



Charles Sturt  
University

House of Representatives  
Standing Committee on  
Industry, Science and  
Resources Inquiry into  
Food and Beverage  
Manufacturing in Australia

1 May 2024

Gulbali Institute  
Charles Sturt University

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Mr Rob Mitchell MP  
Chair, House of Representatives Standing Committee on Industry, Science and Resources  
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Dear Mr Mitchell

### **Inquiry into Food and Beverage Manufacturing in Australia**

Thank you for the opportunity to contribute to the Standing Committee's inquiry. The attached submission responds directly to the inquiry's Terms of Reference by drawing on the expertise of researchers at the Gulbali Institute.

The Institute at Charles Sturt builds on the University's long history in agricultural and environmental research – a history that stretches back to the foundation of the Wagga Experiment Farm in 1892, on what is now the site of the University's Wagga Wagga campus. The name, chosen after consultations with First Nations people, comes from the Wiradjuri phrase, *gulbali ngurambang* which translates to "to understand country". The name acknowledges and respects the long custodianship of First Nations people and their deep knowledge of Australia's lands, waters and plant and animal life.

The Gulbali Institute aims to undertake impactful and innovative research in agriculture, water and the environment. Much of our research is focused on return on investment to increase productivity for farmers, improving natural environments, and reducing risk in agricultural and environmental management. Research in food and beverages explores various aspects of food production, nutrition, flavour chemistry, and sustainability through interdisciplinary collaboration. A key goal is to integrate technology, cultural insights, and responsible practices to develop innovative and healthful food and beverage options for both domestic and foreign markets.

While the Gulbali Institute is based in the Murray-Darling basin, the heart and powerhouse of Australian food production, our research has relevance and impact across Australia and around the world, as evinced by a growing number of international partnerships. These complement our long-standing and strong relationships with Rural Research and Development Corporations, key State and Commonwealth departments and agencies, including the Department of Agriculture, Fisheries and Forestry, and industry partners.

We would be happy to provide the Standing Committee with more information on any of the issues raised in our submission. We would also like to invite the Committee to hold a public hearing at any of our campuses, to meet our students and staff and see first-hand the world class research, facilities and teaching at the Gulbali Institute. Alternatively, we would be happy for any of our research staff to visit a Standing Committee meeting should an invite be forthcoming.

Yours sincerely

**Professor Lee Baumgartner**  
Executive Director, Gulbali Institute

# House of Representatives Standing Committee on Industry, Science and Resources – Inquiry into Food and Beverage Manufacturing in Australia

## **Innovation trends and new technologies, both locally and internationally**

Australia lags behind its international competitors in food technology innovation for several reasons:

### (1) A focus on producing quantity rather than quality

The vast majority of our Agriculture research investment is directed toward solving production issues rather than increase quality or adding value. One of the main drivers of this behaviour is that the majority of the agriculture research is directed by research and development corporations which are strongly influenced by levy payers. While this is largely an appropriate model, the downside of this approach is that it results in research being focused on short-term production issues and there is little appetite for investment in longer term research priorities such as consumer trends and value-adding research. There seems to be an assumption that post-farmgate research will be taken care of by the food manufacturing sector. However, in Australia, the food manufacturing industry does not have strong research capacity and often relies on innovation conducted overseas by parent companies. This international innovation approach contributes to a continual decline in food innovation as there is very little opportunity for food science innovation employment.

### (2) Lack of food science capacity

The challenges associated with building food innovation capacity in Australia begins with a school curriculum which is not fit for purpose. Much of the food science taught at school tends to be more aligned with “home science” principles such as cooking and hospitality skills. There is no clear pathway from high school to a food science undergraduate degree and, as a consequence, almost all food science degrees have closed. The remaining programs that deliver food science rely on international enrolments which does not contribute to the growth of food science capacity in Australia.

### (3) Lack of focus on food security

As Australia has a large Agriculture industry for a relatively small population, food security has not been a high priority for Australia. The recent inquiry into food security conducted by the House Standing Committee on Agriculture was a welcome step towards recognising the scale and potential impact of food security issues in Australia. Charles Sturt University made a submission to the inquiry, cited in the inquiry’s final report. Many of the report’s 35 recommendations have direct bearing on the Standing Committee’s inquiry into food and beverage manufacturing – for example, the development of a National Food Plan and a National Food Council, the implementation of industry-specific innovation strategies, a National Food Supply Chain map, and measures to improve competition and accountability in the retail sector. To date the government has not responded to these recommendations. Charles Sturt University suggests the Standing Committee should consider the previous inquiry’s recommendations in its own deliberations.

