

## An Editorial Note on Commercial Fish Feed

Daniel Oliver\*

*Department of Fisheries, University of Melbourne, Melbourne, Australia*

### DESCRIPTION

Manufactured feeds are an important aspects of modern commercial aquaculture, as they provide farmed fish with adequate nutrition. The feeds, which come in the shape of granules or pellets, provide nourishment to the fish in a stable and concentrated form, allowing them to feed efficiently and reach their maximum potential.

Some of the fish farmed very intensively around the world today, such as Atlantic salmon, trout, sea bass, and turbot, are carnivorous. Fishmeal and fish oil were important components of these species' meals during the development of modern aquaculture, which began in the 1970s. They're mixed with other substances including vegetable proteins, cereal grains, vitamins, and minerals to make feed pellets. Wheat, for example, is often used because it aids in the binding of the pellet's contents.

Feeds produced solely of vegetable materials for species like carp, moist feeds preferred by some species (easier to make but more difficult to store), and garbage fish captured and fed directly to larger species being developed in aquaculture cages are all examples of other types of fish feed.

### Hatchery feeds

For fish hatcheries, specialised diets are produced. Newly hatched fry in salmon and trout species feed first from their yolk sacs and subsequently can be offered starter meals. Sea bass, sea bream, flounders, and turbot ingest the nourishment in their yolk sacs during the first few days after hatching and are subsequently fed live prey, such as rotifers and brine shrimp, for several weeks.

Fishmeal and fish oil have traditionally been two of the most important elements. These are mostly from the processing of wild-caught fish, which are predominantly pelagic species that aren't well-suited to being processed for human use. Fish that are sold for human consumption are more expensive than those that are used to manufacture fishmeal. Reduction fisheries are

typically used to describe fishmeal fisheries. The world's largest reduction fishery occurs off the coasts of Peru and Chile in the Pacific, and it is governed by the governments of those countries. Another important source of fish for fishmeal and fish oil is the North Atlantic. The International Fishmeal and Fish Oil Organisation is made up of a number of key providers.

Fishmeal is a brown, flour-like substance produced by specialists who cook, squeeze, dry, and grind the fish. This process produces fish oil, which is a rich source of energy and fatty acids for fish, including the crucial long-chain omega-3 fatty acids EPA and DHA, which are now connected to the health advantages of eating oily fish like salmon and mackerel. Fish in general is a good source of many vitamins and minerals, and official food authorities frequently recommend it as part of a balanced diet.

### Modern fish feed

Ingredients like fishmeal, vegetable proteins, and binding agents like wheat are ground and mixed together to make modern fish feeds. Extruders for fish feed play a critical part in production lines in today's technology. Although the extruder handles the majority of the process, grinding and mixing can have a significant impact on the end product's quality. The diameter of the holes, which can range from less than a millimetre to over a centimetre, is probably the most crucial element that determines the diameter of the pellets. The feed is chopped into pellets of the desired length as it is extruded.

Oils are applied after the pellets have been dried. Pellets can be made to suit different fish farming methods by adjusting characteristics such as temperature and pressure. For example, manufacturers can make feeds that float or sink slowly, as well as feeds for recirculation systems. The dry feed pellets are stable for a long time, making storage and distribution simple. Feeds are delivered in bulk, either in one-tonne bags or in 25-kilogram bags. Specialist feeds are offered in smaller quantities for use in fish hatcheries.

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**Correspondence to:** Daniel Oliver, Department of Fisheries, University of Melbourne, Melbourne, Australia, E-mail: [odaniel@azgfd.gov](mailto:odaniel@azgfd.gov)

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