

Knowledge of Preparing Ripe Bananas for International Markets

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Abstract

Bananas undergo various stages including cultivation, harvesting, post-harvest management, packaging, and shipment to maintain their freshness, nutritional value, and visual appeal. Foreign corporations like GEEST, Chiquita, Dole, and Fyfees contribute to banana production and international trade in the Caribbean and Africa. Modern shipping options like specialized ships and banana boats are being explored, with humidity, temperature management, and ship speed impacting banana quality. Importing countries require phytosanitary certificates, and exporters should study the market thoroughly.

Introduction

Bananas are a globally popular fruit, requiring a complex, multi-step process from tropical plantations to supermarket shelves. This includes cultivation, harvesting, post-harvest handling, packaging, and shipping. Each step is crucial for maintaining freshness, nutritional value, and aesthetic appeal. Initial cultivation practices, harvesting techniques, post-harvest treatments, packaging standards, and logistics involved in exporting bananas. Here we emphasize the importance of adherence to international standards and sustainability practices in banana production, highlighting the intricate supply chain behind this globally popular fruit.

Industrial Ripening

Ripening technology in developed countries has become standardized, utilizing air-tight, insulated rooms with heating, cooling, humidity control, and intensive air circulation facilities. These rooms maintain high hygienic standards and cleanliness, ensuring uniform ripening and

maintaining nutritional qualities. The process can be perfected by adjusting humidity and temperature. Bananas can be made within 4-8 days, depending on market demand. The chambers are continuously ventilated twice a day for 30-60 minutes to maintain high oxygen levels and relative humidity. The process converts starch into sugar, softens fruit flesh, breaks down chlorophyll, and makes yellow carotene visible. Research suggests that transport temperature should be fixed at 13.50°C, and plantains are transported green, requiring no ripening (Thompson et al., 2019).



Importance of Foreign Companies

Foreign companies like GEEST, Chiquita, Dole, and Fyfees have significantly contributed to the production and international trade of bananas in Caribbean and Africa countries. Their efforts, including convincing governments, developing varieties, and post-harvest technology, have brought prosperity to farmers and companies. Farmers enjoy consistent payment and standardized protocols for de-handing, grading, packing, and transporting. These companies have large estates or captive farming, with their own packing houses and ships for transport to the UK, Europe, and America (Lennerfors & Birch, 2019).

Modern Methods of Banana Transport

Bananas are transported by special ships, which can take 2-3 weeks to reach their destination. Banana boat is a descriptive moniker given to fast ships, also known as banana carriers, that engage in the banana trade. They were meant to quickly carry easily deteriorated bananas from tropical agricultural regions to North America and Europe. They often transported both passengers and carry bananas year-round (Piatti-Farnell, 2016). Bananas are picked, de-handled, washed, treated with fungicides, and packed in cardboard boxes. Farmers are trained to judge maturity indices and grade and pack them. The quality of bananas is determined by humidity, temperature management, and ship speed. High humidity in holds causes waxed cartons to be stacked on pallets and loaded by cranes in special holds. The transport temperature is maintained at 13.5°C with 80-90% relative humidity.



Advancements in technology

Technological advancements in ships have significantly improved speed, temperature, and humidity maintenance, resulting in faster loading and unloading at ports. Modern ships now

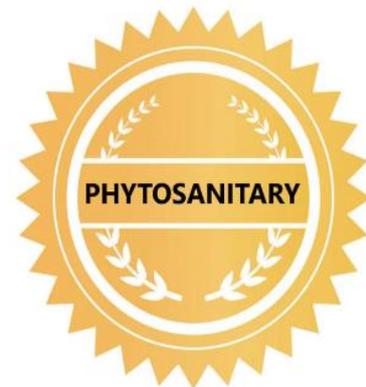
spend 70% of their time at sea and 30% at ports, reducing transport and maintenance costs. The quality of fruits is uniform, and reefer containers are modernized with automated and electronically controlled gadgets. Ships are economical and reliable, preventing impact injuries on perishable cargo. Land-based activities, such as transferring cargo to cold stores or ripening chambers, are done quickly and efficiently (Santeramo et al., 2018), ensuring high consumer satisfaction by presenting excellent quality fruits on the table.

Surface Transport

The Inter Container Inter Frigo (IIFC) was a popular method for transporting bananas and perishable cargo in the early eighties (MEFFERT). However, the advent of reefer Trucks led to a shift from rail to road transport, as the rail system was inflexible and expensive. The road system offered door-in-door delivery and pick-up, leading to losses of around E 1.1 million annually. Despite transporting 7,36,000 tonnes of perishables, including 84,000 tonnes of banana, IFC is now selling off its 450 out of 600 temperature-controlled wagons. SNCF transports about 38,000 tonnes of bananas annually in France and imports around 3,60,000 tonnes from small African countries like Cote d'Ivoire and Cameroon.

Phytosanitary Certificate

Importing countries require phytosanitary certificates for fruits, ensuring they are healthy, free from fungal infections, pests, and chemical residues. The certificate must be legalized by the food infection department of the country of origin. Exporters should study the market thoroughly, including import laws, tariff structures, seasonal changes, phytosanitary requirements, commission rates, local transport, grade specifications, and packing requirements. To ensure high stakes in perishable trade, exporters should send a trial consignment of a few tonnes, followed by a report from importing countries on the consignment's conditions, government formalities, consumer acceptability, and profit margin (Santeramo et al., 2018).



Conclusion

By mastering these considerations, producers can consistently meet international standards, satisfy consumer expectations, and contribute to the global availability of one of the world's most beloved fruits. The knowledge and techniques applied in ripening bananas for export are essential for maintaining the fruit's integrity and ensuring its successful journey from plantations to tables around the world.

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