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E-EXTENDED

ABSTRACT

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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STRAW PILLOW

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ABSTRACT - Pillow is an important tool for human since we should use it to put our heads on while we sleep for two key reasons: first, it makes sleeping more pleasant, and second, it provides support for the sleeper's neck and upper back. This makes pillow an important tool for human. Because of the influence that each of these aspects will have on the quality of sleep that you experience, selecting a pillow should take both aspects into consideration. When it comes to getting a restful night's sleep, the pillow you sleep on can have a significant impact. In addition to this, one must consider the materials that were used. There are numerous advantages that come along with using straw, which is what our pillow is made of. Because paddy is one of Malaysia's primary agricultural products, the pillow may be sold at a reduced cost because the components that go into its construction are likewise inexpensive and simple to source. Burning the straw to create our material not only makes it comfy, but it also helps us cut down on the amount of carbon dioxide gas that is released into the atmosphere. The technique of making the pillow is also simpler given that it does not include any complicated steps.

Keywords: Straws, Pillow.

INTRODUCTION

The market has a significant need for the product known as a pillow. Most pillows sold in stores are made of materials such as polyester, cotton, feathers, memory foam, and other materials. Most of the stuffing used within the pillow was not scrap or leftover material but rather material that was made from the main material. People who have sensitive skin may experience an exacerbation of any preexisting skin disorders for up to three days after using a pillow that contains polyester. Polyester may be inexpensive, but it has several undesirable side effects. There is also a pillow made from foam, but the materials are quite pricey.

Straw is one of the waste items that result from paddy production. Rice straw, also known as RS, is a byproduct of the rice harvest that is produced in numbers that are comparable to or even greater than those of the grains of rice themselves. Rice straw is produced whenever rice is harvested because it is a by-product of the process. At the time of harvest, both the rice grains and the rice straw are collected. The variety and growth influence the ratio of straw to paddy, which can range anywhere from 0.7 to 1.4. It has a good quality and can be included into the production of other products. In order to create a material for pillows, we can use the leftover materials from making rice, which is the straw. After it has been thrown away, it can help preserve and even improve the fertility of the soil.

The straw that we use to produce our product. The straw has numerous advantages over the other materials that were used to make pillows in the past. It did not have any negative effects on either humans or the environment. It is a product that is simple to use and offers a wide range of advantages to people. It is recommended that our product be utilised in nations that experience winter seasons or in locations that experience low temperatures.

Objective

1. To reduce the burning process of straw that can give bad effect to the environment.
2. To create cheaper, comfortable, and good quality products by using wasted materials.

MATERIALS AND METHODS

The straw will be the primary component of the product that we offer. First, cut the rice straw into lengths of 15 centimeters and get rid of any waste or stores. Place the cut straw in the pot that is being used for cooking. The next step is to prepare a solution of water and sodium hydroxide that is 95% pure. After pouring the solution into the saucepan with the rice straw, bring it to a boil and let it simmer for two hours.

After the heating process is complete, the straw will be dried off by the sun after being exposed to the heat. As soon as the straw is totally dry, we will utilize materials made of memory foam to cover the straw of the pillow, and then we will place the straw itself within the cushion. We cut and sew the pillow from the fabric to the exact dimensions that the customer specifies.

RESULTS AND DISCUSSION

We make use of a waste product such as paddy straw since it is more cost-effective than other resources. By making use of this material, we can also limit the amount of straw that is burned, which is an activity that has negative impacts on the environment because it leads to the degradation of soil. Burning has a detrimental effect on the nutrient content of the soil, as well as the pH level, moisture content, accessible phosphorus, organic matter in the soil, and microbial population.

Because it offers a variety of advantages, straw is frequently utilized in the production of horse mattresses. Because of this, it is suitable for use as a pillow for either humans or pets. Because of its low weight and high level of comfort, straw has traditionally been used to make pillows. When making acushion, keeping the overall weight of the pillow low is one of the most critical considerations. The air-permeable (breathable) straw helps to keep materials that circulate the air, convey the moisture, and keep the pillow dry. Additionally, the straw is an excellent material for making pillows. The fact that it is breathable has a direct bearing on comfort, as well as health and performance concerns. Because it is also warm, it is an appropriate choice for use in cold conditions. It also creates a pleasant bed, allows urine and other liquids to flow away, and is nearly always less expensive than other materials in pillows, such as *Ceiba Pentandra*.

The scent of straw has a relaxing effect. It makes one long for the carefree days of their youth or for a spiritual walk in the woods. For some time, straw has been considered the next best thing in terms of wellness, which is quite understandable. Do you find it difficult to fall asleep and wake up feeling tired on a regular basis? Your ability to relax, experience less tension, and have better quality sleep is all enhanced by the soft hay's presence.

Figure 1: Photo Of Straw pillow

Figures 2: Show the process to made Straw Pillow

CONCLUSION

In conclusion, paddy straw was utilised in the production of straw pillows, which resulted in a significant reduction in production costs and a simplification of the process. Consequently, there are a number of advantages that come along with making use of waste product, such as the fact that it makes the atmosphere cleaner and fresher. One of these advantages is that it saves money. When utilising this product, the customer will have an experience that is not only satisfying but also quite comfortable. businesses with our enterprising attitude, which is focused on creating a brighter and greener future for the world as a whole. enterprises with our enterprising mentality include We intend to make use of the fact that our capabilities are hastening the discovery of new ways to deal with problems that have persisted for a considerable amount of time, and we hope to do so in order to stimulate people in other domains. We sincerely hope that you are as thrilled about this development as we are.

REFERENCES

[1] "Don't Buy Another Pillow Without Reading About These Types First." *Good Housekeeping*, 18 Feb. 2021, www.goodhousekeeping.com/home-products/pillow-reviews/a35301391/types-of-pillows.

[2] "Rice Straw Management." *International Rice Research Institute*, 23 Aug. 2018, www.irri.org/rice-straw-management.

[3] "Polyester Is Dangerous and Bad for Your Health." *Polyester Is Dangerous and Bad for Your Health*, https://saddlebackleather.com/polyester-is-dangerous-and-bad-for-your- health/#:~:text=Skin%20exposure%20to%20Polyester%20can,and%20is%20a%20known%20carcinogen.

[4] "The Importance of a Good Pillow &Mdash; Body Care Health and Chiropractic." *Body Care Health & Chiropractic*, 20 Aug. 2018, www.bodycarechiro.com.au/blog/2018/8/20/the-importance-of-a-good-pillow.

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