

## MAKING *LIPSCRUB* WITH HONEY MOISTURIZING ACTIVE INGREDIENTS AND NATURAL EXFOLIATING COFFEE GROUNDS FOR DRY LIP TREATMENT

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### A B S T R A C T

*Dry lips are a condition in which the lips lose their natural moisture, often caused by environmental factors such as dry weather or wind as well as certain habits such as licking their lips frequently or biting their lips. This condition is common and can affect anyone, both men and women, regardless of age. Lipscrub is a special care product designed to cleanse and care for the skin of the lips. Containing fine scrub granules, lip scrubs aim to remove dead skin cells from the surface of the lips, resulting in a softer, supple texture. This study aims to determine the results of the physical evaluation of lipscrub preparations from natural ingredients of honey and coffee grounds in treating dry lips. Using skin analysis instruments, an experimental method was used in this qualitative study to determine the amount of moisture present in honey on the lips. Lip scrubs with different concentrations of honey were formulated for this study, and their physical stability was assessed using homogeneity tests, dispersion assessments, pH measurements, and organoleptic testing. The use of honey on the lips was found to result in an increase in moisture levels by 20%, 18%, and 16%. After a physical examination, the product was found to have fine grains, a distinctive coffee aroma, and a black hue. No clumping was seen in the homogeneity test. A diameter of five was obtained from the diffusion test, and a stable pH of six was noted. The prepared lip scrub shows good and stable physical quality based on physical evaluation.*

### INTRODUCTION

Dry lips are a condition in which the lips lose their natural moisture, often caused by environmental factors such as dry weather or wind as well as certain habits such as licking their lips frequently or biting their lips. This condition is common and can affect anyone, both men and women, regardless of age. Dry lips not only cause physical discomfort, but can also have a significant psychological impact. Therefore, the manufacture of *lipscrub* With active ingredients of honey and natural exfoliants, coffee grounds are an attractive choice (Irmanto & Suyata, 2009).

Plants are a collection of different substances with therapeutic qualities. Its long history of use as a medicine dates back to our ancestors and has been shown to be beneficial for a long time in almost every part of the planet (Syafriah, 2023). Antioxidants are found in many plants, such as coffee grounds and honey (Rastuti et al., 2013). Antioxidants are compounds that have the ability to neutralize free radicals, giving atoms with unpaired electrons paired electrons. By providing hydrogen or electrons, antioxidants, also known as reducers, work to stop oxidation or neutralize chemicals that have been oxidized (Mustiqawati et al., 2022).

The humectants, emollients, and antioxidant qualities of honey make it a beneficial moisturizer. The high humectant content of honey is explained by the glucose and fructose in it, which combine to form hydrogen bonds with water to moisturize the skin (Sinulingga *et al*, 2018).

Among agricultural products, coffee is economically valuable when compared to other plantation crops and is crucial to the country's foreign exchange earnings. In addition, coffee provides an important income stream for nearly 1.5 million coffee farmers in Indonesia (Bambang *et al*, 2015).

Coffee grounds are rich in compounds that are beneficial to the skin, such as flavonoids and polyphenols, which are powerful antioxidants. Coffee granules are excellent at moisturizing the skin and removing dead skin cells (Hertina, 2013). Flavonoids have antibacterial and antiviral qualities and are involved in controlling photosynthesis and growth in plants.

Special Robusta Coffee typical of Sulawesi is the coffee of choice and traditionally concocted, this coffee is free of preservatives so that it is good for health and is also a superior coffee on Buton Island, precisely in Kaongkeongkea Village, Pasarwajo District, Buton Regency which has a cold

temperature and is suitable for the fertility of coffee plants. This coffee has a special feature because it grows without fertilization and without chemicals/pesticides and its enjoyment is familiar and consumed by local residents and the people of Buton since generations (Edi, 2019).

*Lipscrub* is a special care product designed to cleanse and care for the skin of the lips. Containing fine scrub granules, lip scrubs aim to remove dead skin cells from the surface of the lips, resulting in a softer and supple texture (Huseini *et al.*, 2018).

The addition of honey and coffee grounds in making lip scrubs plays an important role in maintaining lip health because honey has humectant properties as a moisturizer on the skin and coffee grounds have particles that are very effective in exfoliating dead skin cells (Pratiwi, 2021).

With this lip scrub, it is hoped that dry lips can be treated well, while the moisture is maintained, providing a soft and radiant result. Through understanding the benefits of honey and coffee grounds, we can create lip care products that not only provide tangible results but also support an eco-friendly lifestyle (Sri *et al.*, 2022).

