

Abstract Book



SHIMADZU 1ST ASIA HALAL SUMMIT 2023

DEVELOPING A WORLD HALAL ECOSYSTEM

Universitas Brawijaya
Malang, Indonesia
May 23th, 2023



powered by:





Shimadzu 1st Asia Halal Summit “Developing a World Halal Ecosystem”

Supported by:
Shimadzu (Asia Pasifik) Pte Ltd
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Universitas Brawijaya

Algorithmic Auditorium
Universitas Brawijaya, Malang

2023

ORGANIZING COMMITTEE



SHIMADZU
1ST ASIA HALAL
SUMMIT 2023
DEVELOPING A WORLD HALAL ECOSYSTEM

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2. Vice Rector of Universitas Brawijaya for Planning, Cooperation, and Internationalization.
3. Vice Rector of Universitas Brawijaya for Research and Inovation.

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Prof. Ir. Sukoso, M.Sc., Ph.D.

Prof. Dr. Ir. Kuswanto, MS.



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Opening Remarks

From The Chair of The Organising Committee

Dear guest speakers and participants,
Good morning to you all.

Ladies and Gentlemen, on behalf of the Organizing Committee, I am very pleased to welcome you all in person and virtually to Malang, Indonesia and to the First Asia Halal Summit organised by the Central Laboratory of Life Science Universitas Brawijaya in collaboration with Shimadzu Asia Pacific on 23rd May 2023.



This Asian-level conference or meeting focusing on topics related to the halal industry, including halal authentication, artificial intelligence, and digital technology, is one of the implementations of the MoU between the Central Laboratory of Life Science Universitas Brawijaya and Shimadzu. This annual activity aims to introduce Halal products and services to the public.

The theme of this year's meeting is "Developing World Halal Ecosystem (Methods for Halal Authentication, Artificial Intelligence and Digital Technology for Halal Ecosystem)" and has attracted 40 poster participants, 100 on-site participants, and 150 online participants from various institutions.

On behalf of the committee, I'd like to extend a warm welcome to the keynote speakers Jackie, PhD and Max Kosok, PhD, from Shimadzu Asia Pacific. I would also like to thank Prof. Madya Ts. Dr. Rodziah Atan from Universiti Putra Malaysia, Prof. Wayan Firdaus Mahmudy, S.Si., M.T., Ph.D, Dr. Ir. Joni Kusnadi, M.Si. from Universitas Brawijaya and Dr. H. Muhammad Aqil Irham, M.Si. from Halal Product Assurance Organizing Agency (BPJPH).

This event is made possible by the dedication and hard work of the entire committee and the support of Shimadzu Asia Pacific and Universitas Brawijaya. Finally, I would like to thank all the speakers for their willingness to share their research and ideas. Also, to all the participants for their keen and active participation. We hope that you will gain knowledge and new perspectives from the conference in Malang and virtually around the world and leave with fond memories of the conference.

Thank you.

Dr. Yuni Kilawati, S.Pi., M.Si.

Organising Committee Chair First Asia Halal Summit 2023



Welcome Address

From Rector of Universitas Brawijaya

لَسَّلَامٌ عَلَيْكُمْ وَرَحْمَةٌ أَللّٰهِ وَبَرَكَاتُهُ

Glory and praise be to Allah the almighty and the most merciful. Peace and blessings be upon His Messenger, Muhammad.

I would like to welcome you to Shimadzu 1st Asia Halal Summit 2023, a conference that brings together Islamic scholars and clerics, better known as Ulama, scientists, engineers, professionals, and students to address and discuss emerging halal issues in an effort to develop the world's halal ecosystem.

Halal assurance is one of the essential needs for Muslims, as they are obliged to verify that all products that they are using are permissible under Islamic law. Along with the advancement of science and technology, many consumer products are now produced through complex processes. The complexity may involve by-products or other aspects that are not permissible from the Islamic law viewpoint. This raises the need for a halal ecosystem in almost all industrial sectors. The halal industry itself is a globally broad market, worth at least five trillion US dollars as estimated by the global consulting group AT Kearney, which attracts multinational and independent entrepreneurs to secure the markets.

Here we are proud to have Brawijaya University in partnership with Shimadzu industry to organize this Summit. Brawijaya University, through its Halal Inspection Institute, has a strong commitment to continuously work toward the development of the halal ecosystem.



We hope that all delegates of this conference can enjoy the valuable discussions under the academic atmosphere, initiating new connections and collaborations; as well as enjoying the culture and the nature of Malang. We hope that this meeting can further evolve to be one of the world-leading Islamic scientific conferences focusing on innovative halal issues.

وَالسَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ

May Allah guide us all to the truth and keep us on the straight path.

Thank you.

Prof. Widodo, S.Si., M.Sc., PhD.Med.Sc

Rector of Universitas Brawijaya (UB)



Opening Address

From Executive Officer and Senior General Manager, Shimadzu (Asia Pacific), Singapore

Welcome to Shimadzu 1st Asia Halal Summit 2023, the first-ever Summit in the Halal world! This Summit is jointly organized with Brawijaya University, Ditek Jaya and Shimadzu (Asia Pacific).

The theme of the summit is “Developing the World Halal Ecosystem”, with a focus on methods for halal authentication, AI, and digital technology. Halal analysis has transitioned towards an analytical-based approach and can be categorized into 3 categories: Halalan, Toyyiban, and Ethics Testing. It is crucial that the products comply with Islamic law by being clean, safe, authentic, and beneficial. Halal analysis is more than just food safety – it is food security.

At Shimadzu, we offer End-To-End Solutions for Food Security. For example, our GC enables you to do the Analysis of Alcohol and Pesticides, while our LC, LCMS, and MultiNA can help with Porcine Detection and Meat Authentication.

As part of the Summit, you will get an exclusive tour of Brawijaya University’s ISO-17025 certified Halal Testing Lab, supported by Shimadzu’s state-of-the-art technologies. We also want to collaborate with the leading Halal authorities in the region, such as BPJPH in Indonesia, JAKIM in Malaysia, MUIS in Singapore, among others.



Since 1875, we have been committed to meeting our customers' needs worldwide. This year is no exception. At Shimadzu 1st Asia Halal Summit 2023, we will provide you with the latest developments, innovations, and technologies to meet the ever-evolving demands of the halal industry.

Let us work together toward establishing a World Halal Ecosystem. Thank you very much.

Thank you.

Dave Chua

Executive Officer and Senior General Manager, Shimadzu (Asia Pacific),
Singapore



Detailed Agenda – 1st Asia Halal Summit 2023

Tuesday, May 23rd 2023

Venue: Algorithmic Auditorium, Faculty of Computer Science,
Universitas Brawijaya

Tuesday, May 23 rd 2023	
Time	Agenda
07.30 – 08.15	Bus from Hotel (Grand Mercure Hotel) to Universitas Brawijaya <ul style="list-style-type: none"> • Pickup of speakers to the venue
08.15 – 09.00	Registration (Offline & Online – Join Zoom Meeting) Profile Video of Brawijaya University
09.00 – 10.00	Opening Ceremony (Open Zoom Meeting – Conference Room for Online Participants) <ol style="list-style-type: none"> 1. 09.00 – 09.05 1. Traditional Dance “Wonderful Indonesia” 2. 09.05 – 09.10 2. Welcome Speech by MC 3. 09.10 – 09.20 3. National Anthem Indonesia Raya by Conductor 4. 09.20 – 09.25 4. Opening Prayer 5. 09.25 – 09.30 5. Profile Video of Brawijaya University Halal Inspection Institute & History of Halal Development in Brawijaya University 6. 09.30 – 09.45 6. Welcome Speech by SHIMADZU - Mr. Dave Chua 7. 09.45 – 10.00 7. Opening Speech by Rector of Universitas Brawijaya (UB) – Prof. Widodo, S.Si., M.Si., PhD.Med.Sc
10.00 – 10.20	Launching “Mobil Halal Test Kit” by LPH Universitas Brawijaya
10.20 – 10.30	Photo session - All speakers, Committees, and Participants (on site) Photo session - Committees, and Participants (online)
10.30 – 10.45	Coffee Break



PLENARY SESSION I	
<i>Moderator: Prof. Ir. Sukoso, M.Sc., Ph.D</i>	
10.45 – 11.10	1. Dr. H. Muhammad Aqil Irham, M.Si (Dr. Subandriyah, MM) – Halal Regulation System Head of Halal Product Assurance Organizing Agency
11.10 – 11.15	Souvenir Appreciation for Keynote Speaker 1
PLENARY SESSION II	
<i>Moderator: Prof. Ir. Sukoso, M.Sc., Ph.D</i>	
11.15 – 11.40	2. Jackie, Ph.D. - Determining Alcohol in Food and Non-Food Product Using GC -FID Shimadzu (Asia Pasific) Pte Ltd.
11.40 – 12.05	3. Max Kosok, Ph.D – LC-MS/MS Base Technology in Supporting Halal Authentication Shimadzu, Asia Pacific Pte Ltd
12.05 – 12.10	Souvenir Appreciation for Keynote Speaker 2 & 3
12.10 – 13.10	Lunch Break and Dhuhr Prayer
PLENARY SESSION III	
<i>Moderator: Prof. Dr. Ir. Kuswanto, MS.</i>	
13.10 – 13.35	4. Dr. Ir. Joni Kusnadi, M.Si – Halal Authentication Method Based on Nucleic Acid General Manager of Halal Inspection Institute, Universitas Brawijaya
13.35 – 14.00	5. Ass. Prof. Dr. Rodziah Atan – Challenge and Opportunities of Halal Ecosystem in Digital and Big Data Era Head of Laboratory of Halal Policy and Management in Halal Products Research Institute, University Putra Malaysia
14.00 – 14.25	6. Prof. Wayan Firdaus Mahmudy, S.Si., M.T., Ph.D – Opportunities of Artificial Intelligence for Halal Authentication Dean of Faculty of Computer Science, Universitas Brawijaya



