

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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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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MANAGING WASTE FROM DURIAN (DURIAN PEELS) AS FOOD PALLET FOR LIVESTOCK

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ABSTRACT- Since durian is one of the most lucrative fruits for farmers and exporters, the area used for durian harvesting in Malaysia has increased over the previous five years. When compared to other durian kinds, the Musang King durian from Malaysia has a Brix level between 39 and 44, making it one of the sweetest (Peter Chung, 2019). When durian peel is burned or otherwise disposed of, it creates toxic air pollution and contributes significantly to landfill garbage. The average weight of all durian fruit in the nation is around 255,353 MT. An abundant agricultural byproduct, durian peel (DP) is put to good use in the dye industry and in the removal of organic and inorganic pollutants. In this research, the mycotoxin adsorption efficiency of durian peel was increased by treating it with acid.

Keywords: Managing waste from durian, durian peel, vitamin B12, salt, Mycotoxins.

INTRODUCTION

Mycotoxins are fungi-derived compounds that may have a wide range of effects on both people and animals. Aflatoxin, ochratoxins, zearalenone, deoxynivalenol, and fumonisins are the most common mycotoxins found in food and feed. Mycotoxins are often found in key agricultural commodities. The contamination of food and feedstuffs with multiple mycotoxins relies on environmental circumstances and substrate type.

A multi-mycotoxin-contaminated diet may cause acute mycotoxicosis with a variety of long-term consequences. Consumption of many mycotoxins may result in synergistic harmful consequences. The ingestion of mycotoxin by cattle causes economic losses in the feed business and in international commerce. Mycotoxin contamination is difficult to avoid in agricultural commodities since it cannot be totally avoided either pre-harvesting or post-harvesting. As a result, decontamination measures play a significant role in reducing exposure to mycotoxin-contaminated feed. Physical, chemical, and biological approaches have all been explored to reduce mycotoxin levels in feedstuffs.

MATERIAL AND METHOD

Material

The main material we use is durian peel. It can be get from any stall that sell Durian. After that, our second material is Vitamin B12. A reason why we use this vitamin because it can increase appetite for cow. Next is salt. Salt is good for cow because it has excellent antibacterial properties and prevents the development of diseases caused by dangerous bacteria and microorganisms.

Method

The way to produce this product is to grind the durian skin that has not yet withered until it becomes mushy. After that, add vitamin B12 along with the ground durian skin. Add 1/2 Kg of salt along with a mixture of durian skin and vitamin B12.

RESULTS AND DISCUSSION

Result

The purpose of using durian skin in this product is because it is able to absorb the toxin content in the cow's body. With the removal of this toxin, the cow will be stronger to avoid any disease. After that, cows will be more appetizing to enjoy food because of the presence of vitamin B12 in this product.

Discussion

With this product, we hope cattle farmers can keep their cattle healthier and stronger. Because this product will help the cow to absorb toxins that can harm the health of the cow. Furthermore, this product is able to increase the appetite of cows because it is enriched with vitamin B12. This can ensure the growth of bigger and fatter cows.

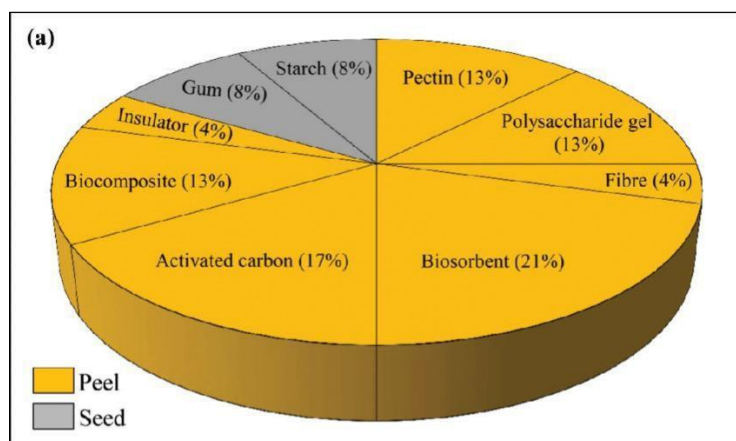


Figure 1: Chart Of Durian Waste (Peel And Seed)

CONCLUSION

Mycotoxins can cause acute disease episodes when animals consume critical quantities of them. Specific toxins affect specific organs or tissues such as the liver, kidney, oral and gastric mucosa, brain, or reproductive tract. In acute mycotoxicoses, the signs of disease often are marked and directly referable to the affected target organs (Pier AC, Richard JL, Cysewski SJ, April,1980, 176(8):719-724). In general, the process of 'cleansing' toxins in the body helps to improve the immune system, nutrient absorption and improve the body's overall health. The process of removing these harmful toxins can be done through the practice of enjoying food taken from a combination of several types of fruit and vitamins that have many benefits. Fruits and vitamins can help cleanse the body's internal system because they contain enzymes that work to absorb harmful toxins. Good nutritious food to balance the amount of acid or alkali content in the body.

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