SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 9 | Issue: 11 | November 2024 - Peer Reviewed Journal

# SKIN LOTION: BANANA PEEL EXTRACT AND WATERMELON RIND EXTRACT

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**ABSTRACT**

*Due to ignorance, people typically waste or reject the many health advantages of banana peels. Numerous bioactive substances, including phytosterols, polyphenols, carotenoids, and biogenic amines, are abundant in banana peels. In addition, it has good amounts of dietary fiber and minerals like iron, calcium, salt, phosphorus, and magnesium. Antioxidants found in banana peels can be used to lower the chance of developing illnesses like cancer. In order to eliminate poisons from the human body, antioxidants are essential. A whole banana is made up of roughly 30–40% peel and the remaining amount is pulp. Numerous sectors, including cosmetics, pharmaceuticals, food processing, drinks, textiles, energy resources, paper manufacturing, bio-absorbents, biofuel generation, and agriculture, employ banana peels.*

*Skin care products are nothing new; people have needed them for a very long time. When developing cosmetics, it is imperative to consider the structure and function of the skin. Herbal cosmetics are becoming more and more popular these days because more ladies prefer natural products over those composed of substances. Herbal cosmetics are becoming more and more popular these days because most women choose natural products over ones that include chemicals. Acne vulgaris is concerning, particularly for teenagers and adolescence. Global data indicate that between the ages of 12 and 25, over 85% of people will have acne. Between the ages of 23 and 34, over 8% of adults will have acne, while just 3% of adults will have acne.*

## INTRODUCTION

The skin is the largest organ in the adult body since it makes about 15% of the body weight. It also helps regulate body temperature and stops excessive water loss, safeguarding the body against external biological, chemical, and physical threats. The mucous membranes of the body are a part of the continuous epidermis. The continuous skin includes the mucous membranes that cover the body's surface. Maintaining smooth, shiny, and healthy skin requires a balanced diet. Apart from maintaining a nutritious diet, hormonal fluctuations, especially throughout puberty, cause various physical changes in both genders. Among all the changes, acne vulgaris is the most common. Acne vulgaris is a common skin disorder that has a considerable burden of cutaneous and psychological illness.

The banana crop is regarded as one of nature's greatest treasures. This is due to the efficient use of every component of the banana crop, including the leaf, pseudostem, flowers, fruit, and peel. Scientifically speaking, banana stem is referred to as pseudo stem. Utilized in the production of fiber. Numerous industries, including textiles, paper, pulp, biodegradable sanitary pads, automotive, aerospace, and construction, can employ this fiber. The best in terms of flexibility, hardness, durability, and compactness is banana fiber. A biodegradable single-use plastic has been created in the Philippines using banana fiber. The waste from yellow banana peels contains a lot of cellulose, potassium, salt, and carbs, as well as flavonoids and another phenolic. Bioactive substances with antioxidant properties include flavonoids and phenolic compounds. Citruline is found in the white, non-consumed layer of watermelon rind. Among the antioxidants that are good for skin health is citrulline. The research by Damayanti et al. indicates that the oval watermelon rind has an IC50 value of 376.266 ppm and the round watermelon rind has an IC50 value of 214.369 ppm for antioxidant activity juice white layer. Rich in water content, watermelon and other fruits high in antioxidants, like bananas, can be used to detoxify the skin and provide vital nutrients by brightening, moisturising, and shielding the epidermis.

## METHOD OF EXTRACTION

### Banana Peel Extraction Method

After macerating banana skin in ethanol 70%:2 in a shaker for 24 hours at room temperature, the process was repeated three times, and the skin was filtered. A rotary evaporator was used to concentrate the filtrate. [8]

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**Watermelon Rind Extract**

White layer of watermelon rind is refined by use of blender and filtered. After that process the filtrate is powdered by freeze dryer method . A fruit that is grown all over the world, watermelon (Citrullus lanatus) is prized for its low calorific value, high water content, and sweet flavour. 166 million tonnes of watermelon were consumed worldwide in 2018. While watermelon peels are occasionally pickled or utilised as a cooked vegetable, and watermelon seeds are used in some parts of Asia for snacks and flour, these resources are more commonly thrown away, producing enormous amounts of waste from underappreciated seeds and peels.