14.25 – 14.30	Souvenir Appreciation for Keynote Speaker 4, 5, & 6 and Moderator
14.30 – 15.00	Group Division for Poster Session, Expo Session, & Lab Tour Coffee Break and Asr Prayer Zoom meetings end (Online)
15.00 – 15.30	Poster & Expo Session (Group 1) – Lab Tour Session (Group 2) – Demo Mobile Halal Test Kit (Group 3)
15.30 – 16.00	Poster & Expo Session (Group 3) – Lab Tour Session (Group 1) – Demo Mobile Halal Test Kit (Group 2)
16.00 – 16.30	Poster & Expo Session (Group 2) – Lab Tour Session (Group 3) – Demo Mobile Halal Test Kit (Group 1)
16.30 – 16.45	Poster Award and Closing Ceremony by Chairman 1 st Asia Halal Summit 2023 Dr. Yuni Kilawati, S.Pi., M.Si.
16.45 – 17.00	Closing



E-Poster Schedule

LED SCREEN 1

PIC: Bonick Kartini L., S.Pi., M.Sc., M.P.

Time	Abstract Code	Authors	Abstract Title
Onsite Poster			
15.00 – 15.10	AHS23-002	Adam Wiryawan	Critical Point in The Halal Certification of Food Product, Beverage, Medicine, And Cosmetics
15.10 – 15.20	AHS23-005	Edi Purwanto, Fadli Mulyadi, Supriyadi, Septian Maulana Purnama, Jemma Ayu Inggrida	The Role of Micro-Small Medium Business (MSME) Modalities in Increasing Bargaining Position Through Halal Certification
15.20 – 15.30	AHS23-008	Bachtiar Rifai Pratita Ihsan, Muhammad Afifuddin, Alvan Febrian Shalas	Analysis of Hydroquinone in Gel Cosmetic Products from Online Marketplace using UV Vis Spectrophotometry
15.30 – 15.40	AHS23-013	I Gede Amartya Paramahansa	Administrative Sanctions Against Businesses Who Include Halal Label Without Proper Certification
Online Poster			
15.40 – 15.50	AHS23-003	Nurul Badriyah, Setyo Tri Wahyudi, Arum Prastiwi, Kartika Sari, Rihana Sofie Nabella, Radeetha	Acceleration Of Halal Product Assurance Implementation In Street Food Sector SMEs
15.50 – 16.00	AHS23-032	Nurkhasanah Mahfudh, Iman Permana, Warsi Warsi, Lalu Muhammad Irham, Kellyana Irawati	Halal Perception and Consumer Behaviour of Halal Products



LED SCREEN 2

PIC: Nike Fitayatul Khusnah, M.Si.

Time	Abstract Code	Authors	Abstract Title
Onsite Poster			
15.00 – 15.10	AHS23-021	A G Fasya, A Hanapi, S Harini, L H Ulya, L M Khoiroh, A. Hakim, R. Mahmudah, A. F. Latifah, A. C. Pertiwi, E Yulianti	The Utilization of halal and thayyib foods Moringa Oleifera based as nutrition and antioxidant enhancer in Talangsuko Village, Malang Regency
15.10 – 15.20	AHS23-033	Yuliana Zahara Mega, Intan Septiani Rosa, Islah Asyraf Diari	Strategy Halal Industry Revolution In The Technological Era
15.20 – 15.30	AHS23-011	R. Nurdiani, A. A Prihanto, M. Firdaus, F. N. Aini, F. A. Nabilah, R.A. Talib, N. Huda	Characteristics of Pangasius sp. Skin Gelatin-based Edible Film Enriched with Silver Nanoparticles
Online Poster			
15.30 – 15.40	AHS23-009	Muhamad Ali Nurdin, Dede Miftahul Anwar, Neneng Windayani, Tri Cahyanto	Implication of Rapid Alcohol Content Tester on Students' Halal Literacy in Science Learning on Submatter of Additives in Class VIII Junior High School
15.40 – 15.50	AHS23-026	Adi Aliyan, Neneng Windayani, Tri Cahyono	Tofu Making Process from the Perspective of Halal Literacy to Develop Science Process Skills on the Colloid Concept for Class XI Students of SMAN 1 Kalibunder
15.50 – 16.00	AHS23-024	Sadiyah	Halal Product Guarantee System Implementation of Micro, Small and Medium Enterprise (UMKM) in Kota Soe



LED SCREEN 3

PIC: R. Adharyan Islamy, S.Pi., M.P.

Time	Abstract Code	Authors	Abstract Title
Onsite Poster			
15.00 – 15.10	AHS23-019	Akhmad Al-Bari, Romadhiyana Kisno Saputri, Rizki Iqrar Fazrin, Sovia Roikhatul Jannah	Stability And The Effectiveness Test of Halal Sunscreen Containing Catharanthus roseus L. Leaves Extract
15.10 – 15.20	AHS23-028	Nina Salamah, Sayyidah Luthfiyah Jufri, Hari Susanti	Analysis of Gelatin on Soft Candy Using A Combination of Fourier Transform Infrared Spectroscopy (FTIR) with Chemometrics for Halal Authentication
15.20 – 15.30	AHS23-029	Sucipto Sucipto, Muhammad Zubir, and Retno Astuti	Self-Declared Halal Certification in Indonesia: Regulation, Barrier, and Opportunity
15.30 – 15.40	AHS23-018	Nurbani, Sabilla Tri Ananda	The Perception of Muslim Online-Based Food Couriers Towards Non-Halal Food Orders (Case Study in Medan City)
Online Poster			
15.40 – 15.50	AHS23-001	Dede Miftahul Anwar, M. Ali Nurdin, Neneng Windayani, Tri Cahyanto	Development of Rapid Alcohol Content Tester based on Internet of Thing (IoT) for Classification of Halal and Thayyib Drinks using Integrated ESP32
15.50 – 16.00	AHS23-006	Rd Indah Rofiah Al-Zahro, Tri Cahyanto, Neneng Windayani	Implementation of Halal Literacy on Additives Contained in Food by Testing the Borax content(sodium tetraborate) Using Curcumin Indicators on Interest in Buying Halal Products
16.00 – 16.10	AHS23-020	Akhmad Dairoby, Amelia Ulfa Rosida	Indonesia Halal EcoTourism: Opportunities and Challenges



LED SCREEN 4

PIC: Mahardika Audita Hanif, M.Si. (Sukir)

Time	Abstract Code	Authors	Abstract Title
Onsite Poster			
15.00 – 15.10	AHS23-004	Edi Purwanto, Moh Zakiy Fiddin, Agus Suyono	Internet of Things Integration for Sustainability Supply Chain of Halal Product towards Halal Ecosystem
15.10 – 15.20	AHS23-010	Anggita Rosiana Putri, Kevin Awidarta, Bachtiar Rifai Pratita Ihsan	Development of Ultrasound-Assisted Extraction (UAE) Method using RSM-BBD for Formalin Analysis on Dried Anchovy (<i>Stolephorus tri</i>)
15.20 – 15.30	AHS23-014	Arafah Cahya Kamila, Bachtiar Rifai Pratita Ihsan, Luthfi Ahmad Muchlashi	Analysis of Hydroquinone Content in Illegal Whitening Hand and Body Lotion in the Pasar Besar Area of Malang City Using Spectrophotometry UV-Vis Method
Online Poster			
15.30 – 15.40	AHS23-015	Riana Lady Flara, Tri Cahyanto, Neneng Windayani	Implementation of Halal Literacy in The Use of Alcoholic Perfume As an Effort to Improve The Quality of Islamic Worship and Keep Environmental Sustainability From Global Warming
15.40 – 15.50	AHS23-017	Aini Nur Arifah, Lailia Khuriyyatus S., Robiatul Adawiyah	Application of the Halal concept in Anchovy Sauce Products: Based on raw materials and processing
15.50 – 16.00	AHS23-027	Ika Arlina Prabowo	Policies Synergy of Standardization, Conformity Assessment, and Halal to Creating Halalan Thayyiban Products for the Indonesian People



