Induced Ripening of Banana for Increased Marketability and Storage

Ripening Solutions for Quality and Efficiency

The Induced Ripening of Banana for Increased Marketability and Storage technology is a method designed to enhance the ripening process of bananas, specifically dessert bananas, to ensure they are market-ready and have an extended shelf life. In this process, bananas are artificially ripened using various chemical agents, most notably ethylene gas.

Industrial ripening chamber with refrigeration and gas control (Credit: Nilkamal)

✓ This technology is **TAAT1 validated**.

8·8 Scaling readiness: idea maturity 8/9; level of use8/9

Inclusion assessment 👍 4

Climate impact 👍 4 👎 1

Problem

- Bananas, especially plantains, suffer significant post-harvest losses due to transportation damage and spoilage.
- Traditional ripening methods, such as wrapping banana bunches with green leaves, are time-consuming and result in non-uniform ripening.
- Consumers prefer ready-to-eat bananas, and fruit sellers need a consistent supply of ripe fruit to meet this demand.

Solution

- Artificial ripening with ethylene gas ensures that bananas are ready for the market, reducing the risk of post-harvest losses.
- The technology allows for the acceleration or slowing down of the ripening process based on market demand, optimizing the supply chain.
- The technology meets consumer demand for ready-to-eat bananas, benefiting both fruit growers and sellers.

Key points to design your program

Induced Ripening of Banana transforms post-harvest banana handling by replacing unsafe and inconsistent traditional ripening practices with controlled ripening systems that deliver uniform, high-quality, market-ready fruit. It can be integrated into post-harvest management, market development, food security, and agri-food processing programmes. By reducing post-harvest losses, strengthening food safety, and improving supply chain efficiency, the technology creates new income opportunities for producers, traders, processors, and ripening service providers while supporting SDGs 1 (No Poverty), 2 (Zero Hunger), 3 (Good Health and Well-being), and 8 (Decent Work and Economic Growth). To successfully integrate this technology, consider the following key actions:

- Identify priority banana production and marketing hubs where controlled ripening can reduce losses and improve market supply.
- Establish partnerships with IITA to strengthen post-harvest value chains.
- Invest in ripening infrastructure and build technical capacity on controlled ripening, food safety, and quality management.
- Monitor post-harvest losses, fruit quality, technology adoption, market performance, and the participation of women and youth to support sustainable scaling.

17,000 USD

Industrial semi-automated ripening chambers of 5 tones of banana

IP

Trademark

International Institute of Tropical Agriculture (IITA)
Patchimaporn Udomkun

Technology from

ProPAS

Commodities

Bananas & plantains

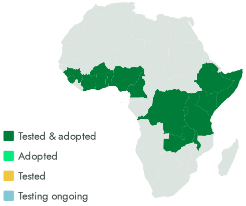
Sustainable Development Goals

2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
8 DECENT WORK AND ECONOMIC GROWTH
1 NO POVERTY

Categories

Postharvest, Practices, Post-harvest management

Tested/adopted in



Where it can be used

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

Target groups

Farmers, Sellers