

Chapter in Book

The Utilization of Papaya in Making Homemade Papaya Oil Body Lotion

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Abstract: *Papaya are easy to get and affordable, contains many vitamins and benefits. It can be processed into skin care products, such as body lotion. Body lotion is use as daily skin care to moisturize the skin. But some body lotions are contain harmful ingredients that causing irritation. It is necessary to use natural ingredients that are safe and eco-friendly. The need for natural skin care grows by people's awareness of healthy living and concern for the environment. Consumers prefer to use skin care with natural ingredients and less chemicals. This research was conducted to process papaya into papaya oil, make body lotion, mix papaya oil with body lotion and add fragrance. We made the papaya oil with a ratio of papaya : VCO is 1:3 and mixed 15 drops papaya oil with 250 grams of body lotion. To test the benefits and safety of papaya oil body lotion, a survey method and pH measurement are used. Body lotion was applied to respondents' hands and the majority argued that with the addition of papaya oil, the body lotion was softer, felt lighter, not sticky, and quickly absorbed into the skin. The original pH testing of body lotion is 5.61 and the pH of papaya oil body lotion is 5.59. This results show that papaya oil body lotion is safe for the skin and strategic enough to be produced and commercialized for public use.*

Keywords: papaya oil body lotion, homemade, eco-friendly.



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1. INTRODUCTION

The need for natural skin care grows by people's awareness of healthy living and concern for the environment. Consumers prefer to use skin care with natural ingredients and less chemicals.

The body lotion is used as daily skin care to prevent and treat dry skin, eczema, and cirrhosis. Nowadays, it is also equipped with various benefits such as tighten, brighten the skin, and anti aging. But some body lotions are contain harmful ingredients that causing irritation and skin cancer.

Homemade Papaya Oil Body Lotion is made as an alternative skin care using natural ingredients and avoiding harmful chemical. The process of making it, is quite easy and can be done at home.

Papaya are easy to get and affordable. Papaya is classified as a plant that bears fruit throughout the season. Papaya plants come from Mexico and South America. In the 17th century, papaya spread to some tropical countries in Africa and Asia.

Table 1. Papaya plant taxonomy.

Domain	Flowering plant
Kingdom	Plantae
Subkingdom	Tracheobionta
Class	Magnoliopsida
Subclass	Dilleniidae
Division	Magnoliophyta
Subdivision	Spermatophyta
Phylum	Streptophyta
Order	Brassicales
Family	Brassicales
Genus	Carica
Botanical name	Carica papaya Linn.

Papaya fruit is round and elongated and hangs on the stem. When it is young, it is green. During the ripening process, the color will change to yellowish red and the texture will become softer due to the degradation process of pectin into protopectin which causes the cell wall turgor pressure to decrease (Billy et al, 2008). This is due to the increased performance of an enzyme in the cell wall, namely pectin methylesterase, which functions to degrade cellulose and hemi cellulose along with the increase in respiration rate towards the climacteric peak.

Papaya contains a lot of vitamin C, vitamin A, and many other beneficial substances, such as vitamin B1, vitamin B3, vitamin B5, vitamin E, vitamin K, fiber, calcium, folate, potassium, and magnesium.

Papaya can be processed into papaya oil, which can be used as a natural additives in skin care products. One of the skin care products is body lotion which is useful for moisturizing skin. In this paper, we chose to increase the benefits of body lotion by adding papaya oil. It is necessary to use natural ingredients that are safe and eco-friendly, thereby reducing the possibility of skin irritation.

Papaya Oil Benefits:

- 1) Brightens the skin.
- 2) Eliminates acne and its scars.
- 3) Moisturizes the skin.
- 4) As anti-aging.
- 5) Shrinking pores of the skin.
- 6) Removes blemishes and dark spots on the skin.

2. METHOD & MATERIAL

The process of making body lotion is done at home and research is carried out at school in October 2022.

