SIENA COLLEGE
TAYTAY, RIZAL

BUSCAR INFORMACIONES

The Official Publication of the Research Center of Siena College of Taytay, Rizal

CRE
MOTIV
INNOVATE

Acceptability and Efficacy of Momordica Charantia Chewable in Lowering Blood Sugar

This investigatory project is designed to determine the level of acceptability of Momordica charantia chewable supplement among all ages and its efficacy in lowering blood sugar level among diabetic and non-diabetic patients. Descriptive-experimental research approach was used in this study. The researchers conducted a survey to determine the product's level of acceptability, interviewed to gather the profile of the respondents and patients, and made an experimentation to test its efficacy.

There were 50 random respondents: represented by students and personnel of Siena College of Taytay, and members of family household.

They evaluated the Momordica charantia chewable in terms of appearance, color, taste, texture, and smell.

From these respondents, 10 were purposively chosen as to possessing certain conditions that were categorized into two groups: diabetic and non-diabetic. The 10 respondents were subjected to experimentation in which the pre-test-intervention-post-test was utilized. The data gathered were statistically treated using average weighted mean, Likert scale, frequency and percentage distribution, measure of central tendency, and T-Test.

The study revealed to have equal number of respondents in terms of sex (M=25, F=25).

Acbang, Geoff Ramsley

Atienza, Evan James

Garcia, Joshua Rafael

Solomon, John

Majority of the respondents or 70% is within the age group of 10-20 years old. For the level of acceptability, texture garnered the highest AWM of 4.66 (Very Much Acceptable) and smell with the least AWM of 4.14 (Much Acceptable). This result implies that, in general, Momordica charantia fruit extract chewable is very much acceptable by the respondents.

For the efficacy, with a computed P-Value of 0.046 for the diabetic group, the null hypothesis is rejected. Therefore, there is a significant difference in blood sugar levels of diabetic patients when subjected to Momordica charantia chewable.

Likewise, with a computed P-Value of 0.036 for the non-diabetic group, the null hypothesis is rejected.

Therefore, there is a significant difference in blood sugar levels of non-diabetic patients when subjected to Momordica charantia chewable.

The researchers concluded that Momordica charantia is a proven effective alternative medicine to help decrease blood sugar level. Its fruit extract can be.

Jose, Theresa Anmaria Isabel MA. Ocampo, Arielle Delos Santos, Maurei Shanael C.

The Construction of a Cheaper Hollow Block Mainly Made with Oyster Shells

Multiple mining activities in the Philippines have been one of the reasons for environmental changes. The researchers of this study then considered to determine the possibility of producing hollow blocks made mainly from oyster shells as substitute to the main component of commercialized hollow blocks which is cement. Cement is made from limestones that can only be obtained through mining.

The materials used in the production and experimentation:

- 8 kilograms Crushed Oyster Shells
- 3 kilograms Sand
- 1.5 liters Water
- Hammer - to Pulverize the Oyster Shells
- Sack - to contain the shells as they are being hammered
- Shovel - to mix the pulverized shells, the sand and the water
- Hollow blocks molder
- Hydraulic Press

This way, there will be less destructive mining activities, and more reasons to recycle oyster shells other than for artistic purposes. The researchers have proven that the hollow blocks that were mainly made from oyster shells were stronger than commercialized hollow blocks after testing them with the use of compressive strength; and they were also less expensive since discarded shells were used and were acquired for free. Hence, the use of hollow blocks mainly made from oyster shells as an alternative to the common commercialized hollow blocks is highly recommended by the researchers.


Lirio, Janine Bianca


Resurreccion, Crystal


Martinez, Jan


Bitare, Neam


Quilang, Paulyn Nicole


Novela, Jenz Reziel


Pares, Zane


Agumo, John

Effectiveness of Oregano (Origanum Vulgare) as Anti-Inflammatory

There are a lot of essential oils and pain killer medicines in the market that are already proven effective to remedy body pains, but this research proved that a natural alternative way and cheaper source can provide the same effectiveness.