## METHODOLOGY

This research was held on June 19 - July 19, 2024 and took place at the Baubau Polytechnic Pharmacy Laboratory. The tools used are wire gauze, glassware, pH meters, droppers, horn spoons, skin analyzers, spatulas, porcelain plates, beakers, watch glasses, tripod stands, and analytical scales. The ingredients used are coffee grounds, BHT (*Butylated hydroxytoluene*), cera alba, honey, methyl paraben, oleum ricini, oleum rosae and vaseline. The following is the working procedure of this study (Saringsih and Prasetya 2021):

### Honey Moisture Test

A gadget called a skin analyzer is used to measure the moisture content of honey. Three panelists participated in the process, and the lip area was tested. Using a skin analyzer to measure each panelist's hydration level before treatment, the assessment focused on moisture metrics by comparing the condition of the lips before and after the honey application. The lips of the panelists are doused with honey, which is left for 15 to 20 minutes. After application, a second assessment of lip moisture is made. For three days, daily measurements of lip moisture are taken, making sure to use the product consistently in the morning and evening.

**Table 1.** Lipscrub Formula

No	Ingredient Name	Concentration		
		F1(%)	F2(%)	F3(%)
1.	Honey	3	6	9
2.	BHT	0.1	0.1	0.1
3.	Methyl paraben	0,18	0,18	0,18
4.	Vaseline	40	40	40
5.	Oleum Rosae	0,01	0,01	0,01
6.	Oleum ricini	12	12	12
7.	Sunrise	5	5	5
8.	Wax Coffee grounds	Ad 5	Ad 5	Ad 5

Description: F = Formula, Ad = Until/Until

Vaseline, BHT, methyl paraben, castor oil, beeswax, and honey make up the composition of the lip scrub. Melting vaseline at 60°C and beeswax at 80°C is the first step in preparing the base. After melting, the mixture is transferred to a mortar that has been heated and gradually grinded. After that, BHT, nipagin, and castor oil are dissolved to create a homogeneous mixture. After constant grinding, this mixture is added little by little to the mortar until homogeneity is achieved. After that, honey and rose oil are added. Coffee grounds are added to the mixture as a scrub ingredient after it has cooled to 32°C, or room temperature. To create a homogeneous mixture, all ingredients are crushed together.

### Physical Evaluation of Lipscrub Preparations

Color, odor, and taste characteristics are observed to make an assessment. The five senses of sight, smell, touch, and so on are used in this test to identify the properties of color, taste, and smell. The process is to apply 0.1 grams of the preparation to a glass slide, then observe the slide to see if the ingredients and scrub have been completely mixed or if any lumps remain.

### pH Test

1 gram of lip scrub mixture is dissolved in 100 mL of distilled water for this procedure. Afterwards, the calibrated pH meter is immersed in the mixture and given a short time to stabilize before a reliable pH value is obtained.

### Spread Power Test

A sample of 1 gram is obtained and placed on the watch glass. The watch glass is then covered with a second watch glass. The diameter of the diffused lip scrub sample is measured after the sample is placed between the two watch lenses as well as the weight is added.

### Preparation Irritation Test

The open paste test is a technique used, where the prepared material is applied to a predetermined area with precise measurements (2.5 x 2.5 cm). After leaving the patch open, observations are made on the results. For two consecutive days, this test is given three times a day. The following reactions are observed: erythema, papules, vesicles, or edema.

### Data Analysis

Qualitative analysis was carried out using information collected from honey moisture tests and physical assessment of *lipscrub* formulations. The findings of the analysis were applied to determine *which lip scrub* is best for treating dry lips, with coffee grounds acting as a natural exfoliating and honey serving as a moisturizing active component.

The techniques mentioned above were used in research to create honey-based *lip scrubs* that act as moisturizers and evaluate the physical characteristics of coffee ground *lipscrubs*. Testing is performed on each formulation for homogeneity, spread, pH, and organolepticism. It is predicted that the conclusion of the study will offer a fresh perspective on the creation of a natural *lipscrub* that uses coffee grounds and honey as its main constituents.

## RESULTS & DISCUSSION

### Honey Moisture Test

The moisture content of honey is evaluated to ensure its suitability for use as an emollient and humectant in the composition of *lip scrubs*, potentially moisturizing the lips.


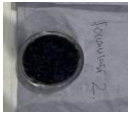

**Table 2.** Honey Moisture Results

Honey Moisture	Lip Moisture %		
	Day 1	Day 2	Day 3
Panelist 1	41%	48%	59%
Panelist 2	45%	59%	60%
Panelist 3	40%	55%	60%

Source: Primary Data, 2024

To ascertain whether the honey in the *lipscrub formulation* may have a moisturizing effect on the lips, a moisture test is performed on the honey. Using skin analyzers on panelists 1, 2, and 3, the findings of the 3-day honey moisture test showed an increase in moisture levels on the lips by 20%, 18%, and 16%, respectively.

