

Summary - Discussion Paper on Seafood Labelling

Background

The labelling of seafood and meat products faces significant changes in the next decade.

Food science innovation has enabled protein food to now be cultured and manufactured in factories, unshackled from garden plots, fisheries, farms and feedlots. Technology now enables meat and seafood production from five sources:

1. Hunting, wild harvest and capture fisheries
2. Agriculture and aquaculture
3. Plant-based meat substitutes that have been developed since the 1990s
4. Cellular agriculture - the production of animal-based products outside the animal from cell cultures of animal stem cells, and
5. Precision fermentation of microorganisms, a variant on cell culturing.

In December 2021, Seafood Industry Australia (SIA) and the Fisheries Research and Development Corporation (FRDC) released an initial Discussion Paper (FRDC Project 2020-093) to assess the scope and scale of changes to food pathways, potential labelling changes and possible impacts on production and supply chains. The Paper summarises the global and local background, the debate about production pathways (pages 24–33), and the trends in label technologies and modern consumers' expectations for information at point of sale.

In December 2020, the world's first cellular-based human food (a chicken nugget product) was approved for sale in Singapore (p 11). Many more products are expected to launch within three years. Existing food labelling regulations will need to change in response to these technologies and consumers' responses.

We are at the start of a major long-term shift in global food production and flows. As these global consumer and trade issues are dynamic, SIA and FRDC will update stakeholders with reports in 2022.

Modern labels

Australian Consumer Law (pp 34–43) requires that food businesses must not deceive or mislead consumers. The Food Standards Code (pp 46–52) managed by Food Standards Australia New Zealand (FSANZ) provides the regulatory framework for these laws that are implemented by Australian state and territory jurisdictions.

Food labels provide vital information (p 24) to consumers about taste, health and safety, nutrition, ingredients, preparation and best before expiry. Regulators are able to mandate minimum advice about products. But for modern consumers and regulators globally (Chapter 7), labels come up short as food choices are increasingly lifestyle based – variously consumers value food provenance, ethical supply, sustainable resourcing (land, water), low energy inputs, low carbon emissions, and animal welfare management (including slaughter free foods). Confused labelling on foods also increases food waste (Chapter 9).

Clearly, a label on a product cannot physically present all the mandatory and advisory data that consumers seek. But smart phones do enable every consumer to access information in the cloud at the point of sale. And for food purchased online that is delivered to the door, cloud-based labels and uniform resource locators (URLs) are commonplace. The COVID-19 pandemic has further embedded quick response (QR) codes and cloud technologies in our devices and consumer lives. Modern labels

must therefore enable immediate point-of-sale access to mandated and lifestyle choice information, including for plant-based foods and emerging cellular food products.

Plant-based seafood and meat products have been on global supermarket shelves for decades – vegan food continues to be one of the fastest growth food categories globally and in Australia. But recent Australian research (Chapter 8) highlights the level of consumer confusion around the labelling of plant-based foods. Nomenclature (a system of specialist names) and animal images on packaging are major issues.

Policy and regulation

Nomenclature is at the front line (Table 1, p 11) of the current global debate about plant-based and cellular foods. Can 'steak', 'fillet-of-fish' or 'prosciutto' be grown from plants or animal DNA in a factory? Does it matter? What are the impacts?

Global proponents of plant-based or cellular foods claim the right to use existing market words to monetise their products - it is also their economic lifeline to consumer acceptance, market share and return on investment. However, traditional farmers and fishers reject this claim as trespassing on their existing fundamental market rights, claiming that it both misleads consumers about product source and food substitution, and misrepresents nutritional science (see page 81).

The existing FSANZ regulations stipulate that 'meat' is not 'seafood' (Table 2, p 18). Consumer law demands definitions that do not misrepresent products and mislead consumers. But, as the range of protein production pathways increases, advice to consumers will become more complicated. Labels in supermarket cabinets or table advice from restaurant waitstaff must accurately inform consumers about the animal- or plant-production pathway, the animal species, and whether the food came from an animal carcass or from DNA-derived cellular synthesis or fermentation.

Nomenclature and product format issues will arise for producers, chain partners and traders.

Australian lawmakers in international traded meat and seafood markets (e.g. USA, EU, Japan, China and broader Asia) keenly await the global debate to signal the appropriate label nomenclature (pp 63–79) for foods for humans and pets. Australia's Senate is scheduled to report on the definitions of 'meat' in February 2022

https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/DefinitionsofMeat.

As an export-intensive global meat and seafood trader, Australians should expect there will be both risk and reward as we adopt and adapt to global label changes in domestic markets and chains. Australia's Farm Institute concludes (p 80) that there is both challenge and opportunity for our competitive advantages over the next decade. But there is a risk that we are ill prepared and lack data and strategies to manage the change.

Pros and cons

The Discussion Paper reviews the facts regarding food technology, environment and ethical production (Chapter 3), and identifies advantages and disadvantages for cellular protein foods (p 32).

Potential advantages include:

- less land and water being used to produce and slaughter livestock
- fewer greenhouse gases being emitted from animals
- improved welfare for slaughter animals
- less energy is used to convert inputs to food
- shorter production time - cell cultures require weeks to generate seafood but farms take months
- less animal disease risk as there is no likelihood of faecal contamination
- possibly fewer undesirable fats
- less reliance on climate for yield, and

- less food waste from processing.

Potential disadvantages identified include:

- the unknown costs (labour, facilities, production) that are currently relatively high
- cell cultures are easily contaminated or killed
- consumer perceptions are untested
- there is regulatory uncertainty and will possibly be delays
- food with less taste as meat gets much of its flavour from blood and muscle
- research suggests plant-based meat substitutes lack many of the nutritional metabolites found in meat (p 81), and
- reliable edible 'scaffolds' on which meat cultures can grow are yet to be developed.

For the seafood industry and its consumers, the challenges are complex and compound. Cellular seafood label changes come on top of existing uncertainties including for fish names (p 48), country of origin labelling (p 52) and jurisdictional variability (p 14). The Paper concludes there is not yet clear evidence that the existing Australian Food Code can adequately manage these label uncertainties (p 20).

The full report is available at this URL [2020-093-DLD-Part B-Seafood Labelling Discussion Paper](#)