



**Australian food cold chain council**

**Workshop on Reducing Food Loss and Waste along the Food Value Chain in  
APEC during and post COVID-19 Pandemic**

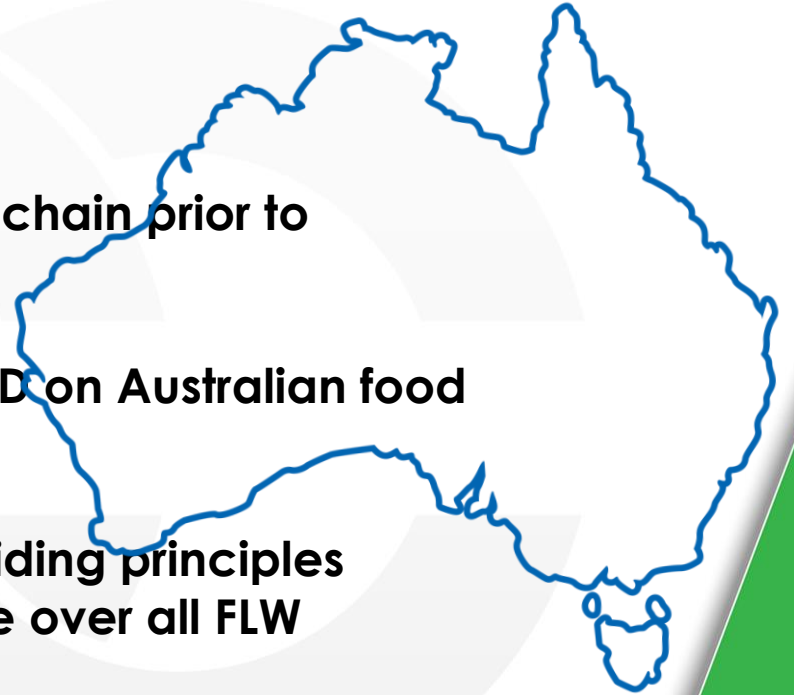
**Optimising the Cold Chain in Australia to Achieve FLW  
Reduction**

**Presented by  
Mark Mitchell | Chairman AFCCC**

**Webinar - Chinese Taipei 30<sup>th</sup> June 2021**

# Introduction

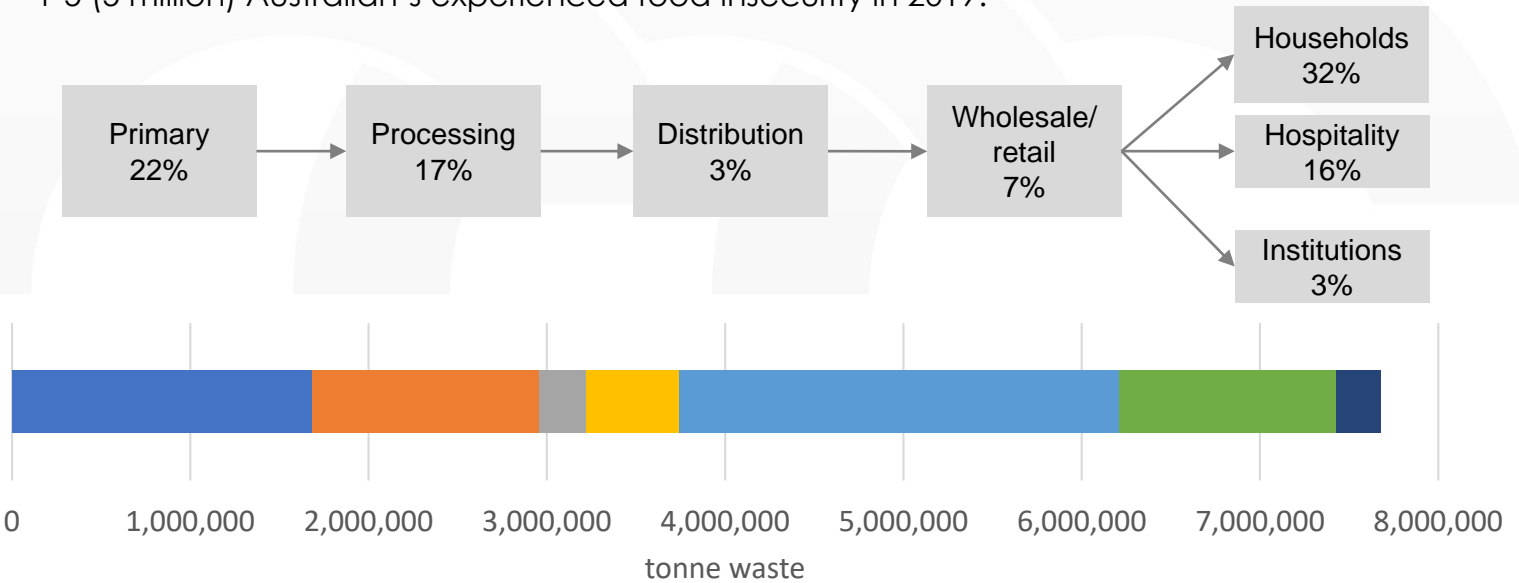
- Insights into food supply and the cold chain prior to COVID period of 2020-2021
- Overview of some impacts from COVID on Australian food supply and cold chain
- Introduction to some solutions and guiding principles necessary for improvement to achieve over all FLW reduction



