

1ST EDITION

E-EXTENDED  
ABSTRACT

**INTERNATIONAL  
AGROTECHNOLOGY  
INNOVATION  
SYMPOSIUM (i-AIS)**



## COPYRIGHT

### INTERNATIONAL AGROTECHNOLOGY INNOVATION SYMPOSIUM (i-AIS)

19 June 2023

Faculty of Plantation and Agrotechnology UiTM Cawangan Melaka Kampus Jasin

Published 2023  
Faculty of Plantation and Agrotechnology  
Universiti Teknologi MARA Cawangan Melaka Kampus Jasin  
77300 Merlimau Melaka.

E-EXTENDED ABSTRACT of the INTERNATIONAL AGROTECHNOLOGY INNOVATION SYMPOSIUM (i-AIS) (1<sup>st</sup> EDITION)

Mode of access Internet

<https://sites.google.com/view/ais2023/publication>

Perpustakaan Negara Malaysia Cataloguing -in – Publication Data

## ORGANIZING COMMITTEE

Program Advisor	:	Ts. ChM. Dr. Wan Zuraida Wan Mohd Zain
Program Director	:	Dr. Noer Hartini Dolhaji
Program Secretary	:	Nurul Izzatiafifi Ismail
Program Treasurer	:	Nur' Amira Hamid
Program Registration	:	Siti Aisha Na'illa Che Musa
Program Judging	:	Nur Atiqah Zaharullil Nur Wajihah Mohd Naw
Program Webmaster	:	Ts. Dr. Siti Fairuz Nurr Sadikan
Program Certificate	:	Nurul Wahida Ramli
Program Human Contribution	:	Nur Nabila Huda Aziz
Program Protocol	:	Siti Nur Atikah Abu Samah
Program Publication	:	Dr. Mohd Zuli Jaafar
Program Logistic	:	Muhammad Nuruddin Mohd Nor
Program Technical	:	Khawarizmi Mohd Aziz

## STUDENT COMMITTEE

Mohammad Ali Kamaruddin  
Nurul Huda Nabilah Ramlee  
Siti Nor Arifah Abd Halim  
Nuraliah Aqilah Ayuni Mohamed  
Mohamad Khairul Haziq Mohamad Fauzi  
Nur Wajihah Mohd Nawawi  
Mohammad Hafis Ayub  
Aiman Haziq Arifin  
Amyra Hazwani Ghazali  
Mohamad Syamil Mohd Nor  
Mohammad Najmuddin Suriani  
Nur Syafiqah Aina Azmi  
Muhammad Aidil Ikhwan Kamarudin  
Nur Muhammad Ameiriqwan Ahmad Faiza  
Muhammad Faiz Zulazmi  
Mohd Azri Aiman Zulkifli  
Diana Asykin Kamaruddin  
Nor Elin Balqis Ismail  
Nursyasya Razalil  
Muhammad Ismadanial Rozi  
Muhammad Amir Asyraf Azman  
Mohamad Zairy Zailan

## EDITORIAL BOARD

### *Patron*

Prof Ts. Dr. Azhan Hashim @ Ismail

### *Advisors*

Prof Madya Ts. Dr. Fazleen Abdul Fatah

Ts. ChM. Dr. Wan Zuraida Wan Mohd Zain

Dr. Noer Hartini Dolhaji

### *Editors*

Dr. Mohd Zuli Jaafar

Dr. Wan Zuraida Wan Mohd Zain

Dr Noer Hartini Dolhaji

Muhammad Aidil Ikhwan Kamarudin

Abdul Quddus bin Puteh

Nurul Izzatiafifi Ismail

## ABOUT FACULTY OF PLANTATION AND AGROTECHNOLOGY

The Faculty of Plantation and Agrotechnology was established in 2010 at Universiti Teknologi MARA (UiTM). The mission of the faculty is to play the vital role of producing well-trained professionals in all areas of plantation and agriculture-related industries at national and international levels.

Bachelor of Science (Hons) Plantation Technology and Management is a three-year program that strongly emphasizes the various aspects of Production Technology, Management, and Information Technology highly sought after by the agricultural and plantation sectors. Students in this program will be fully trained to serve as professionals in the plantation sector and related industries. They will have ample opportunities to fulfill important positions in the plantation industry such as plantation executives. This program provides a strong balance of technology and management courses essential for the plantation industry such as management of plantation crops, soil fertility, plantation management operation, plantation crop mechanization, and agricultural precision. As an integral part of the program, students will be required to undergo industrial attachment to gain managerial skills in the plantation industry.

