



FIGHT FOOD WASTE
Cooperative Research Centre

REDUCE - TRANSFORM - ENGAGE

TRANSFORM Program
September 2021



Francesca Goodman-Smith
TRANSFORM Program



Australian Government
Department of Industry, Science,
Energy and Resources

Business
Cooperative Research
Centres Program

TRANSFORM team



Francesca Goodman-Smith

Transform Program Leader

E: francesca@fightfoodwastecrc.com.au

P: 0499 035 420



Molly Chapman

Transform Deputy Program Leader

E: molly@fightfoodwastecrc.com.au

P: 0404 333 384



Jessica Morgan

Transform Program Coordinator

E: jessica@fightfoodwastecrc.com.au

BD colleagues



Jonathan Middis

SA Innovation Manager

E: Jonathan@fightfoodwastecrc.com.au



Val Natanelov

QLD Innovation Manager

E: val@fightfoodwastecrc.com.au

Fight Food Waste CRC



An Australia without food waste The Fight Food Waste Cooperative Research Centre will increase industry profitability, address food insecurity and enhance Australia's reputation as a sustainable food producer

By uniting science and industry we will



REDUCE food waste throughout the supply chain



TRANSFORM unavoidable waste into innovative products



ENGAGE with industry and consumers to deliver behavioural change

2018
Baseline

1/3
of all food produced

\$20 Bn p.a.
in Australia

7.3 M T
food waste p.a.

298kg
per Australian
per year

13.5 M T
of CO₂-e

4 M people
food insecure

Deliver the Grant Agreement

We will first establish our initial 30-project research, development and extension program based on the best science and expertise with our existing participants. We will then develop and deliver new projects with existing and new participants that ensures we effectively deliver on all Grant Agreement performance milestones.

Deliver Future Initiatives

We will identify and target additional food loss and waste opportunities based on the National Food Waste Baseline and other key reports that will deliver significant food waste reduction and industry benefits to help achieve SDG 12.3. Additionally, we will scope and potentially develop a 10-year national behaviour change program that targets the entire food system, particularly consumers, with the Australian and state and territory governments and industry that reduces and prevents food waste from entering landfill.

2028
Accumulative
Grant Agreement targets

30 M T
of reduced
food waste

\$2 B
Increase in industry
profitability

20 M Kg
of rescued food
distributed

5200
circular
economy jobs

40
Future Leaders
graduated

250 industry
people trained p.a.

Our Core Values



Collaboration
We will be greater than the sum of our parts



Innovation
Real impact on food waste reduction and commercial outcomes from the CRC activity



Participant Value Creation
Our participants get more than they expected from being part of the FFW CRC



Our People
To be a workplace of choice for our salaried and in-kind staff



Excellence
To deliver the best that we can for our participants



Accountability
We stand behind our people and our work



Business
Cooperative Research
Centres Program



Map resource flows, waste and root cause analysis

- DIRECT commercialisation
- Understanding the barriers and drivers to reduce store loss and food waste at Woolworths



Review functions and consumer perception of packaging and processing

- Save food packaging criteria and framework
- Consumer perceptions of the role of packaging in reducing food waste
- The opportunities for Australia's packaging and processing machinery sector to tackle food waste



Investigate product specific supply chains and identify opportunities

- On-board processing and packaging Innovation in the Australian wild harvest prawn fishery
- Supply chain monitoring and improvement to reduce banana quality loss
- Reducing canning losses in the abalone industry



Investigate methods to increase food donation and measure its social impact

- Enhancing Foodbank's stakeholder engagement
- Foodbank meals via YWaste app



Educate future industry professionals

- Future Leaders Program

REDUCE

TRANSFORM

ENGAGE



Identify and prioritise valuable products from waste streams

- Making ACC circular
- Converting potato waste into pre-biotics and other valuable products
- Nutraceutical extraction from Australian wine industry waste
- Transformation of surplus/waste tomato and capsicum produce into value added products



Identify technology gaps and process limitations in waste transformation

- From food waste to smart compost formulations



Tool kit for optimising technology and feedstock combination choice

- Fight Food Waste SME Solutions Centre
- Waste-to-energy: fuelling sustainable wastewater treatment with food waste