# Headline figures pre-Covid - Total food loss and waste in Australia

- 7.6 million tonnes a year, circa \$25 billion value to the economy lost, 20Mt of CO<sub>2</sub>e GHG emissions<sup>1,2</sup>
- 1-5 (5 million) Australian's experienced food insecurity in 2019.

**Consumer: 51%**



Sources: 1) FIAL (2021) - [National Food Waste Strategy Feasibility Study](#) (unpublished); 2) Fight Food Waste CRC (2020) food waste GHG impact estimates for whole food value chain;

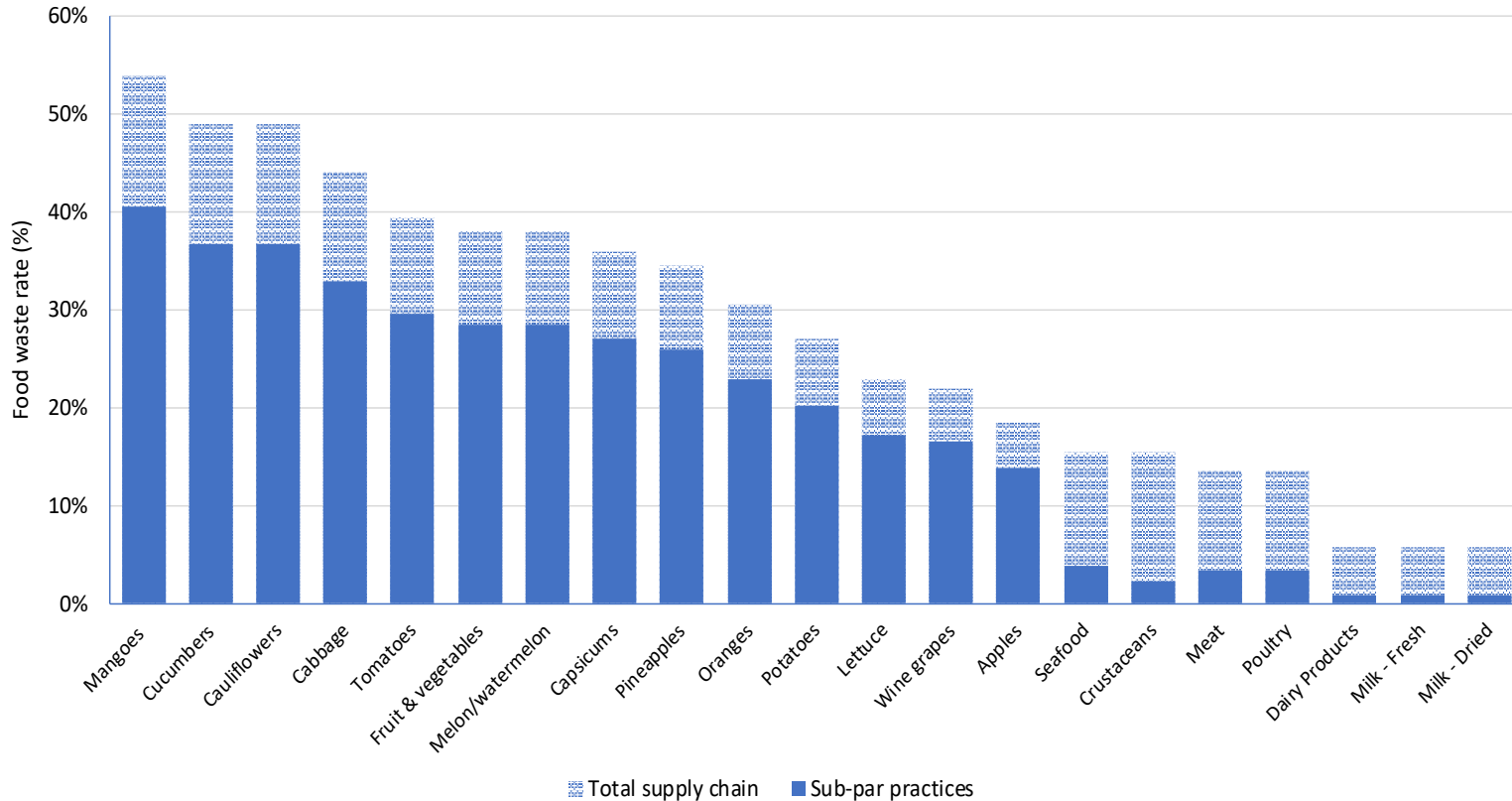
# Headline figures pre-Covid- Food Waste from Australia's cold chain