2.1 Tools and Materials used to make Papaya Oil

2.1.1 The tools used to make papaya oil are knife, cutting board, spoon, saucepan, stove, sieve, and blender.

2.1.2 The material used to make papaya oil are papaya flesh and virgin coconut oil (VCO).

2.2 Procedure of Making Papaya Oil

Wash the papaya and dry it. Peel the skin and then take the flesh. Cut the papaya flesh into dice, and then put it into the blender. Turn on the blender for a while until the papaya is smooth. Turn off the blender, then add virgin coconut oil (VCO). The ratio of papaya to VCO is 1:3. Stir again until evenly distributed, then heat until the mixture turns a little darker. Remove from the stove and let stand the mixture 30 minutes to cool it. After 30 minutes, strain the mixture using a kitchen towel tissue or filter paper and a sieve to extract the papaya oil. Store papaya oil in a bottle.

2.3 Tools and Material used to make Body Lotion

2.3.1 The tools used to make body lotion are spoon, spatula, saucepan, scale, stove, glass bowl, and mixer.

2.3.2 The material used to make body lotion are stearic acid, polawax, olive oil, distilled water, phenoxy ethanol, vegetable glycerine, fragrance essential oil.

2.4 Procedure of Making Body Lotion

Weigh the materials needed : 25 grams of stearic acid, 25 grams of polawax, 100 grams of olive oil, 410 grams of distilled water, 5 grams of phenoxy ethanol, 1 table spoon of vegetable glycerine. Put the stearic acid and polawax in a saucepan. Melt the stearic acid and polawax on the stove using the double boiler method. After 4 minutes, turn off the stove when the stearic acid and polawax have completely melted. Put the olive oil in a saucepan, then stir with a spatula. Mix the distilled water with 1 tablespoon of vegetable glycerine and phenoxy ethanol in a glass bowl. Stir the mixture with a mixer. Add melted stearic acid, polawax, and olive oil to the mixture. Then stir again with a mixer until the texture thickens. After the mixer is turned off, weigh the lotion as much as 250 grams and then add 15 drops of fragrance essential oil. Put the mixture into a bottle and Body Lotion is ready to use.

2.5 Procedure of Making Papaya Oil Body Lotion

Weigh the lotion as much as 250 grams and then add 15 drops of fragrance essential oil and 15 drops of papaya oil. Stir with a spatula until well blended. Put the mixture into a bottle and Papaya Oil Body Lotion is ready to use.

3. FINDINGS

Sensory evaluation was conducted on 82 respondents. The Original Body Lotion and Papaya Oil Body Lotion were applied to respondents' hand and they filled out a questionnaire to express their opinion on the two types of lotion.

3.1 Sensory Evaluation Test Result.

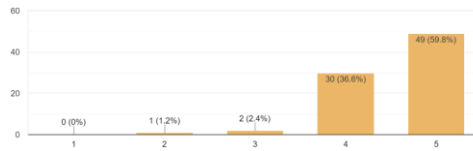


Figure 1. Scaling about the aroma of the Papaya Oil Body Lotion.



Figure 2. Scaling about the interested in the Papaya Oil Body Lotion innovation.

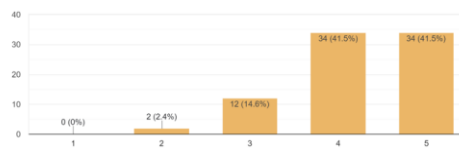


Figure 3. Scaling about the fragrance and moisture resistance of Papaya Oil Body Lotion.

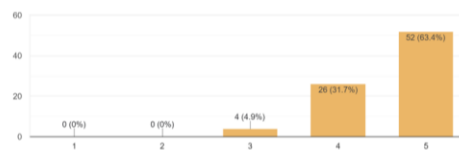


Figure 4. Scaling about the good benefits for the skin of Papaya Oil Body Lotion.