The faculty is highly committed to disseminating, imparting, and fostering intellectual development and research to meet the changing needs of the plantation and agriculture sectors. With this regard, numerous undergraduate and postgraduate programs have been offered by the government's intention to produce professionals and entrepreneurs who are knowledgeable and highly skilled in the plantation, agriculture, and agrotechnology sectors.

## PREFACE

International Agrotechnology Innovation Symposium (i-AIS) is a platform to be formed for students/lecturers/staff to share creativity in applying the knowledge that is related to the world of Agrotechnology in the form of posters. This virtual poster competition takes place on the 1st of December 2022 and ends on the 8th of January 2023. This competition is an assessment of students in determining the level of understanding, creativity, and group work for the subject related to agrotechnology and being able to apply it to the field of Agrotechnology. The i-AIS 2022 program takes place from December 1, 2022, to January 8, 2023. The program was officiated by the Dean of the Faculty of Plantation and Agrotechnology, namely Prof. Madya Ts. Dr. Azma Yusuf. The program involves students from faculties of the Faculty of Plantation and Agrotechnology (FPA) and HEP participating in i-AIS 2022, namely, the Faculty of Education and Pre-Higher Education. This program involves the UiTM student and some of the non-UiTM students which come from the international university and the local university. Two categories are contested, namely UiTM and non-UiTM. To date, students from these programs have shown remarkable achievements in academic performance and participation in national as well as international competitions.

This competition is an open door for the students and lecturers to exhibit creative minds stemming from curiosity. Several e-content projects have been evaluated by esteemed judges and that has led to the birth of this E-Poster Book. Ideas and novelties are celebrated, and participants are applauded for displaying ingenious minds in their ideas.

It is hoped that such an effort continues to breed so that there is always an outlet for these creative minds to grow.

Thank you.

Dean  
On behalf of the Organizing Committee  
Conference Chair  
Universiti Teknologi MARA  
Faculty of Plantation and Agrotechnology  
<http://fpa.uitm.edu.my>

## TABLE OF CONTENTS

1. COPYRIGHT .....	2
2. ORGANIZING COMMITTEE.....	3
3. STUDENT COMMITTEE.....	4
4. EDITORIAL BOARD.....	5
5. ABOUT FACULTY OF PLANTATION AND AGROTECHNOLOGY .....	6
6. PREFACE.....	7
7. TABLE OF CONTENTS .....	8
8. GOLD AWARD .....	1
ABELMOSCHUS ESCULENTUS FACIAL MASK .....	2
ECO ENZYME .....	6
COFFEE GROUNDS AS A GROWING MEDIUM FORMUSHROOM .....	8
HYDRAULIC RAM PUMP .....	11
DIETARY MUSHROOM NOODLES .....	15
JACKY FLORENTINE .....	19
<i>AMARANTHUS VIRIDIS</i> - BASED GRAIN SNACK BAR .....	22
PALLET FROM COCONUT HUSK.....	30
ORGANIC COCO PEAT POT SUPLEMENTED WITH BLACK SOLDIER FRASS (BSFF) .....	35
MANAGING WASTE PRODUCT OF PALM OIL MILL (DECANTER CAKE) AS COMPOST.....	40
9. SILVER .....	44
MULTIFUNCTIONAL TOOLS .....	45
MANAGING WASTE PRODUCT OF AVOCADO (SKIN & STONE) AS INK/DYE .....	48
HARVERTING: EASY SEPERATE .....	51
BRIQUETTES OIL PALM FRONDS.....	54
REPLACEABLE SHOE SOLES.....	58
EXTRACT OF NATURAL DYES FROM BUTTERFLY PEA ( <i>CLITORIA TERNATEA</i> ) TO MAKE A MARSHMALLOW CUBE .....	61
DIY SPRAY NEEM LEAVES PROTECT PLANTS FROM INSECT .....	68
HAND SANITIZER FROM FRUIT WASTE .....	71
MANAGING WASTE FROM DURIAN (DURIAN PEELS) AS FOOD PALLET FOR LIVESTOCK .....	77
PORTABLE ELECTRIC POWER FEIST TILLER .....	79
10. BRONZE.....	83
CENTRALISE FRUIT NETTING SENSOR.....	84
BIO – BRICKS.....	86



## JACKY FLORENTINE

Muhammad Alif Aiman Zainuddin<sup>1</sup>, Nur Syaquirah Anisha Zukefli<sup>2</sup>, Nur Atikah Adnan<sup>3</sup>

