Malaysia Pahang, Malaysia*

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#### Abstract

Recent halal scandals have shown that halal reputation and Muslim consumer loyalty can change very quickly. A corporate halal reputation is a collective representation of the firm's past actions and halal performance, and the firm's future ability to meet halal requirements. Tracking your halal reputation helps companies to invest effectively in protecting and changing their halal reputation. There are four drivers of a halal reputation: halal authenticity, trustworthiness of halal certificate, messages by company and supply chain partners, and messages by external stakeholders. Halal authenticity is measured through measuring the halal policy, halal maturity of company, and type of Islamic brand. Trustworthiness of halal certificate is measured through the halal certification body used by the company. Messages by company and supply chain partners are measured through qualifying the halal reputation management strategy, halal issue management, and halal crisis management. Messages by external stakeholders are measured through measuring the industry sensitivity, current media coverage, and company track record.

Key Words: Halal Reputation, Measurement Framework, consumer loyalty



Agriculture (8) Food Science (1)

Tuesday, September 12, 2017,  
13.00 - 15.30

Meeting Room 5  
Mezzanine Floor

Session Chair: Arti Yusdiarti

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[ABS-59]

**Analysis of Factors Which Determine The Powerment Of Stevia Farmers**

Hepi Hapsari	Faculty of Agriculture, Padjadjaran University
Yayat Sukayat	Faculty of Agriculture, Padjadjaran University
Pandi Pardian	Faculty of Agriculture, Padjadjaran University
Suseno Amien	Faculty of Agriculture, Padjadjaran University
M. Gunardi Judawinata	Faculty of Agriculture, Padjadjaran University Ganjar
Kurnia	Faculty of Agriculture, Padjadjaran University

[ABS-70]

**The Response of Growth and Yield of Black Soybean (*Glycine max L. Merr*) Genotypes Due to Organic Fertilizer**

Elly Roosma Ria	Faculty of Agriculture, Winaya Mukti University
Tien Turmuktini	Faculty of Agriculture, Winaya Mukti University
Adi Syahputra	Faculty of Agriculture, Winaya Mukti University

[ABS-71]

**Effect of Number of Seed and Biofertilizer Dosages on Growth and Yield of Long Bean (*Vignasinensis*) TaviKanton Variety**

Lia Amalia, Suparman	Faculty of Agriculture, Winaya Mukti University
Elly Roosma Ria	Faculty of Agriculture, Winaya Mukti University
Elis Siti Nurlaily	Faculty of Agriculture, Winaya Mukti University

[ABS-80]

**Income Rate of Wet Rice Farming System and Contribution on Farmer Income**

Nur Syamsiyah	Faculty of Agriculture, Padjadjaran University
Ahmad Thoriq	Faculty of Agriculture, Padjadjaran University
Endah Djuwendah	Faculty of Agriculture, Padjadjaran University
Kuswarini Kusno	Faculty of Agriculture, Padjadjaran University

[ABS-82]

**Strategy of Ornamental Fish Agribusiness Development in Ciomas District of Bogor Indonesia**

Dudi Lesmana	Universitas Djuanda
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[ABS-93]

**Using Linear Programming For Maximum And Minimum Response Modeling**

Setyono | Universitas Djuanda

[ABS-94]

**Supply Chain Partnership Institutional Analysis on Broiler Production in Bogor District, West Java**

Novita I. | Universitas Djuanda

Masithoh S. | Universitas Djuanda

[ABS-96]

**Supply Chain Performance of Vegetable Products in Traditional Market of Bogor City**

Himatul Miftah | Universitas Djuanda

Arti Yusdiarti | Universitas Djuanda

[ABS-69]

**Utilization of Citronella Leaf (Cymbopogon citratus) and Stevia (Stevia rebaudiana) for Improving Antioxidant of Low Sugar Chocolate**

Mira Suprayatmi | Universitas Djuanda

Intan Kusumaningrum | Universitas Djuanda

Elsera Tarigan | Universitas Djuanda

Lailia Fitriyani | Universitas Djuanda

[ABS-59]

**ANALYSIS OF FACTORS WHICH DETERMINE THE POWERMENT OF STEVIA FARMERS**

Hepi Hapsari<sup>1</sup>, Yayat Sukayat, Pandi Pardian, Suseno Amien, M. Gunardi Judawinata, and Ganjar Kurnia

<sup>1</sup>Faculty of Agriculture, Padjadjaran University  
<sup>1</sup>hepi.hapsari@unpad.ac.id

**Abstract**

*Stevia rebaudianabertoni* is a high value food commodity and anti diabetic sugar ingredients. Stevia farmers are responsible for stevia production and quality. The technology application level of stevia is still low, and the production quality and quantity level are also low. The empowerment of farmer becomes very important in order to develop farmer. The aims of the research were: (1) to study the empowerment level of farmer; (2) to know what are the factors that have an influence on it; (3) to study the level of farmer autonomy and the factors that have an influence on it. Research method was quantitative. Research techniques used was survey explanatory. Primary data were taken from 60 farmers. Sample has been chosen with stratified random sampling. The data analysis is used path analysis. The result showed that the empowerment farmer level is still in low, and the significant factors of it were the farmer institution and local leadership. The level of farmer autonomy was also in low, and the significance influencing factors were local leadership and the farmer empowerment. The characteristics of farmer and the characteristics of social system do not contribute simultaneously and significantly to the farmer autonomy.

Keywords: empowerment, stevia farmers, factors determine

Topic: Agriculture

[ABS-70]

**The Response of Growth and Yield of Black Soybean (*Glycine max L. Merr*)  
Genotypes Due to Organic Fertilizer**

EllyRoosma Ria<sup>1</sup>, TienTurmuktini, AdiSyahputra

<sup>1</sup>Agriculture Faculty, WinayaMukti University,  
<sup>1</sup>ellyroosmaria@yahoo.com

**Abstract**

Experiment with the aim to test the response of growth and yield of Black soybean (*Glycine max L. Merr*) genotypes due to organic fertilizer have been implemented in the Faculty of Agriculture experiment station, WinayaMukti University, Tanjungsari, Sumedang with altitude of 850 meters above sea level. The experiment starts from May to August 2015. The design in the experiment was used a Randomized Block Design (RBD) Factorial Pattern consists of two factors and three replications. The first factor consists of five black soybean genotypes (G), namely : g1 = Cikuray (control), g2 = KB1, g3 = KA3, g4 = KH4, and g5 = CK5 The second factor is a dosage of organic fertilizer (P), which consists of two levels, namely : p1 = 2 t ha-1 Comchar (compost + biochar), and p2 = 2 t ha-1 rice straw compost. The experimental results showed that there is interaction between the genotypes and organic fertilizer on plant height at 14 DAP and 35 DAP, the number of root nodules, the weight of root nodules, and seed weight per plant. The independent effect of genotypes and organic fertilizer showed an effect on plant growth (plant height 21 DAP and 28 DAP, number of pods per plant, number of seeds per plant, weight of 100 seeds) and highest seed yield per plot was shown on p2 (2 t ha-1 rice straw compost) with yield 1.18 kg plot-1 (1.966 tha-1) and KA3 genotypes with yield 1.28 kg plot-1 (2.133 t ha-1).

