

## Formulation and evaluation of rice face scrub

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### Abstract

Rice face scrub is becoming increasingly popular for their natural and gentle skin benefits. These scrubs are typically made from rice extracts, rice bran oil, or rice powder, known for their brightening and skin-enhancing properties. Rice has been used in skincare for centuries, especially in Asian cultures, due to its many beneficial properties. Rice and its derivatives—like rice water, rice bran oil, and rice extract—offer a variety of skin benefits. Rice face scrub contains rice powder, Turmeric, Lemon Juice, Aloe Vera, Honey, Yogurt, and Vitamin E.

Rice toner at home is an excellent way to take advantage of rice's natural skin-brightening, hydrating, and soothing properties. Rice water is rich in vitamins, minerals, and antioxidants that can help improve skin tone, reduce pigmentation, and hydrate the skin. Rice water contains inositol, which inhibits melanin production and helps brighten the skin. Rice water helps to retain moisture in the skin, leaving it soft and refreshed. It has anti-inflammatory properties, making it great for calming redness or irritation. Its mild astringent properties help reduce excess oil, tighten pores, and promote clear skin.

**Keywords:** Skin-brightening, hydrating, and soothing properties, inflammatory properties, astringent properties

### Introduction

**Rice Face Scrub:** There are various cosmetic methods aimed at lightening the skin. The visible pigmentation in mammals is a result of the production and dispersion of melanin in the skin, hair follicles, and eyes. Melanin comes in two primary types: eumelanin's, which are brown or black, and pheomelanin's, which are red or yellow. Typically, mammals have a combination of both types. Melanin is generated by specialized cells called melanocytes, which are mainly found in the skin, hair follicles, and eyes. These melanocytes create melanin within specific structures known as melanosomes, which can vary in size, quantity, and concentration. The melanosomes are then passed on in the skin to keratinocytes and in hair bulbs to the hair shaft, where the final distribution patterns of the pigment are determined. Increased production and accumulation of melanin's characterize several skin diseases, which include hyperpigmentation such as melanoma, post-inflammatory melanoderma, solar lentigo, etc.

### Skin Whitening

Several chemicals have been shown to be effective in skin whitening. Skin whitening or lightening products are commonly used by people of colour to treat various skin issues, such as dark spots caused by sun damage.

### Depigmenting Agents

Depigmenting agents are often used to treat skin conditions where the skin gets darker than usual, known as hyperpigmentation. Skin-lightening ingredients are becoming more common in beauty products.

### Benefits

- Exfoliation
- Unclogging Pores
- Brightening Skin Tone
- Anti-Aging
- Soothing and Calming
- Oil Control
- Skin Regeneration
- Improved Texture and Complexion

### Mechanism of Skin Lightning and Anti-Tanning Agent

Skin lightening and anti-tanning agents work by targeting the processes that cause skin pigmentation, primarily through the regulation of melanin production. Here's how these agents typically work:

- Inhibition of Melanin Production
- Exfoliation
- Anti-inflammatory and Antioxidant Effects
- UV Protection
- Melanogenesis Modulation

### Materials and Methods

Table 1: Role of Ingredients

Sr No.	Ingredeints	Role
1.	Rice	Brighten the skin
2.	Aloe vera gel	Reduce hyperpigmentation
3.	Vitamin E	Antioxidant agent
4.	Rose water	Natural toner
5.	Liquid Paraffin	Treatment of dry skin
6.	Bees wax	Antiseptic agent
7.	Borax	Remove dirt, excess oil
8.	Methyl Paraben	Prevent growth of bacteria

### Ingredients

#### a. Rice



Fig 1

- **Common name:** Asianrice, Indica rice.
- **Biological name:** Oryza sativa
- **Chemical constituent:** Starch, protein, lipids (fats), dietary fibre, vitamins, and minerals.

#### Uses

- Exfoliation [facial scrubs]
- Skin brightening
- Moisturizing
- Anti-aging

#### b. Aloe Vera Gel



Fig 2

- **Common name:** Aloe vera.
- **Biological name:** Aloe barbadense miller.
- **Family:** Asphodelaceae (Liliaceae).
- **Chemical constituent:** vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids and amino acids.

#### Uses

- Acne treatment
- Skin moisturizing
- Wound healing
- Sunburn relief

Table 2: Formulation Table

Sr No.	Ingredients	Quantity Taken
1.)	Rice	3gm
2.)	Aloe vera gel	2gm
3.)	Vitamin E	6ml
4.)	Borax	0.2gm
5.)	Bees wax	3.0gm
6.)	Methyl Paraben	0.02gm
7.)	Liquid paraffin	10ml
8.)	Rose water	Q. S

#### Rice

##### The Benefit of Rice Water

Rice water is the starchy water left after soaking rice. Despite being simple, it's packed with nutrients that can be very good for your skin. It's enriched with vitamins, minerals, and antioxidants that are beneficial for the skin. These include vitamin E, vitamin B, ferulic acid, and antioxidants like oryzanol.