Origanum vulgare (oregano) is a known herbal medicine for its strong anti-oxidant, natural anti-inflammatory and soothing effect properties which are beneficial for the human body; mainly by helping the muscles relax and by reducing pain. This study deals with the production of oregano extract that aimed to cure bacteria that can cause inflammation in the body. The extract produced by the researchers was brought to Centro Escolar University for the antimicrobial testing using Agar Well Diffusion method using the bacteria: Staphylococcus Aureus, Escherichia Coli, and Candida Albicans. The control variable which the researchers used was water and the experimental variable used was the extract made. The results testified that the specified bacteria that cause inflammation can be countered and cured by the plant's properties.

The materials used in the production and experimentation:

- 7.7 grams of pulverized Oregano (Origanum vulgare) leaves
- 38 ml of 80%, 40% and 70% Ethyl alcohol

At the end of the study, it is proven that Origanum vulgare has the ability to cure bacteria as shown on the antimicrobial test results. It is also proven that it can substitute or it can be an alternative to the commercial antifungal and antibacterial remedies.

Francisco, Frizian Dylene F

Francisco, Keara Z

Bernal, Sian Alexis R.

Pagkaliwagan, Xia Cemone L.

Janiola, Marie Andrea H.

Tolentino, Issel Daniele B.

Montecillo, Erika V.

Manuel, Frances Nicole B.

Halo: The Construction of Hallway Pass Lock System

The researchers conceptualized a device that would add security in the school's classroom and improve student discipline by preventing them from cutting classes and loitering in the campus during class hours. In their study, they have chosen to apply the developmental research method which enabled them to design, develop, and evaluate the HaLo --- a door lock that is RFID (radio frequency identification) powered.

The HaLo is intended to automatically lock the classroom doors when classes start; and it unlocks them during specific times recorded by authorized persons and when an authorized RFID card is scanned throughit. Its main purpose is to be an innovative replacement to the conventional hallway pass in Siena College of Taytay.

It would require the students to use it as their usual hallway pass, and may therefore regulate their frequent going out of the classroom during class hours.

After numerous tests and evaluations, i.e. if it automatically locks and unlocks the doors during specific time and if it distinguishes registered from unrecognized RFID cards, it was proven that the HaLo is an accurate, efficient, and effective replacement to the conventional hallway pass.

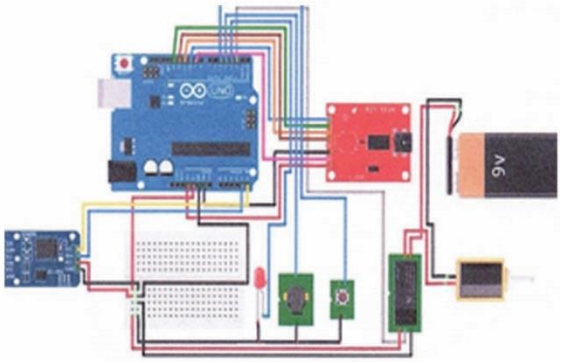


Figure 12: Fritzing Diagram

The figure above is the fritzing diagram of the device. It shows the connection of wires from one part to another. The schematic diagram serves as the guide on how to assemble the device.

Cruz, Justine Nicole

Puyod, Angelo

Puyod, Angelo

Fernandez, Oliver

Lee, John Guiller

Legria, Zyralene

De Leon, Juan

The Improvement of the Anti-Microbial Property of Cocoloehoney (Cocus Nucifera Oil, Aloe Barbadensis Miller, Honey) Ointment Through the Addition of Origanum Vulgare Extract as a Cure for Mouth Sores

Initially, the researchers came up with a product they called "Cocoloehoney," which was taken from its composition Coconut oil (Cocus nucifera oil), Aloe Vera (Aloe barbadensis miller), and Honey. It was an ointment proven to be effective and healthy for treating the mouth sore. However, the capability of this product was lacking effectiveness to cure mouth sores and the zone of inhibition did not surpass the standard.