Keywords: Genotypes, Organic Fertilizer, Black Soybean

Topic: Agriculture



[ABS-71]

**Effect of Number of Seed and Biofertilizer Dosages on Growth and Yield of Long Bean (*Vignasinensis*) TaviKanton Variety**

LiaAmalia, Suparman, EllyRoosma Ria<sup>1</sup>, Elis SitiNurlaily

<sup>1</sup>Agriculture Faculty, WinayaMukti University  
<sup>1</sup>ellyroosmaria@yahoo.com

**Abstract**

The experiment was carried out at Kawunghilir village, Cigasongsudistrict, Majalengka regency. Altitude of 155 meters above sea level with the ground Vertisol order. Time trials begin from June 2016 to August 2016. The purpose of the experiment was to study the interaction effect with the number of seeds and biofertilizer dosages on growth and yield long bean plant varieties Cantons Tavi. The design in the experiment was used a Randomized Block Design (RBD) Factorial Pattern consists of two factors and four replications. The first factor is the amount of seed (b) consists of two levels ie: b1 = one seed and b2 = two seed. The second factor is a biofertilizer dose (p), which consists of three levels ie: p1 = 30 kg ha-1, p2 = 60 kg ha-1, p3 = 90 kg ha-1. The experimental results showed that there is interaction between the number of seeds and biofertilizer dosages on plant height at 14 DAP and 35 DAP, the number of pods fresh per plant, the weight of peas fresh with a stalk and weight of fresh pods per plot.

Keywords: Long Bean (*Vignasinensis*), Seeds, Biofertilizer

Topic: Agriculture

[ABS-80]

**Income Rate of Wet Rice Farming System and Contribution on Farmer Income**

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**Abstract**

Farmers as social beings also want to have an appropriate standard of living his life. Improved standar of living is obtained by increasing the income of farmers. The aim of this research is to Income Rate of Wet rice Farming System and Contribution on Farmer Income. This research used qualitative method. Descriptif analysis was used in this study. The result showed income rates earned from wet rice farming ranged between Rp 2.581.200 to Rp 20.165.000/year. There werw 68,75 % in contribution of rice system income above 50% and 42,75%. To obtain a high income they carry out varius activities to develop the possibilities of agricultural commodities (farm diversivication that is economic advantages.

Keywords: Income rate, Contribution Income, Farmers Income

Topic: Agriculture

[ABS-82]

**Strategy of Ornamental Fish Agribusiness Development in Ciomas District of Bogor, Indonesia**

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**Abstract**

However, the development of ornamental fish cultivation in Bogor District is still concentrated in several districts, namely Ciampea, Ciseeng, Parung and Cibinong Subdistrict with the amount of RTP in CiampeaSubdistrict as much as 151 RTP, 93 RTPs in Ciseeng Sub district, 77 RTPs in Parung Subdistrict and 75 RTPs in Cibinong Subdistrict This research was conducted in Ciomas Sub-district of Bogor District. The data used consist of primary and secondary data. The number of respondents in this study were 120 respondents of the community, 30 respondents of tge stakeholders and respondents of ornamental fish entrepreneurs if anything is done By using purposive sampling method. From the result of internal condition analysis, water quality factor become the most significant influence, while the absence factor / lack of information or counseling from Disnakkan become the significant weakness factor. The result of external condition analysis, the factor of marketing means become the opportunity factor which have significant effect, while the capital factor become the threat factor having the significant effect. SWOT matrix analysis provides several alternative development strategies, such as: (1) improving programs and activities of partnership facility of freshwater ornamental fish business, (2) facilitating the strengthening of freshwater ornamental fish farming system, (3) increasing program and promotion activity of freshwater ornamental fish , (4) increasing the quantity and quality of human resources (5) increasing extension and counseling activities, and (6) improving the performance of the Bogor Livestock and Fishery Service facility and access to capital and information.

Keywords: Ornamental Fish, Strategy, Agribusiness

Topic: Agriculture

[ABS-93]  
**USING LINEAR PROGRAMMING FOR MAXIMUM AND MINIMUM  
RESPONSE MODELING**

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**Abstract**

Mean model regression analysis using least squares method is widely used in research. In apopulation model that requires no large residuals, it is needed a method that minimizes the largest absolute deviation (MLAD). The needs in practices is not only the mean model, but also the maximum or minimum models. For instance, the minimum area modeling that is still capable to dry crops, or maximum yields modeling that are still accommodated in the warehouse. Constraints modification on MLAD regression able to transform mean model into maximum model or minimum model. This result is useful as an alternative to the quantile regression analysis and the data envelopment analysis (EDA).

Keywords: regression, absolute residual, MLAD, minimax, maximum model, minimum model,  
linear programming

Topic: Agriculture

[ABS-94]

**Supply Chain Partnership Institutional Analysis on Broiler Production in Bogor District, West Java**

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**Abstract**

Poultry is an important sub sector in contributing to GDP. One of poultry commodities which has big potential is broiler farm. Broiler farm is one of the potential business. Bogor District is one of broiler production central in West Java with growth rate about 7,75%. This research was conducted to broiler farmers who partnered in 4 sub district at Bogor district (Parung, Tanjungsari, Tapos, Cariu). The data collection was conducted during July to August 2017. The purpose of this research is to analyze the existence of supply chain partnership institutional, analyze the identification of characteristic and supply chain management, and analyze the structure and pricing of the supply chain institutional. Supply Chain Partnership Institutional Analysis was examined using primary data and secondary data. Primary data obtained through observation, interviews, discussions, and questionnaires with the broiler farmers, while the secondary data obtained from the relevant literature. Method of data analysis on this research use descriptive analysis of the data using qualitative and quantitative analysis using the data. The results showed that the partnership has a positive effect on broiler farming production and income. The benefit received by the firm was much higher than that received by the farmer. The partnership farmers, via nucleus farmers had direct access to modern as well as conventional market while the independent farmers sold the product via traders (pengepul). The study recommends the need to establish a written partnership contract and improve maintenance management system, especially feed management results of this research.