- **VitaminE:** keeps the skin moisturized and helps it stay youthful.
- **VitaminB:** helps the skin grow new cells, making it smoother and healthier.
- **Ferulicacid:** Protects the skin from damage caused by harmful factors like pollution.
- **Oryzanol:** soothes and calms irritated skin, making rice water great for sensitive skin.

#### Aloe Vera Gel

Aloe vera ace Mannan may be used in skin lotions, cosmetics, ointments and gels for minor burns, skin abrasions, insect bites, and windburn.

#### Benefits of aloe vera for the face:

- It helps reduce pain, swelling, and soreness from wounds.
- It supports collagen production, which helps skin heal and reduce scars.
- Aloe vera speeds up healing for minor burns and cuts.
- It can treat fungal and bacterial infections.
- It has antioxidants that help fix sun damage and slow down skin aging.
- It protects skin from radiation damage.
- Since it's mostly water, it moisturizes and hydrates the skin.
- It makes the skin soft and flexible, not stiff or dry.
- It has a cooling effect on sunburns or rashes.

#### Vitamin E

Vitamin E is an antioxidant that helps protect and moisturize the skin. It is found in many skincare products like moisturizers, serums, and cleansers.

Here are some benefits of vitamin E:

- It protects the skin from damage caused by harmful particles (free radicals).
- It soothes dry, irritated skin.
- It may help relieve eczema in some people.
- It keeps the skin hydrated by locking in moisture.

#### Bees Wax

Beeswax is great for the skin because it helps attract and keep moisture. It has been used in skincare since ancient Egyptian times.



Fig 3

Here are some benefits of beeswax for the skin:

- **Protective Barrier:** Beeswax forms a protective layer on the skin, keeping harmful elements out.
- **Moisture Retention:** It helps keep the skin moisturized by locking in moisture.
- **Skin Softening:** Beeswax makes the skin feel soft and smooth.
- **Anti-inflammatory and Antibacterial:** It has properties that help reduce swelling and fight bacteria, which can be useful for healing and preventing infections.

### Borax

Borax in a rice face scrub acts as a cleaning agent and can help remove dirt and excess oil from the skin. It can also act as an emulsifier, helping blend oil and water-based ingredients. Additionally, borax can act as a preservative, potentially extending the shelf life of the scrub.

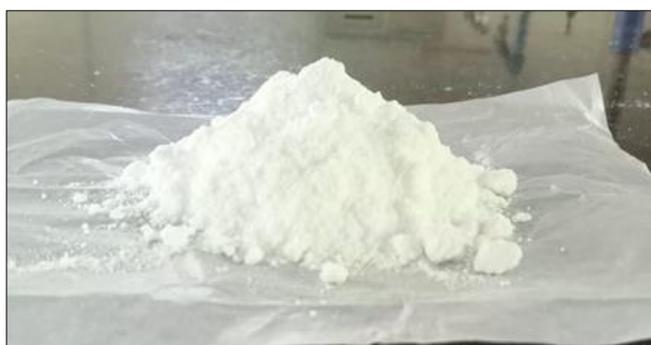


Fig 4

### Potential role in a rice face scrub

- Borax can help lift dirt and oil from the skin, making it a useful ingredient in a scrub for removing impurities.
- Borax's cleaning properties complement the exfoliation provided by rice flour, potentially leading to a more effective scrub.
- Borax can act as an emulsifier, helping to mix oil and water-based ingredients in the scrub, ensuring a smooth and consistent texture.
- Borax has preservative properties that can help extend the shelf life of the scrub.

### Liquid Paraffin

In a rice face scrub, liquid paraffin acts as a moisturizing agent and emollient, helping to soften the skin and prevent water loss. It does this by creating a barrier on the skin's surface, which helps lock in moisture and prevents dryness. Liquid paraffin also contributes to the overall smooth and supple feel of the scrub when applied to the skin.

- Hydration and Moisture Retention
- Softening Effect
- Improved Texture
- Cleansing Agent

### Rose Water

Rose water is made by steaming rose petals and collecting the vapor. It has a pleasant fragrance and is often used as a natural alternative to chemical perfumes.

### Properties of Rose Water

- **Antioxidant:** Helps protect the skin from damage caused by harmful particles (free radicals).
- **Anti-inflammatory:** Reduces redness, swelling, and irritation on the skin.
- **Antimicrobial:** Fights bacteria and helps protect the skin from infections.

### Preservative

Preservative helps prevent bacterial growth and extend the shelf life of products, ensuring its safety and effectiveness over time.

### Methyl Paraben

- It's used as a preservative in products.

### Procedure

- Rinse and soak rice in water.
- Dry and grind the rice.
- Separate the coarse particle by sieving method.
- Add other ingredients into the rice powder.
- Store in an airtight container in the refrigerator.

### Uses:

1. Wash Your Face First
2. Take a Small Amount of Scrub
3. Apply Gently in Circular Motions
4. Scrub for 30 Seconds to 1 Minute
5. Rinse Thoroughly
6. Pat Dry with a Clean Towel
7. Apply Moisturizer

### Tips

- For best result, use 2-3 times a week.
- Consistent use over time can lead to noticeably brighter and softer skin.