The amount of essential fatty acids, carotenoids, tocopherols, thiamine, flavonoids, riboflavin, and other phenolic compounds found in watermelon seed oil varies according on the type of watermelon and the extraction technique. No matter the kind, linoleic acid is the most prevalent fatty acid in watermelon seed oil. Furthermore, a number of watermelon seed oil bioactivities, such as antibacterial, cardioprotective, anti-inflammatory, and antioxidant properties, have been documented.

**Quality Inspection of the Extract**

Organoleptic, drying shrinkage, specific gravity, water content, total ash and acid insoluble ash, solvent residues, pesticide residues, heavy metal contaminations, and microbiological contaminations (total plate count and total yeast mould) are among the non-specific criteria examined in these exams. Additionally, particular characteristics include total flavonoid content as determined by spectrophotometric technique and phytochemical screening (alkaloids, saponins, tannins, phenolics, flavonoids, triterpenoids, steroids, glycosides, essential oils, quinones, and coumarin). [8]

**Antioxidant activity tests by DPPH method**

The stable DPPH radical was released to investigate antioxidant activity. Maximum absorption of DPPH in its radical state is observed at λ 515 nm. One millilitre of 0.4 mM DPPH (15.8 mg DPPH in 100 millilitres of methanol) and different amounts of test solution dissolved in methanol are included in the mixed reaction (5 millilitres). Using a UVV is spectrophotometer, absorbance was measured at λ 515 nm following a 30-minute incubation period at 37°C in a dark environment. Greater restriction of free radical scavenging (% inhibition) is shown by lower absorbance. Finding the IC50 value by using linear regression to the relationship between concentration and percent inhibition, with the percent inhibition set to 50.

**Manufacturing process of Antioxidant Lotion Dosage Form**

Melted cera alba is added to a glass beaker filled with paraffin liquid and heated to between 40 and 60 degrees Celsius. The mixture is then stirred at a speed of about 700 revolutions per minute. Next, incorporate glyceryl monostearate, tween 80, glycerin, extracts combined with nipagin and nipasol, water, and perfumes such as perfume. the extraction process, whole dried seeds were pulverised to maximise surface area. A light-yellow, Watermelon seeds were first dried at 60°C to eliminate water before the oil was extracted. The dried seeds were made up of kernels and exterior seed peels, and they were about 5 mm in size. To maximise odourless oil was the end result of oil extraction. Watermelon outer peels were first dried at 60°C and then crushed to remove lipids. A dark green, soft-solid wax was produced after solvent extraction and evaporation.

**The benefits of Banana Peel For face are listed below**

**1) Treats Dark Circles**

If you have raccoon eyes frequently, banana peels are a good choice. A tiny fraction of a peel placed beneath your eyes instantly cools, brightens, and hydrates the skin, giving it the youthful boost it needs to seem healthy.

**2) Irritated Skin**

Many people skincare problems include inflammation and irritation. The vitamin C and histamine in banana peels neutralize the stinging sensation and soothe the skin. It also acts as a natural moisturizer and reduces inflammation.

**3) Acne**

Banana peels are a great remedy for controlling oily and acne-prone skin. Limiting excess sebum production is ideal as it reduces the risk of clogged pores and helps prevent breakouts.

**4) Boosts Elasticity**

Antioxidants and vitamin C, which are rich in banana peels, assist to keep skin supple and minimise the appearance of fine lines and wrinkles. In addition, it eliminates dark spots and leaves the skin looking younger and more uniform.[9]

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**Benefits of Watermelon Rind for skin are listed below**

1). Moisturises the Skin

Your skin is greatly nourished and hydrated by the water content of watermelon. For optimal effects, you can either eat watermelons or just apply watermelon juice or slices on your skin.

