

Production of Coconut-Neem-Moringa Essential Oil for Business Opportunities

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Abstract:- This study determined the common skin and scalp problems of people living in a tropical country like the Philippines and provided a product named Coco Neem Moringa Essential Oil that can help to lessen their skin and scalp problems as well as body pain. This study used a descriptive survey method using survey questionnaires and an informal interview with the respondents. The result of the study reveals that this product is economical, can be used as massage oil, and can help to treat minor skin and scalp problems. It can also be a great source of income and business opportunities.

I. INTRODUCTION

“Overconsumption and overpopulation underlie every environmental problem we face today”- Jacques Yves Cousteau. Some disease like skin disease and scalp problems spread in a tropical country like Philippines due to a temperate climate, human travel and climate migration of vectors. Poverty, polluted surroundings, and lack of medical attention are the most common factors of these tropical illnesses. Due to poor hygiene, skin diseases such as ringworm (buni), Jock Itch (hadhad), athlete's foot (alipunga), eczema, dandruff (balakubak), dry skin, dull hair, body pain and many more are very much familiar for all Filipino people.

Coconut, also known as *Cocos Nucifera* have been used for centuries as culinary, cosmetic, and medicinal agents. More recently, virgin coconut oil (VCO) is gaining recognition as a functional food due to its perceived health benefits. It is believed that certain parts of the coconut, for example, tender coconut water and kernel have medicinal qualities including but not limited to antibacterial, antiviral, antifungal, antioxidant, low glycemic index, hepatoprotective, and immune system enhancement^[1].

Neem also known as *Azadirachta indica* is fast-growing tree of the mahogany family. Neem oil is an extract of the neem tree. Some practitioners of traditional Chinese and Ayurvedic medicine use neem oil to treat conditions ranging from ulcers to fungal infections. This type of oil contains several compounds, including fatty acids and antioxidants, that can benefit the skin. The leaf of the plant provides health benefits. The leaves contain plant compounds called flavonoids and polyphenols, which have antioxidant, anti-inflammatory,

and antibacterial properties^[2]. If you have a neem tree in your backyard, it seems like you have a little pharmacy inside your premises.

Malunggay also known as *Moringa oleifera* is a plant that is often called the drumstick tree, the miracle tree, the ben oil tree, or the horseradish tree. Moringa has been used for centuries due to its medicinal properties and health benefits. It also has antifungal, antiviral, antidepressant, and anti-inflammatory properties^[3].

The combination of the oil extract of these three plants (Coconut, Neem, and Moringa) can be a great product that can give benefits to a lot of users. There are different commercial products that are readily available in the market but the cost is much expensive. Thus, this research study will help the consumers to make herbal product that will lessen their skin and scalp problems without spending too much. More so, this product can also be beneficial to the inventor for business purpose. This research study is also intended to share with some non-government organizations for them to have their own product that can be a source of income for their living. Finally, after a further study, experiment, and researches, this product can help the barrio doctors and medical practitioners to have an option in curing the communal diseases in some poor and undeveloped areas.

❖ Objective of The Study

This study was conducted to create essential oil that will be labeled as Coco Neem Moringa Oil. Also, the researchers wanted to learn more about the herbal oil production process and how the respondents rated it in terms of look, scent, texture, and effect using sensitivity test. Specifically, it sought to answer the following questions:

- How may the profile of the respondents be described in terms of:
 - Age;
 - Sex;
 - Nature of Work; and
 - Skin or Scalp Problem.

➤ Describe the preference and experience of the respondents in terms of:

- Look;
- Scent;
- Texture; and
- Effect:
- ✓ Skin;
- ✓ Hair;
- ✓ Scalp; and
- ✓ Body Pain.

➤ Problems encountered by the respondents in using the product.

Also, this research will document the suggestion and recommendations of 100 individuals as respondents based on their experiences while using the product. It also aims to create a guideline to develop new product for the College of Management and Business Technology, of Nueva Ecija University of Science

and Technology that can be an income-generating invention. Finally, the researcher wants to share this idea to the people through production and extension programs in their institution.

II. METHODOLOGY

The researcher used the Descriptive Survey Method of research. The goal of this product development will be to build a new product that will appeal to the general public through experimental study. It was also used to keep track of what was being observed and measured. The researchers will conduct a test on the sample product to see the respondents' preference in terms of look, scent, texture, and effect. For the sensory evaluation of the final product, a nine-point hedonic scale will be used in the questionnaire. Hedonic scales are well tried and tested in consumer research for capturing liking data (Stone and Sidel, 1985). Figure 1. shows a typical example of a nine-point hedonic scale, a version regularly used with consumers in preference mapping studies to capture liking scores^[4].

Table 1. Nine-Point Hedonic Scale with Verbal Anchors.

