

1ST EDITION

E-EXTENDED  
**ABSTRACT**

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



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

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Faculty of Plantation and Agrotechnology UiTM Cawangan Melaka Kampus Jasin

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## 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>

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# JAM FROM PASSION FRUIT PEEL

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**ABSTRACT** - This study was carried out to make an innovation that relate with the post-harvesting process. Passion fruit have many benefit for the health. The pulp become jam to avoid waste from it. passion fruit is considered an underrated fruit in Malaysia as the production has not reached commercial cultivation. he passion fruit as the next important commodity could rejuvenate the economy by disseminating equal benefits for both small and large-scale growers.

**Keywords:** Passion fruit, jam, health, pulp, nutrients

## INTRODUCTION

*Passiflora edulis* or as known as passion fruit was belong to the Passifloraceae and is a perennial plant. Nowadays, passion fruit have high demand in the global market. The common name is Markisa in Malaysia. Passion fruit can be processed to make juice, cordial, jam and other products to be commercial. The fruit is both eaten and juiced, the juice often added to other fruit juices to enhance aroma. Since the beginning of 2020, when the Corona Virus Disease-2019 (COVID-19) pandemic hit the global, consumers physiologists found out consumers' behaviour changed with an attempt to eat a healthy diet with plenty of fruit and vegetables. In Malaysia, passion fruit is not particularly popular in Malaysia, but it give competitive market price compared to other commercial commodities. The objective of the paper is to improvised the passion fruit jam by using pulp and to make passion fruit jam that can be consumed by the people especially for high risk people.

## MATERIAL AND METHOD

### Materials for making passion fruit jam.

Passion fruit is very easy to find in any nearby grocery store. The amount that needed for a jar is 12 passion fruit (pulp only). Stevia powder is good for people to avoid diabetes. It is available on the online purchase platform such as shopee. The amount that stevia powder needed is 1.5g per/jar. For the lemon juice, it is use to make the jam more flavour and aroma. The amount that lemon juice needed is 2 tablespoon per/jar. Last but not least is water. This is the most important ingredient cause without water the jam will dry and rough. The amount that water needed is 300 ml per/jar.

### Methods of making passion fruit jam

First thing first, wash the passion fruit using water and make sure the fruit is clean and in a good condition. Then separate the flash and the pulp using a knife. And then, boil the peel until the peel is soft and easy to take the inside part. Next, take the inside part of the pulp and blend up into a paste. Then mixes up the paste with stevia powder, lemon juice and water on the boiling pan. The jam is done and can fill into the jar.

## RESULTS AND DISCUSSION

### Results

1. Malaysian mostly having problem with diabetes starting the age of 45 years. So, we will use stevia to replace the use of sugar in the jam.
2. Next, from throwing the passion fruit peel, it also can be use to make products such as compost, cordial, fruit juice and so on.
3. The passion fruit seed is equipped with high sodium contents, followed by magnesium, phosphorus, potassium, and calcium .
4. Passion fruit juice is a beverage made from the extraction or pressing of the natural liquid contained in passion fruit. The resulting liquid is usually consumed as a refreshing and nutritious drink. There are many potential health benefits associated with consuming passion fruit juice. For example, passion fruit juice can provide a good source of vitamins, minerals and antioxidants, which may help to support a healthy immune system, promote healthy skin and eyes and protect against chronic disease such as heart disease and cancer.

## Discussion

1. Making this jam by using stevia as the substitute of sugar that contain benefits from its consumption for human health.
2. The passion fruit rich in antioxidants which are fight toxic substances that cause damage to internal tissues. Polyphenols act as antioxidants and have anti-inflammatory effects, which reduces the risk of chronic inflammation and heart disease. Vitamin C is an antioxidant that boosts the immune system and promotes healthy aging.
3. It help to reduce blood pressure. The passion fruit have potassium content. This mineral help to boost blood flow and relaxes the blood vessels and enhance cardiovascular health.
4. Fibre have good source of fibre. Fibre help digestion and prevents constipation. The fibre from passion fruit helps in improving digestion, preventing blood sugar spikes.

Commodity	Gross production value (current thousand USD)	Minimum market price (USD per tonne)	Maximum market price (USD per tonne)
 Passion fruit	-	400	600
 Papaya	20,575	317	333
 Watermelon	43,108	300	321
 Jackfruit	-	200	300
 Durian	-	350	1,250

**Figure 1:** The commercial market price of tropical fruits in the global market in 2017–2020 [Source from Food and Agriculture Organization Corporate Statistical Database (FAOSTAT) (2022)]

## CONCLUSION

In conclusion, the idea to make jam from passion fruit pulp is relevant because it have it's own benefit and rich of varieties of nutrients. The fruit is easy to grow and can be increased for the cultivation of passion fruit in Malaysia. With the advancement of technology, juice, seed, and peel can be converted to various extended passion fruit products and can be commercialized in Malaysia and global market.

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