- Total value (farm gate prices) of food waste at least AUD \$3.8 billion annually which comprised of:
  - 25% (1,930,000 tonnes) of annual fruit and vegetable production worth \$3.0 billion
  - 3.5% of annual production of meat (155,000 tonnes) and seafood (8,500 tonnes) worth \$670 million and \$90 million respectively; and,
  - 1% (90,000 tonnes) of dairy products valued at \$70 million.
- Estimates of losses in the food cold chain do not include impacts of poor temperature control which reduces product shelf life.



# Headline figures pre-Covid- Food Waste from Australia's cold chain

## Rate of fresh produce loss by type



# Why do we have food loss and waste in the cold chain?

In 2020, the Environment Department and Refrigerants Australia funded analysis into this question. It found three areas:

1. Better food handling, such as reducing the time food spends outside refrigerated environments during transfer and more accurate measurement of food temperatures
2. Increased use of tracking/tracing technologies; and
3. Improved 'chain of custody' documentation ensuring shared responsibilities for maintaining food quality



# Headline issues during Covid - Consumers

- In 2019, 15% of Australians experiencing food insecurity were seeking food relief at least once a week. In 2020, this has more than doubled to 31%. Although charities are seeing demand for food relief become more erratic and unpredictable, overall numbers are up by an average of 47% (Foodbank, 2020)<sup>1</sup>.
- From both a health and economic perspective, life has been even more difficult for vulnerable Australians. In addition, charities have seen other food insecure groups arise in the crisis, such as casual workers and international students. The demographics of these groups has resulted in alternative forms of food relief such as pop-up food pantries in CBD and inner suburban locations.
- People have stayed at home more and engaged in more home meal cooking.
- Retailers have done well as a result, so growers have seen 'whole of crop purchase' increases from supermarkets.
- Significant change in consumers view of food which manufacturers are having to respond. Some of the themes coming through are: Food Safety, provenance, Australian Made, natural/organic, minimal packaging.

1) Foodbank Hunger Reports for [2019](#) and [2020](#)

# Headline issues during Covid – Growers and exporters

- The drought has broken in most of Australia which for some producers resulted in bumper crops.
- The loss of access to backpackers has severely limited the ability to get crops off the trees resulting large amounts being left on trees or ploughed back into the soil .
- Overall job shortages on farms = 26,000
- Broad acre crops not affected by labour shortages as much due to utilization of machine harvesting.
- Passenger airline subsidised freight has disappeared. Flights reduced by 90%.
- Shortage in shipping containers resulting in weekly increases in cost.