Fig 5

### Evaluation of Rice Face Scrub

1. **Colour:** Visual examination was used to determine the colour of the scrub.
2. **Odour:** The odour of scrub was found to be mild, pleasant rice aroma.
3. **State:** It is in a semi-solid form. The product is uniform in texture, with fine rice granules.

4. **Consistency:** Manually massaging the scrub on the hand to test the formulation revealed that it had a smooth feel. The rice face scrub has a semi-thick, creamy consistency.
5. **Spread ability:** Spread ability of the formulated scrub was determined by sandwiching the sample between two slides, by applying external force.
6. **Washability:** After applying the product to the skin, the ease of water washing was evaluated.
7. **Non-irritancy Test:** The non-irritancy test results for an herbal scrub formulation was assessed. No irritation or redness were visible during preparation. The condition was observed for 24 hours and 28 minutes.
8. **Viscosity:** Scrubs viscosity was measured using a Brooke field viscometer at a temperature of 25 degrees Celsius and spindle number 63 at rpm.
9. **Greasiness:** Here, a rice face scrub was applied on the skin's surface, and its grease- or oil-likeness was assessed.
10. **Homogeneity:** By looking at it and touching it, the uniformity of the formulation was evaluated.

### Result

The present research was the formulation and evaluation of rice face scrub: skin Partial improvement after 3 uses, Skin looked fresher, Skin felt smoother, no acne, itching, or dryness reported

Parameter	Observation
Colour	Off-white, natural tone
Odor	Mild, pleasant rice aroma
Texture	Creamy with fine particles
pH level	5.8 (skin-friendly)
Grain Size	Fine, non-abrasive
Spread ability	Excellent by checking evenness

### Conclusion

In conclusion, rice face scrub is a skincare item made with rice-based ingredients that are reputed to provide positive skin-care effects. Antioxidants, vitamins, and minerals found in rice are said to nourish the skin, keep it hydrated, and encourage a more even complexion. Additionally, rice-based herbal extracts may be relaxing and anti-inflammatory, which may be able to calm sensitive skin and lessen redness. It's crucial to remember that a rice face scrub effectiveness might change based on a number of variables, including a person's unique skin type, sensitivity, and general skincare regimen. While some people could find rice face scrub to be a useful addition to their skincare regimen, others might not experience any noticeable effects.

### Acknowledgement

The author acknowledges the guidance and support of all the instructors and associates who have contributed to the development of this work. The information collected in this study has been gathered over time, and certain sections may have been directly substantiated from former workshop. The author extends justifications to any experimenters whose

benefactions were unintentionally neglected from the references, and appreciates their understanding.

### Reference

1. International Journal of Research and Review, 2024, 11(12).
2. Harshita S. Herbal cosmetics in ancient India, 2023.
3. Polly G, Shashank T, Kartikay P, Shukla T, Yadav P. Formulation and evaluation of face. scrub: an herbal formulation. Int J Pharm Sci, 2024;2(3):579-88.
4. Dina H, Tamil BS, Rujman M, Khan BS, Tara L, Braun MD, *et al.* Dermatological uses of rice products: Trend or true. J Dermal Cosmetol, 2022;21(11):6056-60.
5. Sachin BA, Amol UG, Akash K. Preparation and evaluation of polyherbal facial scrub, 2011, 61.
6. Ghadage PK, Mahamuni SS, Kachare DS. Formulation and Evaluation of Herbal Scrub Using Tamarind Peel. Int J Res, 2020, 3(4).
7. Detha AA, Dhokale MA. Review on Herbal scrub, 2020, 9(2).
8. Jayande N, Mahajan S. Review on Formulation and Evaluation of Herbal scrub, 2022, 3(2).
9. Kakad VK, Sanap RS. A Review on Herbal Face scrub for skin exfoliation.
10. Nevada CT, Baste N. Formulation and evaluation of a herbal facial scrub. World J Pharm Res, 2014;3(3):4367-71.
11. Valarmathi S, Senthil Kumar M, Sharma V, Imran M, Mohanasundaram. Formulation and Evaluation of Herbal Face Cream. Res J Pharm Technol, 2020;13(1):216-8.
12. Sahu RK, Roy A, Kushwah P, Khare M, Mudotiya R. Formulation and development of whitening polyherbal face cream. Res J Topical Cosmet Sci, 2012;3(1):23-7.
13. Nangare RP, Thange TA. Formulation and Evaluation of Polyherbal Facial Scrub.
14. Rutuja MG, Shruti MB, Saniya MP, Sagar MT. Formulation and evaluation of Polyherbal scrub. Int J Adv Res Sci Commun Technol, 2022, 201-4.
15. Vatsa E, Aggarwal M, Gantum S. Formulation and evaluation of polyherbal Facial Scrub. Just Agriculture, 2021;1(9):1-6.