9th INDES 2020

LIMITLESS MIND:

EMPOWERING INNOVATION THROUGH VISUALIZATION

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ABSTRACTS BOOK

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D-PLANTING POT

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ABSTRACT

Labis and Segamat area is popular with the king of fruit, durian. Residents around the area will usually throw the durian peel beside the road or farm. This evenly will have the effect of breeding flies and dengue mosquitoes. The process of decay for durian peel will also release unpleasant odors and carbon dioxide gas into the environment. The aim of this innovation is to reduce the problem of throwing durian peel anywhere and reuse the durian peel. The name of this product is D-PLANTING POT. D-Planting Pot is a small pot that made from durian peel. Durian peel contains cellulose. The fibers found in durian peel are rough but suitable to make a pot. The method used to make D-PLANTING POT is semichemical pulp. All ingredients need to be made into pulp by refining, soaking, and grinding. The resulting pulp will be filtered to filter out excess water. Wet pulp will be pasted into a container. About RM 10.00 is required for an innovation project to build the filter. As a result of the innovation, the pulp is rough and can make pots. The pots produced are hard and are suitable for planting seeds. The pots produced are biodegradable. In conclusion, D-PLANTING POT can be made from durian peel and can replace poly bags during seed germination in daily life.

Keyword: durian peel, D-planting pot

1. INTRODUCTION

D-Planting Pot is a small pot that 100% made of durian pier. D-Planting Pot is actually an alternative biodegradable pot. According to a journal durian peel react with bacteria to decompose and release carbon dioxide gas. It increases the rate of the dengue case because durian peel collects stagnant water. It will be a place for mosquitoes to breed. Statistic showed that Johor is the second highest state with dengue cases in years 2019. In the same time, we found that some poly bags were discarded in the same place. We also found that the uses of polybags were increasing in Malaysia because many people are still using polybag to plant banana trees, oil palm and durian trees. According to a journal, polybags are difficult to decompose and unbiodegradable. Therefore, we got a idea to use the durian peel to do a biodegradable pot to replace the polybags.

2. OBJECTIVE

To reuse the discarded durian skin. Alternative way to decompose durian skin. Avoid odour in the environment caused by discarded durian skin. Reduce the usage of polybags as pot. To make a low cost and eco-friendly planting pot. Create a biodegradable planting pot.

3. METHOD

Firstly, collect durian skin. Durian skin soaked for a day to be gentle because easy to cut. Then, from the soaked durian skin we just cut out the durian fibre (white durian skin only) Grind durian fibre that has been cut into small pieces with a little of water and use a blender machine until the chunks of fibre become fluid. Next, the durian skin fibre fluid is filtered by using a filter. Then it will be like a smooth sponge. Lastly, make a D-planting pot by using moulds and filtered durian skin fibre. Dry under the sun for a few days.

4. RESULT

The diameter of D-Planting Pot is 5.5 cm and its height is 8.0 cm that is almost same with the polybags. D-Planting Pot can bear the soil that is 36 times the weight of D-Planting Pot like poly bags. We manage to plant heebs in D-Planting Pot. D-Planting Pot can decompose in 3 months but the polybag can't. D-Planting Pot is suitable to use indoor such as home, office and school. D-Planting Pot also suitable to use in semi-outdoor and outdoor.

5. ARGUMENT

D-Planting Pot is light weight, 100% biodegradable, tough, organic, eco-friendly and able to use indoor, semi-outdoor and outdoor.

6. CONCLUSION

We hope this D-Planting Pot will be able to reduce durian skins and reduce the usages of poly bags. We also hope this produce will be upgraded into brand. We hope this D-Planting Pot can be marketed all over the place in Johor District. D-Planting Pot can replace polybag to plant seed, herbs and sapling. Lastly, we hope D-Planting Pot can replace poly bags in a few years.

7. FIGURES

Durian peel that decomposes naturally will release carbon dioxide in to environment. Figure 1 show that the atmospheric carbon dioxide and earth's surfaces temperature was increasing from 1880 to 2019. Durian peel also will collect stagnant water that will be place for mosquitoes to breed. Figure 2 show that Johor is second highest with dengue cases in Malaysia from 31 December 2018 until 12 February 2019. Because of that, we got an idea to reuse the durian peel and make it into a biodegradable pot. Figure 3 show the weight, height and diameter of our D-planting Pot.