Further, while Australia has the capacity to produce large volumes of food to satisfy energy requirements, little attention has been paid to the nutritional properties of the food that we produce and consume. For example, the desire to increased wheat yields in Australia to improve farmer profitability has resulted in a reduction in protein content in Australia produced wheat, reducing the nutritional properties of modern wheat varieties.

## **Ways to support new and emerging products and industries, including premium and niche products, new proteins and Indigenous foods**

There are four ways that food and beverage manufacturing in Australia could boost industry ability to develop and market new products:

(1) Build capacity in food innovation skills

To address the skills shortage in food science in Australia, changes are needed in the school curriculum. A clear pathway is needed for students to transition from school into food technology training opportunities.

To achieve this, there is a need to upskill schoolteachers in the instruction of food technology. Teachers also need access to appropriate pilot scale equipment to provide students with authentic learning experiences.

The market failure in food technology undergraduate education needs to be addressed through government and industry support. Assistance is also needed to help university graduates transition into employment.

(2) Affordable access to food innovation pilot facilities

While there are currently pilot food factory facilities available for product development purposes, the cost of these are prohibitive for small business to access. Solutions for affordable access to pilot facilities for small and medium size businesses are required.

(3) Incentivise food innovation in the Australian manufacturing sector

Australia has a large number of small food production enterprises who lack the capacity to undertake sophisticated innovation. There is also a lack of external innovation specialists that they can collaborate with. While some of the larger food processing enterprises have in-house innovation specialists, much of the innovation occurs overseas at parent company innovation centres. The lack of food innovation capacity in Australia contributes to this.

(4) Build first nations cultural competence in the food innovation industry

There is currently a lack of First Nations cultural competency in the food innovation sector. While there are many potential food innovation opportunities with Australian native foods, it would be appropriate for these opportunities to be investigated in collaboration with first nations communities. Increasing the cultural capacity of our food sector may assist in building relationship in this area.

**Opportunities across both domestic and export markets for Australian manufactured products, including shifting consumer trends**

Supporting the development of capacity in consumer trend research would contribute to our ability to innovate and produce food products that are fit for purpose. Government investment in pre-competitive consumer trends research would result in improved economic outcomes for the whole food industry.

**Approaches to circular economy, waste reduction and decarbonising, including packaging and food waste**

The Commonwealth and state governments could incentivise circularity focused projects in the food industry by investing, with industry, in co-designed circularity research projects to improve profitability and sustainability.

**How the research sector can help to grow this ecosystem**

The Australian Universities Accord and other recent reviews and inquiries have highlighted that Australian public and private sector investment in research and development is chronically low by global benchmarks, and falling. It is also heavily concentrated in a few industry and economic sectors (especially health and medicine), a few institutions, and very few locations. The low level and high concentration of research funding has a direct impact on the ability of universities like Charles Sturt to partner with and meet the needs on the regional producers, processors and manufacturers who make up the bulk of Australia's food and beverage sector.

To address this, we suggest:

- Greater support for research partnerships with industry. Currently most Australia food processing industries are unwilling to make large investments in research and development. However, companies need to be encouraged to build their research culture for long term sustainability. This requires the development of opportunities that do not require large cash contributions from food industry partners.
- Ensure research investment is geographically spread to ensure all industries have an opportunity to engage in research. Food industries are more likely to engage with research providers if they are located in close proximity. To ensure equitable access to food innovation expertise and equipment, there needs to be a greater geographic spread of food innovation infrastructure.

### **Future workforce and skills needs**

#### **(1) change school curriculum**

To attract more students into the food innovation area, there is a need to change the perception of high school food technology subjects to make them more attractive to students.

#### **(2) support industry organisations to promote careers in food science**

More promotion of careers in food technology is needed. Cooperation between government, industry and educational institutions is required for this activity and could be coordinated by industry bodies.

#### **(3) fast-track visa process for food science undergraduate and postgraduate students**

In the short term the skills gaps in the food innovation area may need to be filled with international capacity. However, this is currently being hampered by delays in visa processing.

### **Mechanisms for the Australian Government to support further innovation and sustainable growth in the sector**

Investment in food-specific research and development (for example via Linkage grants) would help build capacity in Australia. This investment should be in partnership with industry; however, it should not place large financial burdens on small to medium food processing businesses.