Keywords: Poultry, Supply Chain Management, Agriculture Traders

Topic: Agriculture

[ABS-96]

## Supply Chain Performance of Vegetable Products in Traditional Market of Bogor City

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### Abstract

Increasing in population, vegetable consumption levels and healthy lifestyle offer a big opportunities for the vegetables marketing. These opportunities need to be utilized to bring benefit for vegetable farmers. Profits can be achieved through the selection of a supply chain that favors farmers through a development model of vegetable supply chain in Bogor City. The purpose of this research is to analyze the components of supply chain system by vegetable farmers to traditional markets in terms of their supply chain performance. The vegetables analyzed were spinach, potato, chilli, tomato, and onion. Data obtained by survey and observation. The main respondents are Farmers Vegetable producers who sell to traditional markets, either directly or through intermediaries. Three retailers as respondents were chosen purposively in each vegetable at Bogor market and Jambu Dua Market. Other respondents are marketers and farmers who were chosen by the retailers (snowball sampling method). Data were analyzed to determine the supply chain performance through SCOR method. The results showed that the producers spinach and tomato supplied from the farmers nearby to Bogor City. While other vegetables like onions, chilli and potatoes were supplied from farmers in West Java and mid Java. All vegetables studied in their distribution through equalization process. Performance of traditional vegetable supply chain has not yet integrated consumer expectation and producers/ farmers in planning, procurement, production, distribution and Return, and action (Enable). This unoptimal performance of vegetable supply chains in traditional markets reviewed from Supply Chain Reliability, Supply Chain Responsiveness and Supply Chain, Supply Chain Management and Supply Chain Management.

Keywords: Supply Chain, Traditional Market, Vegetables, Farmers Alignment

Topic: Agriculture

[ABS-69]

**Utilization of Citronella Leaf (Cymbopogon citratus) and Stevia (Stevia rebaudiana) for Improving Antioxidant of Low Sugar Chocolate**

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**Abstract**

Cocoa beans as raw materials of chocolate products contain a number of antioxidants. However, during processing there is a decrease in antioxidant activity. The addition of spices that have a distinctive flavor and contain a number of antioxidants will increase the functional value of chocolate products. On the other hand, chocolate is often less desirable because it contains high sugar. Stevia can serve as a natural antioxidant. Stevia leaves contain a natural non-caloric sweetener and are able to produce a sweet taste of 70-400 times compare to the sweetness of sugar cane. This study aims to examine some of the sensory properties and physical characteristics of chocolate with the addition of citronella (*Cymbopogon citratus*) and stevia (*Stevia rebaudiana*) powders. The chocolate was made from cocoa beans with the addition of one percent citronella powder mixed with 0.24 percent and 0.29 percent stevia powder. Hedonic quality test and preference test were conducted to know the acceptance and the consumers preference of the low-sugar chocolate. Furthermore, the antioxidant capacity was measured by DPPH (2,2-diphenyl-1-picrylhydrazyl) method. The physicochemical tests were done including moisture, sugar, ash and fat content as well as chocolate melting. The antioxidant profile was performed with the LC-MS ToF (Liquid Chromatography-Mass Spectrophotometer with the Mass Analyzer Manifold Time of Flight) instrument. The results showed that 0.24 percent stevia on low-sugar chocolate has higher acceptance of quality and preference than that of 0.29 percent stevia.

Keywords: Chocolate, lemongrass, stevia, antioxidants, low sugar, LC-MS ToF

Topic: Food Sciences

Food Science (11)

Wednesday, September 13, 2017,  
13.00 -15.15

Meeting Room 5  
Mezzanine Floor

Session Chair: Sri Rejeki Retna Pertiwi

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[ABS-58]

**COMPARISON OF QUALITY CHARACTERISTICS BETWEEN NATURAL TARO FLOUR AND TARO cake FLOUR**

Pertiwi, S.R.R | Universitas Djuanda  
Amalia, L | Universitas Djuanda  
Saragih, D.S. | Universitas Djuanda

[ABS-67]

**DNA Extraction Method for Molecular Detection**

Rosy Hutami | Universitas Djuanda  
Mira Suprayatmi | Universitas Djuanda  
Raafqi Ranasasmita | Universitas Djuanda  
Nida Idzni | Universitas Djuanda

[ABS-73]

**Extraction of Beef Fat Using Soxhlet, Folch, Bligh and Dyer, and Hara and Radin Methods and Characterization of Finger Print and Fatty Acid Profile**

Aminullah | Universitas Djuanda  
Mardiah | Universitas Djuanda  
Hanna SutsugaPurbasari | Universitas Djuanda  
TettyKemala | Universitas Djuanda

[ABS-78]

**Handling Time Prediction based on Fuzzy Associative Memory Modelling in Halal Food Product Traceability System**

Aditia Ginantaka | Faculty of Halal Food Science, Djuanda University

[ABS-79]

**Antimicrobial Activity on Dyes from Turmeric (*Curcuma Domestica* Val).**

Mardiah | Universitas Djuanda  
Intan Kusumaningrum | Universitas Djuanda  
Dian Sulistiani | Universitas Djuanda



[ABS-86]

**ELIMINATION METHOD OF TURMERIC *Curcuma Domestica* Val. AROMA AS A FOOD NATURAL COLORING**

Mardiah | Universitas Djuanda  
Astri Nurhayati | Universitas Djuanda  
Lia Amalia | Universitas Djuanda  
Aminullah | Universitas Djuanda

[ABS-88]

**Drying method of Torbangun leaves (*Coleus amboinicus* Lour) and its application on biscuit**

Siti Irma Rahmawati | Universitas Djuanda  
Noli Novidahlia | Universitas Djuanda  
Riske Damayanti | Universitas Djuanda

[ABS-91]

**The usage of water kefir grains as halal alternative material for gelatin substitution**

Novi dahlia N. | Universitas Djuanda  
Amalia, L. | Universitas Djuanda  
Pertiwi, S.R.R. | Universitas Djuanda

