

3rd 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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ORGANIC PLANT FOLIAR AS AN ALTERNATIVE WAY TO SAVE FERTILIZER COSTS.

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ABSTRACT - The goal of this study is to inform people about organic foliar fertilizers. Foliar fertilizer is a natural chemical that is applied directly to the leaves of plants to boost their health and fertility. For speedier outcomes, the plant absorbs the required nutrients straight through its leaves. Applying fertilizer directly to the leaves improves leaf activity, which directly influences the plant's water intake, and promotes root development. As a result, foliar fertilizers can expedite nitrogen uptake from the soil, which is beneficial for plants with nutritional shortages that require prompt intervention. In one container, we combine all of the elements that we utilized, which are water, fish, fish scum, eggs, long beans, rotten fruit (spinach, papaya, banana, and pumpkin), effective microorganism, Yakult, fresh milk, brown sugar, and yeast. After combining all of the components, we seal the container and leave it at room temperature. All of these problems may be avoided with organic foliar fertilization, and application to the plant's leaf guarantees that nutrients are absorbed instantly by the plant (BMS micronutrient). As fertilizer costs grow, organic foliar is a very effective and ecologically responsible approach to solving high-cost production in the agriculture business.

Keywords: Organic, Plant Foliar, Alternative Way, Fertilizer Cost.

INTRODUCTION

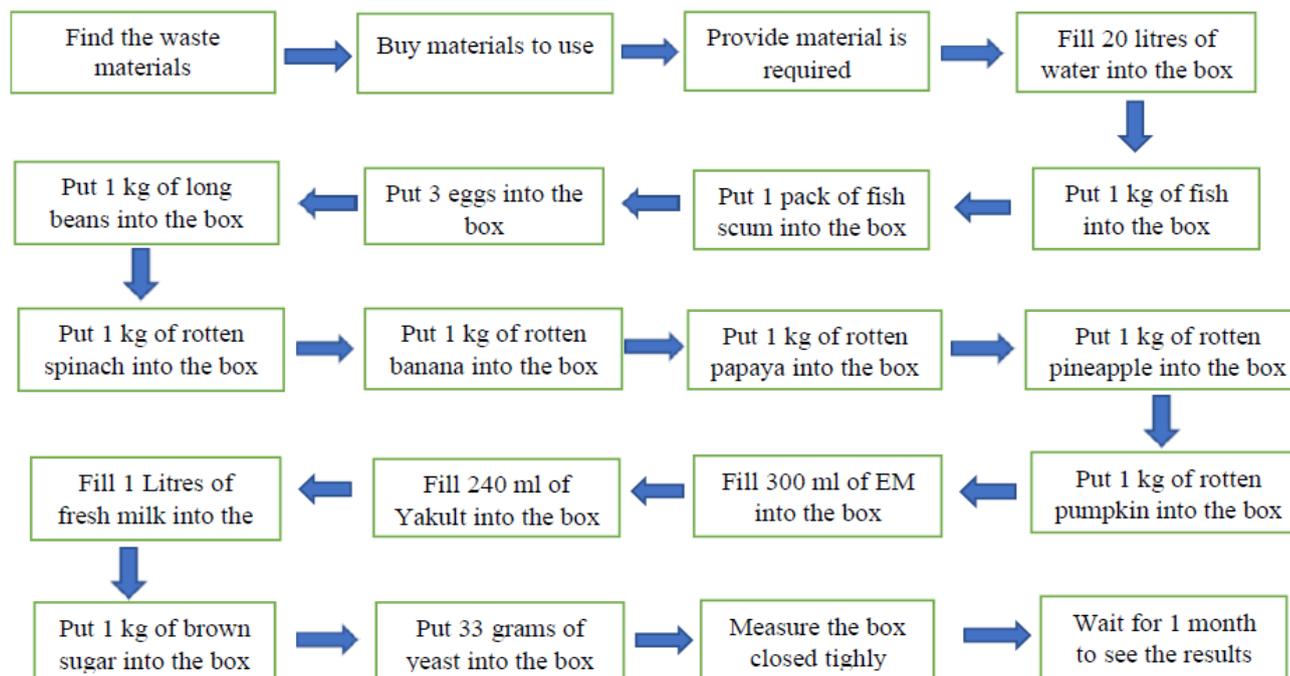
Organic is a system of farming and food production without using a chemical products like chemical fertilizers and pesticides. Organic farmers aim to produce high-quality food, using methods that benefit our whole food system, from people to planet, plant health to animal welfare. Foliar fertilizer is a type of fertilizer that is administered directly to the leaves of a plant. Foliar fertilizers have a variety of features that make them suitable for certain horticultural applications. Foliar fertilizer is not intended to be a replacement for soil fertilizer and soil conditioning, but rather as a complement to promote efficiency and plant health. Nutrient uptake from the soil might be poor, and visible impacts can take several days to appear. Foliar fertilizers work faster and more efficiently since the majority of the fertilizer is absorbed by the plant rather than the soil. When using foliar fertilizer, there are various precautions that must be taken. To avoid fertilizer burn, it must be diluted before application and administered when plants are most likely to benefit. When temperatures are chilly and some dew is present on the leaves, such as in the evening and early morning, the stoma on the leaves will be open and ready to absorb the nutrients. Applying it during the heat of the day is ineffective and may harm the plant. When choosing foliar fertilizer, consider the plant's nutritional requirements. Because no two plants are the same, a fertilizer designed for one species may not be suitable for another.