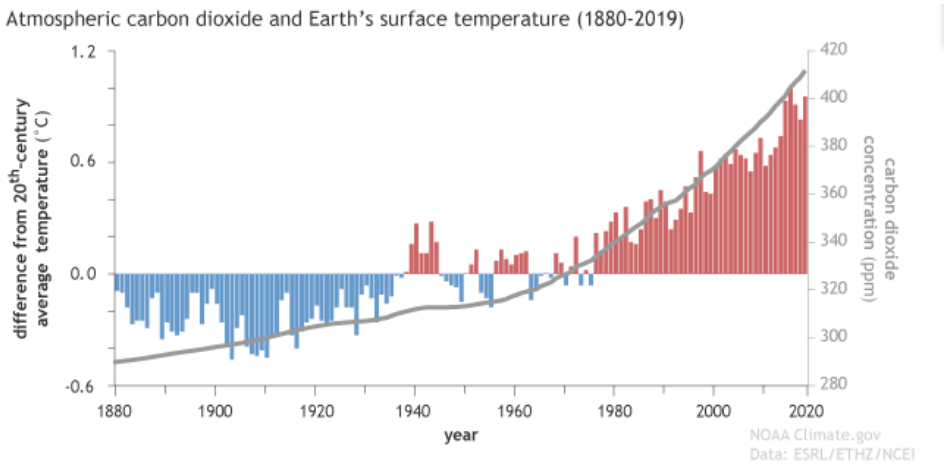

Figure 1. Global Temperature and CO2

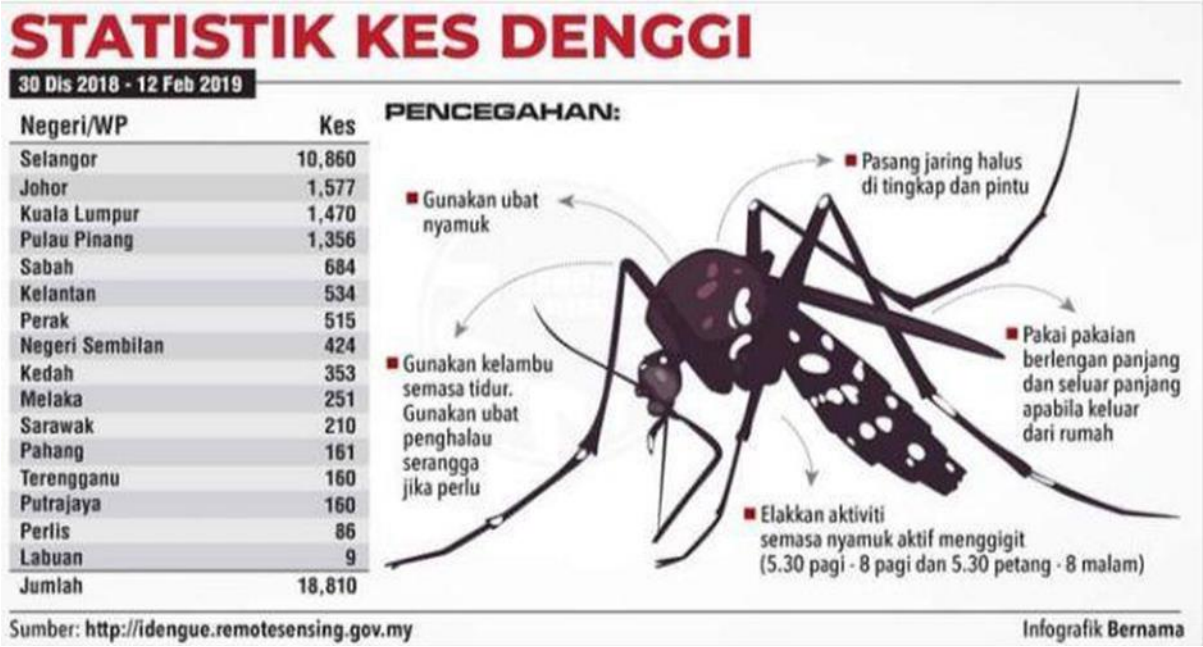

Figure 2. Dengue Cases Statistic

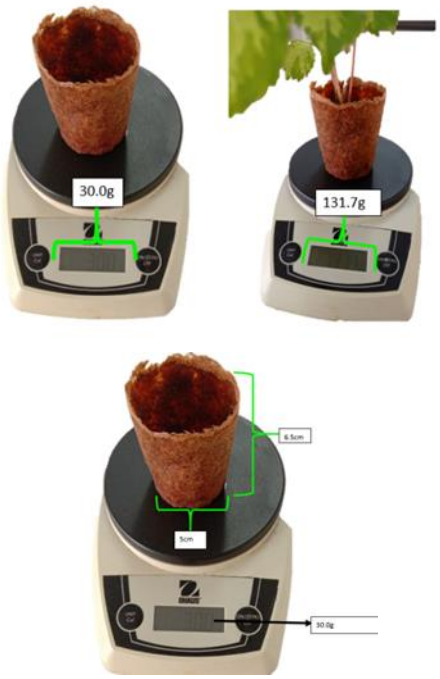

Figure 3. Weight of D-Planting Pot

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Kelulusan daripada pihak YBhg. Profesor dalam perkara ini amat dihargai.

Sekian, terima kasih.

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