

Pre-cooling

It is important to remove 'field heat' from crops as quickly as possible after harvest. This reduces;

- ✓ Metabolic activity,
- ✓ Growth of micro-organisms and
- ✓ Prevents other changes such as wilting, before crops are placed in cold storage.
- ✓ Load on the refrigeration system.

A simple method is to pick the crop either early in the morning when it is cool or late in the evening and leave it to cool overnight.

Packing systems

A packing system is required in Cold Storage so that produce can be **loaded and unloaded easily** and **safely**.

For small-scale cold storage, **stackable crates** are the most appropriate packing system. It is important that the crates; are small enough to be moved easily when full of crop; that the crop cannot be crushed by stacking crates; and that the crates are strong enough to support the weight of other crates above them without collapsing. Crates are also available at the Guyana Marketing Corporation for the transportation of produce.

Temperature at storage

Fresh vegetables and fruits should be stored at a temperature between 35°F and 45°F. However; each commodity has different temperature for storage.



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MINISTRY OF AGRICULTURE

GUYANA MARKETING
CORPORATION

Cold Storage Facilities



*"Improving the Post Harvest
Management of Non- Traditional
Agricultural Commodities"*

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Cold Storage Facilities

The Ministry of Agriculture through Guyana Marketing Corporation **acquired five (5) Refrigerated Forty Foot (40ft) Containers** to improve the Cold Chain for Non-Traditional Agricultural Produce. This is aimed at benefitting farmers and exporters in maintaining the required environment for perishable produce.

Cold Storage facilities are located at the Guyana Marketing Corporation's packaging facilities;

- ✓ **Central Packaging Facility** located at **Sophia**
- ✓ **Parika Agro Packaging Facility** located at **Parika**.



Cold Storage Facility at Parika Agro Packaging Facility



Cold Storage Facility at Central Packaging Facility

What is cold storage?

In Agriculture Cold Storage can be describe as the refrigeration of produce.

Why used cold storage for fruits and vegetables?

Because of the rate which fresh agriculture produce ripens and deteriorates, Cold Storage plays an important role in maintaining marketability by reducing the rate of which perishable produce deteriorates by reducing the rate of biochemical changes in fresh foods (known as 'respiration' and 'senescence').

The reason for storing fruits and vegetables in a cold store is therefore to;

- ✓ Extend their life beyond the harvest season;
- ✓ To achieve a higher sale prices for produce out of season
- ✓ To transport produce, or
- ✓ For Food Security reasons



Fresh Produce in Cold Storage

The factors that control the shelf life of fresh crops in cold storage include:

- ✓ The **type of food** and variety or cultivar.

The **part of the crop selected** (the fastest growing parts have the highest respiration rates and the shortest storage lives).

- ✓ The **condition of the crop at harvest** (e.g. the presence of damage or microbial contamination, and the degree of maturity).
- ✓ The **temperature during harvest**.
- ✓ The **relative humidity of the storage atmosphere**, which also influences weight losses due to drying out.
- ✓ The **composition of the storage atmosphere**

Preparation of crops for cold storage

Most crops are likely to contain contaminants, to have parts that are;

- ✓ Inedible, or
- ✓ To have variable shape or size.

To ensure that foods have a uniformly high quality for sale in the fresh market sector, it is necessary **to clean, sort and grade** the crop before cooling and cold storage.

Harvesting and cleaning

It is essential that fruits and vegetables are not damaged during harvest. **Cut** or **bruised** produce is susceptible to post-harvest infection and has a much shorter storage life and poor appearance after storage. To achieve this it is recommended to:

- ✓ Harvest Crops carefully using a sharp stainless steel blade.
- ✓ Do not place on the ground where they could pick up dirt.
- ✓ Handle carefully and as little as possible.
- ✓ Prepare crops in the field and place them carefully in crates for transportation and storage.

Dirty crops can introduce insects, pests and moulds into the cold store, which will then damage good quality produce. If produce (e.g. root crops) is dirty it should be cleaned before storage. The washing water has to be kept clean to prevent it from transferring contaminants.