

# An introduction to mapping the supply chain



**Jodie Campbell**

Scott Ledger, Terry Campbell, Rowland Holmes, Peter Hofman

Delivery

# Why map the supply chain?

- To analyse the product flow
  - What is happening with the product from the tree to the consumer?
- To determine who is responsible for each process of the product flow?
- To determine information flow
- To analyse the value chain
- To determine the government (leadership) of the supply chain

# The need (for Better Mangoes)

- Large losses in mangoes over 3 seasons due to disease breakdown
- Loss in confidence in mangoes by wholesalers and retailers
- Reduced profitability for growers, wholesalers, retailers
- Many years R&D on mangoes but little apparent improvement in product quality



# The process of analysing and improving supply chain systems

1. Mapping the product flow from production to retail
2. Verifying the processes
3. Conducting a hazard analysis
4. Monitoring quality and conditions through the supply chain
5. Conducting laboratory simulations

# Mapping the product flow

- Mapping processes from production to retail
- First step - sit down and brainstorm process
- Include all businesses involved in the supply chain if practical





# Confirming the product flow

Once the process flow has been mapped, walk through the businesses to confirm



# Analysing what can go wrong

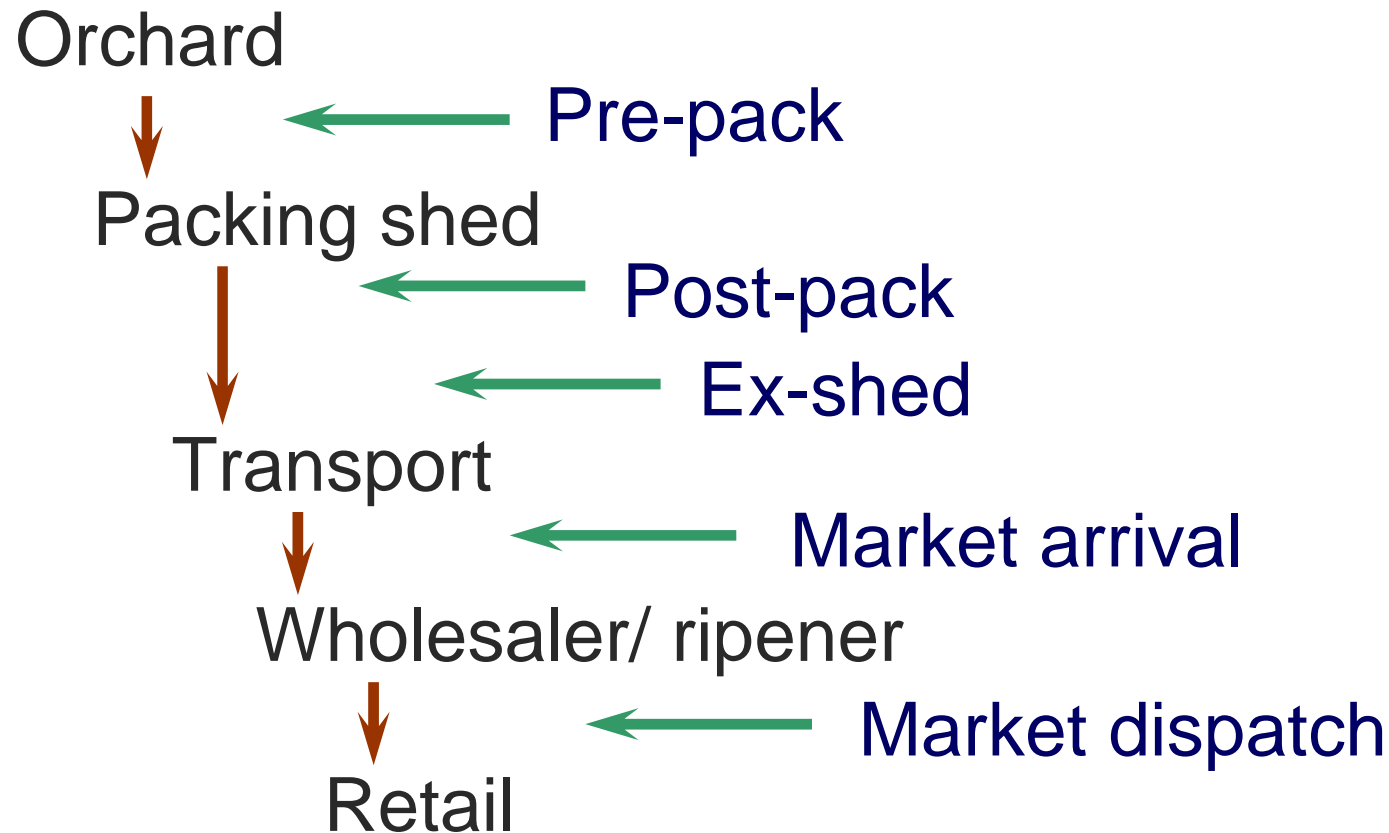
Process/ Procedure	What can go wrong?	What monitoring is done?	What can be improved?
Grading 	Standards not adhered to	Pack Product inspection	Staff training
<b>Packhouse</b>			
Warehouse recieval 	Pallet damage	Recieval assessment	Pallet stabilising, loading transport
<b>Wholesaler</b>			

# Monitoring quality and conditions through the supply chain

## Objectives

- Identify points in the supply chain where quality is lost
- Identify improvements to supply chain systems
- Improve the knowledge and practices of supply chain businesses and improve product quality and profitability

# Sample points



# Temperature monitoring



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# Saleable life index (SLI)



60% yellow  
skin colour



**? days**

10% of fruit  
showing rots



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# How much SLI?