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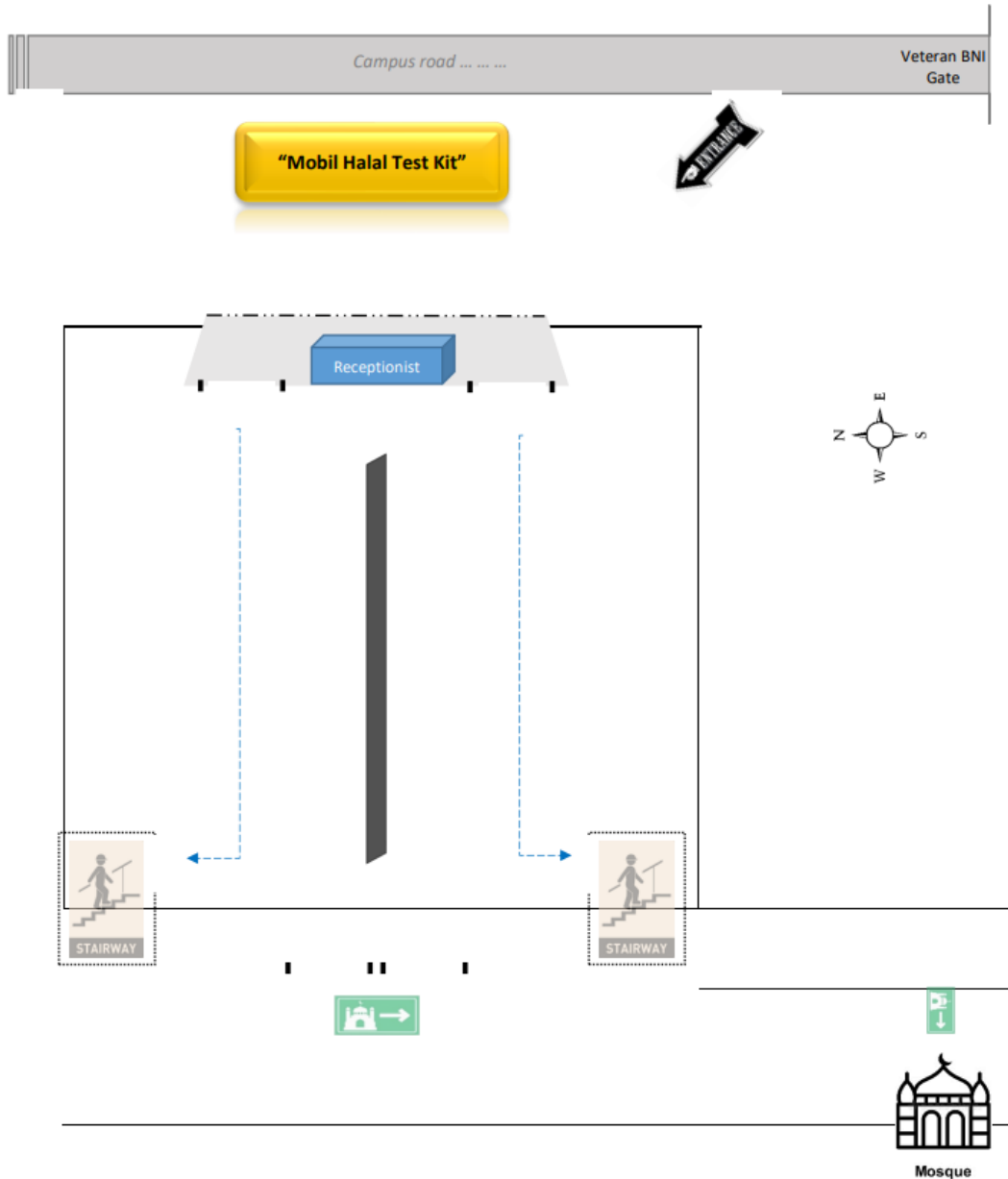
PIC: Yuslinda Annisa, M.Si.

Time	Abstract Code	Authors	Abstract Title
Onsite Poster			
15.00 – 15.10	AHS23-022	Moh. Adenan, N. Ari Subagio	Urgency of Halal Certificate at Slaughterhouse in Jember Regency
15.10 – 15.20	AHS23-023	Thareq Barasabha	Needs and Chances of Halal Telemedicine Services in the Muslim Population of Indonesia: A Quantitative Study
15.20 – 15.30	AHS23-030	Bambang Susilo, Abd. Rohim, Midia Lestari Wahyu Handayani	Seagrass (<i>Syringodium isoetifolium</i>) Powder as a Source of Alternative Food
15.30 – 15.40	AHS23-031	Yuni Kilawati	Standard of Laboratory testing to support halal product certification in Indonesia
Online Poster			
15.40 – 15.50	AHS23-012	Seni Cintiati, Neneng Windayani, Tri Cahyanto	Socioscientific Issues Approach based on Halal Literacy on substance and changes in the use of Cosmetics for SMK students on the Office Management and Business Service expertise program
15.50 – 16.00	AHS23-016	Abdullah Mutis, Antonius R.B. Ola, Luther Kadang, Dodi Darmakusuma	Development Of Halal Guidance Worksheet of Home-Scale Ice Cream Product Formulation

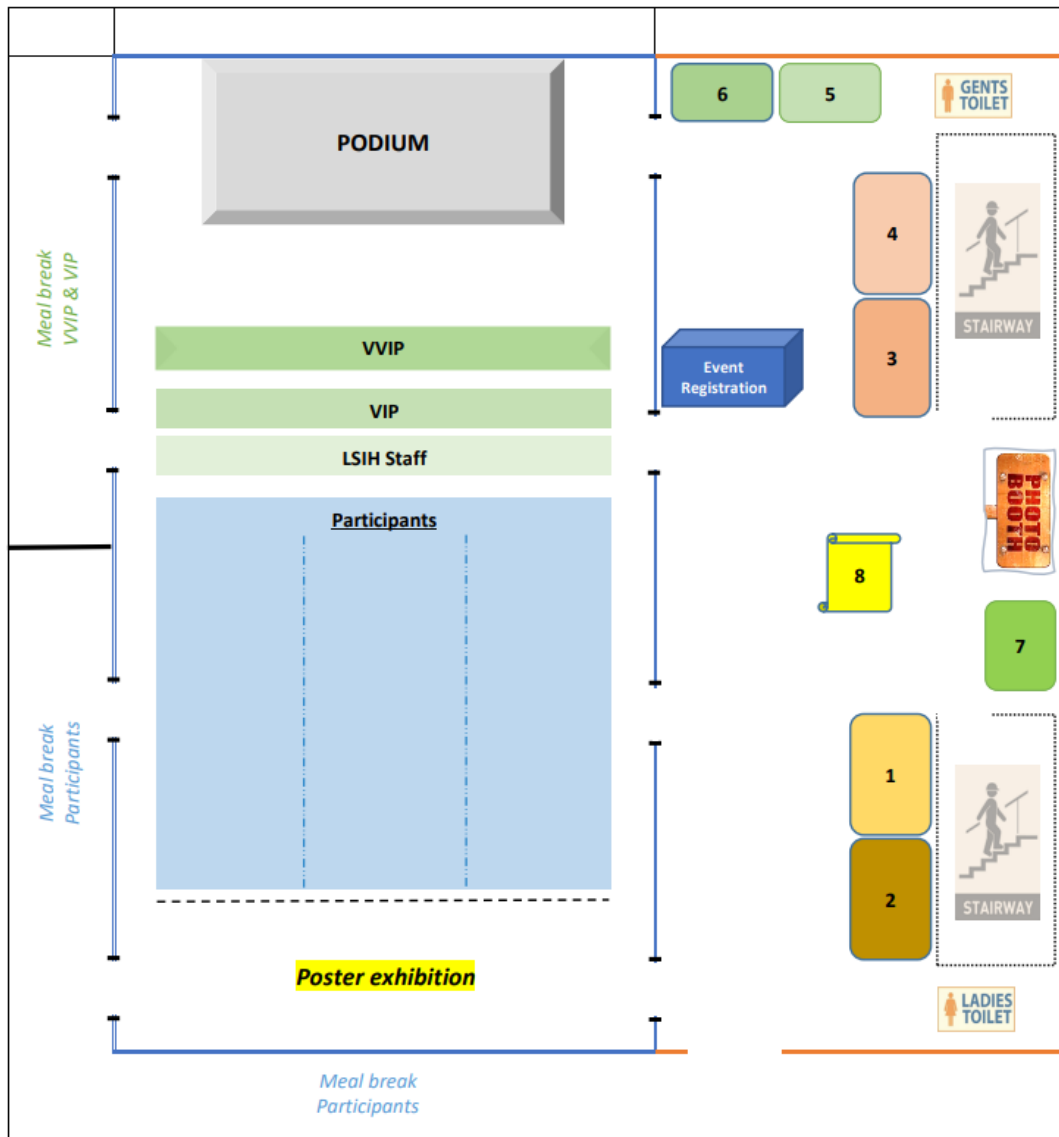


Conference Ground Layout

1st Floor of Algorithmic Auditorium



2nd Floor of Algorithmic Auditorium



 Main area

 Sponsorship area

- 1. PT. Ditek Jaya // Shimadzu
- 2. LSIH - UB
- 3. PT. Brawijaya Smart Industri
- 4. PT. Biocare Sejahtera

- 5. Lembaga Pemeriksa Halal (LPH) - UB
- 6. BPJPH - KEMENAG RI
- 7. Hal-QID - UB
- 8. PT. AZKA X Banner



Universitas Brawijaya’s Halal Ecosystem



Halal Examination Agency

A business unit of Universitas Brawijaya that carries inspection and/or testing activities on the halalness of LPH UB products



Halal Qualified Industry Development (HAL-QID)

A researcher groups doing industry developing activity, including halal aspect, security, product quality and production efficiency, supported government policy to meet consumer need.