[ABS-92]

**Development of Halal Extraction Method and Identification of Phenolic Antioxidant from Fresh *Peperomia pellucida* Weed Extract**

Elisa Listianti | Universitas Djuanda  
Siti Irma Rahmawati | Universitas Djuanda  
Raden Siti Nurlaela | Universitas Djuanda  
Mardiah | Universitas Djuanda  
Endrianur Rahman Zain | Universitas Djuanda

[ABS-97]

**Chemical Inventory Optimization At Heavy Metal Testing Using Economic Order Quantity (EOQ) Method at PT. GIS.**

Endrianur Rahman Zain | Universitas Djuanda  
Angga | Universitas Djuanda

[ABS-98]

**DRYING METHODS OF *PEPEROMIA PELLUCIDA SIMPLICIA* AS SOURCE OF ANTIOXIDANT**

Raden Siti Nurlaela | Universitas Djuanda  
Siti Irma Rahmawati | Universitas Djuanda  
Mardiah | Universitas Djuanda  
Endrianur Rahman Zain | Universitas Djuanda  
Elisa Listianti | Universitas Djuanda

[ABS-58]

**Comparison of sensory and physicochemical characteristics between natural taro flour and taro cake flour**

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**Abstract**

Taro (*Xanthosoma sagittifolium*) contains starch and mucilage. After mucilage extraction for gelatin substitution, the taro dregs still contain starch which is assumed to be modified due to thermal process. The aim of this study was to compare between natural taro flour and taro dreg flour. In this study, two types of flour were made, natural taro flour and taro flour made from the waste of taro after mucilage extraction, then their sensory and physicochemical properties were analyzed. The data were analyzed using t-test. Sensory properties of color and texture both types of taro flour were not significantly different, whereas aroma was significantly different. Both types of taro flour had creamy white color and rough texture. The aroma of natural taro flour was strong specific taro while taro dreg flour was weak. The moisture content, ash, fat, total acid, pH, Carrs index and Hausner ratio of both types of taro flour were significantly different, while protein content, carbohydrate, water absorption, yield, angle of repose, bulk density, tapped density and whiteness index both types of taro flour were not significantly different. The viscosity of peak, shear thinning, final, and set back of taro dreg flour were significantly higher than those of natural taro flour, but the time and temperature gelatinization both types of taro flour were not significantly different. It can be summarized that the taro dreg flour produced from taro waste after mucilage extraction has been modified due to thermal process during mucilage extraction.

Keywords: modified flour, physicochemical, sensory, taro

Topic: Food Sciences

[ABS-67]

### **DNA Extraction Method for Molecular Detection**

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#### **Abstract**

In molecular detection technique such as Loop-Amplification Mediated Polymorphism (LAMP) and Polymerase Chain Reaction (PCR), effective upstream preparation of nucleic acid is very important. Numerous nucleic acid extraction methods and commercial kits are available. Factors to regard when selecting nucleic acid extraction methods for molecular detection include sample background, lysis, appropriate preparation chemical, required detection limits, and requirements for particular application. This research was done to find out the effective deoxyribonucleic acid (DNA) extraction methods from porcine tissue based on the ability the method in extracting DNA with low concentration and its purity of total DNA extract. Extraction methods evaluated include the phenol-chloroform method (Method A), Phire dilution buffer direct PCR extraction kit (Method B), and modification of manual DNA extraction method (Method C). Result showed that DNA extraction with Method A could be performed on samples with low DNA concentrations ranging from 7.0 to 9.5 ng/ul and it resulted good purity of total DNA extract (1.8-2.0). DNA extraction with the Method B showed a negative DNA concentration reading that ranged from -0.7-0.95 ng/ul with poor purity of total DNA extract (-1.1-0.28). Extraction of DNA with Method C was successfully done on sample with high DNA concentration that was 190.125 ng/ul with good purity (1.8-2.0). In this study, the phenol-chloroform method (Method A) was the selected DNA extraction method regarding to its ability in extracting DNA from sample with low DNA concentration and its purity.

**Keywords:** phenol-chloroform, DNA preparation, LAMP

**Topic:** Food Sciences

[ABS-73]

**Extraction of Beef Fat Using Soxhlet, Folch, Bligh and Dyer, and Hara and Radin Methods and Characterization of Finger Print and Fatty Acid Profile**

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**Abstract**

Beef fat was an extracted fat from fat tissue which was a byproduct of beef processing industry. The objective of this research was to study the effect of extracting method on finger print and fatty acid profile of beef fat. This study consisted of two steps that include extracting beef fat using Soxhlet, Folch, Bligh and Dyer, and Hara and Radin methods as well as characterizing finger print using Fourier Transform Infrared Spectrometer and fatty acid profile using Gas Chromatography-Mass Spectrometer. The results of finger print analysis showed that the extraction methods which were used were not significantly different to the results of beef fat's finger print at 5% level. In addition, peaks were formed at wavenumbers of 721.33 cm<sup>-1</sup>, 1099.88 cm<sup>-1</sup>, 1162.01 cm<sup>-1</sup>, 1376.493 cm<sup>-1</sup>, 14632.14 cm<sup>-1</sup>, 1743.01 cm<sup>-1</sup>, 2851.66 cm<sup>-1</sup>, and 2920.4 cm<sup>-1</sup> which showed stretching vibration modes of C-O ester groups from C-O-C and carbonyl functional groups (C=O) which attached to triacylglycerol, where force constant of C-O was 1846.96 Nm<sup>-1</sup>. Fatty acid profile analysis showed that in beef fat, there were myristic, myristoleic, pentadecanoic, palmitic, palmitoleic, heptadecanoic, stearic, oleic, elaidic, and linoleic fatty acids. The Folch extraction method provided a sharper profile than other extraction methods, which can detect cis-10-heptadecanoic acid and further more PCA analysis showed that only Folch method can be differentiated than the others in which Folch has positive both in PC1 and PC2.

