

Europe is leading producer of responsible marine ingredients



European Fishmeal and Fish Oil Producers

EFFOP represents producers from the EU as well as non-EU countries. The member countries are Denmark, Estonia, Faroe Islands, Finland, France, Germany, Iceland, Ireland, Latvia, Malta, Norway, Spain, and United Kingdom.

EFFOP members produce ~600,000 tonnes of fishmeal and ~190,000 tonnes of fish oil annually and the total value of 2023 production is approximately 3 billion €. The exports go to several countries worldwide.

The European sector meets international standards and certifications applying to raw materials, production, and traceability.

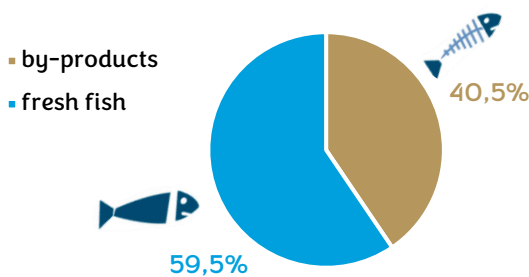


Raw materials

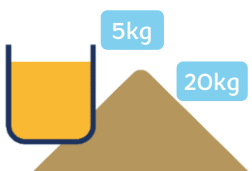
All fish stocks used to produce fishmeal and fish oil in European countries are subject to strict catch limitations. The total allowable catches (TACs) are based on biological advice and under strict governmental regulation which means:

- ✓ Sustainable exploitation of natural resources
- ✓ Third party certification, such as MarinTrust and MSC

The high-quality production is based on landings of small, oily, short-lived species such as blue whiting, capelin, sand eel, Norway pout and sprat as well as trimmings from the fish processing sector.



EFFOP members use around 40% of cut offs in 2023. Europe is leading in optimizing the exploitation of these valuable marine resources. All members of EFFOP support and implement the [FAO code of conduct](#) for responsible fisheries.



Raw materials are boiled, separated, dried and grinded into fishmeal and fish oil.

100kg of raw materials produce 20kg of fishmeal and 5kg of fish oil.

Facts

HIGH QUALITY INGREDIENTS



Fishmeal production by EFFOP members:

600,000 tonnes on average annually (2019-2023)

Fish oil production by EFFOP members:

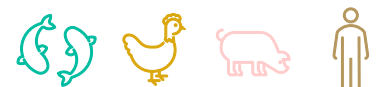
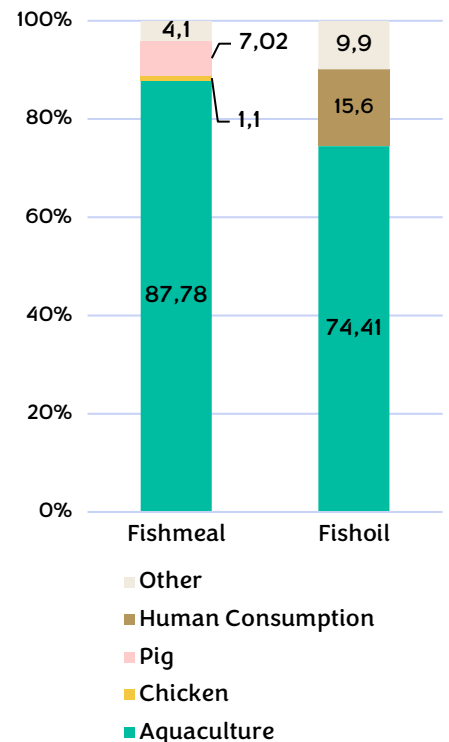
190,000 tonnes on average annually (2019-2023)



Estimated production value of fishmeal and fish oil:

3 billion € in 2023

Use of marine ingredients by market in 2022:



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High-value feed ingredients

Fishmeal and fish oil are, without comparison, **the most valuable feed ingredients**. Their nutritional composition, and high digestibility, support the growth and optimal physiological function and welfare of farmed fish and livestock, making fishmeal and fish oil strategic for providing those essential nutrients in formulated feeds.

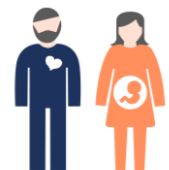
- ✓ High protein content of 62 to >70 %
- ✓ Rich in long chain omega-3 fatty acids (EPA and DHA)
- ✓ Essential amino acids such as methionine
- ✓ Contain important minerals such as calcium, phosphorus, and selenium Contains high levels of vitamins: B1, B2, B6 and B12



Health benefits

Fishmeal and fish oil provide a balanced amount of all essential amino acids, minerals, phospholipids, and omega-3 fatty acids, and help bring those into the human food chain. **EPA and DHA** are central components in all cell membranes, particularly important for the development of the brain and vision early in life. They also contribute to the function of the heart, blood system and immune system.

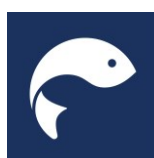
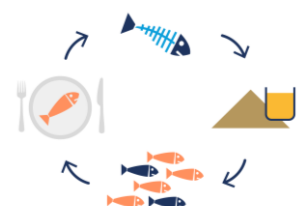
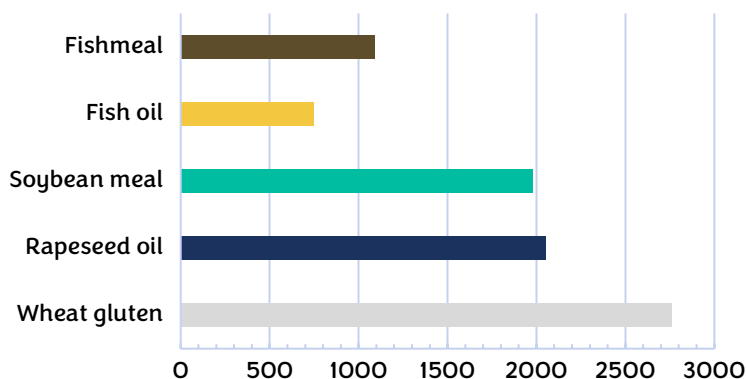
- ↳ blood pressure
- ↳ risk of cardiac attack
- ↳ inflammation and formation of blood clots



Low carbon footprint

Marine ingredients have a **lower carbon footprint** compared to other feed ingredients.

Carbon footprint in kg CO₂eq / ton, European process:
(GLFI database 2022 economic allocation – EF3.1)



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