

**NATIONAL AGRICULTURAL AND FOOD ENGINEERING
CONVENTION (NAFEC) 2024**

**“DIGITAL AGRICULTURE: DRIVING INNOVATIONS FOR
SUSTAINABLE AGROFOOD PRODUCTION”**

**15 & 16 MAY 2024
UniMAP, PERLIS**



MALAYSIAN SOCIETY OF
AGRICULTURAL AND FOOD ENGINEERS



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PHYSICAL POSTER PRESENTATION

ZONE: P1 TOPIC: Postharvest and Food Engineering (I)	
PAPER ID	DETAIL POSTER
26	Presenter: Wan Qi Chan, Zanariah Mohd Dom Agency/Institution: UPM Title: Air Dried Instant Noodle from Jackfruit Banana Peel Powder
32	Presenter: Mohd Zuhair Mohd Nor Agency/Institution: UPM Title: Sweet Potato Plant Components for Potential Animal Feed Applications
33	Presenter: Intan Syafinaz Mohamed Amin Tawakkal Agency/Institution: UPM Title: Characterization of pH-Sensitive Sugar Palm Starch Films Loaded with Anthocyanin
78	Presenter: Shiamala Devi Ramaiya Agency/Institution: UPMKB Title: Enzymatic Browning in <i>Artocarpus odoratissimus</i> (Terap) fruits
82	Presenter: Nurul 'Afifah Zabidi Agency/Institution: UPM Title: Nanoencapsulation of Thymol in Chitosan Nanoparticle on Poly (Lactic Acid)/ Poly (Butylene Succinate)/Nanofibrillated Cellulose (PLA/PBS/NFC) For Active Food Packaging Application
85	Presenter: Nurul Nadzirah Mohd Yusof Agency/Institution: UPM Title: Kenaf derived cellulose (KDC)/poly (lactic acid) (PLA) composites: Optimization of melt mixer parameters via RSM
96	Presenter: Farhana Azmira Asmadi Agency/Institution: UPM Title: Antimicrobial Effect of Poly-Lactic Acid (PLA)/Poly-Butylene Succinate (PBS) Films Incorporated with Patchouli Essential Oil Nanoemulsions Against Foodborne Pathogen
97	Presenter: Nurhanis Najihah Ibrahim Agency/Institution: UPM Title: Biogenic Synthesis of Silver Nanoparticles using Polygonum minus Fresh and Dried Leaves Extract and Its Antibacterial and Antioxidant Properties
117	Presenter: Norawanis Abdul Razak Agency/Institution: UNIMAP Title: Drying Characteristics and Quality Attributes of Kenaf Leaves

ZONE: P2 TOPIC: Postharvest and Food Engineering (II)	
PAPER ID	DETAIL POSTER
35	Presenter: Nur Haqim Ismail Agency/Institution: MPOB Title: Texture and Microstructure of Selected Natural and Processed Cheddar Cheese in the Malaysian Market
38	Presenter: Mei Huey Saw Agency/Institution: MPOB Title: Oleogelator Screening for Production of Palm-based Oleogel Vegan Mayonnaise Emulsions
43	Presenter: Engku Hasmah Engku Abdullah Agency/Institution: MARDI Title: Paddy Grading using a Paddy Cleaner and Single Kernel Moisture Meter
44	Presenter: Hanisa Hosni Agency/Institution: MARDI Title: Determination of packaging type, storage time and condition for rice stockpile based on physicochemical qualities
69	Presenter: Helmi Affendi Bin Mohamad Azmi Agency/Institution: Malaysian Cocoa Board Title: The Influence of Granulated Sugar and Cocoa Butter Substitute on The Physical Properties of Milk Chocolate Couverture: Preliminary Study
90	Presenter: Badrul Hisyam Zainudin Agency/Institution: Malaysian Cocoa Board Title: Simultaneous determination of five mycotoxins in cocoa bean and its products using the QuEChERS Method and Ultra High-Performance Liquid Chromatography Quadrupole-Time-of-Flight Mass Spectrometry
92	Presenter: Nazurah Mohd Yunos Agency: UPM Title: The Effect of Different Pre-Treatments and Vacuum Drying Method on the Drying Kinetics of Pegaga (<i>Centella asiatica</i> L.) Leaves
109	Presenter: Zainun Mohd Shafie Agency: MARDI Title: Drying Performance of Grain Corn Using Mobile Dryer: The Impact of Initial Grain Weight
111	Presenter: Amir Syarifuddeen Mohd Adnan Agency: MARDI Title: Study on potential MARDI Specialty Rice for Production of Local Parboiled Rice