Keywords: beef fat, extraction, fatty acid profile, finger print

Topic: Food Sciences

[ABS-78]

## Handling Time Prediction based on Fuzzy Associative Memory Modelling in Halal Food Product Traceability System

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### Abstract

Traceability is the ability to verify the history and location of a food product, thus we could get information on each supply chain actor, who the immediate supplier is and to whom the product sent. Besides perform documentation and sharing information, traceability information system could supported by capability to ensure customers that their complaint will be resolved as soon. This paper presented a modelling of routing and handling time prediction using Fuzzy associative memory (FAM) method. As first response to the customers, information about time required for completion issue could provide after source of food product that proved of non halal food ingredient has traced. Activities of handling issues in traceability for instance, product replacement, product recall by recall list contact number of affected retailer and inspection time process on each production unit about halal food standard. From that activities handling time assumed influenced by the amount of products inventory that used to replace product defect, amount of products that have to recall from market and amount of time spends for handling inspection process internally, which is set became FAM input variable. FAMs is a set of Fuzzy-set pair (A, B) that will map the input vector Fuzzy set A to output vector Fuzzy set B. Our experiments showed that from FAM formulation we obtained 27 rules. FAM will encode a pairs of Fuzzy set (A, B) to gain matrix memories which denoted M. As prediction result matrix B could gained from computation matrix A and matrix M. For instance, if there are incidents of non halal ingredient finding on food products whereby the inventory conditions as much as 4 tons, product recall amount 21 tons and inspection require 25 hours, result of computational experiment showed that total handling time for this case takes 66 hour with consistency reaches 90%.

Keywords: fuzzy model, handling time, traceability

Topic: Food Sciences

[ABS-79]

**Antimicrobial Activity On Dyes from Turmeric (Curcuma Domestica Val).**

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**Abstract**

Turmeric is used in a wide variety of foods of the cuisines of Southern Asia but locally it also applies as an antiseptic and antitumor. The active compounds contained in the turmeric rhizome are able to work as antimicrobials. This study aims to determine the antimicrobial activity of turmeric against the microorganisms such as *Escherichia coli*, *Aspergillus niger* and *Candida albicans*. The type of research used is laboratory experimental by testing the scatter method using karkil paper as absorbent media. This study also compared the comparison between rhizome extract of turmeric used as a control by simple extraction method compared with turmeric rhizome extract through evaporation process. The results showed that turmeric extract (*Curcuma domestica* Val) with a simple extraction method was able to show a slightly larger antimicrobial activity when compared with turmeric rhizome extract that has been through the evaporation process. This is because in the turmeric extract evaporation method has undergone various processes such as heating for evaporation.

Keywords: turmeric, antimicrobial, *Escherichia coli*, *Aspergillus niger*, *Candida albicans*.

Topic: Food Sciences

[ABS-86]

**ELIMINATION METHOD OF TURMERIC *Curcuma Domestica* Val. AROMA AS A FOOD NATURAL COLORING**

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**Abstract**

Turmeric is widely used as a herbal medicine, food preservation and food coloring. However, food industries have less interest to utilize turmeric as a food coloring due to its specific aroma. The objective of this research was to obtain the proper method to eliminate the turmeric specific aroma. The experimental methods consisted of 3 stages, namely distillation (A1) and non-distillation (A2) methods which then was extracted by maceration method with the addition of 96% ethanol (B1), acetone (B2) and ethanol 96% + acetone (B3) as stage 1, with (C1) and without heating (C2) as stage 2, and the addition of 3% acetic acid and 3% citric acid as stage 3. The results of stage 1, 2, and 3 were the specific aroma of turmeric tend to be weak when use the distillation and maceration with 96% ethanol where the curcumin content was 0.50%, without heating process where the curcumin content was 0.185%, and with the addition of 3% acetic acid which have a brighter color, respectively. The color analysis showed that the color by adding 3% acetic acid has CIE b (yellow) of 66.85 with pH of 3.24. So, the proper method for eliminating the turmeric specific aroma was distillation process then followed by extraction using 96% ethanol and adding 3% acetic acid to increase the color brightness and homogeneity.

Keywords: turmeric, food natural coloring, aroma elimination, distillation, and maceration

Topic: Food Sciences

[ABS-88]

**Drying method of Torbangun leaves (*Coleus amboinicus* Lour) and its application on biscuit**

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**Abstract**

Torbangun leaf is a plant that contains lactagogum which is a nutrients that has beneficial for breastfeeding mothers. This leaf can be used as food product functionnal food. At fish, this research have perpose to make torbangan leaves hour. Dried using drum dryer drying method and tray dryer. The result of drying torbangan leaves is used to make biscuits. The obtained biscuit is done by organoleptic test to get the selected product and then the chemical test is done. Based on the results of chemical tests obtained water content 2.79%, 5.75% protein content, 23.24% fat content, ash content 1.60%, carbohydrate levels 66.62%, and antioxidant content of 9.95%. Based on the results of this chemical test known the number of calories produced by biscuits. Consuming a leaf biscuit torbangun in one serving will contribute 298.64 kkalori per 100 gram.

Keywords: Torbangun leaves, Antioxidant, Biscuit, Drying Method

Topic: Food Sciences



[ABS-91]

**The usage of water kefir grains as halal alternative material for gelatin substitution**

<sup>1</sup>*Novidahlia, N., IAmalia, L., I Pertiwi, S.R.R.*

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**Abstract**

The demand of gelatin in Indonesia are mostly supplied from impor. In 2011, Indonesia imported gelatin 25 million US\$ showing 20.26% increase than before. Gelatin industries in the world can supply only 43% of halal gelatin for food, cosmetic, and medicine, so searching alternative materials for halal gelatin substitution is important. One of materials potentially suggested for gelatin substitution is water kefir grain. In previous study, water kefir grains could replace partly gelatin in the processing of marshmallow and jelly candy. For reason of easiness in the application, water kefir grains should be changed into powder. There was an obstacle we found, water kefir grains was not soluble in water but soluble in NaOH 4% + NaHCO<sub>3</sub> 1%. In order to maximize the usage of water kefir grains in industries especially for food products, it is needed a technology to convert water kefir grains into water kefir nanoparticles. The size reduction method used in this research was nanotechnology. Result showed that using Planetary Ball Mill with ball mill 3.8828 gram, velocity 400 rpm for 20 minutes, could produce water kefir nanoparticles with particle size 293.2 nm. The yield of water kefir powder was 92% and water kefir nanoparticles was 28.04%.

Keywords: gelatin, halal alternative, nano particle, water kefir grains.