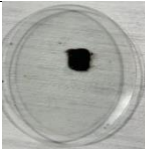
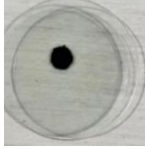
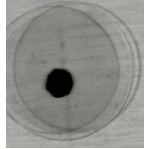
**Table 3.** Organoleptic Test Results

No.	Sample Name	Interpretation	Picture
1.	Formula I	Black color, distinctive smell of coffee, soft shape, fine grains and easy to apply	
2.	Formula II	Black color, distinctive smell of coffee, soft shape, fine grains and easy to apply	
3.	Formula III	Black color, distinctive smell of coffee, soft shape, fine grains and easy to apply	

Source: Primary Data, 2024

The results of the organoleptic test on formula I are black, the smell of coffee is distinctive, the shape is semi-solid, there are fine granules and it is easy to apply. Formula II is black, the smell of coffee is distinctive, the shape is semi-solid, there are fine grains and it is easy to apply. Formula III is black, the smell is distinctive of coffee, semi-solid shape, there are fine granules and easy to apply.

**Table 4.** Homogeneity Test Results

No.	Sample Name	Homogeneity	Picture
1.	Formula I	Homogeneous	
2.	Formula I	Homogeneous	
3.	Formula III	Mature	

Source: Primary Data, 2024

The results of the homogeneity test on the three lipscrub formulas obtained *homogeneous lipscrub* results . It is proven by the way the *lipscrub* preparation is taken and applied to the watch glass, if no clumping granules are found, then the preparation is eligible. *Lipscrubs* are declared homogeneous if they have the same or even color consistency and no different particles are found.




**Table 5.** pH Test Results

No.	Sample Name	pH	Picture
1.	Formula I	6,90	
2.	Formula II	6,72	
3.	Formula III	5,70	

Source: Primary Data, 2024

According to SNI 16-4399-1996, the quality requirements of semi-solid preparations must have an acidity degree (pH) value ranging from 4.5 to 7.5. In the preparations that have been carried out, the pH of *lip scrub* in formula I is 6.90, the pH of formula II is 6.72 and the pH of formula III is 5.70. The pH test results of the three formulas show that the pH contained in honey lip scrubs and coffee grounds still meets the standard.




**Table 6.** Homogeneity Test Results

No.	Sample Name	Spread Power (cm)	Picture
1.	Formula I	5,9	
2.	Formula II	5,6	
3.	Formula III	5,7	

Source: Primary Data, 2024

The results of the dispersion test showed that the three formulations met the dispersion threshold of 5-7 cm for good alignment. The increased capacity of the active ingredient to spread throughout the skin correlates with a higher dispersion rating. As shown by the measurements of F1 (5.9 cm), F2 (5.6 cm), and F3 (5.7 cm), all three formulas meet the required standards.


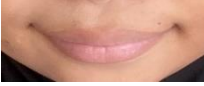



**Table 7.** Irritation Test Results

No.	Sample Name	Reaksi	Picture
1.	Formula I	No reaction	
2.	Formula II	No reaction	
3.	Formula III	No reaction	

Source: Primary Data, 2024

There were no erythema, papules, vesicles, or edema reactions in the irritation test for Formula I, Formula II, or Formula III lip formulations, indicating that they are safe to use directly onto the lips.

**Table 8.** Test Results of *Lipscrub* Honey and Coffee Grounds Preparation

No.	Sample Name	Before	After
1.	Panelis I		
2.	Panel II		
3.	Panelist III		

Source: Primary Data, 2024

The results of using honey lip scrub and coffee grounds are obtained as a result of lip skin that becomes moist, smooth and looks healthy. So it can be concluded that honey lip scrub and coffee grounds can be used to overcome the problem of dry lips and maintain moisture.

From previous research that tested *lipscrub* preparations such as those conducted by Sariningsih *et al* (2021) with preparations containing natural ingredients of honey. Where the observation results obtained that the moisture of honey on the lips increased in water in panelist I 19.7%, panelist II 22.3% and panelist III 9.9%. From the results of the above research, it turns out that honey and coffee grounds can be used as a good combination in treating dry lips, where coffee grounds can help remove dead skin cells but the moisture is maintained with the presence of honey in the preparation.

## CONCLUSION

Based on the results of the research on the preparation of *lipscrub* preparations, honey and coffee grounds, it can be concluded that honey and coffee grounds can be formulated into *lip scrub* preparations for dry lip treatment. This *lipscrub* preparation is able to moisturize and smooth dry lips by helping to remove dead skin cells on the lips.

The results of each organoleptic test evaluation are black, have a distinctive coffee smell and have fine grains. The homogeneity test did not clump anything. The pH test obtained a stable pH, namely pH 6. The spread test obtained a diameter of 5. The irritation test does not cause an irritation reaction so it is safe to use.

The limitation of research that researchers experience in this research process is the lack of understanding of the material so that the first experiment in the laboratory was not successful.

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