# Solutions – Supply chain exports

- Re-structure of shipping container economics required. ‘Let the market decide’ approach no longer good enough. Industry wide collaboration could achieve critical mass to buffer against shortages
- International Freight Assistance Mechanism (IFAM) is a good start. Industry collaboration is also required for long term sustainability.
- Labour incentives for growers and horticulture industry at large are required. Australian Government is currently offering \$6000 cash bonus to farm workers. Once again long term approach is required to make farm work more attractive to people of all ages.
- International workers will be incentivised under new Agriculture Visas. Agreement with Britain already under FTA.



# Solutions – Public and private partnerships



## Program milestones for 2021/22

### Four core activities:

- 1 Implement a voluntary agreement
- 2 Develop new and implement existing sector actions plans
- 3 Communicate, engage and partner for impact
- 4 Evaluate and report our progress

### Quarter 1

- Launch the Australian Food Pact & Strategic Plan
- Signatory on-boarding and action planning
- Publish Food Rescue & Food Cold Chain SAPs
- MERI Framework agreed and system tested
- UN FAO International Day of Awareness of FLW

### Quarter 3

- Year 2 Operating Plan submitted
- 1-2 initial new SAP drafts for review
- Recruit BAMS & Technical Specialists for Pact
- Food Waste Action Week 2022
- Second wave Pact signatory projects underway

July-Sept 2021

Oct-Dec 2021

Jan-March 2022

April-June 2022

### Quarter 2

- UNFCCC COP 26 Side Event
- Case for Nationwide Behaviour Change Campaign submitted
- First Pact signatory projects underway
- Twin track recruitment = new Pact signatories

### Quarter 4

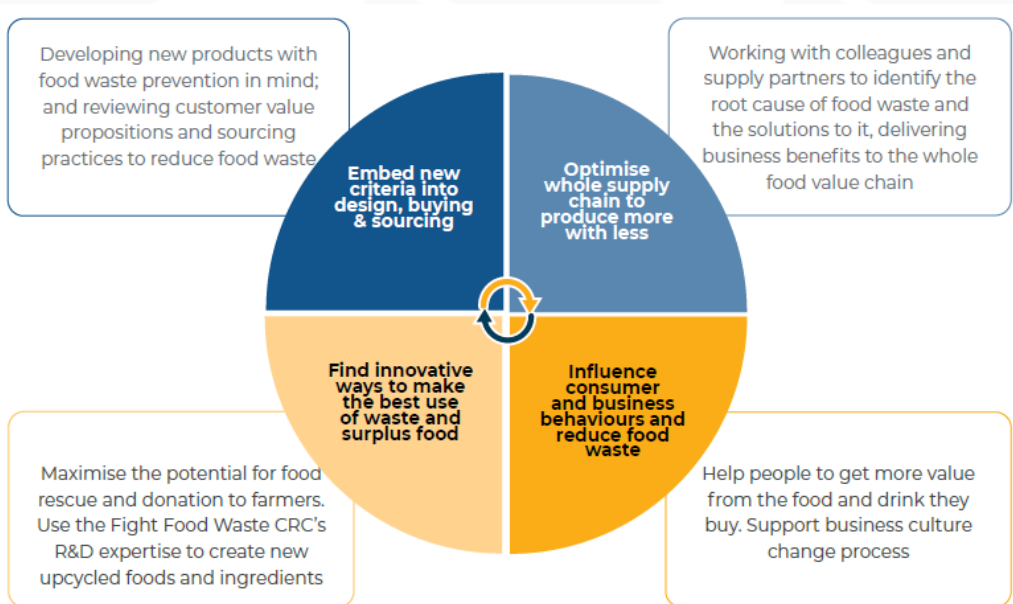
- MERI data collection for Year 1 underway
- Move to self-sustaining funding model
- First signatory income received
- Five anchor companies for 10x20x30 approach
- First SAP case studies published

# Solutions – Public and private partnerships

## The Australian Food Pact

Launching in August 2021

Four areas of focus that drive circularity and improve food supply chain resilience, sustainability and performance. From better design to unlocking new value from surplus and wasted foods.



