



Sea for yourself

Feed

TECHNICAL FACTS



The nutrition of our salmon and prawns plays a crucial role in our sustainability journey.

We work closely with our feed suppliers to maintain sourcing and traceability criteria to ensure we meet the requirements of all relevant third-party certifications.

Feed conversion ratios

Economic feed conversion ratios (eFCR) represent the quantity of feed used to produce the quantity of fish harvested.

| Species | FY19 | FY20 |
|---------|------|------|
| Salmon | 1.44 | 1.26 |
| Prawns | N/A | 1.96 |

What's in our salmon feed?

| | |
|---------------------------|------------|
| Land animal ingredients | 34.5 |
| Agricultural ingredients | 51.1 |
| Fish oil (reduction only) | 8 |
| Fish meal (all sources) | 6.4 |
| TOTAL | 100 |

What's in our prawn feed?

| | |
|---------------------------|------------|
| Land animal ingredients | 5.9 |
| Agricultural ingredients | 61 |
| Fish oil (reduction only) | 32.1 |
| Fish meal (all sources) | 1 |
| TOTAL | 100 |

Marine ingredients

Fishmeal and fish oil are both finite resources that are shared across a range of users with increasing demands, from direct human consumption to aquaculture to pork and poultry production.

Forage Fish Dependency Ratios (FFDR)

The aquaculture industry has significantly reduced the inclusion rates of fishmeal and fish oil from forage fish in feeds over the past two decades. Our third-party certification under the Aquaculture Stewardship Council (ASC) standards includes requirements to comply with Forage Fish Dependency Ratios (FFDR) to support the trend towards lower inclusion rates and increasingly efficient use of marine resources.

The ratios, one for fishmeal and another for fish oil, calculate the dependency on forage fisheries through an assessment of the quantity of live fish from small pelagic fisheries required to produce the amount of fishmeal or fish oil needed to produce a unit of farmed salmon.

| Year | FFDR _m | FFDR _o |
|----------------------------------|-------------------|-------------------|
| Certification requirement | <1.2 | <2.52 |
| FY17 | 0.37 | 1.67 |
| FY18 | 0.31 | 1.93 |
| FY19 | 0.37 | 2.15 |
| FY20 | 0.40 | 2.19 |

The aquaculture industry is able to improve FFDRs by using fishmeal and fish oil from trimmings. Trimmings are by-products of fish processed for human consumption and may be excluded from the calculation as long as the origin is not from a critically endangered, endangered, or vulnerable species under the IUCN Red List of Threatened Species.



Feed

Certification of marine ingredients

Our feed supplier commissions an independent annual marine assessment report to disclose the FishSource scores of species likely to be purchased for the period and use a mass balance approach to ensure sufficient volumes of compliant fishmeal and fish oil are purchased to cover the volume of feed sold to certified customers.

| Volume of purchased ASC compliant ingredients | | |
|---|--------|-----|
| Year: 2020 | MT | % |
| Fish meal | 11,681 | 100 |
| Fish oil | 6,448 | 76 |

Agricultural ingredients

Agricultural ingredients include wheat, soya derivatives, corn gluten and vegetable oils.

Soy

We want to ensure our feed suppliers only purchase vegetable ingredients that have been cultivated by farmers who have not contributed to deforestation, and are protecting sensitive ecosystems and endangered species.

Soy protein concentrate represent a relatively small percentage of our total feed ingredient inclusion (4-5%). 100% of the Soy Protein Concentrate used in our feed has been ProTerra certified since 2016. ProTerra certification is an additional safeguard to the social responsibility and environmental sustainability of our supply chain. The requirement in the Proterra standard is that soya cannot come from agricultural land that has been cleared for cultivation after 2009. Soy bean meal is also included in our prawn feeds and is certified by the US Soy Sustainability Assurance Protocol, which is an industrywide initiative that demonstrates commitment to responsible growing practices and sustainability through setting clear, verifiable standards of industry practice, including prohibiting illegal deforestation.

By-products

Fish, like all animals require nutrients to live and grow. The main nutrients required are protein, fat, and carbohydrates. Proteins can be supplied to diets in many forms including land animal by-products.

Rendered by-products capture valuable nutrients that would otherwise be lost in the human food chain and their use acts to reduce waste.

All our land animal raw materials are sourced exclusively from Australian producers who are accredited by the Australian Renderers' Association (ARA).

Australian renderers have been at the forefront of developing quality assurance to improve the integrity and ever-increasing standards for food safety. The Australian Renderers Association launched its Code of Practice in 1994 and in 2001 provided the basis for the Australian Standard for Hygienic Rendering of Animal Products (AS 5008:2001). It encompasses quality assurance components reflected under ISO 9002 guidelines and application of Hazard Analysis and Critical Control Point (HACCP) methods.

Traceability

Our third-party certifications require us to provide evidence of traceability of feed ingredients that make up more than 2% of our feed including source, species, country of origin and harvest method. Marine ingredients, soy and other raw materials can be traced to country of origin (e.g. when the fish was captured or processed, or where the soya was grown).

Feed innovation

There has been increasing focus over many years on overcoming traditional reliance on formulating feeds from conventional but finite marine ingredients, particularly fishmeal and fish oil. While the fishmeal and fish oil inclusion rates in aquaculture feeds have followed a steady downward trend as the feeding efficiency of aquaculture systems have advanced, we understand that selective use alone is not enough to ensure that the required long-term growth rates can be sustained by the sector. A further solution that has emerged in recent years is the application of new raw materials and specialty ingredients, commonly known as novel ingredients. These technologies can be used both through replacement and interchange with conventional ingredients.

Our newly integrated Responsible Business Platform involves the identification of targets, progressive KPI's, expanded disclosure and ongoing reporting across environment, social and governance agendas.

As part of this work, we are in the process of establishing targets related to feed composition and innovation.