Conduct socio-economic assessment of alternative policy settings

- Projects to follow



Disseminate industry and skills training

- Industry Connection Hub
- 2019 Food summit sponsorship
- Sustainable packaging to reduce food waste



Develop household and business behaviour change instruments

- Understanding household food waste attitudes and behaviours to reduce food waste
- Food waste reduction roadmap for Woolworths
- WWW (What, Where and Why) of household food waste behaviour



The TRANSFORM program challenge:

To transform unavoidable waste into innovative products

Strategic Activity 1

Identify and prioritise valuable products from waste streams

Output 1

Commercially valuable products from food waste

Strategic Activity 2

Identify technology gaps and process limitations in food waste transformation

Output 2

Commercial prototype technologies for food waste transformation

Strategic Activity 3

Deliver tool kit for optimising technology and feedstock combination choice

Outcome 3

Framework to optimise viability of technology and waste input combinations

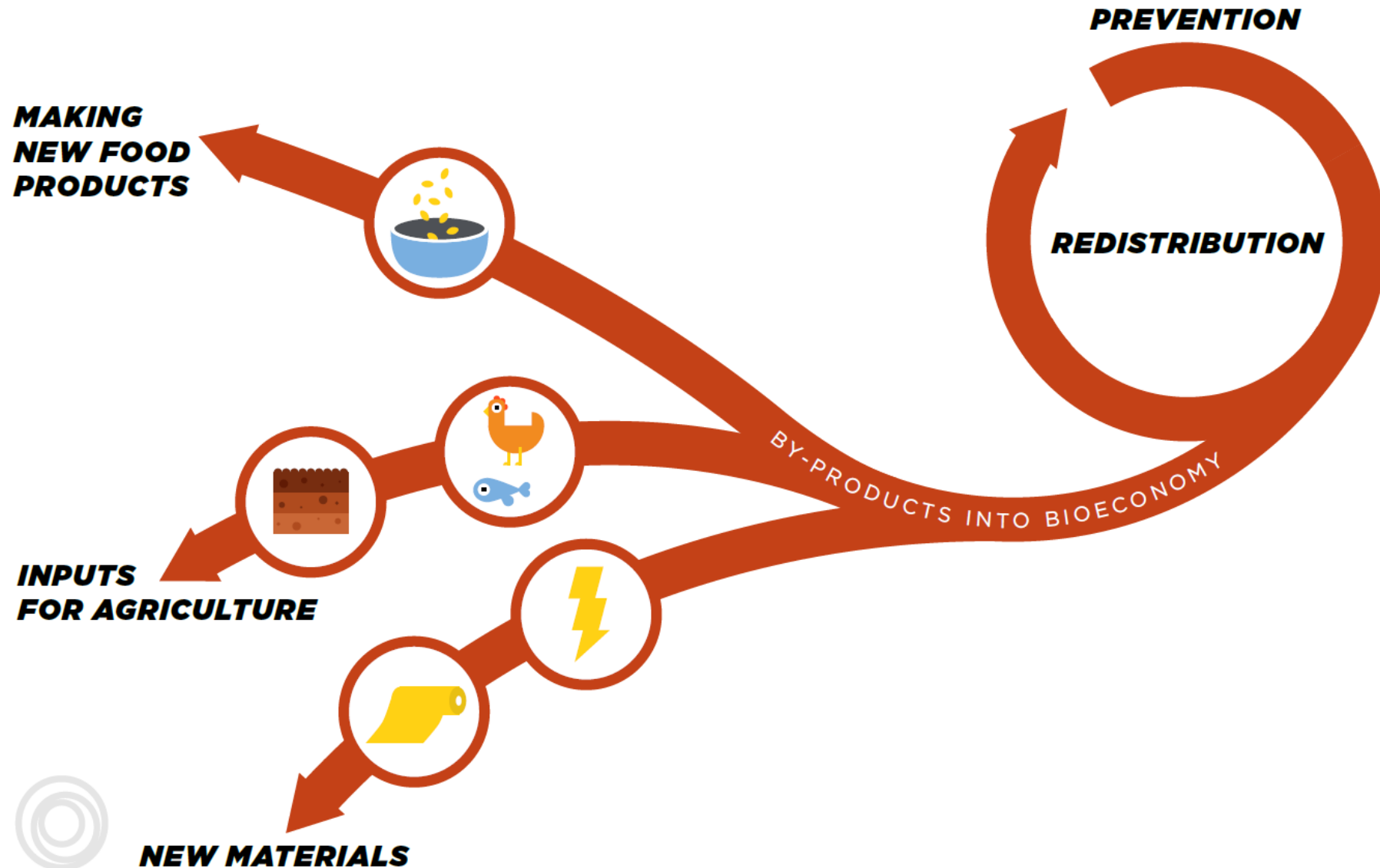
Strategic Activity 4

Review current policy, regulations, legislation and market settings which impact food waste transformation, and evaluate alternative policy recommendations

Outcome 4

Regulation, legislation, and policy options to enable food waste transformation markets and promote investment.

Five ways of creating value out of food waste



Current projects

COMPLETED PROJECTS



Making Australian Country Choice circular

Stage 1