<sup>1</sup>*Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA, Malaysia*

*Corresponding author e-mail: 2021125921@student.uitm.edu.my*

**ABSTRACT** - The dessert is made up of various nuts, including almonds, walnuts, and hazelnuts, and is coated in caramelized sugar. We all made nutritious snacks from cempedak seeds after accidentally biting them. A snack called "Jacky Florentine" uses 40 percent dried cempedak seeds as the main ingredient. We adapt the Italian food according to the local taste. A snack called "Jacky Florentine" uses 40 percent dried cempedak seeds as the main ingredient. We adapt the Italian food according to the local taste. According to result that we got from the feedback our customers are very satisfied. Cempedak is rich in nutrients such as protein, fat, carbohydrates, calcium, phosphorus, iron, vitamin A, vitamin B1, and vitamin C, enzymes and bioflavonoids. Then we also can make more variation of cempedak seeds such as for bakery and snacks.

**Keywords:** Cempedak seeds, Florentine, Snack, Walnut, Waste product

### INTRODUCTION

Florentine is a type of dessert native to Italy. The dessert is made up of various nuts, including almonds, walnuts, and hazelnuts, and is coated in caramelised sugar. We all made nutritious snacks from cempedak seeds after accidentally biting them. Cempedak, or *Artocarpus integer*, is a strictly tropical plant that is only found in areas with no distinct dry season. The tree grows quickly in full sunlight but grows slowly in shade because it tolerates shade in its early life (Penang Tropical Fruit Farm, 2023).

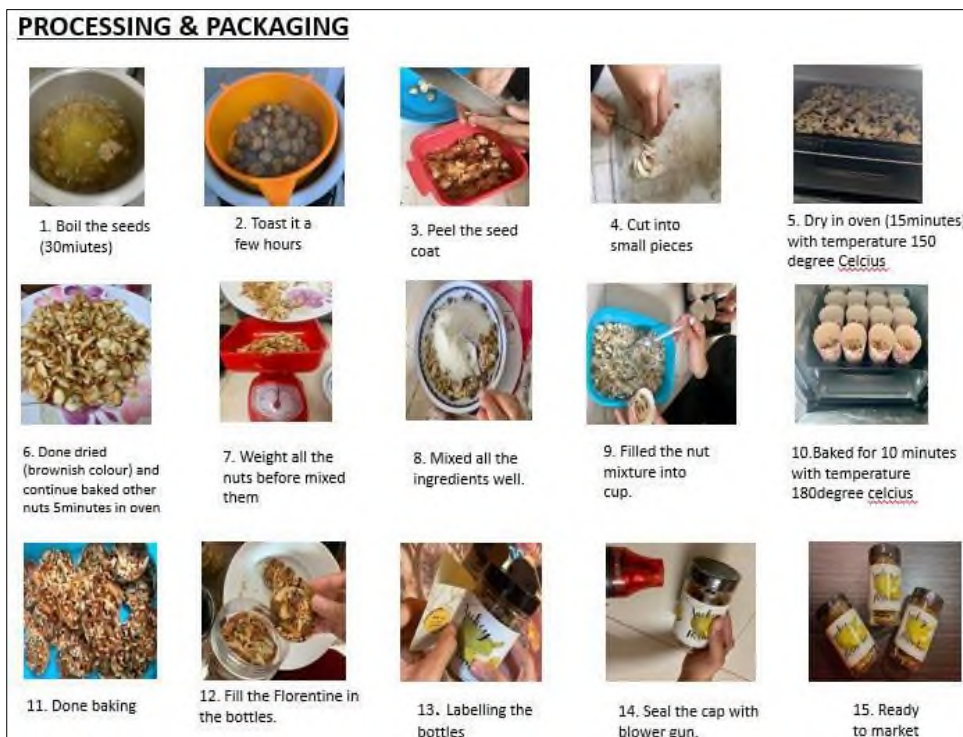
Cempedak seeds are disliked and discarded by teenagers. Only the elderly enjoys eating boiled cempedak seeds and dishes based on cempedak seeds. As a result, using cempedak seeds for this snack is seen as one way to optimise the use of cempedak seeds. Aside from that, it can help reduce fruit waste. Furthermore, using dried cempedak seeds reduces the cost of making the snack. This is due to the high cost of imported nuts such as almonds, walnuts, and hazelnuts. Even better, although cempedak is a seasonal fruit, cempedak seeds can be dried and stored to meet demand outside of the cempedak fruit season.