UB Kantin, Badan Usaha Non-Akademik (BUNA), Universitas Brawijaya

A business units which was founded in 2016 and is engaged in providing food and beverage services. UB Kantin has the duty to provide services to academicians to support the realization of Quality Academic Personnel in Universitas Brawijaya through the provision of Halal and Thoyyib food and drinks



Insitut Halal Thoyyib

An institution that has the task of organizing training needs, consulting, in the field of non-audit halal and advancing the halal ecosystem. The existence of Institute Halal Thoyyib Universitas Brawijaya aims to be able to contribute thoughts and scientific treasures of the halal ecosystem.



serve you the best

Central Laboratory of Life Science

The one and only laboratory in East Java, Indonesia that collaborate with LPH UB and certified by ISO 17025:2017

Keynote Speaker
Abstract



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DEVELOPING A WORLD HALAL ECOSYSTEM



Keynote Speaker
Halal Regulatory System
Dr. H. Muhammad Aqil Irham, M.Si., Subandriyah*
Head of Halal Product Assurance Organizing Agency (BPJPH)

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Abstract

The new era of Halal Certification in Indonesia by the government, in the case of the Ministry of Religious Affairs (MoRA), through the Halal Product Assurance Organizing Agency (BPJPH), with mandatory: Halal Product Assurance. The aims of implementing Halal Product Assurance are to provide convenience, security, safety, and certainty of the availability of Halal Products for the public in consuming and using the product; and to increase the value added for the businesses to produce and sell Halal Products. Products that enter, circulate, and trade in the territory of Indonesia must be Halal certified. (Law No. 33 of 2014, Article 3 and Article 4). From 2017 to 2023, there are dynamics of halal regulation and its derivatives. On the one hand, Halal Certification Services follow the era of digitalization and integration of Halal Certification services through the Halal Information System (SIHALAL). In developing the integrated electronic-based SIHALAL and automation of the Halal Certification process, Artificial Intelligence (AI) is used repeatedly and works tirelessly. The purpose of implementing AI in the Halal Certification process is to help carry out automatic Validation and Verification. Apart from AI-based automation, SIHALAL is also continuously being developed by implementing a traceability system for Halal Products using Blockchain.



Keynote Speaker
Shimadzu Solutions for Food Safety & Halal Integrity
Testing: Determining Alcohol in Food and Non-Food
Products Using GC-FID

Dr. Jackie, Ph.D.*

Assistant Product Manager, Shimadzu (Asia Pacific)

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Abstract

In today's world of widespread food adulteration, it is critical to conduct official testing and certification to ensure food safety and halal compliance for our Muslim community. The market for halal ingredients was estimated at USD325.7 billion in 2021 and growing at a compound annual growth rate (CAGR) of 3.27%. To demonstrate our dedication to this growing need, Shimadzu offers leading-edge solutions and state-of-the-art technologies for Food Safety and Halal testing. As a global leader in Food Safety and the world's longest-serving analytical instrument manufacturer since 1875, we take pride in our commitment to continuously deliver the most efficient and cost-effective workflow solutions for Food Safety and Halal Integrity testing. During the presentation, Dr. Jackie, the Product Manager of GC & GCMS, will present different strategies to address Food Safety in which Shimadzu's analytical instruments can be employed to achieve effective testing. He will also share more on Ethanol Testing using GC specifically in his talk.



Keynote Speaker
**LC-MS/MS Based Technology in Supporting Halal: Porcine
Analysis with LCMS/MS for Halal Authentication**

Dr. Max Kosok, Ph.D.*

Ph.D, Senior Product Specialist (LC/MS), Shimadzu (Asia Pacific)

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Abstract

Gelatin is extensively utilized in food, cosmetics, and pharmaceutical industries and is often manufactured from porcine materials. To ensure safe usage for the Muslim community, the use of porcine gelatin or other pork-originating products must be restricted, and accurate labelling is requisite for consumers' confidence towards the products. Various approaches and targets have been utilized to trace porcine materials in consumer products, including pork DNA, by qPCR. However, DNA is prone to thermal degradation and thus its viability remains questionable after product manufacturing. On the other hand, targeted proteomic analysis using a sensitive LC-MS/MS platform is an ideal alternative to PCR-based approaches. Still, the high similarity in amino acid sequences between bovine and porcine gelatins remains a challenge for differentiation of the animal sources. Here, Dr. Max Kosok will present a targeted proteomic approach by LCMS to detect species-specific peptide markers, including semi-quantitation of gelatines in food, pharmaceutical capsules, and personal care products at as low as 0.1% adulteration.



Keynote Speaker
Halal Authentication Method Based on Nucleic Acid

Dr. Ir. Joni Kusnadi, M.Si.*

Technical Manager of Central Laboratory of Life Sciences, Lecturer of Food Science and Technology, Universitas Brawijaya, General Manager of Halal Inspection Institute, Universitas Brawijaya

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Abstract

Halal product authentication is essential at every level of the product manufacturing process, from raw materials to the final product. In Indonesia and many other countries, halal authentication for materials/products is required as part of the halal certification process. For food authentication, detecting species-specific DNA fragments is a widely used method to identify the meat species, owing to its excellent specificity and selectivity. Moreover, such DNA-based identification is suitable to be employed on raw and processed meat, making it a preferred method for halal product authentication. Thus, Dr. Ir. Joni Kusnadi will briefly discuss various DNA-based identification methods such as DNA barcoding, RFLP PCR, conventional PCR, real-time PCR, biosensors, CRISPR, and isothermal amplification. Nevertheless, it is important to note that while PCR is the widely recommended method, alternative methods that are simple, fast, accurate, and do not require complicated and expensive instruments are urgently needed to meet the increasing demand for halal products, which will also be discussed.



Keynote Speaker

Challenges and Opportunities in Halal Ecosystem: Digitalization and Big Data

**Asst. Prof Dr. Rodziah Atan^{1,2,*}, Faridah Basyirah Binti Haji Mohd Yussof³,
Siti Nur Syuhaidah Hj Ahmad Sohaimi³**

¹Head of Laboratory of Halal Policy and Management in Halal Products Research Institute

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³Students School of Business, Universiti Teknologi Brunei

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Abstract

The halal ecosystem plays a significant role in catering to the needs of the Muslim population worldwide. With the advent of the digital and big data era, new opportunities and challenges have emerged in managing and optimizing the halal industry. Exploring the impact of digital technologies and big data on the halal ecosystem is vital, with a focus on key areas such as halal certification, traceability, and supply chain to enable trust and transparency and, at the same time, combat counterfeit products. There is vast potential for big data analytics yet to be explored in the halal ecosystem, which might offer insights into consumer preferences, market trends, and supply chain efficiencies within the halal ecosystem. In this presentation, Dr. Rodziah Atan will share more on this thought-provoking topic to explore ways to leverage digitalization and big data opportunities while overcoming challenges to establish an advanced halal ecosystem.



Keynote Speaker
Opportunities of Artificial Intelligence for Halal Authentication

Prof. Ir. Wayan Firdaus Mahmudy, S.Si., M.T., Ph.D*
Dean of Faculty of Computer Science, Universitas Brawijaya

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Abstract

The community's need to obtain halal food has encouraged the application of Artificial Intelligence (AI) for halal authentication. AI is a technology that allows computers to think and perform tasks like humans, using algorithms and mathematical models, with minimal error and high accuracy. This presentation discusses the potential of AI in facilitating the authentication of halal food and making it easy for consumers to choose halal food according to their beliefs. In particular, the focus is on how AI and computer vision technology can be used to identify food components and ensure their halal status more efficiently and accurately. A few key applications will also be shared - (1) The development of an AI-powered search on mobile phone that can easily recommend the nearest halal restaurant based on the user's location (2) The use of AI technology to verify the authenticity of halal labels on food and beverage products.



Poster Presenter
Abstract



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AHS23-001

Development of Rapid Alcohol Content Tester based on Internet of Thing (IoT) for Classification of Halal and Thayyib Drinks using Integrated ESP32

Dede Miftahul Anwar¹, M. Ali Nurdin¹, Neneng Windayani¹, Tri Cahyanto^{1,*}

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Abstract

Islam prohibits the consumption of alcoholic products that are categorized as khamr. In the fatwa decision of the Indonesian Ulema Council (MUI) No. 10 of 2018 states that alcoholic beverages that fall into the khamr category are drinks that contain ethanol more than 0.5%. Some data shows that there are many drinks both traditional, modern, and soft drinks that have ethanol levels above 0.5%. This research aims to produce Internet of Thing (IoT) products in detecting and classifying halal and thayyib drinks with easier, faster, and more accurate stages. The classification of drinks that are good and not harmful to the body scientifically can be determined from the level of acidity (pH) and temperature, in general, drinks that can be consumed have a pH value with a range above 5.86 and below 9.18 accompanied by temperatures with a range above 20oC and below 30oC. The methodology in this research is divided into 4 stages, namely system design, IoT design, data collection, data processing, and data analysis. The results showed that the developed IoT can detect alcohol levels with a concentration range of up to 5000 ppm and is able to classify halal and thayyib drinks equipped with pH and temperature sensors after several series of calibration and sample testing activities. The TGS822 component which is a sensor sensitive to ethanol gas detects ethanol levels in the sample along with pH and temperature sensors as a determinant of the thayyib beverage category, then the data will be sent to ESP32.