Topic: Food Sciences

[ABS-92]

**Development of Halal Extraction Method and Identification of Phenolic Antioxidant from Fresh *Paperomia Pellucida* weed Extract**

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**Abstract**

Plants (*peperomia pellucida*) is usually discarded or removed. Utilized as a medicinal plant, among others, to treat some diseases such as colic, abdominal pain, rheumatism, cessation of bleeding, cough, and cholesterol, (2000, Munoz et al., 2000; Bayma et al., 2000) also known as Cancer, Kidney, gout and hepatitis. To see the proper test of the type of halal extraction water is used as the solvent. By comparing 3 types of extraction, first is traditional extraction (juice, boil) and PLE with the right temperature and time treatment, then obtained rendement such as juice of 1,9408% or 0.3904, boiling rendement 1,6674% or 0.3348 and The yield of PLE with a temperature of 120 C of 2.35% which results are significantly different from the temperature treatments of 80 and 100. with the results obtained it can be proved that the appropriate method of halal extraction using water solvent is the PLE method. The PLE method is carried out in pressure to keep the solvent in liquid form. With increasing temperature and pressure, the penetration of the solvent into the plant increases and increases the solubility of the material which in turn increases the extraction rate and yield ratios (Wan, 2006). Advantages over other methods because they require fewer solvents, extraction is performed faster than traditional methods (Mustafa and Turner, 2011; Carabiaz et al., 2005). For the polyphenol profile test using chromatogram analysis with HPLC with standard gallic acid, catechin, Epigallocatekin, rutin and quercetin.

Keywords: Antioxidant, Phenolic Compound, *Paperomia Pellucida*, Pressurized Liquid Extraction

Topic: Food Sciences

[ABS-97]

**Chemical Inventory Optimization At Heavy Metal Testing Using Economic Order Quantity (EOQ) Method at PT. GIS.**

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**Abstract**

Inventory is one of the most expensive and important assets in a company, whether a service company or a trading company. How to control inventory so that the production process stays on the minimum cost. PT. GIS is a company engaged in laboratory testing services. In this study using forecasting method using WinQSB software with time series analysis (Time Series) that is Moving Average, Weighted Moving Average, and Single Exponential Smoothing. After the data is entered and done calculation for HNO<sub>3</sub> got the correct forecasting method that is MA with value  $n = 4$ . After compared with actual data and data of forecast result known its difference of Rp Rp 1,572.009 or equal to 3,26%. For the use of Hexane forecasting using Single Exponential Smoothing method  $\alpha = 0.1$  with MAPE 9.37% savings of 1.36%. The use of ethanol forecasting result using Moving Average method  $n = 5$  with MAPE value 12.34% savings of 9.63%, while for Methanol forecasting results using Moving Average method  $n = 3$  with MAPE 14.38% savings of 0.47%.

Keywords: Forecasting, Optimization, WinQSB, Inventory

Topic: Food Sciences

[ABS-98]

**DRYING METHODS OF PEPEROMIA PELLUCIDA SIMPLICIA AS SOURCE OF ANTIOXIDANT**

*Raden Siti Nurlaela, Co Authors : Siti Irma Rahmawati, S.Pi.,M.Agr.,Ph.D; Dr. Mardiah, Ir.,M.Si; Endrianur Rahman Zain,S.TP.,M.M;Elisa Listianti*

Universitas Djuanda

**Abstract**

Peperomia pellucida has traditionally been used in treating several diseases, such as abscess, ulcer, acne, skin inflammation, kidney diseases, and abdominal pain (Hariana, 2006). The potential ability of Peperomia pellucida as medicinal plants is thought to be closely related to the antioxidant content of the plant. In this study, the antioxidant activity of simplicia suruhan plants was analyzed. The process of drying Peperomia pellucida is needed to be done to get a qualified simplicia. The content of active ingredients in plants is influenced by drying process. Proper drying will produce long-lasting simplicia and prevent the changes of its active ingredients. Researcher hopes that society could take more benefit than consumption of plants that society usually do in terms of its efficacy.

There are three ways that could be used to dry the Peperomia pellucida which are 1). Indirect solar drying. 2). Double Drum Dryer. 3). Tray Dryer, performed two replications for each ways. Then the rendemen of simplicia and antioxidant activity were measured with ABTS method.

The results showed that rendemen of simplicia for conventional method (sun) were 5,00 %, Double Drum Dryer 4,30 % and Tray Dryer 5,40 %. The total of antioxidant for conventional method were 500,69 eq.trolox mM/gr sample, Double Drum Dryer 575,54 eq.trolox mM/gr sample, and Tray Dryer 523,40 eq.trolox mM/gr sample. Based on ANOVA analysis results showed that theres no affect of drying method on the simplicia rendemen and the total antioxidant ( $p>0,05$ ). The conclusion in this study is, the three ways of drying are suitable for making simplicia of Peperomia pellucida

**Keywords:** Peperomia pellucida, simplicia, drying, antioxidant

**Topic:** Food Sciences

Animal Science (5)/ Biological Sciences and Biotechnology (3)

Wednesday, September 13, 2017,  
15.30 - 17.00

Executive Meeting  
Room,  
Floor 5

Session Chair: Deden Sudrajat

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[ABS-87]

**Growth of Broiler Chicken Fed Rations Containing Different Types of Fermented Local Feed**

Deden Sudrajat | Universitas Djuanda  
Hanafi Nur | Universitas Djuanda  
Anggraeni | Universitas Djuanda

[ABS-89]

**The Effect of Coconut Meal Replacement With Fermented Solid In The Ration On The Performance Of Local Male Rabbit**

Duta Setiawan | Universitas Tanjungpura  
Marjoko Purnomosidi | Universitas Tanjungpura

[ABS-90]

**Effect Of Different C/N Ratio On Bacterial Abundance And Water Quality**

Rosmawatia | Universitas Djuanda  
Muarifa | Universitas Djuanda

[ABS-95]

**Haematological Status of Ewes During Gestation Were Fed Agroindustrial Waste-Based Concentrate**

Ristika Handarini | Universitas Djuanda  
Deden Sudrajat | Universitas Djuanda  
Elwan Faisal | Universitas Djuanda

[ABS-99]

**MORPHOMETRIC OF FEMALE PASUNDAN CATTLE OF DIFFERENT AGES IN THE CORRIDOR OF SOUTH COAST OF WEST JAVA**

Dihansih | Universitas Djuanda  
Sudrajat | Universitas Djuanda  
Kardaya | Universitas Djuanda  
Muhlisoh | Universitas Djuanda

**Biological Sciences and Biotechnology (3)**

[ABS-57]

**Liver Histopathology of Hard-Lipped Barb That Infected By Aeromonas Hydrophila**

Mulyana | Universitas Djuanda  
Fia Sri Mumpuni | Universitas Djuanda

[ABS-66]