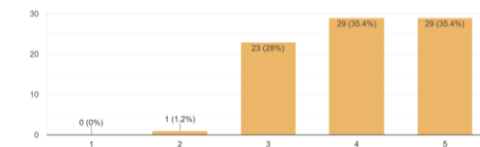


Figure 5. Scaling about the texture of Papaya Oil Body Lotion.

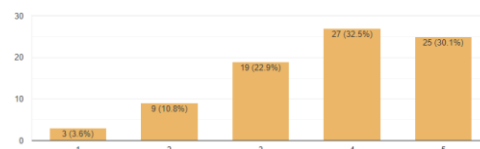


Figure 6. Scaling about the adhesiveness of Papaya Oil Body Lotion.

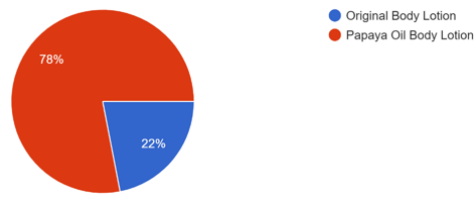


Figure 7. Pie chart showing the number of respondent who are interested in Papaya Oil Body Lotion.

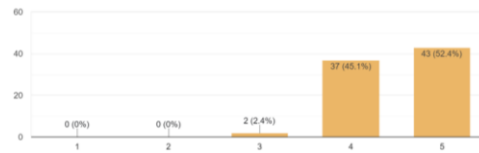


Figure 8. Scaling about the overall value of this Papaya Oil Body Lotion

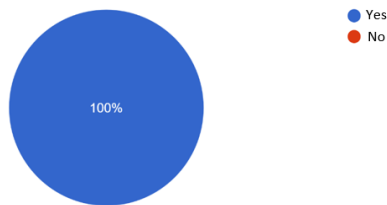


Figure 9. Pie chart showing the number of respondent who are think Papaya Oil Body Lotion is a unique/interesting innovation.

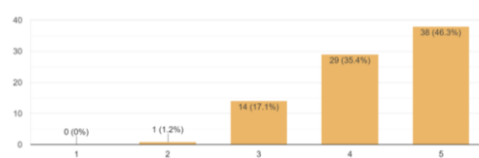


Figure 10. Scaling about the number of respondent who are interested in buying papaya oil body lotion

3.2 pH Test Result

This method is done by mixing 2 teaspoons of papaya oil body lotion with 16 ml of water. Then use a pH meter to measure. The results of pH test show that the pH original body lotion is 5.61 and pH papaya oil body lotion is 5.59. This results meet the range of pH requirements according to SNI 16-3499-1996, pH which is good for the skin is 4.5-8 which means that Papaya Oil Body Lotion are safe to use on the skin.



Figure 11. pH of Original Body Lotion.



Figure 12. pH of Papaya Oil Body Lotion.

4. DISCUSSION

The majority of respondents like the aroma, innovation, fragrance and moisture resistance, benefits, texture and adhesiveness of papaya oil body lotion. 78% of respondents chose papaya oil body lotion over the original. 100% respondents think that papaya oil body lotion is a unique/interesting innovation and the majority of them interested in buying papaya oil body lotion.

5. CONCLUSION

Eco-friendly movement and awareness of healthy living make people choose back to nature. At the moment, consumer in market share prefer to use skin care with natural ingredients and less chemicals.

Papaya Oil Body Lotion is made as an alternative skin care using natural ingredients, and avoiding harmful chemical that can cause irritation and skin cancer. The process of making it, is quite easy and can be done at home. The use of papaya oil in this body lotion is to improve its benefits for the skin besides papaya are easy to get and affordable.

From the sensory evaluation test, we can conclude that the targeted consumers will like the texture, scent, its natural and effect on skin moisture of our papaya oil body lotion. Hence, it can further be concluded that this body lotion is safe and strategic enough to be produced and commercialized for public use.

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