Thus, the researchers made this study which focused on the improvement of Cocoloehoney ointment as a cure for mouth sores through the addition of Origanum Vulgare (oregano) extract. Oregano has an anti-microbial property which soothes pain and reduces the swollenness of a wound. This helps reduce the bacteria and infections in mouth sores. The researchers used the research methods extraction and combination of components. Through trial and error, they came up with the best ratio of ingredients and formed the desired consistency of the product.

The researchers had their finished product tested through the antimicrobial test in Centro Escolar University. Based on the results, the Cocoloehoney without the oregano extract has more anti-microbial property present in it. This indicated that it had a larger zone of inhibition than the ointment with the oregano extract. The original sample had the highest zone of inhibition which proved that it had the most anti-microbial properties. Tests and surveys conducted proved the effectiveness of Cocoloehoney ointment with oregano extract. Findings revealed that the product without the oregano extract took two days to heal mouth sores, while the improved product (with oregano extract) took only a day to heal

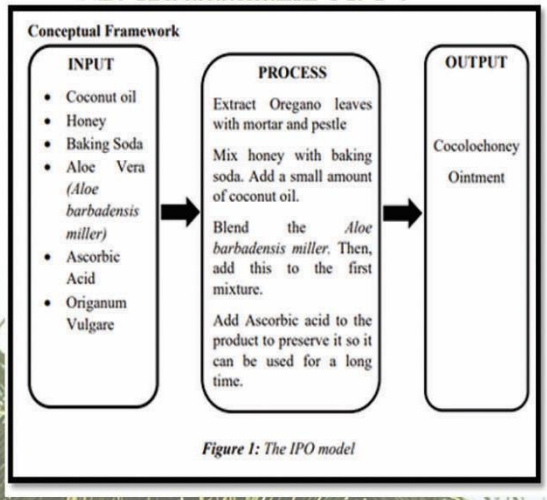


Figure 1: The IPO model

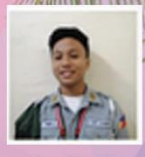

Cruz, Justine Nicole


Silos, Pamela Antoinette S.


Naval, April Cherisse O.


Dadulo, Lloyd Andrei S.


Vidanes, Kaila Nicole G.


Yago, Clark B


Picar, Maria Ana Pamela A.


Tabayocyoc, Elyssa Joy B.

Leucaena Leucocephala (Ipil-ipil) and Glycine Max (Soybeans) as an alternative for Biofuel

The researchers conducted a study to determine the advantages of using Leuecena Leococephala or (Ipil-ipil) and Glycine Max or (Soybeans) as biofuel. They aimed to create a viable biodiesel alternative in terms of: efficiency, affordability, and cost-effectiveness by using extracts of Leucaena Leucocephala and Glycine Max. The use of this product should particularly provide communities with cheaper and effective biodiesel which emits zero damaging toxic chemical, as fossil fuels impact the environment negatively, with carbon dioxide emissions contributing to harmful global warming and climate change. Combustion of fossil fuels, such as coal, oil and natural gas produces gases, such as nitrogen oxides, which cause acid rains and other harmful occurrence.

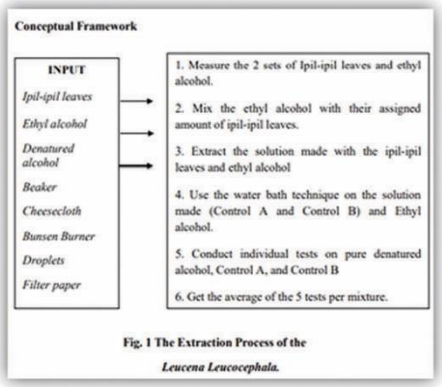


Fig. 1 The Extraction Process of the *Leucena Leucocephala.*

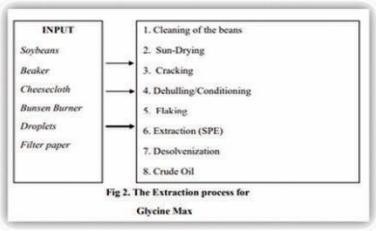


Fig 2. The Extraction process for Glycine Max

The researchers gathered data by conducting tests on the product and observing throughout the process. This was done by listing down observations and run trials until desired output is achieved.