**Development of Genetic Variety on High Carbohydrate and Low Calcium Oxalate Bogor Taro (Colocasiaesculenta (L.) Schott)**

Febi Nurilmala | Universitas Nusa Bangsa  
Aisyah | Universitas Nusa Bangsa  
NiaYuliani | Universitas Nusa Bangsa

[ABS-72]

**Isolation And Characterization Of Isolate From Ethyl Acetate Fraction Coleus Amboinicus, Lour., Leaves And As Potential As Antioxidants**

Kasta Gurning | STikes Senior Medan  
Winarto Haryadi | Universitas Gadjah Mada  
Hardjono Sastrohamidjojo | Universitas Gadjah Mada  
Resti Yektyastuti | Universitas Djuanda

[ABS-87]

**Growth of Broiler Chicken Fed Rations Containing Different Types of Fermented Local Feed**

Deden Sudrajat, Hanafi Nur, Anggraeni<sup>1</sup>

UniversitasDjuanda

<sup>1</sup>hanafi\_nur\_1951@yahoo.co.id,

**Abstract**

Non-conventional feed that are low in nutrient can be fermented to improve nutritional quality. This study was conducted to determine the effect of non-conventional local feed nutrient use in rations on broiler growth. Local feed fermented with *Aspergillus niger* and *Saccharomyces cereviceae* are palm kernel meal, tofu pulp, coconut meal, and dried cassava. The experiment used a complete randomized design with 6 non-conventional local feed substitution treatments with ration 0% (as control ration), 10%, 25%, 40, 55%, and 70% non-conventional local feed. The results showed that feed intake of rations containing local fermented feed 10% lower than other rations. Rations that use 40% non-conventional local feed have a weight gain equivalent to control rations. While the lowest feed efficiency is a ration containing 70% of fermented local feed.

Keywords: local feed, fermentation, growth

Topic: Animal Sciences

[ABS-89]  
**THE EFFECT OF COCONUT MEAL REPLACEMENT WITH FERMENTED  
SOLID IN THE RATION ON THE PERFORMANCE OF LOCAL MALE  
RABBIT**

Duta Setiawan<sup>1</sup>, Marjoko Purnosidi<sup>1</sup>)

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<sup>1</sup>duta.setiawan@faperta.untan.ac.id,

**Abstract**

The aim of this research was to determine the effect of substitution coconut meal (CM) with fermented solid (FS) in the ration on the performance of local male rabbit. This research have been carried out at teaching farm Faculty of Agriculture, Tanjungpura University and Animal Nutrition Laboratory, Department of Animal Husbandry and Veterinary West Kalimantan Government. It executed during 8 weeks, and used 20 rabbits. This research used Completely Randomized Design one way classification with four treatments (P0, P1, P2, P3), and five replications and each contains one local male rabbit. The treatment given is in the form of substitution CM with FS, that namely : P0 = 60% Field Grass (FG) + 40% concentrate (15% CM + 0% FS); P1 = 60% FG + 40% concentrate (10% CM + 5% FS); P2 = 60% FG + 40% concentrate (5% CM + 10% FS) and P3 = 60% FG + 40% concentrate (0% CM + 15% FS). Taken Parameters were average daily gain, feed consumption, feed conversion and feed cost per gain. The result of this research were, average daily gain 6,87 - 7,31 g/day, feed consumption 36,64 - 42,36 g/day, feed conversion 5,42 - 5,79 , while at 15% from total ration of substitution (P3), it could depressed feed cost per gain value on Rp 7909, 90. The result of this research indicate that the substitution of coconut meal with FS up to 100% (15% from total ration) have no significant effect on performance of local male rabbit, but at 15% from total ration of substitution (P3) it can depress feed cost per gain value.

Keywords: local male rabbit, performance, fermented solid, coconut meal

Topic: Animal Sciences



[ABS-90]

**EFFECT OF DIFFERENT C/N RATIO ON BACTERIAL ABUNDANCE AND WATER QUALITY**

Rosmawatia and Muarifa<sup>1</sup>

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**Abstract**

This study aimed to identify bacterial abundance, types of bacteria, and water quality of giant gouramy farming media in different C/N ratio. The treatment given was different C/N ratio; i.e. control, C/N ratio 12, C/N ratio 16 and C/N ratio 20. Giant gouramy with weight of 13.42-13.94 gram/fish were kept in cylinder containers with a density of 50 fish per container for 45 days. The feed was given twice a day at satiation. We evaluated the fish growth, feed conversion ratio, mortality, bacterial abundance, types of bacteria, and water quality. The results showed that different C/N ratio did not give a significant effect on giant gouramy growth, but had significant effects on feed conversion and giant gouramy mortality. The best feed conversion ratio (1.31) was obtained from C/N ratio 12 treatment, while the best mortality (no fish died) was found at C/N ratio 20. The types of bacteria obtained from each treatment varied at the beginning and at the end of experiment. At the beginning of study, *Micrococcus* sp. bacteria were dominant in all treatments, while *Bacillus* sp. bacteria were found in all treatments at the end of study. Increased C/N ratio could control the water quality (total ammonia-N, nitrite and nitrate) at a decent range for giant gouramy life.

Keywords: C/N ratio, bacterial abundance, growth, feed conversion, water quality

Topic: Animal Sciences

[ABS-95]

**HAEMATOLOGICAL STATUS OF EWES DURING GESTATION WERE FED  
AGRO INDUSTRIAL WASTE-BASED CONCENTRATE**

Ristika Handarini<sup>1</sup>, Dedensudrajat, Elwan Faisal

Universitas Djuanda

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**Abstract**

Agriculture industrial wastes were potential to be used as feed to improve ewe productivity. This research was conducted to assess the effect of feeding Agriculture industrial waste-based concentrate on physiological condition of ewes. Twelve productive non-pregnant ewes weighing 26 to 38 kg were used. The ewes mated naturally to three rams with average body weight of 70.56 kg (mating ratio 1:4). Feed consisted of native grass, tofu waste, fermented date waste, fermented cassava meal waste, and soybean cake (SC). A randomized block design with four treatments and three groups (initial body weight) was used. Treatments consisted of 1500 g TW (P1), 500 g TW + 100 g FDW + 100 g FCMW + 25 g SC (P2), 100 g FDW + 200 g FCMW + 60 g SC (P3), and 200 g FDW + 100 g FCMW + 25 g SC (P4). Data were subjected to an analysis of variance and Tu-key test. Measurements were taken on blood erythrocytes, leukocytes, hemoglobin, hematocrytes and leukocytes differentiation. Results showed that differences were found in blood hemoglobin ( $P < 0.05$ ), but not in blood erythrocytes, leukocytes, hemoglobin, hematocrytes and leukocytes differentiation ( $P > 0.05$ ) in ewes during gestation period. No different blood profiles ( $P > 0.05$ ) were found in ewes after parturition. It was concluded that feeding Agriculture industrial waste-based concentrate of up to P4 level could maintain the hematological status or physiological conditions of ewes during gestation period. Feeding gestation ewes with 200 g FWD + 100 g FCMW + 25 g SC was suggested.

