

4TH 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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PORTABLE PEPPER COLLECTER

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ABSTRACT - Black pepper, (*Piper nigrum*), is a agricultural crop which contains many nutritional, economical, and medicinal benefits. According to the Food and Agriculture Organization Corporate and Statistical Database (FAOSTAT), in the year 2020, Malaysia is the 7th largest producer of pepper in the world. Early literature on pepper planting in Malaysia shows it was first planted in Langkawi in 1619. In spite of becoming one of the largest producer in the world, pepper cultivation in Malaysia is steadily declining as the industry is facing competitive mainly from oil palm industry as farmers are changing their crop from pepper to oil palm. In order to kept competitive with other producer nations, new inventions that can help increase the production of pepper.

Keywords: Pepper (*Piper nigrum*), Inventions and Production.

INTRODUCTION

In this modern era, agricultural sector also exposed to the modern technology. So, their equipment, including machinery and planting tools must develop in line with the advancement of the technology. A corporation could benefits from creating new products by opening new prospects for growth and development as well as taking a risk on diversification. Shining Star Inc. are having issues with harvesting black pepper at hilly area and tall pole for pepper of the pepper plants. Other than that, our labour had to bring heavy equipment such as ladder when they are harvesting. Thus, when it comes to harvesting season, we need to hire more labour to collect the yield which will increase the expenditure. So, we invented this Portable Black Pepper Collector to solve those issues

Scope

This study is involved in harvest handling of black pepper cultivation.

Objective

To save time as the tools enable farmers to harvest the yield in shorter time.

To reduce labour cost as the farmers does not need to hire more labours to harvest the yield. To ease the work of carrying heavy tools such as ladder to harvest the yield.

MATERIAL AND METHOD

The previous harvesting method was using only bare hand to harvest the pepper. To make it more efficient, we invented this Portable Pepper Collector Portable Pepper Collector is made up from high quality materials including polyester net, adjustable aluminium pole, sciccors, grip, and rod.

RESULTS AND DISCUSSION

By using this product, labour cost successfully reduce as farmers does not need to hire more workers to harvest the yield. Time that needed to harvest is also successfully reduce as there are less preparations to make before harvesting. It is proven convenient to the farmers to use our product as the benefits is already stated above.

The features of the Portable Black Pepper Collector are:

1. Polyester net - part where harvested pepper will be collected into sack
2. Adjustable aluminium pole - can be adjusted long or short
3. Scissors - to cut down the pepper
4. Grip - easy for gripping and non-slippery
5. Rod - easier to reach the high or tall black pepper

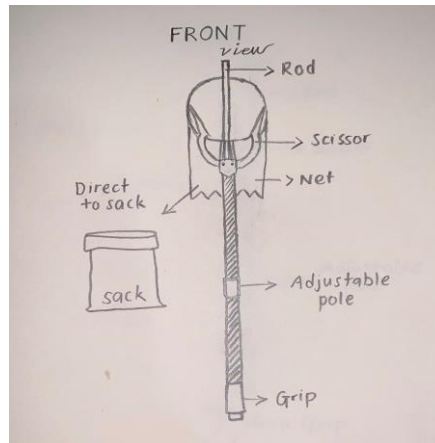


Figure 1: Sketch of the Front View of the Portable Black Pepper Collector.

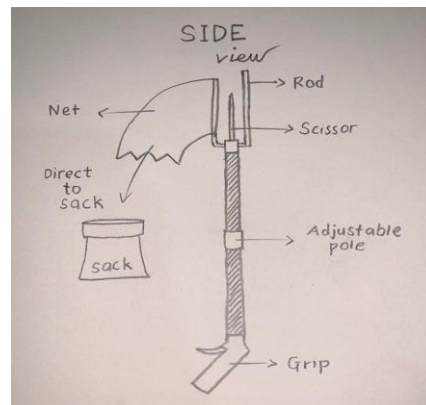


Figure 2: Sketch of the Side View of the Portable Black Pepper Collector.

CONCLUSION

In conclusion, the making of this product is through our survey among pepper cultivators and majority of them is facing the same problems which is having difficulty to harvest high pepper. The Portable Pepper Collector will make the harvesting process become more easier and efficient. In addition, it also saves many aspects including time, money, and energy.

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