



PROJECT SUMMARY

Fight Food Waste CRC SME Solutions Centre

THE CHALLENGE

Australia has more than two million small to medium-sized enterprises (SMEs) that contribute over 50% of Australia's GDP. SMEs have many challenges given their size, one of which is tackling food waste.

THE OPPORTUNITY

To support SMEs to find the best food waste solutions and assist in their efficiency and sustainability, the Fight Food Waste SME Solutions Centre (SME Solutions Centre) was created to provide access to funding, skills and expertise. Launched in August 2019 and closing June 2022, the SME Solutions Centre was a \$450K grant program funded by Food Innovation Australia Ltd (FIAL) and administered by Queensland Department of Agriculture and Fisheries.

The aim of the SME Solutions Centre was to provide dollar-for-dollar support to successful applicants to partner with researchers in the Fight Food Waste CRC to conduct short-term research that would find a solution to their agri-food waste problems. Without the resources provided by this co-investment these enterprises would find it challenging to address these food waste issues.

OUTCOMES

Eight projects were funded:

- [Montague Fresh Circular Fruit Waste](#)

The project succeeded in the creation of a series of snack and 'ready-to-eat' foods from the largest source of fruit waste produced at Montague Fresh, which is plums. Montague has identified processing and product manufacturing partners who are keen to collaborate in the development of new consumer products and has also commenced a process of considering co-locating processing equipment at its fruit packing site in Narre Warren North, Victoria.

- [Value-Adding to Underutilised/Waste Pumpkin Produce](#)

The concept methodologies developed to produce Orange Glow pumpkin freeze- and air-dried powders, beta-carotene rich extracts, seed oil and protein rich meal and probiotic pumpkin beverage were successfully tested. The conversion yields of fresh pumpkin to powders were quite high (up to 11.5%) which is promising for potential commercialisation.

- [Production of Potato Protein Isolate Power Using a Mild, Low Cost and Healthy Extraction Method](#)

Pacific Ag will be able to manufacture potato protein powders (concentrate and isolate) that have sound techno-functionality and stability. The irregular size (undersize, oversize) potatoes, that would otherwise go to waste, can be used to produce these high value potato protein powders.

- [Maximising Antioxidants in Queen Garnet Plums During Processing and Bottling](#)

In previous seasons, fruit that was underripe would go to waste due to the suboptimal aesthetic and eating quality. With improved characteristics, the fruit will move through the stores quicker, increasing demand and therefore increasing the moving supply to reduce waste at the orchards. Outside of the fresh fruit season, the processing fruit used to produce value-added products will be of superior quality with higher volumes and less unusable waste. Tools such as the affordable colourimeter tested in this project will assist growers in being able to conduct quality control and will potentially help in preventing early harvest and consequently unsaleable product.

- [Prioritisation of Value-Adding Opportunities to Upcycle Brewing By-Products](#)

Grainstone has now developed novel and inventive platform processes to upcycle barley grain by products and related feedstocks. This technology maximises and optimises yield, purity, profitability, and sustainability.



- [Banana Feeds Australia Equine Scoping Study](#)

Laboratory testing of samples of the dried green banana product was performed to identify and quantify the biologic compounds that might be beneficial to animal health. These included the total antioxidant content, flavonoids, polyphenols and antioxidant activity. A preliminary clinical trial showed that the feeding of 100g/day of dried green banana product containing resistant starch over a 28-day period did not negatively influence the microbial population of the hind gut and could safely be fed to horses without any adverse effects. A second clinical trial found that 'B-Complete - Nature's Green Banana Supplement' on the development of stomach ulcers showed some benefit in comparison with no treatment, however, was not as effective as omeprazole.

- **Maximising Shelf-Life of an Ambient Cowch Pancake Through Formulation**

Project still in progress

- **Shelf Life, Nutritional and Sensory Validation of Value-Added Unmarketable Strawberry Produce (Part A) And Commercialisation Trial (Part B)**

Project still in progress

IMPACT

- **Grainstone Pty Ltd** have undertaken scale up trials with organisations across Australia.
- **Banana Feeds Australia Pty Ltd** through their factory in North Queensland is manufacturing, and exporting upcycled banana feed products to the high-end equine industry across the globe.
- **Nutrafruit Pty Ltd**, based on the solution provided, pivoted to new production technologies that can retain bioactive componentry and are also incorporating new rapid analysis quality control tools for measuring fruit quality and micronutrient content in the field.
- **Daintree Fresh Pty Ltd** is working with supply chain partners in Japan to develop their value-added ingredient line and fresh products from surplus pumpkin.

- **Pacific Ag Pty Ltd** have sought official advice on scaling up the protein extraction solution to a pilot plant level suitable for their size.
- **Montague Fresh Pty Ltd** launched their first upcycled product utilising 50 T of plums that would have otherwise been wasted. This was used to create 'Rescue Pops' in collaboration with Peter's Ice Cream and launched in October 2022.
- **SSS Strawberries & Cowch** projects still in delivery phase.

PROJECT TEAM AND PARTICIPANTS

Ross Naidoo, Department of Agriculture and Fisheries

James Krahe, FIAL

Barry McGookin, FIAL

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PARTICIPANTS



Queensland
Government

PROJECT WEBPAGE

[Fight Food Waste SME Solutions Centre | Fight Food Waste CRC](#)

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