Dislike Extremely	Dislike Very Much	Dislike Moderately	Dislike Slightly	Neither Like nor Dislike	Like Slightly	Like Moderately	Like Very Much	Like Extremely

A. Materials

The ingredient used includes the following:



Fig 1 Coconut Milk:
Image from elavegan.com



Fig 2 Neem Fruit and Leaves:
Image from Medical News Today



Fig 3 Moringa:
Image from Medical News Today



Fig 4 Menthol Crystals:
Image from grandturkishbazaar.com

B. Procedures

Step 1. Grate the coconut: Hand grate the coconut using the fine side of a grater;

Step 2. Soak and strain: Add about 1 to 3 cups of water to your grated coconuts. Squeeze the juice out of the shredded coconut with your hands;

Step 3. Heat: Put the coconut milk into a large pot and let it warm up. You do not want this to get to a boil. Just warm it through and turn off the heat. Do not stir the mixture;

Step 4. Cool: Let the coconut milk cool. Simply let it cool until it was a lukewarm, but the skimming would have been much easier and faster if we had let it cool to room temperature, or even had let it rest in the fridge for a while;

Step 5. Skim: Once cooled, you will see that the coconut fat layered on top of the coconut water. Using a spoon skim the fat off the top and put it in a pan;

Step 6: Include: Add the fresh and clean neem and moringa leaves;

Step 7. Boil: There is minimal stirring during this part of the process. Let the neem, moringa leaves and coconut “custard” come to a boil, and then reduce the heat to medium and let it simmer for roughly 45 minutes;

Step 8: Add: Small amount of menthol crystal will be added to improve the scent of the product;

Step 9. Strain and Cool. Strain your oil with either a sieve or with cheesecloth. Let it cool completely and use to moisturize your skin, your hair, do oil pulling, or as base for body scrubs^[5].

C. Benefits

By reputation coconut oil is a magical elixir, used in both the kitchen and the bathroom for an array of different uses. From hair care to natural skin care, to recipes, the internet is full of info on this tropical oil^[6]. Some of the benefits of coconut oil are:

- It hydrates and helps to reduce dryness and allow your skin to retain moisture.
- It helps to protect skin from environmental toxins, dirt, and other environmental pollutants.
- It smooths the skin. Applying coconut oil to skin has a smoothing, softening effect; and over time, it can actually help to improve the skin's textures.
- It calms temporary redness, nutty oil has a soothing, calming effect and can help reduce temporary redness when applied to skin.
- It soothes irritated skin. Coconut oil can help to alleviate discomfort and provide soothing relief.

Coconut oil may have many potential benefits for the skin. Research suggests that it has anti-inflammatory, antibacterial, and antiviral properties. Coconut oil is also very moisturizing for dry skin^[7].

Neem has proved effective against certain fungi that infect the human body. Such fungi are an increasing problem and have been difficult to control by synthetic fungicides. For example, in one laboratory study, neem preparations showed toxicity to cultures of 14 common fungi, including members of the following genera: *Trichophyton*, *Epidermophyton*, *Microsporum*, *Trichosporon*, *Geotrichum*, and *Candida*^[8]. Neem oil contains many ingredients that are extremely beneficial to the skin. Some of those ingredients include: fatty acids (EFA), limonoids, vitamin E, triglycerides, antioxidants, and calcium. Neem oil has the following skin and scalp benefits^{[9][10]}:

- treat dry skin and wrinkles
- stimulate collagen production
- reduce scars
- heal wounds
- treat acne
- minimize warts and moles
- condition your scalp
- promote healthy hair growth
- temporarily seal hair follicles
- soothe frizz
- minimize grays
- reduce dandruff
- treat head lice

Neem oil may also be used to treat the symptoms of psoriasis, eczema, and other disorders of the skin.

Moringa oil's healing and beautifying benefits were documented thousands of years ago. Moringa Oil helps in cleansing, nourishing, and nurturing your skin naturally. It is often compared to other oils like Olive oil and Argan oil; however, Moringa Oil stands out due to its unique composition. Below, we'll discuss the benefits of Moringa oil for skin in detail^[11].

- It provides a protective barrier for your skin
- Repairs skin from damage caused by pollution
- It works as an anti-aging oil
- It brings out the natural glow of your skin
- It fights acne, helps in getting rid of dark spots
- It cleanses and rejuvenates your skin
- It nourishes dry skin
- It provides relief from pain and helps in relaxation

Moringa oil nourish the length of hair and deeply condition the scalp and strengthens hair follicles to promote healthy hair growth and avoid dandruff. It rejuvenates the hair with essential vitamins and minerals.

With the combination of these three great herbal ingredients, all of the mentioned benefits can be found in Coconut-Neem-Moringa Oil products.

III. CONCLUSION AND RECOMMENDATION

Based on the survey conducted by the researchers, it reveals that the Coco Neem Moringa Essential Oil approved by the respondents in terms of looks, scent, texture, and effect on their skin, hair, scalp, and body pain. It has also been determined that this product can be used as a massage oil. The researchers believed that this product is superior to regular mineral oil because it is organic and contains various benefits from coconut, neem, and moringa extracts. The researcher recommends that this product be included in the extension program of NEUST, especially for the College of Management and Business Technology. This project can be a great source of income and business opportunities for all beneficiaries. Further study is highly recommended.

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