Transformation of surplus tomato and capsicum produce



Nutraceutical extraction from Australian wine industry waste

Stage 2



Options for utilising apple and pear pulp residue



Transformation of surplus tomato and capsicum produce



Converting potato waste into pre-biotics and other valuable products



New Opportunities For Abalone Processing Waste

Current projects



Advancing regional agri-food waste valorisation



Fuelling sustainable wastewater treatment with food waste



From food waste to smart compost formulations



Pilot-scale production of enhanced-value anaerobic digestion waste-derived bioproducts on the Darling Downs



SME Solutions Centre – Value adding to underutilised/waste pumpkin produce



Utilising nut waste in the sandalwood industry to enhance profitability and sustainability



Optimising and industrialising black soldier fly (BSF) production - redirecting food waste to livestock feed production using insects



Food Waste to Pig Feed – Safe and Bio-secure

Upcycled food

Global Trend Alert

A [Forbes report](#), valued the Upcycled Food Industry at USD 46.7 billion in 2019 with a compound annual growth rate of 5% for the next ten years.



Whole Foods Market named Upcycled foods in their [top 10 food trends for 2021](#)

Upcycling is coming to Australia



[Nestle Australia](#)



[I am grounded](#)



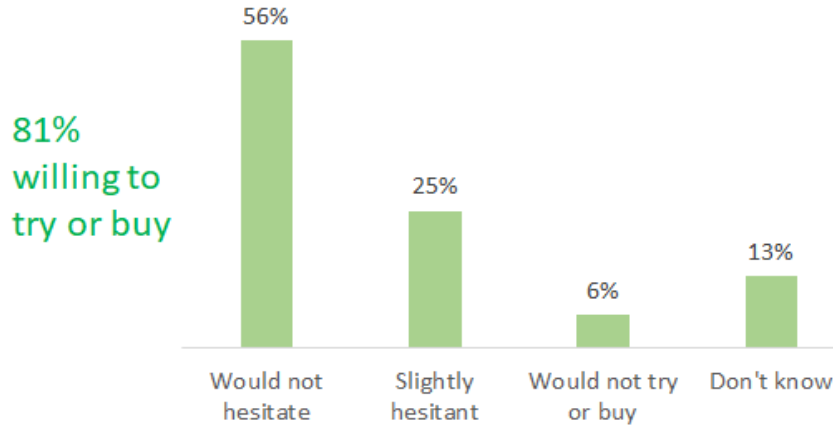
[BREWDOG](#)

Consumer perceptions

Once described, more than three-quarters of shoppers say they would be at least somewhat willing to try or buy such an Upcycled Food.