- Initial federal government grant of \$4 million to June 2024 (\$850K of project budget).
- Begin transition to self-funded model in 2022.
- Target of 50 signatories by June 2024, with projected income of \$2.5 million a year.
- Grow team to circa 10 FTE by 2024

Strong links with all three CRC programs, with potential to adopt and commercialise R&D project outputs

# Solutions – Public and private partnerships

The number of collaborations with FLW warriors is growing



Department of Environment and Science

**SecondBite**  
Ending Waste. Ending Hunger.



Government of South Australia  
Green Industries SA



Australian Government  
Department of Agriculture,  
Water and the Environment



AUSTRALIAN INSTITUTE OF PACKAGING



Australian food cold chain council



AUSTRALIAN FOOD & GROCERY COUNCIL



# Solutions – Optimised cold chain - process

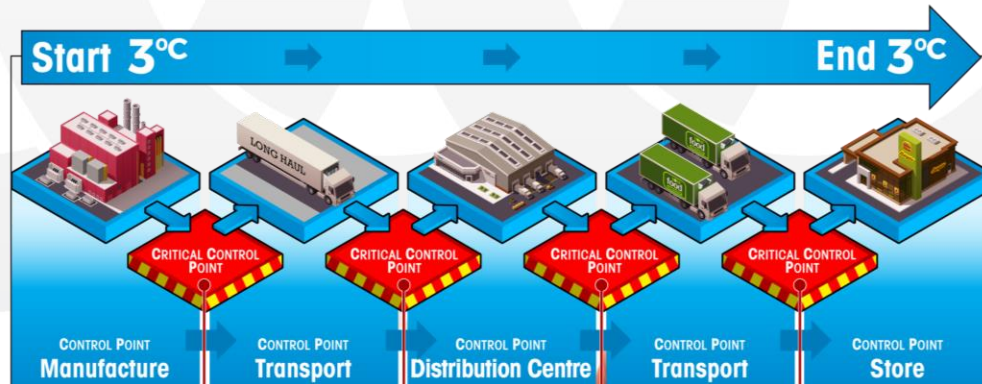
Wider industry recognition of the cold chain as a quality management system. (QMS)

Must lead to ensure verification and validation takes place at all steps in the system.

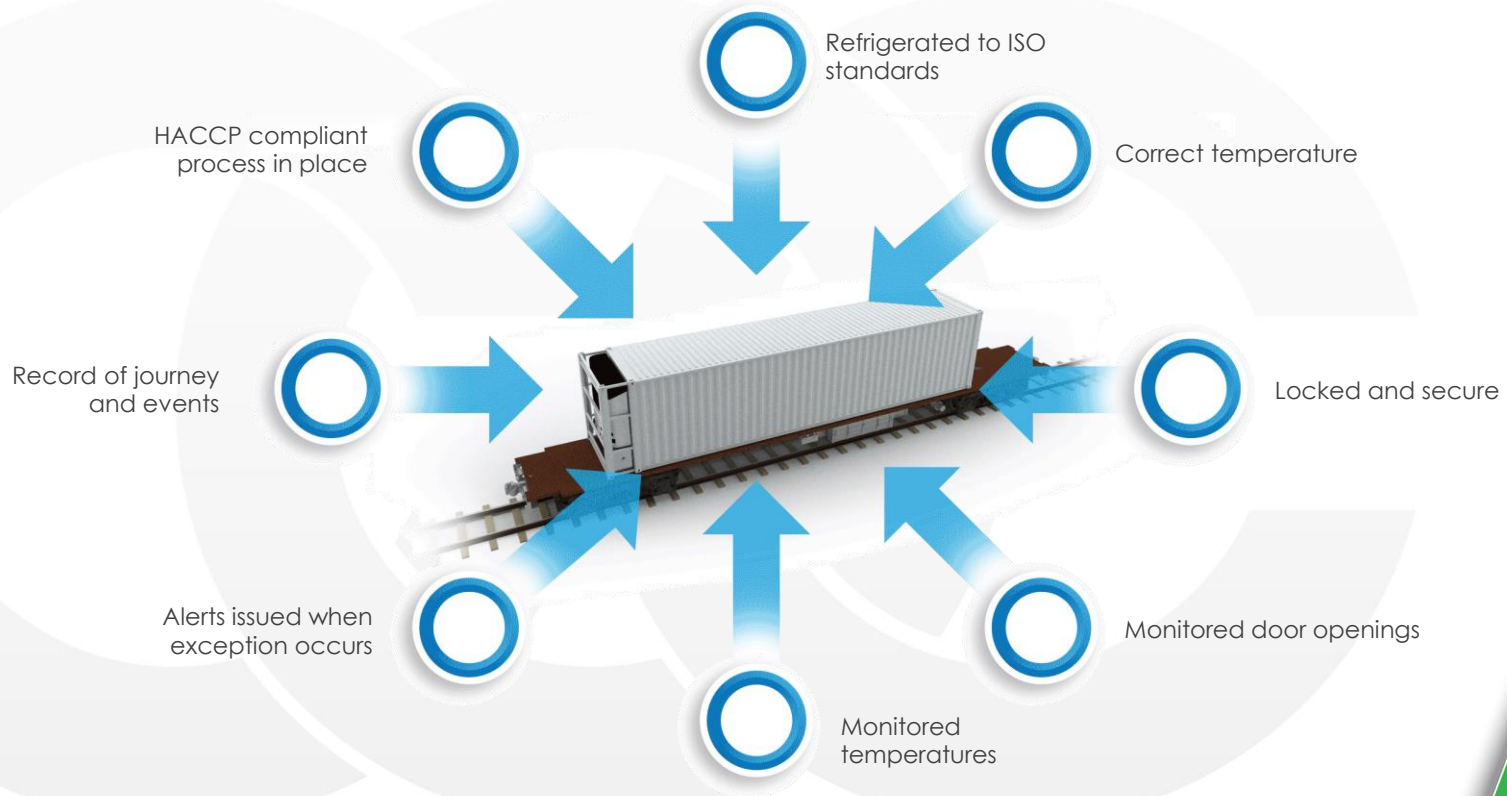
**Verification** is test or measurement of a system to prove that it meets all its specified requirements at a particular stage or step.