Part of the experimentation was creating two solutions with different extract ratios to find out which flame combustion had longer duration. Based on the experimentation and findings, the ratio with Glycine Max extracts higher than Leucaena Leucocephala extracts combined lasted longer. The researchers were able to contact the Department of Energy to request for a formal experiment on the product. Since one of the components used was kerosene, DOE did not recommend it to test in engines just yet for it has the possibility of creating errors. However, since two tests were performed, the titration process and the one that determined the density in order to find out if the product has passed the standards of being known as a biodiesel, DOE has attested that the product has passed these standards and that it is compatible to be used in the household


Pua, Jenin Mikaela


Postrero, Glennrick


Razon, Davin Isaiah


Rodriguez, Benita Nicole


Pagkalinawan, Bianca Isabel


Seagan, Joshua Miguel


Suguitan, Aaron Altair


Velasquez, Rheina Dennise


Villanueva, Monica Lyndcey

OLEIFERA AS ALTERNATIVE WAFFLE FLOUR

The researchers wanted to present a product that is commonly loved by people of all ages, but they wanted it to be improved and healthier. They chose waffles to be their product, as waffle-lovers can eat them any time of the day --- breakfast, snacks, even at night time for those who are watchful of their diet, because waffles may be light and fluffy, but can be heavy in the tummy.

Thus, the researchers decided to add ingredients that are known to be nutritious, affordable, and can be easily bought in the market: the Musa acuminata (or banana) and the Moringa oleifera (or malunggay). Because bananas and malunggay are proven to give high amounts of carbohydrates, fiber, protein and potassium, as well as antioxidants and other vitamins and minerals, they are effective in relieving stress, boosting the immune system, and as remedy to diarrhea. They can also lower the risks of heart disease and even cancer, and can contribute to weight loss, as well, because of their low-calorie count and can result to better digestion.

The researchers used the survey method in determining the effectiveness of the product they came up with according to its taste, odor, texture, nutritive value, and appearance. Majority of the 20 respondents agreed that the banana-malunggay-waffles are recommendable, because they taste good and definitely an improved and healthier variety of waffles.

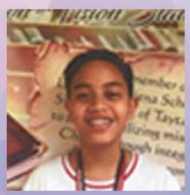
Ingredients:	Materials:
• 2 stalks malunggay • 3 medium-sized bananas • ½ cup of milk • 1/8 cup of water • 2 teaspoons of sugar • 2 teaspoons of butter • 2 eggs	• oven • blender • waffle maker • fork • bowl • measuring spoons • measuring cups

Procedures:

1. Remove the branches of the malunggay, leaving its leaves.
2. Peel off the bananas.
3. Dehydrate the malunggay leaves and the banana flesh, then put them inside an oven to make them crispy.
4. Once crispened, put them in blender to make flour.
5. In a separate bowl, beat the eggs, then add in the milk, water and sugar, then mix.
6. Pour the blended flour into the mixture, then mix until the batter becomes smooth and free of lumps.
7. Brush some butter in the waffle maker, and pour in the batter.
8. Cook for about one minute, then serve hot.

Arieta, Jeanelle Bettinna H.

Lim, Justin Ivan V.



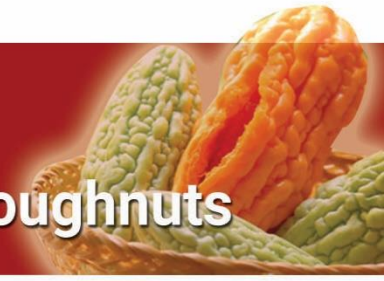
Manalang, Reymart

Pelayo, Agatha Fei R.

Vallestero, Christian T.

