

Use of trimmings from seafood production (resource depletion)



Last update: 2 June 2023

- **Type of challenge:** Environment.
- **Challenges:** Resources management (resource depletion, food-feed competition, reduction of protein deficit).
- **Action:** Reduces the environment footprint and contributes to circular bioeconomy by increasing the use of by-products from seafood processing (meal, oil, protein concentrate) in compound feed for aquaculture.
- **Animal category:** Fish, crustaceans.
- **Technique:** Incorporation in feed formulation of processed marine co-products from seafood production.
- **Mode of implementation:** Offals and trimmings from the processing for food production of any kind of wild and farmed fish can be processed into meal, oil and protein concentrate; approx. 50 % of the fish is used as food (figure differs between the species); the rest is non-edible and edible animal by-products, but a large proportion of this nowadays is disposed of as waste; in 2021, 327,000 tons of potential edible by-products was used in feed (all animals) in Norway, and this constituted 67% of the total volume of co-products usable as feed.
- **Requirements / limitations:** Seafood by-products are falling under the scope of the Animal-By-Products legislation; only category 3 material is eligible for feed use.
- **Economic consequences:** The distance between harbors & fish processing facilities and marine meal & oil producing units conditions the economic viability of the use of seafood by-products in feed; improvement in logistics of seafood by-products to facilitate their channeling to producers of fish oil, meal and hydrolysate is key.
- **Other considerations:** Make it obligatory for fish vessel to land all offals from harvested fish would be an effective measure to improve the rate of use of seafood by-products for feed use.
- **References:**
 - Norwegian Seafood Research Fund, 2022, Restråstoffanalyse 2020-2022: Sluttrapport, <https://www.fhf.no/prosjekter/prosjektbasen/901605/> (see Sluttrapport (English summary)).
- **Other techniques:** Use of nutrients from low trophic level resources such as zooplankton, insects, polychaetes, starfish, krill, etc.

Charter Ambitions: 2, 5