**Validation** is an activity that ensures a product meets the needs of the end-user upon completion of the process.

In cold chain language or under **HACCP**, this means temperature verification must occur at all **CP and CCP steps** during the cold chain process.



# Solutions – Optimised cold chain – transport assets





# Solutions – Optimised cold chain – packaging

- Packaging, packing, stacking and wrapping play a role in air flow and product temperature compliance
- Either can block airflow sufficiently to negate convection and introduce conduction
- Can eliminate the efficiency of good refrigeration
- Industry needs to focus more

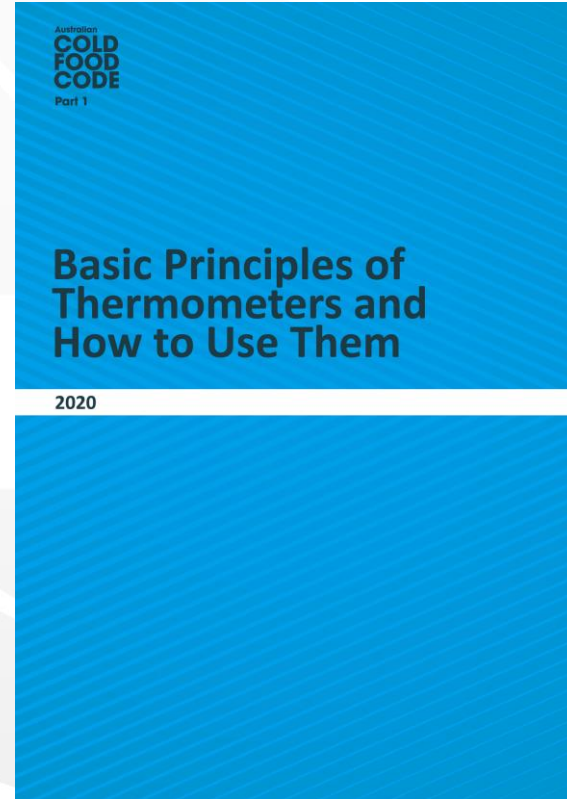


# Solutions – Optimised cold chain – Training

## Cold Chain Professional Development Series

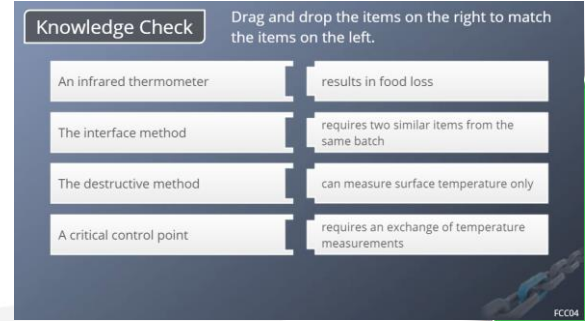
