



UNIVERSITI
TEKNOLOGI
MARA

Cawangan Kedah
Kampus Sungai Petani

Faculty of Administrative
Science and Policy Studies

i-SPIKE 2021

Leading An Artificial Innovation In Knowledge, Education And Design

i-SPIKE 2021 INTERNATIONAL EXHIBITION & SYMPOSIUM E-PROCEEDINGS

<https://ispike2021.uitm.edu.my/>

e-ISBN 978-967-2948-20-9

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Copy Editors : Azni Syafena Andin Salamat, Syazliiyati Ibrahim, Asrol Hasan, Nor Zaini Zainal Abidin, Fatihah Norazami Abdullah, Chaleeda Som Sak, Nor Asni Syahriza Abu Hassan & Muhamad Khairul Anuar Zulkepli

Layout Editor : Asrol Hasan

Cover Design : Syahrini Shawalludin

Published by : Universiti Teknologi MARA Cawangan Kedah,
Kampus Merbok,
08400 Merbok,
Kedah,
Malaysia.

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NATMAG CLEANER (NATURAL MAGNIFICENT CLEANER)

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ABSTRACT

Floors are usually affected by dirt, dust, and debris.. The dirtier the floor, the greater the health problems. These provide them a conducive environment to reproduce. Among the cleaning products used to overcome the problems is floor cleaner product which are mostly chemical based. In a typical Palm Oil plantation, almost 70% of the fresh fruit bunches are turned into wastes in the form of empty fruit bunches, fibres and shells, as well as liquid effluent. These by-products can be converted to value-added products or energy NatMag Cleaner, Natural Magnificent Cleaner is a floor cleaning product made of natural ingredients. The main material is the wastes of empty fruit bunches of the palm oil tree. These empty fruit bunches are dried and burnt to ashes and then mixed together blended curry leaves, fragrant lemon grass and pandan leaves. The ashes have the ability to clean heavy dirty stains just by spraying or spreading the powder on the dirty surfaces for a duration of time. The different types of leaves used have the speciality and ability of repelling different type of insects. Mixing them all together enable a multipurpose cleaner to be produced. NatMag Cleaner is an environmentally friendly product. It uses natural resources which can abundantly found in Malaysia. It is the first ever floor cleaning product using the waste of palm oil empty fruit branches as the main materials. This product also supports the government efforts to enhance the usage of Malaysian natural resources and which has been one of the country's agenda. It also supports the recycle campaigns launched by the government. And most important, it is a Malaysian product that can be proud of.

Keywords: ashes, pandan, curry leaves, lemongrass

INTRODUCTION

Empty fruit bunches (EFB) are what remains of the fresh fruit bunches after the fruit has been removed for oil pressing. Empty fruit bunches are a type of mill waste which is very valuable for farmers because it provides nutrients. It increases the soil organic matter content of the soil. Empty fruit bunches are usually burnt causing air pollution or returned to the plantations as mulch.

Floor cleaners can be found in various forms. They are either market in liquid form or powder forms. Nowadays cleaning products are created, designed and used to clean various types of flooring. An acidic tile cleaning solution can be used on ceramic and porcelain floors. Household and cleaning products such as soaps, polishes and grooming supplies often include harmful chemicals.

Many cleaning supplies or household products can cause health problems, including cancer. Some products release dangerous chemicals. Other harmful ingredients include ammonia and bleach. Even natural fragrances such as citrus can react to produce dangerous pollutants indoors.

PROBLEM STATEMENT

- Most floor cleaners in the market are chemical based.
- Problem of cleaning tough dirty floors.
- Some floor cleaners give side effects to the users which involved health problems.
- Empty fruit bunches are waste products of palm oil industries.
- The shortage of natural based products in the market. Most floor cleaners in the market are chemical based.

RESEARCH OBJECTIVES

- Preserving the environment by using safe and natural substances.
- Using tobacco leaves for a better use.
- Preparing a product that uses local resources which are easy to obtain.
- Prevent allergies due to the use of artificial and chemical materials.
- Produce a safe, healthy and environmental product.
- Enhance the use of Malaysian product.

THE PRODUCT : NATMAG CLEANER

NatMag Cleaner is invented by improving the already made products in the market which are floor cleaning products. This product has multifunction purposes which cleans floor and at the same time repels insects. It can be used for different types of users and premises. The main purpose of Natura Cleaner is to help overcome tough floor stains. It also has the ability to repels insects . The main ingredients are from natural resources and mixed together with other materials to enhance the quality of the product.

NatMag Cleaner is produced from the mixture of the ashes of palm oil empty bunches, pandan leaves, lemon fragrant grass, tobacco leaves and curry leaves. The empty bunches of palm oil tree are dried and burnt slowly. The ashes are collected and mixed with the blended fragrant lemon grass, pandan leaves and curry leaves. The solution is then dried to form the cleaning powder.

The ashes of the oil palm empty bunches is able to clean tough and dirty stains. Fragrant lemon grass contains citronella oil which is unfavourable to insects. Pandan leaves and curry leaves also give the same effect to insects. The mixture of these materials is able to produce a multipurpose floor cleaner.

NatMag Cleaner will give the an alternative to the customers to choose a safe and environmental floor cleaning product in the market. It has special features and will be one of the potential products in the market. It can be one of the Malaysian product that can be highlighted because the production of Natura Cleaner uses simple and local materials that can easily be found.

THE OUTSTANDING ASPECTS OF THE MATERIALS OF THE PRODUCT

Ashes of the palm oil empty bunches

The raw materials contain 37.3 – 46.5% cellulose, 25.3 – 33.8% hemicelluloses. Liquid ethanol from the fermentation of cellulose acts as an eco-enzyme to break down protein and lipid in stains. The slow burning of the empty fruit bunches produces ashes. The ashes provide an alkaline medium which will increase the water pH so that oil and stains can be easily cleaned.

Curry leaves

It was discovered to be a potential source of natural active essential ingredient oil (contains alpha-pinene and beta-myrcene) for insect repellent which are not favourable to insects because insects have smooth and thin skin.

Fragrant lemongrass

It produces Citronella oil which is not favourable to termites. It is said that the oil has antiseptic character.

Pandan leaves

Pandan leaves contain a number of essential oils and chemicals that cockroaches find unpleasant. The aroma of pandan is caused by the aroma compound 2-acetyl-1-pyrroline, found in the lower epidermal papillae.

THE BENEFITS OF THIS PROJECT

- Turning waste to wealth.
- Helping the human society to resolve household problems.
- Producing a safe product from natural material.
- Beneficial pandan leaves as a cockroach repellent.
- Widening the usage of curry leaves as a repellent.
- Educating the society of using natural products.
- The first ever Malaysian product using local resources.
- A product of Malaysian identity.

CONTRIBUTION

1. Recycle the waste product into useable products.
2. Providing alternatives to the users to choose safe products.

3. Helping individuals and farmers with the sales of the leaves, hence giving the opportunity to increase their income.
4. Educating the society of using natural products and supporting the recycling programme

MARKETABILITY

1. Floor cleaners are widely used in all premises.
2. There are too many chemical based products.
3. Since information can easily be seek through the internet, users are exposed to many information on safe, natural product.
4. Product can be produced easily because the materials are from local resources.
5. Palm oil industry is one of main and important industries in Malaysia. The supplies of the empty fruit bunches are always available

ACKNOWLEDGEMENTS

Palong Palm Oil Mill, Segamat, SMK Seri Kenangan

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