### MATERIAL AND METHOD

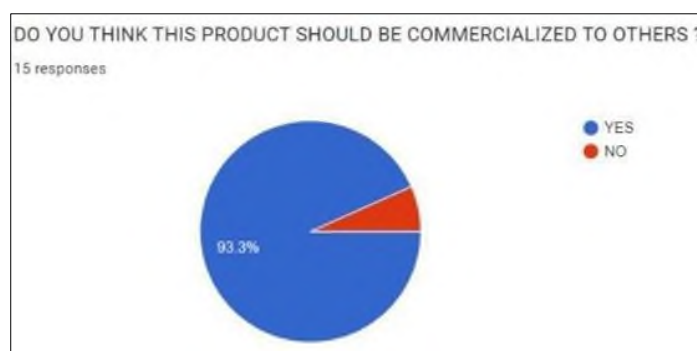
The ingredients that we use are 40% waste product, which is 350 grammes of cempedak seeds, 100 grammes of pumpkin seed, 100 grammes of sunflower seed, 30 grammes of black sesame, 100 grammes of almond nibs, and 300 grammes of Florentine flour for making the snacks. The process is provided below. In this study, we also conducted a survey for our product in order to meet the satisfaction needs of consumers.

### RESULTS AND DISCUSSION

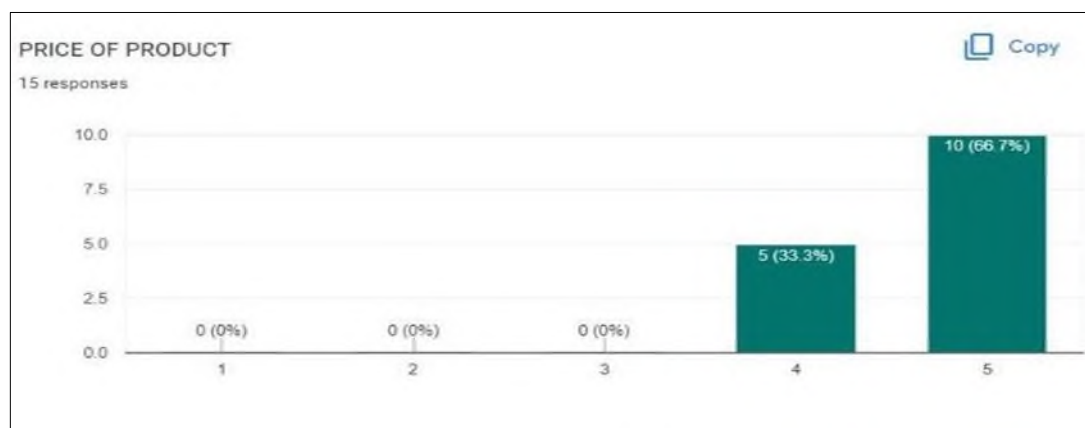
A snack called "Jacky Florentine" uses 40 percent dried cempedak seeds as the main ingredient. We adapt the Italian food according to the local taste. This product is unique in that it is made from waste products. According to result that we got from the feedback our customers are very satisfied. From 15 respondents we got 93.3% of the product can be commercialized. Next, we also got the good testimony of taste, price and the quality of product. We also get some suggestion for improvement on our product. In addition to eating fried cempedak, cempedak actually has many benefits in terms of medicine. Cempedak or its botanical name *Artocarpus champeden* is from the Moraceae family. Cempedak is rich in nutrients such as protein, fat, carbohydrates, calcium, phosphorus, iron, vitamin A, vitamin B1, and vitamin C, enzymes, and bioflavonoids. Interestingly, the seeds can be dried and ground for bakery use. Moreover, the waste of seeds can also be avoided and benefit us a lot.