Keywords: *Halal, IoT, Khamr Tester, Rapid, Thayyib.*



AHS23-002

Critical Point in The Halal Certification of Food, Beverage, Medicine, and Cosmetics Product

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Abstract

Consuming halal and thoyyib food is God's command that must be implemented by every believer. In the Qur'an has affirmed that the food and drinks are prohibited are : carrion, blood, pork, wine, animals slaughtered without mentioning the name of Allah. To detect a halal food products, beginning with understanding the critical point that causes a type of questionable status of halal products. The critical point of a food, drink, drugs, and cosmetics are on the process of production, ingredients and additives used. I show the animal product critical point (CP) as an example in the scheme as follow.

Keywords: *critical point, halal certification*



AHS23-003

Acceleration of Halal Product Assurance Implementation in Street Food Sector Smes

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Abstract

The development of lifestyles and demands for halal has become a global trend, thus impacting various sectors. The tourism, fashion, medical services, finance, and food and beverage sectors are growing rapidly, even in countries where the majority of the population is not Muslim. This is a big opportunity and challenge for the halal industry development industry, including in Indonesia. Malang City as one of the Tourism Cities in East Java has many street food MSMEs that have less literacy regarding the importance of guaranteeing halal certification. Therefore, this study aims to analyze and develop strategies for implementing halal product guarantees for MSME in the street food sector in Malang. This study uses the IFAS-EFAS approach and SWOT analysis to examine the strategy for implementing halal product guarantees for MSMEs in the street food sector in Malang. The results of this study indicate that knowledge about business legality, the importance of legality, and the existence of halal labels and certification for the image of a product is still limited for SMEs in the street food sector in Malang. In addition, street food MSMEs in Malang still need training and information or socialization regarding halal product guarantees/halal certification. As for what can be done by the MSME street sector in Malang, namely submitting to Islamic community organizations Islamic religious institutions with legal entities/universities to become companions for halal product guarantees and MSME actors to ensure that MSME materials/products are halal so that they can carry out halal certification with a self-declare scheme.

Keywords: *halal product guarantees, UMKM street food, halal value chain*



AHS23-004

Internet of Things Integration for Sustainability Supply Chain of Halal Product towards Halal Ecosystem

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**Email : ediortega1974@gmail.com*

Abstract

Nowadays, the halal supply chain has a very vital role for consumers and producers to ensure the halalness of a product. Therefore, the integrity and efficiency of the halal supply chain must be optimal. On the other hand, the halal supply chain is currently facing several challenges, namely traceability and transparency, and supply chain complexity. To overcome these issues, the Internet of Things (IoT) can assist the halal supply chain by using blockchain technology to provide trace the origin of products, the processes involved in their production, steps taken to ensure compliance with halal requirements, and movements within the supply chain. The objective of this study is to identify the role and enabler factors to the implementation of IoT to support halal ecosystems. This study discussed the role of supply chain integration and halal product regulation as the enablers of the success of IoT in the halal ecosystem. The results indicate that IoT offers benefits to the halal supply chain namely, product traceability, supply chain efficiency enhancement, livestock management facilitation, halal food status authentication, and certification monitoring. A number of barriers have been identified, including the technical limitations of IoT devices, technological immaturity, lack of user adoption, and cost and regulatory barriers. This study's findings provide deeper insight into policymaking for building a halal ecosystem in Indonesia.

Keywords: *Supply chain, halal products, sustainability, internet of things.*



AHS23-005

The Role of Micro-Small Medium Business (MSME) Modalities in Increasing Bargaining Position Through Halal Certification

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Jedda Ayu Inggrida¹

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² Socio Economic of Fishery PSDKU Brawijaya University, Indonesia

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Abstract

Along with the increasing and developing of technology and science, the various types of businesses that appear in society are very varied, therefore a way is needed to improve this so that there are Micro Small Medium Enterprise (MSME's) that are quality. Entrepreneurship is a process that involves the creation of goods and services in harmony with existing market conditions. This process can help develop a vision and mission. City of Kediri is one of the cities that has a program that focuses on improving the quality of MSMEs, one of which is the SEHATI (Free Halal Certificate) program, with the hope that MSMEs, especially those selling food and beverage products, are able to follow the rules relating to the obligation to have halal-certified food or drinks per the 17th October 2024. The objectives that will be carried out in this research are as follows 1) Knowing the types of Social Capital in increasing Bargaining Position through halal certification 2) Analyzing the effect of Social Capital in increasing Bargaining Position through halal certification. This study uses a qualitative and quantitative approach using 40 samples of MSMEs in the city of Kediri. For data collection using interviews with the help of questionnaires, while for data analysis used scoring validity and reliability also analyzed by Logit test. The result of that analysis show that, social capital, economic capital, cultural capital and symbolic capital have significantly increased the desire to do halal certification. Free Halal certification (SEHATI) in Kediri will be the answer to increase the bargaining position of MSME's product.

Keywords: MSME, Social Capital, Halal Certification, Bargaining Position, Kediri City



AHS23-006

Implementation of Halal Literacy on Additives Contained in Food by Testing the Borax Content (sodium tetraborate) using Curcumin Indicators on Interest in Buying Halal Products

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Abstract

Food is a source of energy for the body. The food consumed must be halal and thayyib not harmful to the body and not contain harmful additives. Food consumption is regulated in Islam determined by *dalil qot'I* (definitely) both in the Qur'an and hadith. That humans must consume halal and good food, as stated in the Al-Qur'an Al-Baqarah verse 168. Currently modified food has a long shelf life. In an effort to increase the shelf life of food so that it lasts longer, manufacturers add preservatives such as borax (sodium tetraborate). Borax is very dangerous for health so that the government prohibits the addition of borax to food as stated in the Regulation of the Minister of Health of the Republic of Indonesia Number: 722/Menkes/Per/IX/1988. This study aims to analyze the intention to buy halal products by implementing halal literacy in food by testing the borax content using the curcumin indicator. Scientifically proven research by Muthi'ah & A'yun (2021) that obtained 10 test samples of foodstuffs containing borax preservatives marked by a change in the color of the test samples from yellow to brownish red after being given turmeric solution. The method used in this research is a quantitative and qualitative method explanatory survey. This research method focuses on finding and developing theories with research results or products that can explain why or why (antecedent variables that influence) the occurrence of certain social phenomena or realities, namely the implementation of halal literacy on borax content in food on interest in buying halal products. The results of the preliminary research test show that the level of halal literacy is quite good by testing the borax content in food on the interest in buying halal products. Most consumers buy halal products by paying attention to several components on the packaging such as the halal logo, entering and product expiration date.

Keywords: *halal literacy, borax (sodium tetraborate), curcumin indicator, interest in buying halal products*



AHS23-008

Analysis of Hydroquinone in Gel Cosmetic Products from Online Marketplace using UV Vis Spectrophotometry

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Abstract

The increasing number of sales of whitening agents in the online marketplace showed the products easily accessed by the public. One of the criteria for halal products is not to harm health. Many illegal whitening gels on the online marketplace can contain hydroquinone that exceeds the limit required by BPOM regulations, which has the potential to cause cancer. This study aimed to determine the hydroquinone on illegal whitening gels on the online marketplace using spectrophotometry Uv-Vis. The results of the validation of the analytical method showed the specificity of hydroquinone wavelength was 293 nm, the linearity (the value coefficient correlation was 0.9999), LOD was 0.280 ppm, LOQ was 0.849 ppm, accuracy (the percent recovery was 100.08%-102.59%), and precision (the percent RSD was 0.29%-0.85%). Two samples of five samples in the online marketplace show contained hydroquinone. One of the samples showed a level of hydroquinone of more than 2%.

Keywords: *illegal cosmetic, whitening gel, hydroquinone, online marketplace*



AHS23-009

Implication of Rapid Alcohol Content Tester on Students' Halal Literacy in Science Learning on Submatter of Additives in Class VIII Junior High School

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Abstract

This research is a development of the author's previous research on the development of an Internet of Thing (IoT)-based Rapid Alcohol Content Tester (RACT) by analyzing the implications or linkages of the research results with halal literacy in science learning. The realization of faith, piety, and noble character can be realized through learning that inserts halal literacy. This study aims to analyze what implications can be developed through IoT to improve students' halal literacy in science learning. This research is a systematic literature review using the Funnel Paradigm method. This systematic review consists of six stages, namely 1) Formulating research questions, 2) searching for literature reviews, 3) selecting and reviewing appropriate articles, 4) analyzing and synthesizing qualitative findings, 5) performing quality control, and 6) making conclusions. The results showed that there is a relationship between RACT and halal literacy in science learning, then the relationship can be projected for implementation in science learning through several stages including 1) selection of materials that are in accordance with the science learning curriculum, 2) Selection of the right learning model, 3) Designing the right learning design, and 4) Development of appropriate instruments.

