

Maintaining the Cold Chain

What is a 'Cold Chain'?

A cold chain is a temperature-controlled supply chain. Perishable goods like fresh meat, seafood and fruits, vegetables and even pharmaceuticals, follow a cold chain while in transit, in warehouses, and while waiting to be loaded onto transport.

The Importance of the Cold Chain

Maintenance of the cold chain is the best way to maintain the quality of a product and minimise all forms of deterioration after harvesting, including:

- Weight loss resulting in wilting and limpness;
- Softening;
- Bruising;
- Unwanted ripening;
- Colour changes;
- Texture degradation; and
- Development of rot and moulds.

The export of fresh produce often involves long journey times and frequent handling. This makes effective cold chain management more difficult, but even more essential, to ensure that the product finally sold retains maximum freshness.

Who is Responsible?

Maintaining the cold chain is the responsibility of everyone who handles fresh produce, from producers to retail sales people. A break in the chain, or breakdown in temperature control at any stage, could impact on the final quality of the product.

Efficient Cold Chain Management

There are a few important steps to achieving effective and efficient cold chain management:

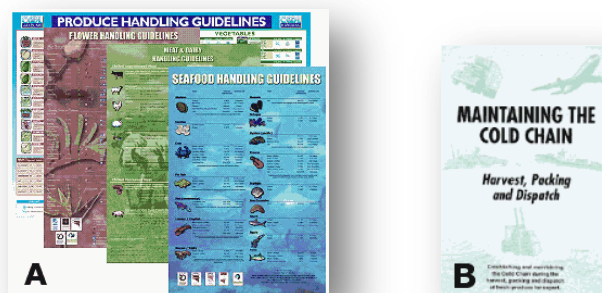
1. **Clean and calibrate** – Make sure your refrigeration equipment is clean and well maintained, so that it performs at its best, minimising chances of hot or cold spots in your warehouse or cold storage rooms.
2. **Know your hot and cold spots** – If your facilities have hot and cold spots, know where they are and avoid storing product there. An infrared thermometer can help you identify these spots.

3. **Pre-cool** - Pre-cooling freshly harvested fruit and vegetables is a critical component of shelf life and optimising quality and value.
4. **Use humidifiers** - Fresh fruit and vegetables are 80%+ water, so it is important that humidity levels are controlled to help them maintain their original weight. This will give them longer shelf life, enhancing your bottom line.
5. **Avoid air pollution** - Running LP or diesel forklifts indoor, or letting diesel trucks and tractors idle when under shelter produces a range of hydrocarbons including ethylene, which is deadly to most fruit and veggies. If it is unrealistic to reduce pollution, air purifiers can help.
6. **Rotate your product** – Following the FIFO (First In, First Out) rule will mean a higher chance of all products being sold before their expiration date, reducing waste and increasing revenue.
7. **Inspect the quality of your product on arrival** - Ensure you inspect a statistically significant percentage of the product received in each load.
8. **Keep score** - Claims, credits, markdowns, and repack must all be tracked to determine whether your operation is running well.¹

Further information

For Australia-wide guides on cold chain management, visit [Business Victoria](#).

For Australia-wide product handling guideline wall charts, pocket guides and vent settings information visit the SA Freight Council at: admin@safreightcouncil.com.au



For South Australian business specific information on the South Australian Freight Council's Cool Logistics Improvement Program (CLIP), view the [CLIP Info Guide](#).

Acknowledgements

(Excerpt) Information was sourced from: "Code of Practice for Handling Fresh Fruit and Vegetables in Refrigerated Shipping Containers" ACOS, CSRIO, DPIE & AQIS.

¹ <http://ne-postharvest.com/free-report.php>