ZONE: P3
TOPIC: Postharvest and Food Engineering (III)

PAPER ID	DETAIL POSTER
115	Presenter: Jeeven Karruppan Agency: MARDI Title: Determination of Antioxidant Content of MRQ 107 and MRQ 111 Parboiled Rice During Storage
120	Presenter: Rosalizan Md Saleh Agency: MARDI Title: Mathematical modelling, quality retention and optimization of drying parameters of kunyit hitam (<i>Kaempferia parviflora</i>)
121	Presenter: Mahirah Jahari Agency: UPM Title: Effect of Different Storage Conditions on Moisture Content and Colour of Arabica Coffee
128	Presenter: Faiqa Shazaaa Mohd Salleh Agency: UPM Title: The Impact on Physical Properties of Malaysian Crackers through Microwave Puffing Process
129	Presenter: Nur Hamizah Abdul Ghani Agency: UPM Title: The effect of process conditions on the sensory profile of AeroPress brewed Arabica Coffee
134	Presenter: Mohd Fitri Masarudin Agency: MARDI Title: Modular Light Trap Assessment for Rice Brown Planthopper Monitoring
136	Presenter: Hasmin Hakim Hasbullah, Azman Hamzah Agency: MARDI Title: Mechanization of Coffee Processing: Current Efforts by MARDI towards the small and medium entrepreneurs
137	Presenter: Nor Nadiyah Abdul Karim Shah Agency: UPM Title: Improving Health Benefits: Investigating Rice Noodles Fortified with Diverse Levels of Stabilized Rice Bran
139	Presenter: Noor Zafira Noor Hasnan Agency/Institution: UPM Title: Analysis of Quality Loss in The Roasted Coffee Bean Storage and Improvement Based on Internet of Things (IoT)

ZONE: P4
TOPIC: Agriculture Machinery and Automation

PAPER ID	DETAIL POSTER
59	Presenter: Aminulrashid Mohamed Agency/Institution: MPOB Title: Performance of Radio-Controlled Herbicide Sprayer with Control Droplet Applicator for Oil Palm Plantations (RC-Herbicide Sprayer).
65	Presenter: Ikmal Azaman Agency/Institution: MPOB Title: Optimizing Laser Harvesting: Beam Selection for Enhanced Cutting Efficiency
66	Presenter: Mohd Rizal Ahmad Agency/Institution: MPOB Title: Arduino-Based Electromyography System for Enhanced Monitoring and Optimization of Oil Palm Harvesting Operations
67	Presenter: Azwan Bakri Agency/Institution: MPOB Title: Techno-Economic Assessment of Mini Tractor Grabber (MTG) For the Oil Palm FFB Evacuation.
102	Presenter: Mohd Shahril Shah Mohamad Ghazali Agency/Institution: MARDI Title: Enhancing Rice Nursery Operation: Performance Evaluation of Rice Tray Seeding Machine
131	Presenter: Adli Fikri Ahmad Sayuti, Rohazrin Abdul Rani, Nurul Syahirah Ahmad Sayuti Agency/Institution: MARDI Title: Development of A Pineapple Pruning Machine for Enhanced Pineapple Sucker Production
135	Presenter: Seng Teik Ten, Khairul Anuar Shafie Agency/Institution: MARDI Title: Adapting and Adopting Robotics in Agriculture

