



THE CRAWFORD FUND ANNUAL CONFERENCE

Food and Nutrition Security: Transformative Partnerships, Local Leadership and Co-Design

12-13 August 2024

Parliament House, Canberra, Australia, and online



Learnings from Australian Indigenous Projects

Madonna Thomson

BushTukka & Botanicals Indigenous Enterprises Cooperative

The Crawford Fund Annual Conference 12 & 13 August

Learnings from Australian Indigenous Projects

Indigenous led & informed Research – A Sustainable Benefit Model

Indigenous led & informed research allows for both the appreciation of Indigenous ecological knowledge and application and its benefits to Indigenous Communities.

Indigenous knowledge about Australian native plants, their use and applications is vital to guiding where research can start and the potential benefits of new “foods” in the food supply chain.



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Learnings from Australian Indigenous Projects

Research that is conducted in collaboration and consultation with Indigenous communities enables cultural continuity of practice & opportunity for social & financial benefits supporting current and future generations.

3 Indigenous Projects

Wattle Seed, Kakadu Plum Health Drink & the BushTukka & Botanicals Co-operative



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Learnings from Australian Indigenous Projects

Case study 1: Wattle Seed

A legume that has been consumed by Australia's First Nations People for 1000s of years

- Grows in all States & Territories
- Beneficial for People & for Country
- Resilient & Drought Hardy – A solution for a changing climate (?)



Figure 3. Wattle tree orchard (*A. baileyana* - Cootamundra wattle) at seed harvest in South West Victoria



Learnings from Australian Indigenous Projects

Comparison of wattle seed flour (*Acacia coriacea*) with staple/conventional foods

Table 1

Comparison of wattle seed flour (*Acacia coriacea*) with staple/conventional foods.

| Food crop | Energy (kJ/100 g DW) | Protein (g/100 g DW) | Fat (g/100 g DW) | Carbohydrate (g/100g DW) | Dietary fiber (g/100 g DW) | Iron (mg/100g DW) |
|---|----------------------|----------------------|------------------|--------------------------|----------------------------|-------------------|
| ^a <i>Acacia coriacea</i> (wattle seed flour) | 1310 | 22.5 | 9.8 | 13.7 | 41.4 | 5.1 |
| <i>Triticum aestivum</i> Wheat-flour whole grain | 1448 | 15.1 | 2.7 | 71.0 | 10.6 | 3.9 |
| <i>Cicer arietinum</i> L. Chickpeas dry | 1581 | 20.5 | 6.0 | 63.0 | 12.2 | 4.3 |

^a Wattle-seed whole-grain flour.

Sultanbawa, Yasmina and Sivakumar, Dharini (2022). Enhanced nutritional and phytochemical profiles of selected underutilized fruits, vegetables, and legumes. *Current Opinion in Food Science*, 46 100853, 100853. doi: 10.1016/j.cofs.2022.100853



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Learnings from Australian Indigenous Projects

- High protein and dietary fibre content
- Very good source of minerals – particularly Mg, K and Fe
- Excellent flavour for savoury and dairy items, used for caffeine free coffee



Learnings from Australian Indigenous Projects

Wild Harvesting & cultivation

Greater health benefits to Community & more economically sustainable for Community – Food products that Fit



Nutrient enhanced bread roll

- Adiamo et al; Journal of the Science of Food & Agriculture 2021
- Shelat et al; Foods, 2019



Wild harvesting of wattle seed Peter Cunningham et al
Report for World Vision Australia 2013



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Learnings from Australian Indigenous Projects

Case study 2: Kakadu Plum (*Terminalia ferdinandiana*)

Kakadu Plum Is a tree endemic to Northern Australian (N.T. & Nth W.A.)

The Indigenous communities have & continue to eat the fruit for 1000s of years benefitting from its nutritional and therapeutic values.