Keywords: *Additives, Alcohol Tester, Halal Literacy, IoT, Science Learning.*



AHS23-010

Development of Ultrasound-Assisted Extraction (UAE) Method using RSM-BBD for Formalin Analysis on Dried Anchovy (*Stolephorus tri*)

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Abstract

Anchovies are often found in markets and sold as dried fish. However, many irresponsible parties add formalin to anchovies to extend their shelf life. The extraction process is important in analysing formalin in anchovies to obtain accurate and valid analysis results. No studies have used the Ultrasound-Assisted Extraction (UAE) method for formalin extraction from anchovy samples. Therefore, this study developed the UAE method using the Response Surface Methodology-Box Behnken Design (RSM-BBD) method for formalin extraction from dried anchovy samples. Three variables were optimized for UAE methods consisting of temperature: 40-60 °C; solvent to sample ratio 10:1=20:1 mL/g; and time of extraction 5-15 minutes. The Extraction results were then analysed using UV-Vis Spectrophotometry. The optimum conditions for formalin extraction were at a temperature of 60°C, a solvent-to-sample of 15:1 mL/g, a reaction time of 15 minutes and 4 extraction cycles. The validation process gives the result %CV = 1.66 (<2%). The formalin content from anchovy dried was found 64.34 ppm. The developed UAE method can optimally formalin extraction and gives accurate and valid analysis results.

Keywords: *dried Anchovy, Formalin, UAE, RSM, BBD*



AHS23-011

Characteristics of Pangasius sp. Skin Gelatin-based Edible Film Enriched with Silver Nanoparticles

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Abstract

Edible films intended for food packaging have been produced from hydrocolloids, lipids, resins, and composites, including gelatin. Gelatin is known to have a good filming ability and has been suggested as an alternative to non-halal and non-biodegradable plastics. Packaging incorporating with naturally active compounds may protect the food product from oxidation and microbial contamination. However, it may also alter the physicochemical properties of the film. This study aims to determine the physicochemical characteristics of edible film made from Pangasius sp. skin gelatin with the addition of silver nanoparticles. Mangrove extract of *Bruguiera gymnorrhiza* was used to synthesize silver into nanoparticle size. In this study, silver nanoparticles (AgNPs) with different concentrations (0, 2, 4, and 8%) were added to the gelatin-based edible film. The prepared edible films were observed for their physicochemical characteristics, including thickness, tensile strength, elongation, water vapor transmission, moisture content, pH, and color. The results showed that AgNPs affected the color of the fish gelatin-based edible film as increased concentration of AgNPs resulted in a darker film. Nevertheless, the addition of AgNPs had no significant effect on the thickness (145 – 216 m), tensile strength (14.58-19.72 MPa), elongation (21.86-54.19%), water vapor transmission (30.91-42.55 g/m²/day), moisture content (9.57-11.16%), pH (5.92-6.01) of the fish gelatin-based edible film. In conclusion, the addition of AgNPs has no significant effect on physicochemical properties of gelatin-based edible film's except the color. Therefore, the incorporated edible film has the potential for further development.

Keywords: *Bruguiera gymnorrhiza*; Edible Film; Gelatin; Physicochemical characteristics; Silver Nanoparticles.



AHS23-012

Socio scientific Issues Approach based on Halal Literacy on substance and changes in the use of Cosmetics for SMK students on the Office Management and Business Service expertise program

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Abstract

Cosmetics are nowadays marketed to teenagers, adults until childrens. Especially Indonesia is one of the suppliers of halal cosmetics, there is still disintegration between the functional, emotional and spiritual aspects of cosmetics which results in low consumer awareness in choosing halal cosmetics and preferring cheap brands. This study aims to increase understanding of halal literacy by classifying elements and compounds that are good for use in cosmetics. The research methodology uses a qualitative method with a socio scientific issues approach to substance and change material aimed at Vocational High School students of the Office Management and Business Services expertise program. The results of this study to indicate that the socio scientific issues approach, Vocational High School students can classify elements and compounds that are good and lawful in substance and changes in the daily use of cosmetics where the average use of cosmetics is more often found in Vocational High School students in the Office and Service Management expertise program Business.

Keywords: *Compound, Elements, Halal Cosmetics, Socioscientific Issues, Vocational High School.*



AHS23-013

Administrative Sanctions Against Businesses Who Include Halal Label Without Proper Certification

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Abstract

This paper discusses the legal vacuum regarding administrative sanctions related to the inclusion of a halal label without halal certification under Article 150 of Government Regulation No. 39 of 2021 Concerning Implementation of the Halal Product Assurance. The importance of proper halal certification for products in Indonesia and the need for legal sanctions against businesses that falsely claim their products are halal without proper certification. This paper analyzes current regulations and proposes comprehensive administrative sanctions for violators. This paper also discusses the importance of good governance principles in ensuring legal protection, both preventive and repressive. Halal product certification is used as an example of how administrative law can be used to ensure consumer protection and promote good governance. This paper emphasizes the importance of halal certification and labeling for consumer rights and the need for a comprehensive legal system to ensure compliance. The interaction between legal structure, legal substance, and legal culture is important for legal effectiveness. The results of the study show that there are no administrative sanctions that can be given to business actors who falsely claim their products are halal without proper certification, according to the law on halal product assurance. The conclusion of this paper is that in order to achieve compliance, a comprehensive framework is needed to fill in the gaps in preventing exploitable loopholes. Cooperation with local governments and innovative educational methods will be the keys to solving this problem and preventing it from happening in the future.

Keywords: *Administrative Sanctions, Legal Culture, Legal Void.*



AHS23-014

Analysis of Hydroquinone Content in Illegal Whitening Hand and Body Lotion in the Pasar Besar Area of Malang City Using Spectrophotometry UV-Vis Method

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Abstract

The cosmetics industry has experienced significant growth globally, driven by the demand for a variety of beauty products. One of the trends that has emerged is the increasing demand for halal cosmetics, which cater to Muslim consumers who are looking for products that are free from haram ingredients. Another trend is the popularity of whitening products, which often contain hydroquinone as a key ingredient. However, the use of hydroquinone in cosmetics is regulated in many countries, including Indonesia, where cosmetics containing more than 2% hydroquinone are classified as prescription drugs and require a doctor's supervision. This study aims to analyze the concentration of hydroquinone in illegal hand and body whitening lotions in the Pasar Besar Kota Malang area using UV-Vis spectroscopy. The samples were obtained using purposive sampling techniques. The UV-Vis spectroscopy method is advantageous due to its simplicity, speed, cost-effectiveness, and relatively low use of reagents. The results of method verification showed that the method is specific (with a maximum wavelength of 297.30 nm), linear ($r = 0.9999$), and accurate (100.50% - 100.74%) with a low limit of detection (LOD) of 0.280 ppm and a low limit of quantitation (LOQ) of 0.849 ppm. The study found that two out of six samples of illegal hand and body whitening lotions in the Pasar Besar Kota Malang area contained hydroquinone with concentrations ranging from 1.58% to 2.32%. The concentration of hydroquinone in sample 3 exceeded the regulatory limit of 2%.

Keywords: *hydroquinone, illegal hand and body whitening lotion, UV-Vis spectroscopy.*



AHS23-015

Implementation of Halal Literacy in The Use of Alcoholic Perfume as an Effort to Improve The Quality of Islamic Worship and Keep Environmental Sustainability From Global Warming

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Abstract

Perfume a mixture of aromatic compounds with essential oils, solvents and fixatives that are useful for giving fragrance to the human body or others. Previous research explained that many perfumes are mixed with alcohol, which in Islamic law the law on the use of alcohol is still "syubbhat". So, Muslims should avoid using alcoholic perfumes. Perfume mixed essential oils is produced from extraction process through the cold fat adsorbent (enfleuration) method, by utilizing animal fat. Muslims must avoid the use of perfume derived from animal fat which is haram. So, this study aims to provide halal literacy to students to reduce the use of alcoholic perfumes as an effort to improve the quality of worship, especially prayer and protect the environment from global warming, one of the contributing factors is CFC gas produced from alcoholic spray perfumes. The research approach uses a qualitative approach, with research methods namely literature studies and distributing questionnaires to students which consist of three aspects, namely aspects of knowledge halal literacy, aspects of knowledge alcohol, aspects of use alcoholic perfumes, and aspects of integration alcoholic perfumes with global warming. The results showed that from knowledge aspect of halal literacy the average value of 86% in category of strongly agreeing, the aspect of knowledge about alcohol was an average value of 79% in category of agreeing, the aspect of using alcoholic perfumes the average value was 82% in category of strongly agreeing, as well aspects of integration alcoholic perfume the average value of 78% category agree.

Keywords: *Perfume, Alcohol, CFC Gas, Literacy, Halal*



AHS23-016

Development of Halal Guidance Worksheet of Home-Scale Ice Cream Product Formulation

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Abstract

Home-scale Ice cream product as food product must pay attention to halal aspect of the product. Currently, there is no specific and simple guideline that can be used by home-scale ice cream producer to guarantee the halal status of their product. This research aims to create a halal guidance worksheet in formulation of home-scale ice cream product. Problem solving approach in this research is to use descriptive research through short literature review, practical test, and evaluation to production of home-scale ice cream product. Result shows that main critical point is activity to determine formula of ice cream product. The halal guidance worksheet can be applied since production and distribution plan of the home-scale ice cream product. The halal guidance worksheet is expected to increase awareness of home-scale ice cream producer to do halal certification and go through the whole process with better performance. In conclusion, it is very important to create halal guidance worksheet in home-scale ice cream product formulation.