Keywords: haematological status, ewes, gestation period, fed, agroindustrial waste.

Topic: Animal Sciences

[ABS-99]

**MORPHOMETRIC OF FEMALE PASUNDAN CATTLE OF DIFFERENT AGES IN THE CORRIDOR OF SOUTH COAST OF WEST JAVA**

*E Dihansih1, D Sudrajat1, D Kardaya1 dan A Muhliso1*

Universitas Djuanda

**Abstract**

This study was aimed at assessing the morphometric of female Pasundan cattle. Treatments were given in the forms of measurement on some body parts. Body length was measured from Tuber humerus to Tuber ischium, body height was measured right at the back of os scapulla from the dorsal to ventral points. Measurement on heart girth was taken right at the back of os scapulla by tightly taking the circumference of the body. Back length was measured from point of neck to point of rump. A regression analysis was conducted by using an Excel application. From the regression and determination equations, it was concluded that in female Pasundan cattle, strongest relationships were found between body height and heart girth, body length and heart girth, body height and body length, and age and heart girth.

**Keywords:** Morphometrics, Pasundan female cattle, body size

**Topic:** Animal Sciences

[ABS-57]

**LIVER HISTOPATHOLOGY OF HARD-LIPPED BARB THAT INFECTED  
BY AEROMONAS HYDROPHILA**

Mulyana and Fia Sri Mumpuni<sup>1</sup>

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**Abstract**

The pathogenic bacterium species that the potentially can cause histopathology on hard-lipped barb is *Aeromonas hydrophila*. *A. hydrophila* infection can disrupt the circulation system of fish blood. The aim of this research is to know, determine also to examine analyze the liver histopathology and the development of liver histopathology degree of hard-lipped barb that infected by *A. hydrophila*. This research use the experimental design with 4 treatments and 2 replications. The treatments are Control (without *A. hydrophila* injection), A (with 104 bacteria cells/mL injection), B (with 105 bacteria cells/mL injection), and C (with 106 bacteria cells/mL injection). The results of research showed that the infected hard-lipped barb have on their liver histopathology namely hemorrhage and necroses. The greater of liver histopathology degree increase as the greater of bacteria cells injection dose.

Keywords: Liver histopathology, hemorrhage, hemociderin, hard-lipped barb

Topic: Biological Sciences and Biotechnology

[ABS-66]

**DEVELOPMENT OF GENETIC VARIETY ON HIGH CARBOHYDRATE AND  
LOW CALCIUM OXALATE BOGOR TARO (COLOCASIA ESCULENTA (L.)  
SCHOTT)**

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**Abstract**

Taro (*Colocasia esculenta* (L.) Schott) Bogor variety is a local food plant that could be developed in the food diversification program as a source of carbohydrate, but due to the high amount of calcium oxalate, it will cause itching sensations when consumed. The development of genetic variation on Bogor Taro aims to a higher carbohydrate and lower calcium oxalate compared to the parent. The technology that was utilized to increase the genetic diversity of Bogor Taro is the somaclonal variation induction by gamma radiation treatment at a dose of 5, 10, and 15 Gray to the culture of Bogor Taro apical bud and has produced 6 mutant clones, namely B012, B521, B1022, B1023, B1511 and B1542. The mutant clones were then analyzed to find out the content of carbohydrate using iodometry titration method and using permanganometry titration method to analyze the content of calcium oxalate. The results showed that there were 3 mutant clones of Bogor Taro which have a higher carbohydrate content and lower content of calcium oxalate compared to the parent, namely B521, B1023 and B1511 clones which will then be multiplied in order to meet the needs of superior seeds.

Keywords: Bogor Taro, gamma radiation, carbohydrate, calcium oxalate

Topic: Biological Sciences and Biotechnology

[ABS-72]

**ISOLATION AND CHARACTERIZATION ISOLATE FROM ETHYL ACETATE FRACTION OF *Coleus amboinicus*, Lour., LEAVES AND AS POTENTIAL AS ANTIOXIDANTS**

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**Abstract**

The research is to characterize and potential activity test of isolate of ethyl acetate fraction asantioxidant. The purification compound is determined by using chromatography column with silica gel as stationery phase and n hexane: ethyl acetate as mobile phase. The activity potential as antioxidant is determined by DPPH method using methanol as a solvent. The absorbance of analite occur using maximum wavelength at 515 nm. The characterization structure using Spectrofotometer UV. The active isolate solute using methanol and it resulted maximum absorbance at maximum wavelength 210 nm for solvent and 272 nm for active isolate. The functional group analysis is determined using FT-IR. The percentage of analiteoccurs using gas chromatography, and the result is two maximum absorbance. (1) first time retention is 6,658 minutes and the analite concentration is 3,95% and (2) second time retention is 9,001 minutes and analite concentration 96,05%. The structure analysis determined using NMR and GC MS. The result of the structure analysis is an active compound 7-(*h*-hidroxy-16-acetoxyroleanone, with antioxidant activity 338,54.

Keywords: secondary metabolite, coleus amboinicus Lour, DPPH, acetoxyroleanon.

Topic: Biological Sciences and Biotechnology



# Certificate of Presentation

## Bogor International Conference for Applied Science

September 12<sup>th</sup> - 14<sup>th</sup> 2017, Bogor- Indonesia

**Deden Sudrajat**

Has attended the conference and presented a paper entitled  
"Growth of Broiler Chicken Fed Rations Containing Different Types of  
Fermented Local Feed"

Chairman of Committee



A handwritten signature in black ink, appearing to be "Deden Sudrajat", written over the stamp and extending towards the right edge of the certificate.



**Djuanda University**