MATERIAL AND METHOD

Material	Quantity
Water	20 Litre
Fish	1 Kilogram
Fish scum	1 Pack
Egg	3
Long beans	1 Kilogram
Rotten Spinach	1 Kilogram
Rotten Banana	1 Kilogram
Rotten Papaya	1 Kilograms
Rotten Pineapple	1 Kilogram
Rotten Pumpkin	1 Kilogram
Effective Microorganisms (EM)	300 Millimetre

Yakult	240 Millimetre
Fresh milk	1 Litre
Brown sugar	1 kilogram
yeast	33 Grams

The process to make organic foliar fertilizer



RESULTS AND DISCUSSION

Soil nutrients are not always completely available and cause a nutrient deficiency in plants due to leaching, soil fixations, blockages, and other factors that cause fertilizer losses. Organic foliar fertilization can avoid all these factors and the application to the plant's leaf will ensure the nutrients will directly absorb by the plant (BMS micronutrient). Organic foliar is a very efficient and green initiative to solve high-cost production in the agriculture sector due to increasing fertilizer prices. Additionally, the organic foliar fertilizer can give a lot of benefits to our plants such as stimulating root development to ensure the plant will be able to absorb more water and nutrients because it reaches a larger volume of soil. The treatments with foliar fertilizers often stimulate the formation of additional root systems, longer and deeper compared to untreated plants. This better development will, in itself, result in the utilization of a larger soil volume, as a result of which, greater absorption of water and nutrients from the soil is possible. These two types of absorption, via the leaf and the root, therefore work together in a positive way (Dr. Nino Rossi, 2020). In fact, with an increasing number of farmers are looking for ways to work more ecologically solutions to solve the major issue in agricultural industries which is chemical fertilizer can bring negative effects on the environment in the long term such as pollution of rivers and groundwater. Organic foliar fertilizer is an ideal instrument for achieving the best results for plant growth concerning environmental protection to make sure we can implement a green initiative practice.

Material	Benefit
Water	Water boost soil structure.
Fish	High content amino acid amino for synthesis and growth.
Fish scum	High content amino acid amino for synthesis and growth.
Egg	High content of calcium.
Long beans	High content of phosphorus that is good for flowering and fruit.
Rotten Spinach	High content of nitrogen that is good for leaf growth.
Rotten Banana	High content of potassium and magnesium that is good for plant growth.
Rotten Papaya	High content of microbes that can boost plant growth.
Rotten Pineapple	High content of potassium that is good for root growth.
Rotten Pumpkin	High content of potassium that is good for root growth.
Effective Microorganisms (EM)	Used to help all material in the decay process.
Yakult	High content of probiotics that are good for plant growth.
Fresh milk	High content of calcium.
Brown sugar	Source of molasses that is good for plant growth.
yeast	For the fermentation process.

PROCESSING PROCEDURE AND IMAGE.



Firstly, we collect the rotten fruit in waste areas



Second, we managed to pick up rotten vegetables and fish at a nearby market.



Third, there are the items and materials that we use to make our organic foliar.



Fourth, in this photo, we show you the process of cutting rotten fruits and fish. This process needs to be done because we need to make sure the rotten vegetable and fish will be easier to decay more.



Lastly, we combine all of the items and materials in a container and this is the final look of our organic foliar.

CONCLUSION

In conclusion, the using of organic foliar fertilizer is very important for farmers today in action to promote green initiatives for the environment. This is because the using of organic foliar fertilizer can reduce the cost of fertilizer which bring in a decrease in production cost. Using organic foliar fertilizer can deal with the issue of high fertilizer prices today. After that, organic foliar fertilizer also has advantages over existing fertilizers, because organic foliar fertilizer can make the tree grow quickly through spray on the leaves. By spraying on the leaves, the absorption rate of organic foliar fertilizer on the leaves is very highest. We are here to attract farmers to use our product which is Organic Foliar Fertilizer.

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