Keywords: *Ice Cream, Halal Food*



AHS23-017

Application of the Halal concept in Anchovy Sauce Products: Based on raw materials and processing

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Abstract

Fishery products play an important role in maintaining food security. Most of the food is influenced by culture, region, and religion. Therefore, halal food is essential for Muslim consumers. Understanding halal food is not only based on the ingredients used but also processing techniques such as removing hazardous and unclean materials (not allowed), applying sanitation and hygiene, and incorporating food safety requirements. The aim of this study is to summarize the basic principles of processing fishery products into halal food from an Islamic perspective. Furthermore, the application of the halal concept to the production of anchovy sauce refers to the Indonesian Ulema Council's Halal Fatwa Standardization, which includes factory management, physical facilities, production equipment, processing and storage procedures. The results of the study indicate that all materials involved in the production process need to be identified to determine their halal and safety status. Any components that are disgusting, impure, or toxic must be removed, even though the toxicity is determined by the dose. So that it can be ascertained if the anchovy sauce product is halal and good for consumption.

Keywords: *Anchovy sauce, halal, food safety, sanitation and hygiene*



AHS23-018

The Perception of Muslim Online-Based Food Couriers Towards Non-Halal Food Orders (Case Study in Medan City)

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Abstract

The issue of halal and non-halal food is an important issue for a Muslim. Technological developments, providing new alternatives for one's work, for example becoming an online application-based food courier. This research will answer how the perception of online application-based food couriers when it comes to getting non-halal food orders. By using qualitative methods and data collection techniques through interviews and observations, research results with diverse perceptions were found. The results showed that informants' perceptions varied. First, continue to order non-halal food by using safety devices so as not to touch non-halal food directly. The second perception is to reject because there is an assumption that sustenance can come back and stick to faith. The third perception is sometimes accepting sometimes rejecting depending on the target booking quota on that day.

Keywords: *Perception, Non Halal food, Food Couriers*



AHS23-019

**Stability And The Effectiveness Test of Halal Sunscreen
Containing Catharanthus roseus L. Leaves Extract**
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Abstract

In this study, we investigated the stability and effectiveness of halal sunscreens containing Catharanthus roseus L. leaves extract in protecting the skin from harmful effect of ultraviolet rays. Indonesia is a tropical country with a majority Muslim population, the development of sunscreen is aimed at being halal. One of the critical points for halal cosmetics is the ingredients halal sunscreens containing Catharanthus roseus L leaves extract was made in 4 formulations with different proportions of extract. Stability test by measurement pH test using pH indicator paper, homogeneity test, spreadability test, adhesion test, emulsion type test, cycling test by observations of color, smell and texture changes at 40 and 400 for 6 cycles with 24 hour each cycles, photostability test by irradiating UV light and then identified with a spectrophotometer at a wavelength of 293,4nm and 366nm. Effectiveness test by measurement of erythema area after application of halal sunscreen on the backs of mice that exposed to UV-B. The results showed that halal sunscreen containing Catharanthus roseus L leaves extract is stable and can protect the skin from harmful effect of ultraviolet rays. It has the potential to be mass produced and marketed. The formula of sunscreen using halal materials that comply with the LPPOM-MUI halal guarantee system makes sunscreen provide comfort and safety to Muslim and tropical countries customers. This study also showed that the addition of extract concentrations showed better protection that can be used for the next study about development of sunscreen herbal and halal.

Keywords: *stability, effectiveness, halal sunscreen, Catharanthus roseus L.*



AHS23-020

Indonesia Halal Ecotourism: Opportunities and Challenges

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Abstract

The halal industry has great opportunities both on a national and international scale, one of which is in terms of halal tourism. Many countries have initiated halal tourism. Tourism is one of the leading sectors with minimal capital. One of them is ecotourism which has grown rapidly since the 1990s. In this case ecotourism can be included in halal tourism, and according to research foreign tourists coming to Indonesia mostly want to see Indonesia's nature, besides the growth of Muslim tourists which increases every year this is a separate opportunity for Indonesia how to develop halal ecotourism. This research uses qualitative research with descriptive analysis obtained from literature studies and related research studies. This research aims to look at the opportunities and challenges of developing Indonesian halal ecotourism. Halal ecotourism opportunities have enormous opportunities in the economic and community development fields and also have challenges such as in ecotourism marketing as deep tourism, competition, infrastructure, and institutional.

Keywords: *Eco tourism, Halal Tourism.*



AHS23-021

The Utilization of halal and thayyib foods Moringa Oleifera based as nutrition and antioxidant enhancer in Talangsuko Village, Malang Regency

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Abstract

Al Quran Surah Al Baqarah verse 168 says that Allah SWT commands us to consume halal and thayyib food and beverage. One of the sources of food and beverage that is rich in nutrition and benefits was Moringa oliefera. It contains some vitamins and phenolic compound that has potential as a natural antioxidant. However, many people do not like to consume Moringa oliefera as rawfood, because of its taste. Modification and innovation are needed to serve Moringa oliefera products. The alternative was done by mixing Moringa oliefera powder in some foods that are liked by everyone. This community service was held in Talangsuko village, Turen district, Malang regency. The method used in this activity was Participatory Action Research (PAR). The knowledge and awareness of the community was explored through discussion and brainstorming about the use of Moringa oliefera as a nutrition suplement and then sharing about the problems Moringa oliefera. The socialization and training is done by making halal and thayyib foods based on Moringa oliefera such as traditional cake and chocolate. The community was invited to practice making chocolate based on Moringa oliefera. Finally, the community was challenged to improve their creativity in making halal and thayyib foods based on Moringa oliefera. The result showed that the community's awareness and enthusiasm in using Moringa oliefera as food such as traditional cake, chocolate, jelly, noodles and Moringa oliefera vegetable soup is increasing.

Keywords: *Halal and thayyib foods, Moringa oleifera, nutrition enhancer, antioxidant.*



AHS23-022

Urgency of Halal Certificate at Slaughterhouse in Jember Regency

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Abstract

Food industry has an obligation to provide correct, clear and honest information regarding the conditions and guarantees of goods and/or services. Among existing food products, meat originating from halal animals has a high risk of becoming non-halal food due to the production process and/or mixing of non-halal food additives. The existence of Halal-certified Slaughterhouses is a necessity in supporting the provision of halal meat in Muslim market. The urgency of this research is to protect Muslim consumers in Jember area so as to provide a sense of security and comfort in consuming food products. Likewise, from the producer's point of view, providing halal product will gain competitive advantages on the market. This study uses a Mixed Methods that combines aspects of both qualitative and quantitative methodology. An Explanatory Sequential Design as a Mixed Methods approach with primary-secondary data collection, field observation, depth interview, and forum discussion group employ during this study. This research shows that in Jember Regency there are 11 RPHs, each of which is spread over 11 area and also private RPU with 79 Juleha. The availability of Juleha will support the slaughterhouse facilities to have a halal butcher who has competence not only from the aspect of Islamic law, but also from the technical aspects of veterinary public health and animal welfare. So that it will support micro and small business actors to have halal certificates.

Keywords: *halal slaughterhouse, RPH, RPU, Juleha*



AHS23-023

Needs and Chances of Halal Telemedicine Services in the Muslim Population of Indonesia: A Quantitative Study

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Abstract

This study explores the concept of telemedicine applications in Indonesia, focusing on the provision of complete halal healthcare services. The objective of this research is to examine the needs and opportunities for halal telemedicine services among the Muslim population of Indonesia. Indonesia is home to a substantial Muslim community, with approximately 237.53 million Muslims accounting for nearly 89% of the country's total population (Ministry of Internal Affairs, Republic of Indonesia, 2021). Given this demographic, there is a growing demand for telemedicine services that cater to the specific religious requirements of Muslim clients. Furthermore, the vast geographical nature of the Indonesian archipelago needs comprehensive telemedicine coverage to improve healthcare accessibility throughout the country. The recent COVID-19 pandemic has also accelerated the adoption of telemedicine services in Indonesia. This research employs a quantitative approach through an online survey. A sample of 30 Muslim respondents will be selected to gather insights into their preferences and requirements for telemedicine services. The survey will explore various aspects related to halal healthcare, including adherence to Islamic principles, Indonesian cultural considerations, and the specific needs of the Indonesian Muslim population. The findings of this study will serve as a foundational step toward designing and implementing halal telemedicine services that cater to the specific needs of the Indonesian Muslim population. By understanding the preferences and expectations of Muslim clients, healthcare providers can tailor telemedicine services to align with halal standards, ensuring compliance with religious and cultural norms.

Keywords: *halal telemedicine, healthcare accessibility, Muslim population, Indonesia, online survey*



AHS23-024

Halal Product Guarantee System Implementation of Micro, Small and Medium Enterprise (UMKM) in Kota Soe

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Abstract

The Halal Product Guarantee System (SJPH) must be implemented by business actor to ensure the Halal Product Process continuity. The existence of a government regulation in lieu of law (Perpu) Number 2 of 2022 concerning Cipta Kerja, stated that halal certification adheres self-declare scheme. The existence of micro, small and medium enterprises (UMKM) in Kota Soe NTT (moslem minority area), especially in culinary field, is extremely risky, because in general they use meat as a basic ingredient, which has critical point. However, they provide halal logos on their products which some are without valid halal certification. This research is empirical juridical research, that uses primary and secondary sources. The results show that to assure that the products are truly legally halal is by implementing principle of traceability and authentication in product Process, by using manual Halal Product Guarantee System (manual SJPH). It also helps for those who intend to do halal certification with a self-declare scheme. Another result is that the ineffectiveness of the law in this context, proven by not doing halal certification, is caused by defective legal culture of community. As the conclusion, increasing legal awareness and good cooperation between stakeholders from the government, business actors of UMKM and the community can maintain the Halal Product Guarantee System for Muslim communities in minority areas.