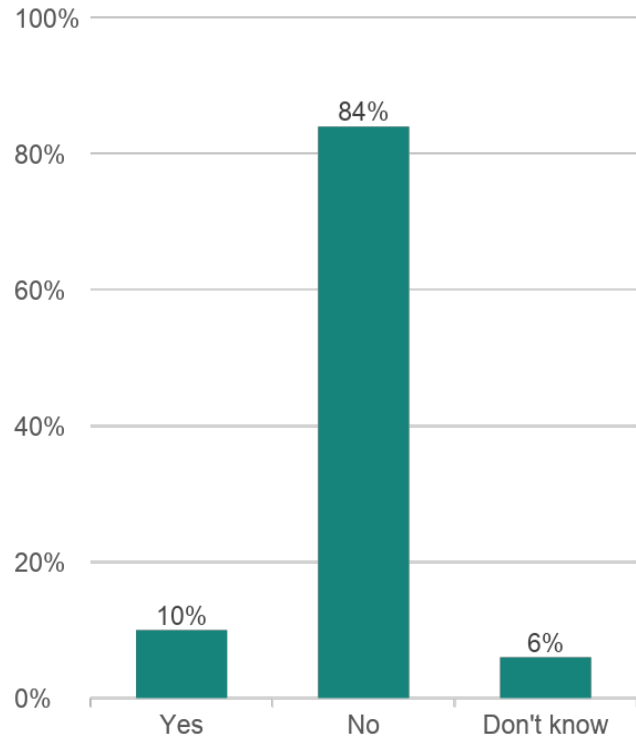


Likelihood to purchase Upcycled Foods



1000 consumers were surveyed and consumer acceptance for upcycled food is strong

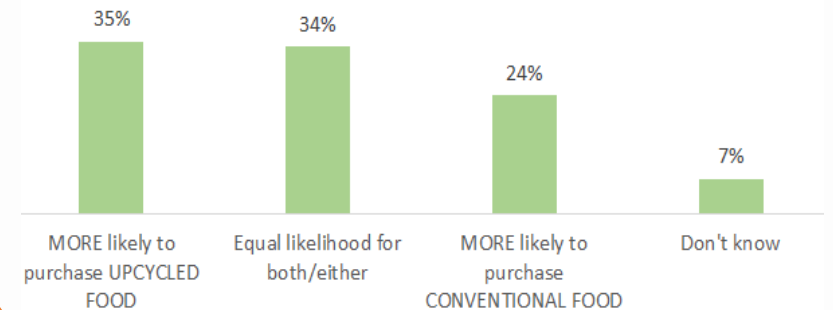
Have you ever heard of Upcycled Foods?



All things being equal including price, taste, size, etc. preference for purchase is for an Upcycled Food according to the highest proportion of shoppers.

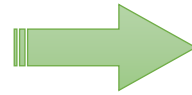
Likelihood to purchase Upcycled vs Conventional Food

35% would opt for upcycled over conventional

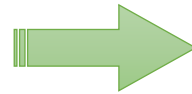


Making new food products

TRANSFORMATION OF SURPLUS/WASTE TOMATO AND CAPSICUM PRODUCE INTO VALUE-ADDED PRODUCTS

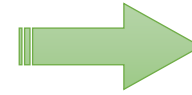


BANANA FEEDS AUSTRALIA EQUINE SCOPING STUDY

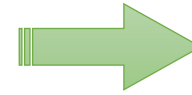


Making new food products (and ingredients)

CONVERTING POTATO WASTE INTO PRE-BIOTICS AND OTHER VALUABLE PRODUCTS



NUTRACEUTICAL EXTRACTION FROM AUSTRALIAN WINE INDUSTRY WASTE



Inputs for agriculture

OPTIMISING AND INDUSTRIALISING BLACK SOLDIER FLY (BFS) PRODUCTION

— Redirecting food waste to livestock feed production using insects



This project will identify gaps in the regulation, policy, and standards that prevent insects from being used to reduce waste in the Australian food and agricultural supply chain. More comprehensive regulatory support can increase the use of this valorisation process, resulting in greater availability of high-protein feedstocks for intensive animal production (e.g. poultry, aquaculture, pork and beef production).



FIGHT FOOD WASTE
Cooperative Research Centre

REDUCE - TRANSFORM - ENGAGE

What's next for TRANSFORM



Australian Government
Department of Industry, Science,
Energy and Resources

Business
Cooperative Research
Centres Program



FIGHT FOOD WASTE Cooperative Research Centre
REDUCE - TRANSFORM - ENGAGE



STOP FOOD WASTE AUSTRALIA



Australian Government
Department of Industry, Science, Energy and Resources

Business Cooperative Research Centres Program