Zaulda, Josef Derick M.

The Utilization of Momordica Charantia as an Additive in Making Doughnuts



Doughnuts are among the most popular snacks all over the world. Although most of the time, they are referred to as desserts, because their various flavors are commonly very sweet. In this study, the researchers aimed to make a delicious, but healthier kind of doughnut --- one that is added with Momordica Charantia (bitter gourd or ampalaya) puree and bits.

Momordica Charantia is a good source of nutrients like fiber, vitamin C, folate and vitamin A, but with its bittery taste, many people are not so keen in eating it. This was the challenge that the researchers of this study took. They utilized the Momordica Charantia as an additive to the doughnut without affecting its usual taste, which is sweet and delightful.

After the researchers had made the product, they randomly selected 10 grade school students and 10 IBED teachers in Siena College of Taytay, and asked them to participate in a survey which included tasting their product and answering a questionnaire. Based on the results of the survey, majority of the respondents attested that the bitter gourd did not affect negatively the taste of the doughnut and that they would likely recommend this kind of doughnut to others, because it does not only taste good, but it is a healthy snack, as well. Furthermore, in terms of the odor, texture, and color of the product, majority of the respondents gave it an "excellent" rating.

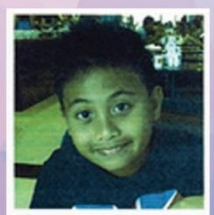
Ingredients:	Materials:
• 1 cup of all-purpose flour • 1 tbsp yeast • ¼ tbsp of salt • 1/8 cup of sugar (for the dough) • 1/8 cup of sugar (for the coating) • 2 tbsp of minced bitter gourd • ½ tbsp cinnamon powder • ¼ cup of warm milk • 1 beaten egg • 200 ml of vegetable oil • 2 tbsp of butter	• sifter • tray • mixing bowl • measuring spoons • measuring cups • cling wrap or towel

Procedures:

1. Sift the flour and salt.
2. Add in the yeast and the 1/8 cup of sugar.
3. Mix in it the butter.
4. Make a hole at the center of the mixture, and pour in it the mixture of beaten egg, bitter gourd, and milk.
5. Mix everything well and knead the dough on a clean and flat surface for 10 minutes.
6. Put the dough back to a bowl and cover it with a cling wrap of a towel for 15-20 minutes (until it expands).
7. Knead again for 2-3 minutes.
8. Cut into portions and shape each one like a ring doughnut.
9. Fry them in a pan with vegetable oil for 2-4 minutes.
10. Once done frying the doughnuts, put them in a tray and cover them with a mixture of the other 1/8 cup of sugar and the cinnamon powder.

Almeda, Alshana Ann P.

Codiamat, Aliyah Gail



Garcia, Hadjj M.

Ocampo, Audrey Jane

Pasion, Sean Andrei G.

Tubianosa, Alexa

KABATAAN ROAD TRIP 2016 at the University of the Philippines, Diliman

The UP Samahan Tungo Sa Progresibong Administrasyon (UP STPA) a social academic organization based in the National College of Public Administration and Governance hosted a forum called KABATAAN ROAD TRIP 2016 : Service Through the Lens of the Youth. The forum aims to engage the Junior High Students in a Comprehensive and Informative Discussion about the role of the youth in Public Service. One of the highlights of the said event is the presentation of proposals called Public Service Initiative Proposal Contest.

The SCT Ecosavers' Club Junior High School Levels presented the e-WATCH Program in the Public Service Initiative Proposal Contest last November 14, 2016 at the NCPAG Assembly Hall, University of the Philippines, Diliman Quezon City. The proposal was presented by the three Junior High School Ecosavers Club Officers and Honors' Society Members namely Jurrien Jindrich Barrameda – Grade 10, Louise Ferranil – Grade 10 and Luis Joshua Mendones – Grade 9. After the presentation and defense from the panelists, the three representatives won as Champion in the Public Initiative Proposal . The three proponents received a trophy and cash prize.