Keywords: *Halal Product Guarantee System, UMKM, effectiveness of law*



AHS23-026

Tofu Making Process from the Perspective of Halal Literacy to Develop Science Process Skills on the Colloid Concept for Class XI Students of SMAN 1 Kalibunder

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Abstract

Tofu is a daily food that is commonly consumed by Indonesian people, with great nutritional value, economical price and easy to obtain, making tofu the top choice. However, at the beginning of 2006 there were many publications in the Indonesian mass media regarding tofu containing formalin. From laboratory sampling results, it was found that 1.91% of tofu contained formalin. Until now there is still tofu that contains formaldehyde as a preservative. The researcher intends to carry out halal literacy in colloid learning by carrying out a tofu making project by analyzing the critical point of the prohibition of tofu from its manufacture which is based on the MUI Fatwa Number 43 of 2012 concerning the Misuse of formalin, besides that in the process the researcher will examine alternatives to halal preservatives and dyes. By doing this learning process is expected to develop students' science process skills on the colloid concept. If translated, this study aims to analyze the effect of students' knowledge of the process of making tofu from a halal perspective on students' science process skills in class XI on the colloid concept. The method used is the quantitative pair samples method with class XI student respondents at SMAN 1 Kalibunder who are just learning the concept of colloids. The sample selection technique was carried out randomly from class XI, samples were taken from the same subject, namely class XI IPA 1. The results of this study can provide an overview of the process of making tofu from a halal perspective in developing students' science process skills on the colloid concept.

Keywords: *Tofu, Formalin, Halal Literacy, Science Process Skills*



AHS23-027

Policies Synergy of Standardization, Conformity Assessment, and Halal to Creating Halalan Thayyiban Products for the Indonesian People

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Abstract

Halal products are something that must be ensured by the Indonesian government, with its population being predominantly Muslim. Along with the development of science and technology, halal alone is not enough because there must be guarantees for quality and safety for those who consume it as meant by thayyib. This is in accordance with the Qur'an Surah Al Baqarah verse 168 which reads "O people! Eat from (food) that is lawful and good that is found on earth,". Policies that describe thayyib are policies in of Standardization and Conformity Assessment which aim to improve quality assurance, increase protection for consumers, worker, business actors, and society and the state both from the aspects of safety, security, health, and preservation of environmental functions. Therefore, it is necessary to synergize Standardization, Conformity Assessment, and Halal policies to create halalan thayyiban products for the Indonesian people. With this synergy, it is hoped that the Indonesian people will get guarantees to consume safe and healthy halal products. This research is legal research to find the right solution to create synergy between Standardization, Conformity Assessment and halal. The approaches used in this study are the statute approach, case approach, and conceptual approach.

Keywords: *Halal, Tayyiban, Standardization, Conformity Assessment.*



AHS23-028

Analysis of Gelatin on Soft Candy using a Combination of Fourier Transform Infrared Spectroscopy (FTIR) with Chemometrics for Halal Authentication

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Abstract

The ingredients of soft candy are gelatin which is made from the skin/bones of cows and pigs. So, there is a need for research to detect candies made from pork or beef gelatin using a combination of FTIR and chemometric methods. The samples used were 3 soft candy sold in the Indonesian market (imported; not labeled halal) and a reference candy. Candy was extracted with acetone and then vortexed and followed by centrifugation. The precipitate obtained was dissolved using aquadest which was then analyzed by FTIR. Data analysis was carried out using the chemometric method using the Minitab 18 application. PLS calibration results in the form of $y = 0,99999x + 0.000396$ indicate a good correlation. The value of $R^2 = 0.99999$ and the RMSEC value of 0.03%. Internal validation with $R^2 = 0.99999$ and RMSECV = 3.69% and external validation with $R^2 = 0.9994$ with RMSEP = 1.28%. The PCA results show that there are different quadrant classifications of bovine and porcine gelatin. Also, there are similarities between the market candy quadrant and beef gelatin, as well as pork gelatin. However, there are also those that are not included in both. The conclusion is that the combination of FTIR and chemometrics can detect and classify the presence of bovine gelatin and pork gelatin in soft candy qualitatively and quantitatively.

Keywords: *Softcandy, gelatin, FTIR, chemomethric.*



AHS23-029

Self-Declared Halal Certification in Indonesia: Regulation, Barrier, and Opportunity

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Abstract

Self-declared halal certification (SDHC) is a system wherein a company declares its products to be halal without the involvement of a third-party certifying organization. Due to a lack of government rules and practical implementation, SDHC is becoming more prominent in Indonesia. This literature review aims to explore the current regulations, barriers, and challenges of SDHC in Indonesia. Indonesia currently has a legal framework for SDHC, but implementation is not yet entirely credible. The main barrier to SDHC is the lack of credibility and trust in the system. Consumers may doubt the validity of SDHC products, potentially resulting in lower demand for these products. The challenges encountered by SDHC include ensuring the authenticity of halal products, protecting consumer rights, and maintaining competitiveness in the global market. Furthermore, SDHC needs a legal framework to ensure that self-declared halal products fulfill the same standards.

Keywords: *Challenges, halal, self-declared*



AHS23-030

Seagrass (*Syringodium isoetifolium*) Powder as a Source of Alternative Food

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Abstract

Syringodium isoetifolium seagrass grows as a meadow in Indonesia littoral. However, the abundance has not been followed by the utilization yet, especially for food necessary fulfilled. Hence, this research investigated the chemical composition and nutrition facts in *S. isoetifolium* powder. Initially, *S. isoetifolium* was dried using a dehumidified dryer at a low temperature, then powdered (297.00 μm). The seagrass powder was analyzed for chemical composition by proximate analysis. The nutrition fact was calculated using a Bomb Calorimeter. As a result, carbohydrate, protein, fat, moisture, and ash were contained for 38.11 ± 1.41 , 8.27 ± 0.13 , 0.22 ± 0.01 , 26.83 ± 1.11 , and 26.59 ± 0.44 %, successively. Per 100g serving size: Calories 187.50 ± 6.50 kcal., carbohydrate 11.84 ± 0.44 , protein 15.32 ± 0.25 , and fat 0.30 ± 0.01 % daily value based on a day nutrition advice for diet 2150 calories. Thus, *S. isoetifolium* seagrass powder serves high nutrition which is proficient for alternative food.

Keywords: *Alternative food, Diet, Nutrition, Seagrass.*



AHS23-031

Standard of Laboratory testing to support halal product certification in Indonesia

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Abstract

Indonesia is a country with the most Muslims in the world. For this reason, attention to halal certified products is getting bigger. One of the stages in the process of obtaining halal product certification in Indonesia is to carry out inspections and/or product halal tests. Halal product analysis must be carried out by a laboratory that complies with international guidelines and standards. Common worldwide guidelines and standards for laboratories include 'International Organization for Standardization 17025' (ISO 17025), 'Good Manufacturing Practice' (GMP), and 'Good Laboratory Practice' (GLP). Standardization of halal product testing laboratories is intended to obtain high data validity. This article discusses basic laboratory requirements, especially for halal analysis. This study will present international guidelines with halal testing laboratory standards in Indonesia to demonstrate that these international standards are combined with Islamic practices to produce valid testing results using globally recognized best practices. This will increase trust in the work of halal laboratories both nationally and internationally, so that it will increase customer confidence in halal certified products.

Keywords: *analysis, halal certification, ISO17025, laboratory, standard*



AHS23-032

Halal Perception and Consumer Behaviour of Halal Products

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Abstract

This study aims to explore consumer perceptions and behavior towards halal products. This study uses a quantitative approach and collects data from a survey involving a heterogeneous group of respondents from different countries and levels of education. The method used in this study is simple random sampling with data collection techniques using a questionnaire in the google form. The number of samples obtained was 223 respondents. This survey assessed the respondents' understanding of the halal aspects of religion, the respondents' assumptions and evaluations of halal products, and their efforts to consume and use halal products. The results of the study show that the respondents' understanding of the religious aspects of halal influences their perceptions and behavior in choosing and consuming halal products. From the average score, respondents who have a good religious understanding of halal tend to behave and try to consume/use halal products. Meanwhile, in the assessment of halal products, the average score agrees (101) is superior to the average score which strongly agrees (64). This is possible because a small number of respondents still doubt the quality of halal products.

Keywords: *halal, perception, behavior, quality*



AHS23-033

Strategy Halal Industry Revolution in The Technological Era

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Abstract

In recent years the Islamic economy has shown quite rapid development both globally and nationally at the consumer level and the halal lifestyle of Muslims in the world is expected to experience growth that continues to grow to reach USD 3 trillion in 2023 or around 42% of 3 trillion in 2023. (1) Background: The problem of Halal services continues to change, requiring new breakthroughs that facilitate the Halal ecosystem, Halalin is here with technological breakthroughs by involving academics, government, and business people with one of its platform products, Halalwatch. (2) Methods: Halal Watch comes with services which makes it easier for users to find out about the halal ecosystem in the digital world with real time hall product information features, real time product updates, applications for halal certification, halal supervisor locators and halal process compliance systems. Results: Halalin makes it easy for users with the features halalwatch, halalmart and halal academy

Keywords: *Halal, halalin, platforms, applications, services.*





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