

Banana Peels as Feed and Organic Resource

From Waste to Resource

Banana and plantain peels offer a sustainable solution to waste disposal, serving as valuable resources for animal feed, soil input, and cooking ingredients. Proper processing detoxifies the peels, making them suitable for consumption by animals and contributing to waste reduction in regions where plantains and cooking bananas are common.



An industrial green banana peeler able to processes 600 units per hour



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This technology is **TAAT1 validated**.

7·8 Scaling readiness: idea maturity 7/9; level of use 8/9

Gender assessment **3**

Climate impact **7**

Problem

- Waste accumulation due to the disposal of banana and plantain peels.
- Concerns regarding the chemical composition and nutrient ratios of the peels, especially when used as animal feed.
- Difficulty in removing peels from green bananas and plantains, leading to inefficiencies in processing.
- Restrictions on using raw peels in poultry feed due to the presence of anti-nutritional compounds like tannins and oxalate.
- Challenges in effectively utilizing peels, such as feed refusal due to high tannin content and the need for proper processing techniques to detoxify peels.

Solution

- Banana and plantain peels are valuable components in livestock and poultry diets.
- Dried peels contain essential nutrients like potassium, phosphorus, iron, calcium, magnesium, and sodium.
- Utilizing peels reduces waste accumulation and promotes sustainable resource management.
- Treated and composted peels serve as beneficial organic inputs for soil improvement.
- Green peels provide an energy source in animal diets due to their carbohydrate content.
- Fresh peels with high moisture content help animals stay hydrated.
- In smaller quantities, peels find use in cooking, water purification, and manufacturing beauty and health products.

Technology from **ProPAS**

Commodities
Banana/Plantain

Sustainable Development Goals

Categories
Pre-production, Practices, Post-harvest management

Tested/adopted in

Where it can be used

This technology can be used in the colored agro-ecological zones.

Key points to design your project

- Technology utilizes banana and plantain peels for animal feed and compost.
- Enhances food security and promotes sustainable resource management.
- Improves soil health, aids carbon sequestration, and supports climate resilience.
- Steps to incorporate technology include understanding nutrient composition, sourcing machinery, and marketing products.
- Costs vary for machinery, with single belt peelers at USD 3500 and larger multi-channel machines at USD16,000.
- Consider delivery expenses and collaborate with agricultural institutions for widespread adoption.

Cost: \$\$\$ **3,500 USD**

A single belt 0.37 kWatt peeler

16,000 USD

Larger multi-channel 2.0 kWatt machines



Open source / open access

Target groups
Breeders



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<https://e-catalogs.taatafrica.org/gov/technologies/banana-peels-as-feed-and-organic-resource>

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