

Project Summary

‘Shelf life, nutritional and sensory validation of value-added unmarketable strawberry produce and commercialisation trial’ project

KEY POINTS

- Collaboration with industry partner and engagement in research was essential to maximise the value-add to second and third grade strawberry farm waste;
- This research collaboration supported the development of regional manufacturing capabilities through processing and equipment assessments.



Figure 1. Research team at SSS Strawberries

THE CHALLENGE

Strawberries are highly valuable but perishable products, and growers face increasing pressure to reduce food waste. SSS Strawberries is committed to diversifying its business strategy by utilising excess fruit to develop a range of value-added products, which expands commercial opportunities, reduces supply surplus and provides an additional revenue stream during the off-season.

THE OPPORTUNITY

SSS Strawberries currently produces 3,000 tonnes of fresh strawberries each season and has also been developing products through freeze-drying technologies. There is a significant opportunity through product range expansion and texture quality improvement to engage consumers further. The Department of Agriculture and Fisheries (DAF) supported the industry partner by providing technical expertise and funding resources, building research capacity in this space.

OUR RESEARCH

The Agri-Food & Data Science Product Development Team at the Health Science and Food Precinct Research Facility collaborated with the industry partner through a series of industry workshops and consumer focus groups to guide product development concepts for value-added strawberry products.

OUTCOMES

DAF successfully identified several valorisation pathways to utilise excess strawberries. Physico-chemical and microbiological qualities were evaluated for concepts to ensure product quality. This project has provided a base framework for the industry partner to develop further research and product refinement. Additionally, consultation and feedback from this project will be used to guide the development of a new purpose-built regional food manufacturing facility in 2023/24 in Bundaberg. The key results were as follows:

- Consumers identified the coverture product range as a highly desired category, which included chocolate and yoghurt covered products.
- Both whole-freeze-dried strawberries and freeze-dried reconstituted variations were found acceptable by consumers.

- Size reduction of raw materials can significantly increase processing efficiency and provide a uniform product quality.
- Whole-freeze-dried product texture quality may be improved through optimising processing parameters, however there was no significance difference in consumer preference.

All proof-of-concept treatments have acceptable microbiological qualities and no food pathogens were detected post-processing.

IMPACT

The launch of standard and enrobed strawberry products in 2024 is expected to reduce on-farm waste by 300T and create circular economy jobs through the building of new processing facility.

NEXT STEPS

Partnering with retailers and other vendors to build brand and new lines of new value-added products is an essential next step. In addition, research and development support will be provided in the form of a Stage 2 project to further build capacity to process additional waste streams from other types of fruits and vegetables in the region.

PROJECT TEAM

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PROJECT REPORTS/PUBLICATIONS

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PROJECT WEBPAGE

[SME Solutions Centre – Shelf life, nutritional and sensory validation of value-added unmarketable strawberry produce and commercialisation trial | Fight Food Waste CRC](#)