ZONE: P5
TOPIC: IR 4.0 IN AGRICULTURE

PAPER ID	DETAIL POSTER
71	<p>Presenter: Wan Nor Zanariah Zainol Agency/Institution: UPMKB Title: Soil Sensor: Real-Time Monitoring for Automatic Irrigation System</p>
80	<p>Presenter: Mohd Ashraf Zainol Abidin Agency/Institution: UITM Arau Title: Emerging Technologies in Precision Agriculture: A Review of Innovations in Oyster Mushroom Production</p>
99	<p>Presenter: Badril Abu Bakar Agency/Institution: MARDI Title: Retrieval Augmented Generation Data Query Technique for MD2 Pineapple Cultivation</p>
101	<p>Presenter: Sharifah Hafiza Mohd Ramli, Ahmad Fadhlul Wafiq Abd Rahman Agency/Institution: MARDI Title: Fabrication Of 3D Printed Sweet Potato Puree as Potential Future Smart Food</p>
110	<p>Presenter: Mohammad Aufa Bin Mohd Bookeri Agency/Institution: MARDI Title: Improving Rice Farm Management through a Digital System: A Case Study</p>
133	<p>Presenter: Mohd Taufik Ahmad Agency/Institution: MARDI Title: Installation of Farm TRX yield monitor, a cheap and simple paddy yield monitoring system on local combine harvesters</p>
138	<p>Presenter: Mohamad Fakhru Zaman Omar Agency/Institution: MARDI Title: Comparative Analysis of Soil Sensors Versus Laboratory Testing for Soil Macronutrients Analysis</p>

ZONE: P6
TOPIC: ENVIRONMENT, WASTE MANAGEMENT, WATER,
LAND AND NATURAL RESOURCES

PAPER ID	DETAIL POSTER
15	Presenter: Mohamad Jani Saad Agency/Institution: MARDI Title: The Effect of Recycle Fertilizer on Water Quality of Hydroponic System
100	Presenter: Mohamed Fauzi Md Isa Agency/Institution: MARDI Title: Case Study: Assessment of Mini Combine Harvester Impact on Soil Strength in Sg Acheh, Pulau Pinang.
103	Presenter: Mohammad Aafa Mohd Bookeri Agency/Institution: MARDI Seberang Perai Title: Tube well system as supplementary irrigation for seed production
64	Presenter: Nozieana Khairuddin Agency/Institution: UPMKB Title: Physico-chemical Characterization of Hydrogel Seed Coating for Sustainable Agriculture
141	Presenter: Atiqah Roshidi Agency/Institution: Institut Biodiversiti Veterinar Kebangsaan Title: The Effect of Bolus Towards Semen Quality of Bulls in National Institute of Veterinary Biodiversity
50	Presenter: Hasfalina Che Man Agency/Institution: UPM Title: Optimization of Subcritical Water Pre-Treatment on Glutinous Rice Husk for Efficient Sugar and Hydrogen Production
20	Presenter: Yei Kheng Tee Agency/Institution: Malaysian Cocoa Board Title: Development of Bioplastic Film from Cocoa Pod Husk Cellulose Incorporated with Coconut Coir Fibre
48	Presenter: Muhammad Bilal Muslim Agency/Institution: Malaysian Cocoa Board Title: Performance Comparison on Biomass Gasification Reactor using Cocoa Pod Husk Waste for Hydrogen Production
39	Presenter: Roseliza Kadir Basha Agency/Institution: UPM Title: Effects of UV irradiation and soil burial treatment on mechanical properties and surface morphology of starch-based plastic
40	Presenter: Izzah Farhana Ab Aziz Agency/Institution: UPM Title: Optimizing Ohmic Heating Pre-treatment in Delignification Processes for EFB: Alkaline Solvent Performance Enhancement
148	Presenter: Khairul Faezah Md Yunos Agency/Institution: UPM Title: Ozone Water Assisted Cleaning Treatment for Membrane Fouling