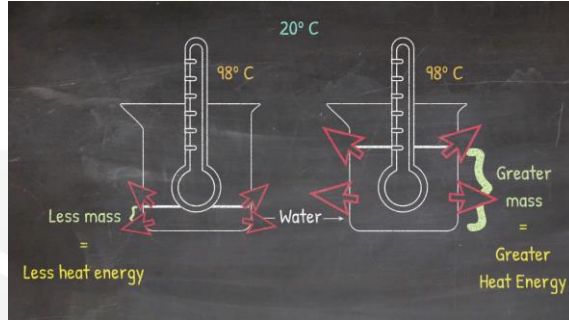
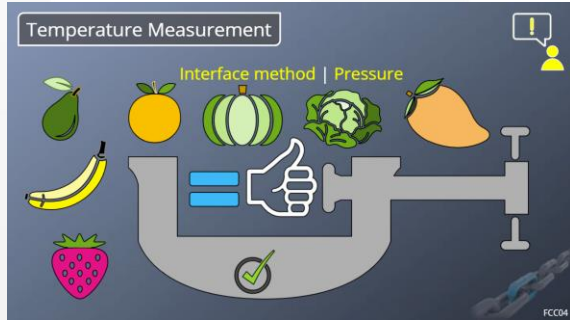
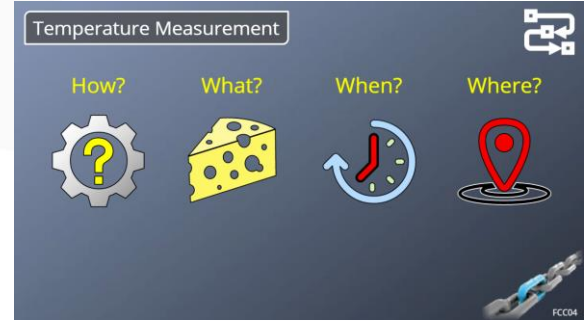
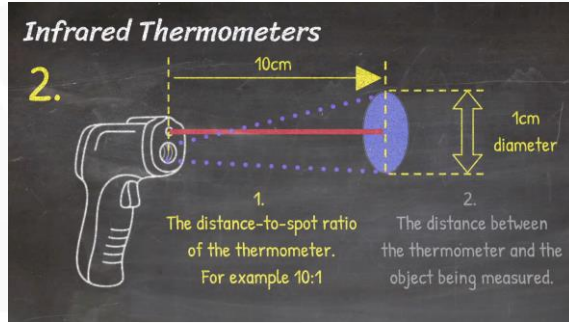
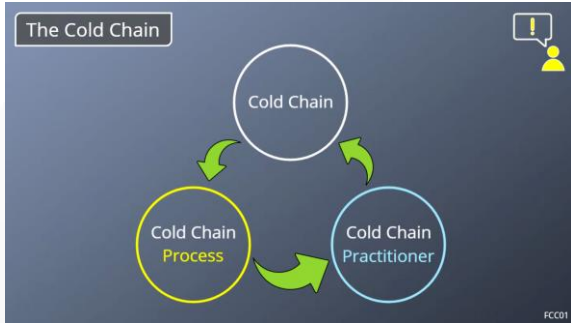
### 5 e-Module Short Course

- Supports ColdFoodCode Part 1
- The Cold Chain
- Heat and Temperature
- Introduction to Thermometers
- Temperature Measurement
- Thermometer Technology





# Solutions – Optimised cold chain – Training



<https://afccc.org.au/training.html>

<http://aipack.com.au/education/cold-chain-training-modules/>

# Thanks to all FLW warriors

Special thanks to



<https://www.stopfoodwaste.com.au>



<https://www.fial.com.au>



**Australian food cold chain council**

Thanks for listening