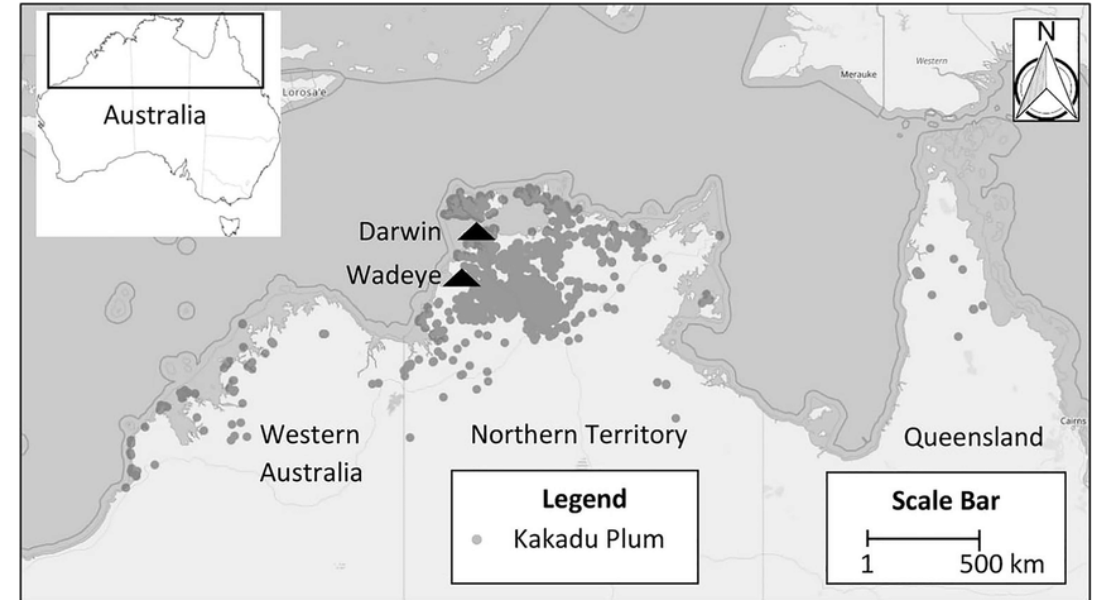


Image & information curtesy of QAAFI, UQ



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Learnings from Australian Indigenous Projects

- Indigenous Community identified and informed research.
- Resulting in a fruit that is high in antioxidants, has >100x vitamin C than an orange & increases growth of gut bacteria & metabolites that are beneficial for humans



Photo courtesy of Landcare Australia



Photo courtesy of QAAFI



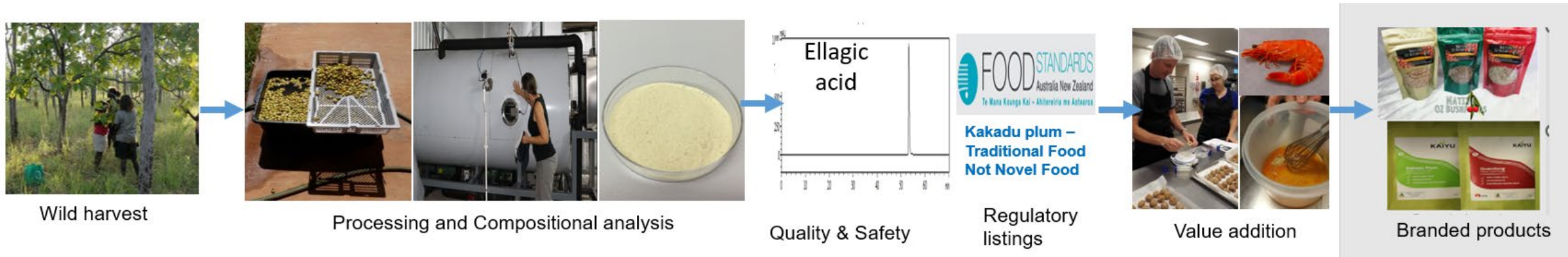
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Learnings from Australian Indigenous Projects

Research Impact –Indigenous-led, owned and controlled Kakadu plum value chain



A model of success that incorporates Indigenous participation in the agribusiness supply chain from wild harvesting to branded products, whilst supplying to a range of national and international markets.



Learnings from Australian Indigenous Projects

- Indigenous identified a need & solution to an endemic health problem (Chronic Kidney Disease) 5x more likely to develop CKD; 4x more likely to die from CKD
- Partnership with QAAFI to identify key ingredients
- Community provides the essential native fruit ingredient
- Community to benefit from end product



Learnings from Australian Indigenous Projects

An Indigenous Led Solution - BBIEC

BushTukka & Botancials Indigenous Enterprises Cooperative (BBIEC) formed to:

- **Advocate (Indigenous Led Research Projects with Direct Community Benefits)**
- **Aggregate Supply**
- **Increase Visibility & Awareness (AusTukka app & Native Foods Ledger)**
- **Contribute to & Lead Ethical Research**
- **Educate (training for researchers & institutions)**
- **Support Member Growth & Expansion (Product Development & Share Models)**
- **Shared Benefits (financially & direct reduced to “no cost” products)**

- **Cooperative chosen as is consistent with Indigenous principles: with cultural values, allows autonomy & supports small family & clan-based business models.**

Photo: Indigenous Enterprise Group QAAFI



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Learnings from Australian Indigenous Projects

Indigenous led and informed research in Australian Native Foods:

- Identifies & develops nutrient rich and healthy foods
- Enables economic prosperity through research informed food products
- Enables Indigenous participation & benefits along the value chain
- Supports continuation of cultural practises & culturally informed land management & business models
- Highlights the potential for new food ingredients that may address food security in a world of climate change realities



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