**Figure 1 : Processing and Packaging**



**Figure 2**



**Figure 3**

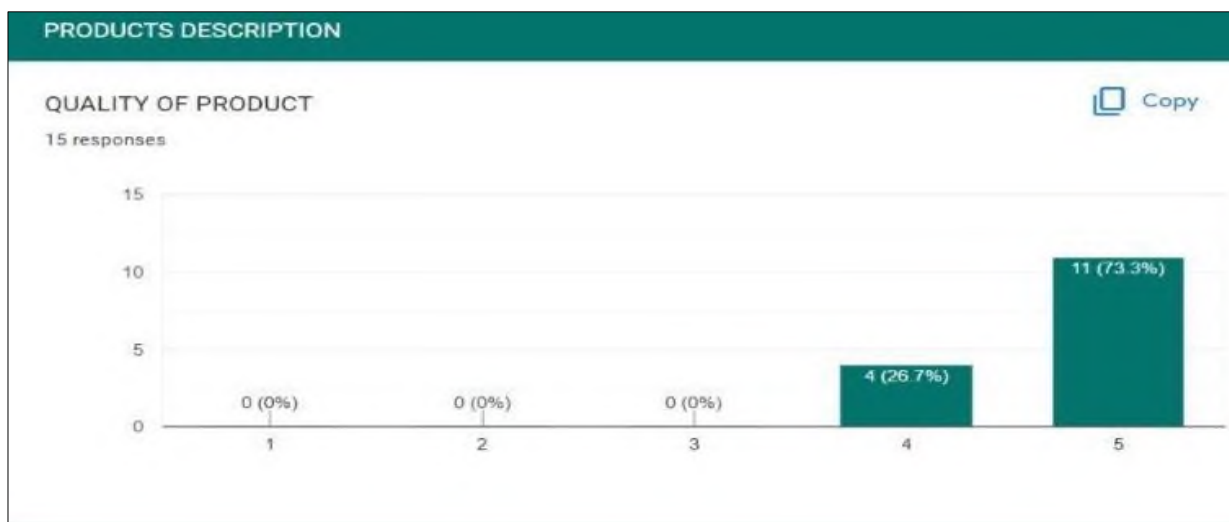


Figure 4

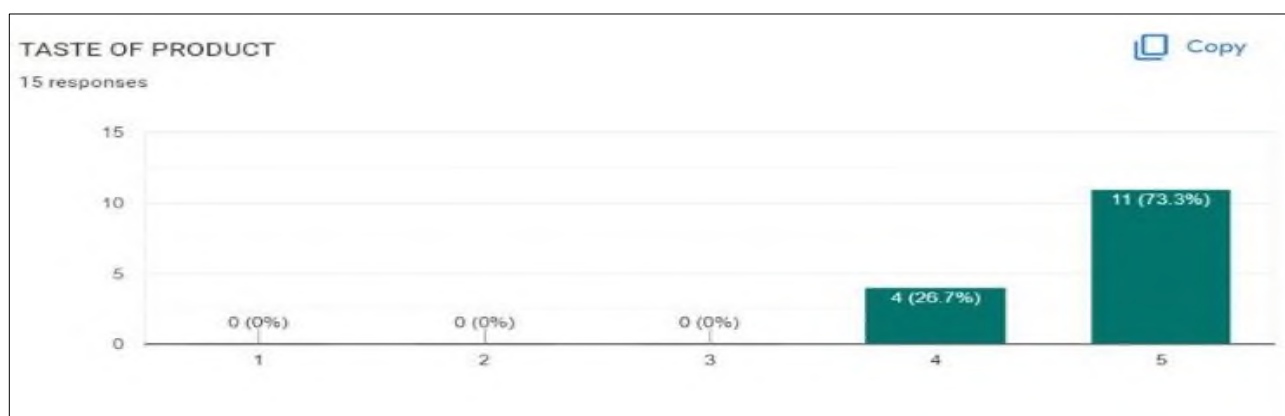


Figure 5

## CONCLUSION

For the conclusion, there are many factors that encourage of cempedak seeds such as we can decreasing waste of cempedak seeds. Then we also can make more variation of cempedak seeds such as for bakery and snacks. Open innovation is nothing new. Innovations have always openly been achieved despite boundaries and across organizations. It is a fact that ideas always evolve from exchange – the reason why Steven Johnson, author of the book “Where good Ideas come from”, sees cempedak seeds as true idea of recipes.

## REFERENCES

- [1] Cempedak. Penang Tropical Fruit Farm. (n.d.). Retrieved January 8, 2023, from <https://tropicalfruitfarm.com.my/fruits/a-e/c/cempedak/>
- [2] Health Benefits of Cempedak - Medindia. (n.d.). Retrieved January 9, 2023, from <https://www.medindia.net/patients/lifestyleandwellness/health-benefits-of-cempedak.htm>
- [3] Hog, A. T. F. (2021, February 16). *Cempedak fruit - a helpful guide to a weird exotic fruit*. The Food Hog. Retrieved January 10, 2023, from <https://thefoodhog.com/cempedak-fruit/>



الجامعة  
UNIVERSITI  
TEKNOLOGI  
MARA

Fakulti  
Perladangan dan  
Agroteknologi

