

Quality Food @ Sydney Institute of Agriculture

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Why Food Quality Research?

- Natural extension of agricultural production
- The **Farm** is where quality begins
- Quality depends on environment, genetics, handling within the supply chain
- Ultimately it's the consumer that decides the quality that is **fit for purpose**

What does the consumer want?

- Nutritious
- Safe
- Sustainably produced
- Provenance
- Novel foods
- Flavoursome

Global sales of healthy food products are estimated to reach \$1 trillion by 2017 according to Euromonitor

SIA Research in Food Quality





Consumer: Fruit and Vegetable Consumption

8% Australians eat 5 serves of vegetables per day

In Australia campaigns have not worked

Internationally few examples of success

Campaigns require tailoring to target groups with poor eating habits

Education of health benefit labelling + nutrients 10% or more of RDI



Research review

Promoting consumption of fruit and vegetables for better health. Have campaigns delivered on the goals?

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Health Promotion Journal of Australia
http://dx.doi.org/10.1071/HE16003

Consumer evaluation of 'Veggycation[®]', a website promoting the health benefits of vegetables

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ORIGINAL RESEARCH

Australian consumer awareness of health benefits associated with vegetable consumption

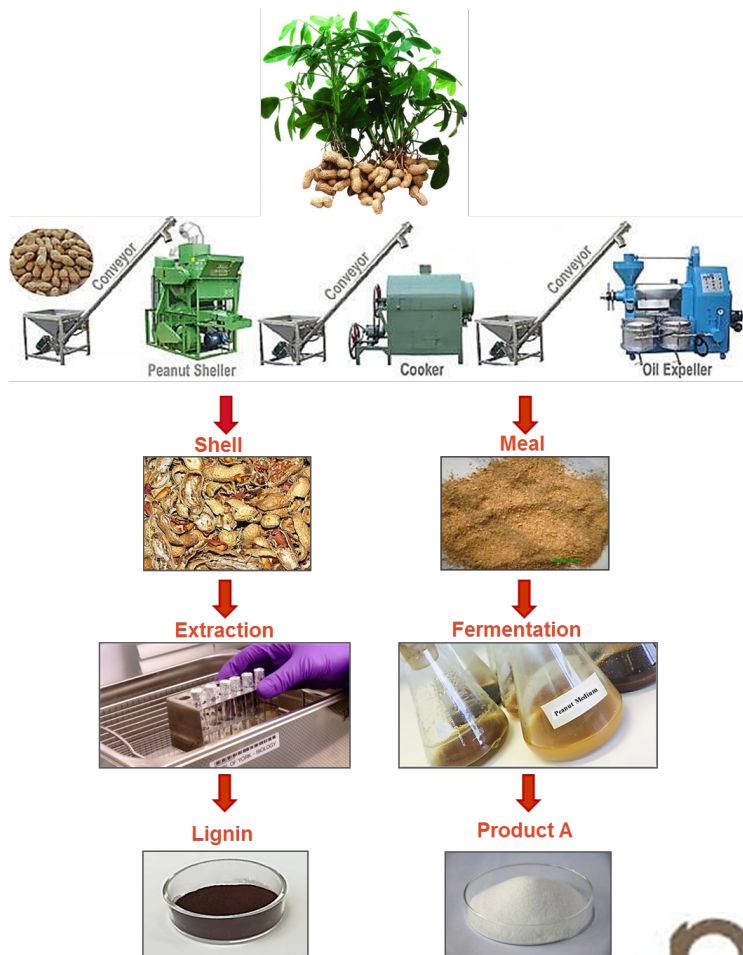
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Researchers: Robyn McConchie, Reetika Rekhy and Aila Khan

Food Waste: Value added products

Peanut Waste



Horticultural Waste



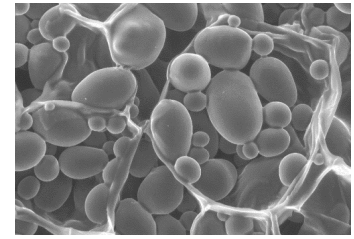
- Protein
- Dietary Soluble and Insoluble Fibre
- Antioxidants
- Minerals
- Nutraceuticals



ARC Training Centre for the Australian Food Processing Industry in the 21st Century (IC140100026).

Processing: Starch

- Natural polymer of major significance for humans
- 50-70% of dietary energy
 - how we digest starch has health implications
 - glycemic effect
 - food for gut microbes
- Major industrial product
 - 60+ million t/yr extracted from crops for use as a functional ingredient in foods (60%) and in non-food applications (40%)
- Research on structure-function relationships processing and nutrition



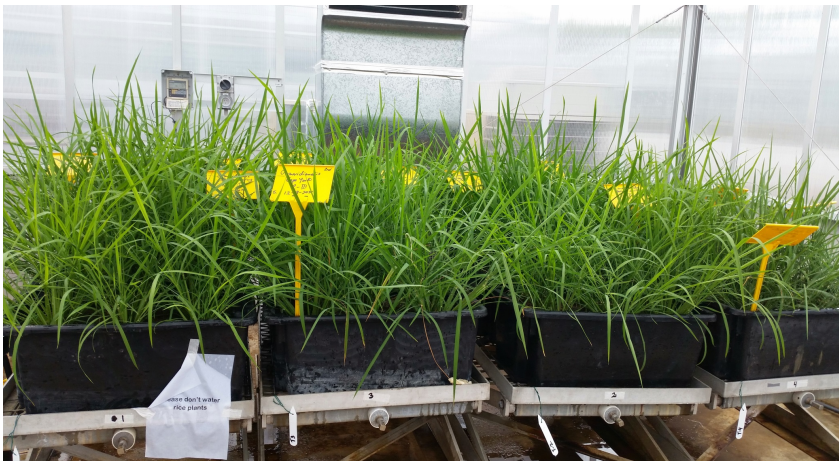
Researcher: **Les Copeland**

Indigenous Food: Rice



Wild rice growing on the floodplains of the Northern Territory
Photo: CDU

- *Oryza meridionalis* and *Oryza australiensis* are wild species related to domesticated rice (*Oryza sativa*) and are endemic to northern Australia.



Wild rices growing in glasshouses at Macquarie University



Wild rice collected from the floodplains of the Northern Territory
Photo: Matt Brann

- How do native Australian rices grow in **highly saline soils**?
- What are the **grain quality** attributes of the native Australian rices?
- How will grain quality be affected by **rising atmospheric [CO₂]**?

Food Safety: Fresh Produce Recalls in Australia



2016

Victorian Health Department said 143 people fell ill with salmonella after eating Tripod pre-packaged lettuce products

2015 and 2017

8 people contracted hepatitis A from eating Patties Foods' Nanna's frozen berries. Highlighted concerns about country-of-origin labelling on food

ARC ITTC Food Safety in Fresh Produce

Science-based understanding food-borne pathogens in production and postharvest environments and deliver ready-to-use solutions for industry

On-Farm Environment



**\$~6M project
2017-2020
9 PhD Students
3 Postdocs
20 Industry Partners**



Postharvest Environment



Risk Assessment





Australian Government

Australian Research Council

ARC Centre for Food Safety in Fresh Produce

Partner Organisations

FRESH PRODUCE
SAFETY CENTRE

AUSTRALIA & NEW ZEALAND



THE UNIVERSITY OF
SYDNEY

Program partner

pma
AUSTRALIA+NEW ZEALAND



FRESH SELECT

"If it's fresh, it must be Select"



GSF FRESH AUSTRALIA PTY LIMITED



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Quality Food@SIA will harness the University's breadth of skills in food research, providing a vision for innovation in food quality