2ND EDITION

E-EXTENDED
ABSTRACT

# INTERNATIONAL AGROTECHNOLOGY INNOVATION SYMPOSIUM (i-AIS)

# COPYRIGHT



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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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# OIL PALM MOTORIZED CUTTER

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**ABSTRACT** - Oil Palm Motorized Cutter specially designed for harvesting Fresh Fruit Bunches (FFB) and cutting fronds. After doing the R&D process, this product is based on latest technology which will ease the harvesting and cutting fronds process and reduce the time consumed. The productivity is also equivalent to two to three human harvesters. By using Oil Palm Motorized Cutter from our company, the estate would be able to reduce 50% of its labour requirement in the harvesting operation. Another advantage of this cutter is that the terrain or topography of estate does not restrict its usage. Our target market are small holder and oil palm plantation. We targeted them because our product can help them to do work faster and reduce the time consumed during harvesting and cutting fronds process. In three years, our company might expand our business in producing and improving the Oil Palm Motorized Cutter so that it can be the best product in the market in our country.

**Keywords:** Oil Palm, Cutter, Harvesting, Labour, Oil Palm Plantation

## INTRODUCTION

For cutting fronds and gathering Fresh Fruit Bunches (FFB), an oil palm motorized cutter was specifically created. This product was developed using the most recent technology, which will speed up the process of harvesting and cutting fronds and decrease the amount of time needed. Additionally, the output is comparable to two to three human harvesters. Our company's oil palm motorized cutter will enable the estate to cut the amount of labour needed for the harvesting process by 50%. The employment of this cutter is not limited by the topography or terrain of the land, which is another benefit. Small-scale farmers and oil palm plantations make up our target market. We chose them as our target market since our solution can enable them to complete tasks more quickly and cut down on the time needed for frond harvesting and trimming. Our company may grow its operations in three years to produce and enhance the Oil Palm Motorized Cutter so that it becomes the best item available in our nation's markets.

## MATERIAL AND METHOD

The first step that was taken was to create a series of questionnaires to help with problem analysis and solution development. The survey's goal was to highlight the issue with industrial management in oil palm production. Through this survey, we initiative was taken for product or equipment that might be improved and unintentionally, discover a fix for the problems that exist.

## RESULT AND DISCUSSION

The limitation of this innovation is that only expert workers or users can use the oil palm motorized cutter during the oil palm harvesting or pruning process. Someone who do not have any experience on using this machine do not know how to use the machine properly or correctly. Other than that, nowadays, the industry start focusing to an advance technology and they do not require a lot of workers anymore since the machine can reduce time and fasten the harvesting and pruning process.

## IMAGE AND FIGURE


## CONCLUSION

According to our studies, the percentage of the respondents think that by using our oil palm motorized cutter will be worthwhile in the future. The difficulty that can reduce the productivity of the fruit collecting point is the inefficient method to harvest the fruit using manual tools and the old methods employing manpower. Therefore, a unique approach is required to resolve the issues. We would like to introduce our newest product, the Oil Palm Motorized Cutter.

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