



Supply chain monitoring and improvement to reduce banana quality loss

The challenge

Australian Ecoganic bananas are in significant demand in niche Asian markets. Pacific Coast Eco Bananas, a cooperative of five growers in north Queensland, has been exporting ecoganic and organic 'Cavendish' bananas to Asian markets by airfreight since 2009.

An estimated 10% of their consignments are downgraded because the fruit arrives with chilling injury and other quality issues, representing \$1.75 million in lost revenue. Ecoganic is a certified sustainable production system that provides its own ecosystem services to reduce or eliminate the use of products that have a negative impact on the farm and off-farm ecosystems.

Economic losses due to lack of supply chain knowledge and system development significantly undermine the environmental achievements made in the production system as well as the significant waste of inputs and energy that have gone into growing and transporting the fruit to market.

There is currently no monitoring of export shipment temperatures which limits the capacity of the Pacific Coast Produce chains to identify opportunities to improve handling practice and fruit quality.

Our plan

Less fruit arriving in export markets with compromised quality will help enhance the reputation of the Pacific Coast Produce chains to deliver consistently high-quality fruit. An increase in customer satisfaction, a decrease in the cost of exports through improved cold chain management, and enhanced fruit arrival quality will support export growth of up to \$2 million over the next ten years for Australian ecoganic and organic bananas.

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This project will reduce fruit waste from 10% to 2%, saving an estimated \$1.4 million in annual losses, and support a shift from unrefrigerated airfreight to higher volume, controlled temperature sea freight.

The project has three elements:

- monitoring shipments to quantify handling temperatures, identify the cause of fruit quality loss and highlight improvement opportunities. Improved handling practice recommendations will be developed and verified to reduce fruit damage leading to less waste, consistently higher quality bananas and enhanced industry reputation, profitability and sustainability.
- developing a decision support tool that predicts fruit arrival quality, waste and shelf life based on how bananas respond to variations in shipment temperature and duration. Following the successful development of temperature monitoring recommendations and robust modelling to predict fruit quality, commercially viable decision support tools will be evaluated by Pacific Coast Produce, while supply chain manuals and best practice guidelines will be made available to the broader banana industry.

- encouraging adoption of monitoring technology, improved practices and the decision support tool to reduce waste by Pacific Coast Produce chains and the broader Australian banana industry. Levels of customer satisfaction and changes in the volume and costs of Pacific Coast Produce banana exports will be measured each year of the project.

A comparison between Australian fruit quality and waste and organic bananas from other exporting countries will help to identify opportunities to improve competitiveness further.

Timeline

July 2019 - March 2022

Project leader

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Participants



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