

Animal protein production

Through our Future Protein Mission, we are adding value to animal protein production in Australia by delivering new and improved premium food products and sustainable feeds for livestock and aquaculture.

The challenge and opportunity

Australia is one of world's most valuable beef exporters and home to thriving dairy, egg, poultry, lamb, goat and aquaculture industries.

Around the world, booming population growth, rising incomes, urbanisation and shifting consumer preferences have led to higher animal protein consumption. From 1998 to 2018, global meat consumption increased by 58 per cent, reaching 360 million tonnes a year.

This trend is continuing particularly in Asian countries, such as China and Vietnam. Australia can continue to be a major exporter to these countries into the future as demand rises.

Similarly, seafood consumption has climbed overseas and domestically. Australia has a growing pink-flesh salmon industry, however white-flesh fish production is relatively small. Australia currently relies on imports for most white-flesh fish consumed domestically, but we can change this.

Consumer health and wellness trends are an opportunity for Australia to develop new value-added products made from animal protein. Australia can leverage its comparative advantage as a high-quality, sustainable and high-welfare animal protein producer.

To capitalise on these opportunities, science and industry must come together to develop new technologies, products, processes and business models.

Our goal is to sustainably grow the value of animal-derived protein in Australia's domestic and export markets.

Our solutions

We are working with Australia's animal protein production industries, as well as government and the research sector, to co-develop cutting edge ideas for new and improved protein products.

For example, the Future Protein Mission is working on:

- Creating a new white flesh fish industry establishing affordable white-flesh fish production in Australia through a circular aquaculture economy. While continuing to grow already established finfish aquaculture industries, we are undertaking work to identify a suitable new fish species and establish key collaborations needed to develop, prove and scale that industry.
- Developing sustainable aquaculture we are working on new sustainable functional feed formulations and additives, as well as looking at recycling approaches to produce feed from waste for Australia's aquaculture industry. For example, converting agriculture waste as feed for insects and then upcycling the insect protein for use in aquafeeds.
- **Diversifying meat products** together with Meat & Livestock Australia, we are finding ways to utilise lower value cuts of red meat and co-products as ingredients in new products, such as protein powders. This will see animal protein used sustainably in a wider range of settings, such as snacking, convenience foods and personalised nutrition.
- New sustainability frameworks we are establishing sustainability metrics for animal protein production that can be used to add value and help consumers assess their options and make informed decisions. An outcome so far has been a benchmark for beef on net protein contribution.



Australia can create it's own, high-value, domestic supply of white-flesh fish.

Towards impact

The Future Protein Mission is driving sustainable animal protein production to:

- Increase the value of Australian animal derived protein exports.
- Turn animal protein co-products and waste into value added products.
- Develop new manufacturing capability in Australia.
- Develop new aquaculture industries, leading to new jobs and growth.
- Develop new sustainable ingredients and animal feeds.
- Develop trusted sustainability metrics for animal production.
- Diversify meat products targeted at different consumer segments and eating occasions.
- Enhance Australia's food security through domestic supply chains.

Join our Mission

Partner with us to jump on one of Australia's big opportunities, including:

- Food manufacturers looking to deliver new product formats to address consumer trends such as health, wellness and convenience and expand meat into new eating occasions, such as snacking.
- Meat and plant protein hybrid or blended products.
- Adding value to co-product or waste streams.
- Development and testing of aquaculture feeds using alternative ingredients, such as single cell proteins, insect proteins, oils, animal and plant waste streams.

As Australia's national science agency and innovation catalyst, CSIRO is solving the greatest challenges through innovative science and technology.

CSIRO. Unlocking a better future for everyone.

Contact us 1300 363 400 csiro.au/contact csiro.au For further information
Future Protein Mission
csiro.au/future-protein-mission

Aarti Tobin Animal Protein Production Lead +61 7 3214 2069 aarti.tobin@csiro.au Michelle Colgrave Future Protein Mission Lead +61 7 3214 2697 michelle.colgrave@csiro.au