2). Assures Equitable Skin Tone

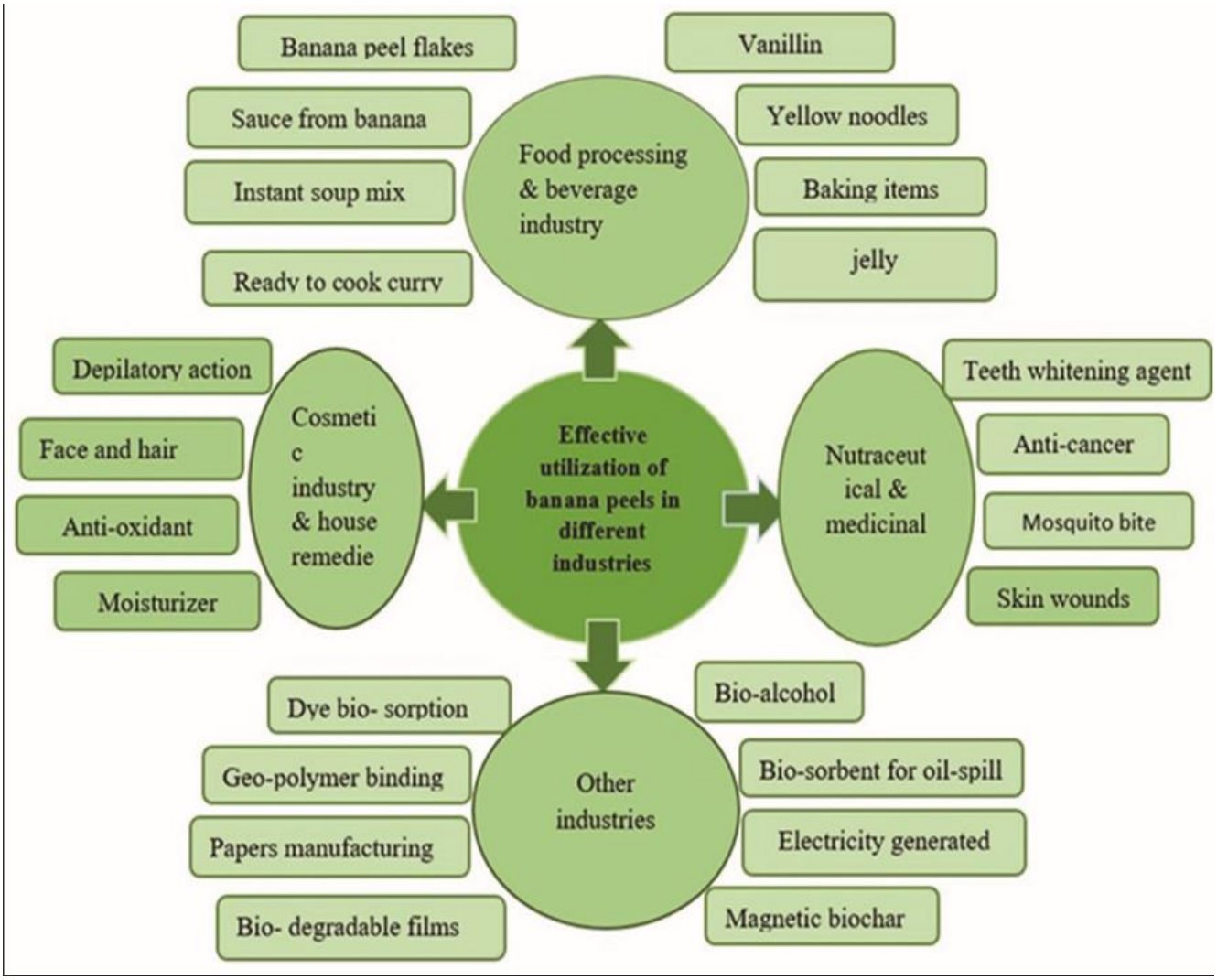
Uneven skin tone can be eliminated and skin nourishment enhanced by the antioxidants and vitamins found in watermelon.

3). Enhances Skin Brightness

Vitamin C from watermelon helps maintain healthy skin by brightening your complexion. It helps prevent tanning, giving you skin that looks young and radiant.

4). Calms the Skin

Cooling qualities are found in watermelon. It aids in reducing redness and inflammation. Watermelon is a great way to relieve skin irritation and reduce inflammation for those with sensitive skin.




## CONCLUSION

As a biosorbent for dye removal, banana peel extract has found effective applications in the food processing, beverage, pharmaceutical, and agricultural sectors. The bioactive chemicals found in banana peels vary depending on the variety and concentration. Banana peels are employed in accordance with the needs and objectives of the industry. Banana peels had few applications in antiquity. Particularly in the states of Tamil Nadu and Kerala, it was utilised as peel curry, cattle feed, and organic fertiliser. However, banana peels are

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currently utilised for fibre in a variety of industries, including the textile sector. It is still utilised in the automotive industry today, particularly for designing the interior of new vehicles. When made into lotion, the highest antioxidant activity banana peel extract significantly reduces antioxidant activity; however, when mixed with watermelon rind extract, antioxidant activity is improved. [10]

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