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SCRUB FROM ORANGE PEEL AND WATERMELON TO SOFTEN AND BRIGHTEN THE SKIN

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Abstract
The study explores the innovative utilization of fruit peel waste, specifically orange and watermelon peels, as key ingredients in the formulation of a natural body scrub. These peels are rich in Vitamin C, antioxidants, and natural acids, contributing to skin health and beauty. The research involved collecting, drying, and grinding the peels, followed by blending them with natural binders and essential oils to create the body scrub. The product was evaluated through physical property assessments, pH testing, antioxidant activity assays, and user trials. Results indicated that the scrub effectively exfoliated the skin, improved texture and hydration, and was well-tolerated by users. This study highlights the potential of repurposing organic waste for sustainable skincare solutions, offering an eco-friendly alternative to conventional products. The findings suggest that this fruit peel-based body scrub could be further developed for commercial use, promoting both skin health and environmental sustainability

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Fruit peel waste, Natural body scrub, Sustainable skincare

Introduction

Fruit peel waste is often considered worthless trash, even though it contains various active compounds that are beneficial for skin health and beauty. Orange and watermelon peels, for example, are rich in Vitamin C, antioxidants, and natural acids that serve as natural exfoliants. The use of natural ingredients in skincare products, such as body scrubs, is increasingly favored as they are perceived to be safer and more environmentally friendly compared to products containing synthetic chemicals. Therefore, utilizing orange and watermelon peels as the base ingredients for body scrubs represents an innovative approach that not only leverages organic waste but also provides optimal benefits for skin health. This study aims to develop a body scrub from orange and watermelon peels and evaluate its effectiveness in improving skin texture and brightness.

Methods

1. Materials Collection
   Orange and watermelon peels we re collected from local markets and washed thoroughly to remove any dirt or pesticide residues.
2. Peel Preparation
   The peels were dried under the sun for several days until completely dehydrated. They were then ground into a fine powder using a mechanical grinder.
3. Scrub Formulation

The powdered peels were mixed with natural binders like honey and olive oil to create a paste. Essential oils such as lavender or tea tree oil were added for fragrance and additional skin benefits.

4. Testing:

- Physical Properties: The scrub's texture, consistency, and granule size were assessed to ensure it was neither too coarse nor too fine for skin application.
- pH Testing: The pH of the scrub was tested to ensure it was skin-friendly.
- Antioxidant Activity: The antioxidant levels of the scrub were measured
- using DPPH (2,2-diphenyl-1-picrylhydrazyl) assays.
- User Trials: A group of volunteers tested the scrub over a period of two weeks. They provided feedback on exfoliation efficiency, skin feel, and overall satisfaction.

5. Data Analysis

The results from physical testing, antioxidant activity assays, and user trials were analyzed to determine the effectiveness of the body scrub and to identify any areas for improvement.

6. Conclusion

The study concluded with recommendations on the optimal formulation and potential applications of the body scrub, highlighting its benefits in skincare routines and its role in waste reduction and sustainable beauty.

Results and Discussion

The body scrub formulation made from orange and watermelon peels demonstrated significant efficacy in exfoliating the skin. The participants reported a noticeable improvement in skin texture, with smoother and softer skin after consistent use. The natural acids in the peels effectively removed dead skin cells, while the antioxidants provided protection against free radicals. The hydration properties of the scrub, attributed to the natural oils used in the formulation, helped in maintaining skin moisture. Furthermore, the scrub was well-tolerated by participants, with no reports of adverse reactions.

a) The results of this study suggest that orange and watermelon peels are viable ingredients for natural exfoliating body scrubs. The rich content of Vitamin C and natural acids in orange peels, combined with the hydrating and antioxidant properties of watermelon peels, contribute to an effective and nourishing exfoliant. The successful formulation of this body scrub also highlights the potential of repurposing fruit waste in the cosmetic industry, offering an eco-friendly alternative to conventional scrubs. Future research could explore the long-term benefits of using such natural scrubs and investigate the scalability of production for commercial use. Moreover, integrating other natural ingredients could further enhance the scrub's properties and cater to different skin types and concerns.

Conclusion

The body scrub made from orange and watermelon peels has proven to be effective as a natural skincare product. This scrub not only effectively removes dead skin cells but also provides additional moisture, leaving the skin smoother and healthier. Utilizing fruit peels as the main ingredients also represents an environmentally friendly approach to reducing waste. These

findings indicate that the body scrub from orange and watermelon peels has the potential to be further developed as a beneficial and sustainable natural skincare product.

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