71% of KP loads  
SLI < 7 days

20% of loads  
SLI = 0 days



# What affects SLI

- Orchard management
- Post-harvest fungicide treatment
- High ripening temperature
- Mixed ripening
- Delays in the supply chain

# High temperature reduces SLI



Sampled after packing  
Held at 20°C  
SLI = 4 days

Exposed to 4 days over 24°C  
Sampled at market dispatch  
SLI = 0 days



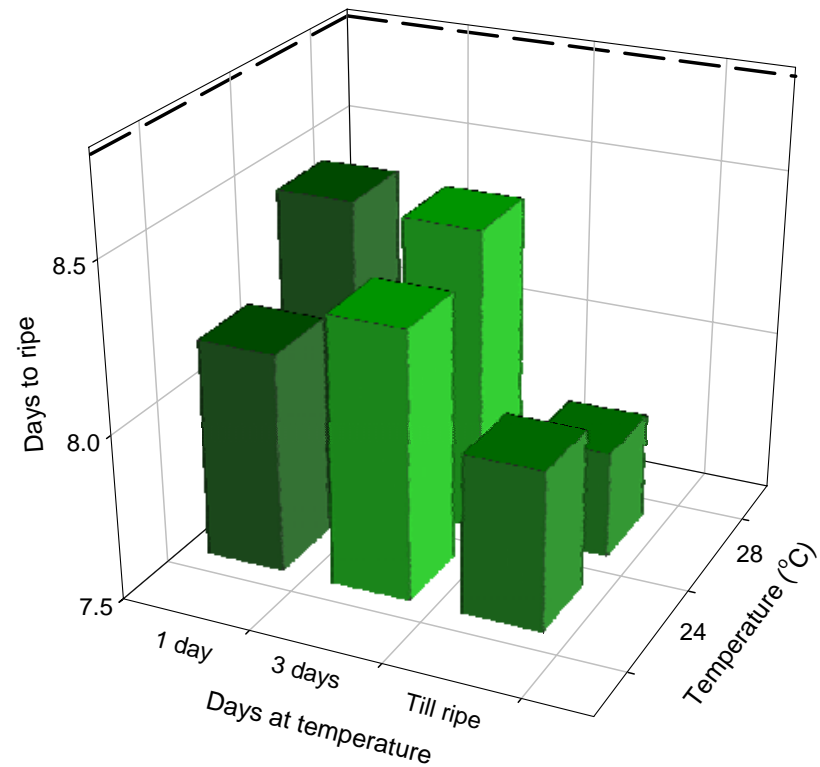
# Conducting laboratory simulations

- Conduct laboratory simulations to determine the effect of supply chain conditions.



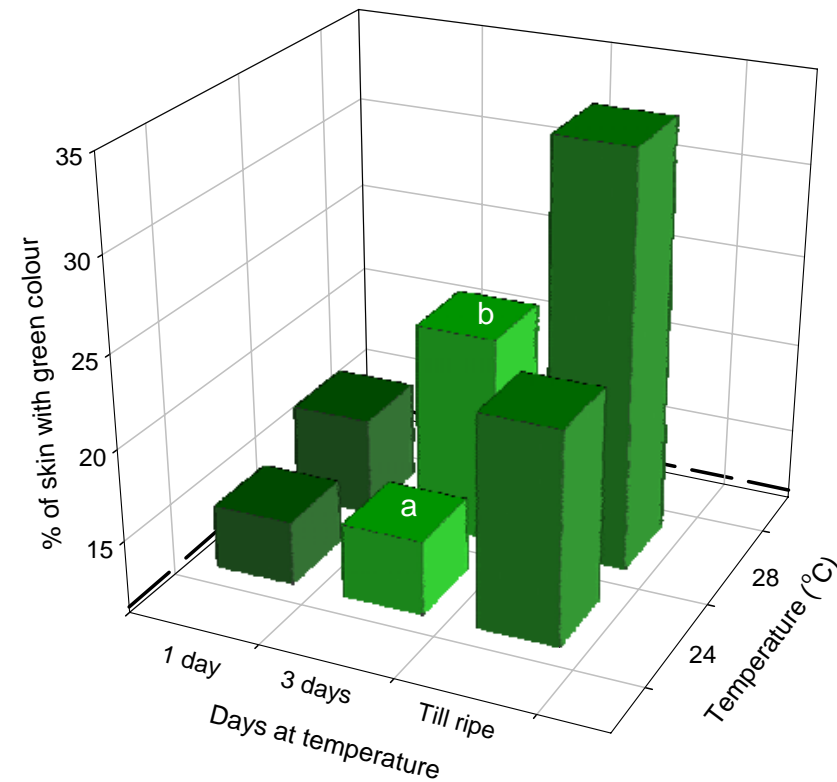
# High temperature; days to ripe

At mid climacteric



# High temperature; green colour

At mid climacteric



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# Activity – Mapping supply chains

## Product flow

Production



Harvest



Transport to  
packhouse or market

## Who is responsible?

Grower



Contractor



Local transport  
company

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Queensland Government  
Department of Primary Industries and Fisheries