

Enhancing the Value Addition of Aloe vera

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ABSTRACT

This article explores the diverse applications of Aloe vera, a medicinal and cosmetic plant, and its recent advancements in extraction techniques, formulation development, and quality control measures. It also explores its nutritional potential in food and beverage formulations, and its expanding industrial uses in cosmetics, personal care products, and eco-friendly materials. The article emphasizes the untapped potential of Aloe vera for human health and sustainable development.

Keywords: Medicinal, Nutritional Potential, Health

THE UNSEEN BEAUTY OF ALOE VERA

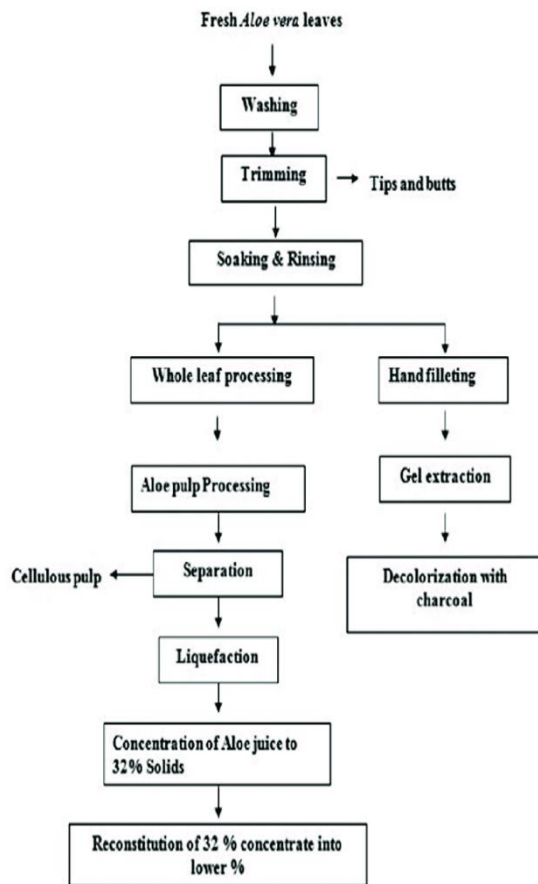
Aloe vera has mainly been used for medicinal purposes from ancient times. Aloe vera, a succulent plant renowned for its medicinal properties, offers numerous opportunities for value addition. Its gel is widely used in skincare, cosmetics, and hair care products due to its hydrating and soothing properties. Aloe vera juice is popular for its health benefits, aiding digestion and boosting immunity. Additionally, aloe vera extracts can be incorporated into dietary supplements, beverages, and even textiles for added functionality. Through various processing techniques, such as extraction, filtration, and stabilization, the raw aloe vera can be transformed into diverse value-added products, catering to different industries and consumer needs. It has numerous health benefits including wound healing, treating burns, protecting against skin damage, improving intestinal problems, and increasing HDL. Aloe vera gel contains more than 200 bioactive chemicals and needs to be stabilized to prepare end products.

PHYTOCHEMISTRY OF ALOE VERA

Aloe vera contains:

1. **Polysaccharides:** long-chain sugars that give the gel-like consistency of Aloe vera. They may help hydrate the skin and potentially support the immune system.
2. **Anthraquinones:** compounds, such as aloin, that have laxative and anti-inflammatory properties. They may support digestive health and provide anti-inflammatory benefits.
3. **Enzymes:** various enzymes, such as amylase and lipase, that aid digestion by breaking down sugars and fats, facilitating nutrient absorption.
4. **Vitamins:** A, C, and E, which act as antioxidants, protecting the body from oxidative stress and promoting skin health.
5. **Minerals:** essential minerals, such as calcium, magnesium, and zinc, that contribute to overall health.
6. **Saponins:** natural soapy substances with cleansing and antiseptic properties, useful in skin care and wound healing.
7. **Lignin's:** complex polymers that enhance the penetration of other

substances into the skin, improving the efficacy of topical applications.



VALUE ADDITION OF ALOE VERA

Aloe vera gel is commonly used in the food industry to produce functional foods and beverages. Adding value to aloe vera involves processing the raw plant material into various high-value products to make it more useful and marketable. The gel is obtained by crushing, filtering, and

stabilizing. To maintain the quality of the product, it is essential to refrigerate the plant material within 6 hours of removal or directly transport it to the processing plant. This is a simple and effective processing technique that ensures the preservation of the product's quality.

Flow Chart procedure for Aloe vera gel extraction

Improved products of Aloe vera

1. Aloe Vera Gel

One of the most popular Aloe vera products, used for soothing and moisturizing the skin.

2. Aloe Vera Juice

Consumable form offering potential digestive benefits and overall health support.

3. Aloe Vera Supplements

Capsules or tablets containing aloe vera extract, are often taken for various health benefits.

4. Aloe Vera Shampoo and Conditioner

Hair care products infused with aloe vera, promote hydration and maintain a healthy scalp.

5. Aloe Vera Creams and Lotions

Skincare products provide nourishment and relief for dry or irritated skin.

6. Aloe Vera Drinks

Beverages containing aloe vera gel, combine potential health benefits with refreshing flavors.

7. Aloe Vera Face Masks

Skincare masks enriched with aloe vera, offer a soothing and rejuvenating experience.

8. *Aloe Vera Soaps*

Cleansing bars infused with aloe vera for a gentle and moisturizing effect on the skin.

9. *Aloe Vera Lip Balms*

Lip care products incorporate aloe vera for hydration and protection against dryness.

10. *Aloe Vera Hand Sanitizers*

Sanitizing gels with aloe vera, combining germ-fighting properties with skin-soothing benefits.

CONCLUSION

Aloe vera is versatile and enhances health and beauty. It can be used for better skincare and wellness. Value-added products exemplify nature and innovation, contributing to holistic lifestyles. Aloe vera's versatility offers simple yet powerful

solutions for a healthier, more vibrant lifestyle. By embracing these products, we enhance our well-being naturally.

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