BLUE ECONOMY AQUACULTURE FORUM

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Blue Economy Aquaculture Forum

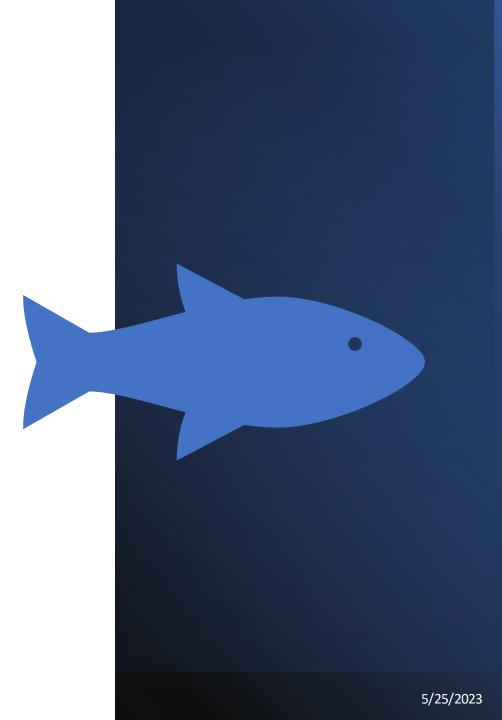




Fish nutrition/sustainability

Dr. Petter Arnesen Fish Farming Matters

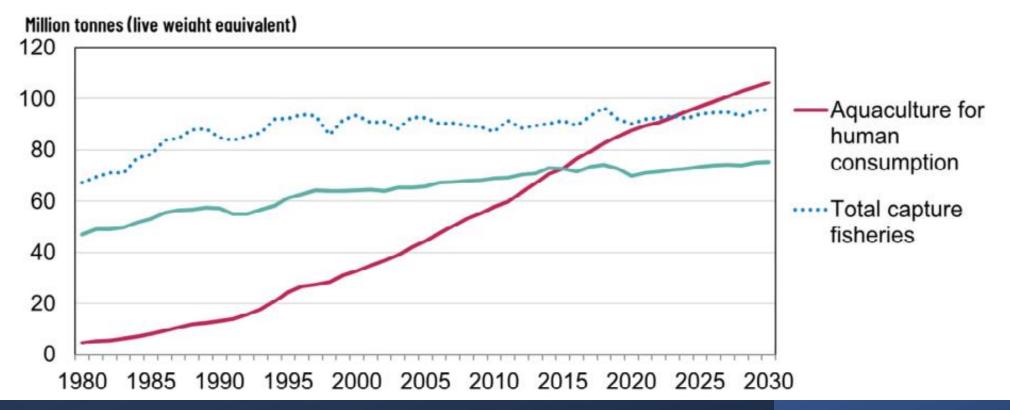
Blue Economy Aquaculture Forum Grand Hyatt Abu Dhabi Hotel 24th May 2023



THE STATE OF WORLD FISHERIES AND AQUACULTURE 2022

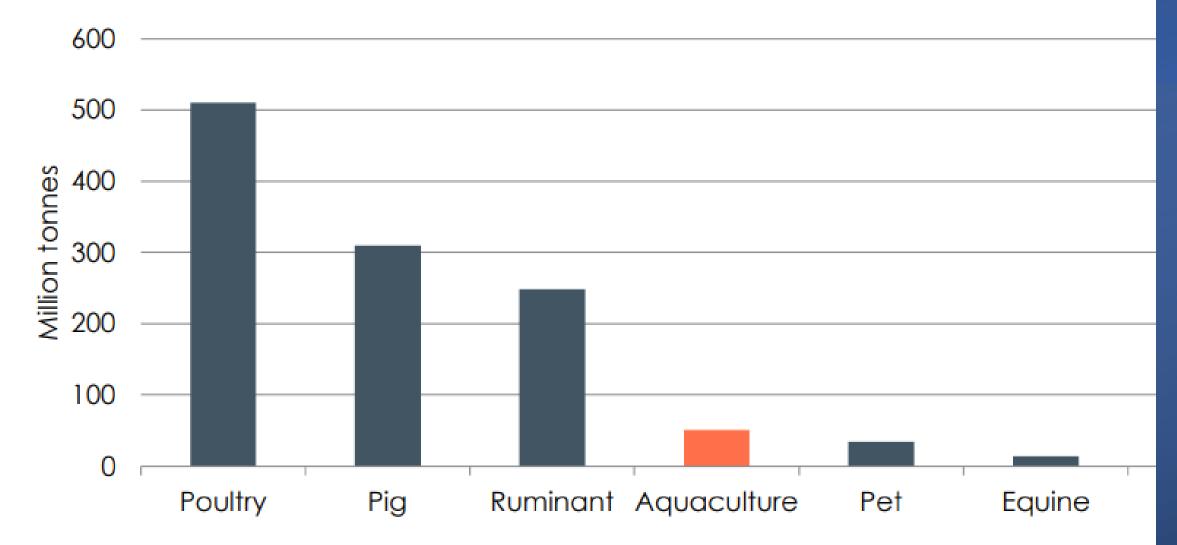
PRODUCTION OF AQUATIC ANIMALS EXPECTED TO GROW BY 14% BY 2030, TO REACH 202 Mt

Global capture fisheries and aquaculture production, 1990–2030



Fishfarming Matters - petter.arnesen@fishfarmingmatters.no

Global production of manufactured feed (2021)



5/25/2023

https://mowi.com/wp-content/uploads/2022/07/2022-Salmon-Industry-Handbook-1.pdf

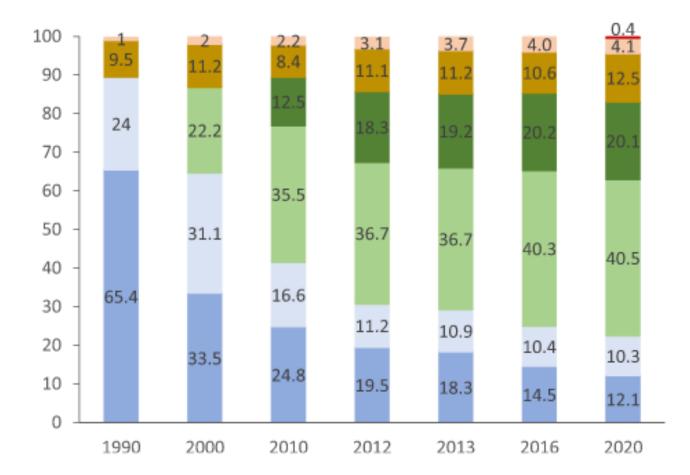


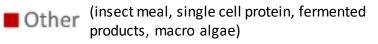
Fish feed has become less marine

Over the last 30 years fish feed has gradually become less marine. Fish meal and fish oil have been substituted with vegetable or other types of raw materials. Mainly for cost reasons, but partly also due to pressure from NGOs and consumers

Historic changes in salmon feed formulation (Norway)

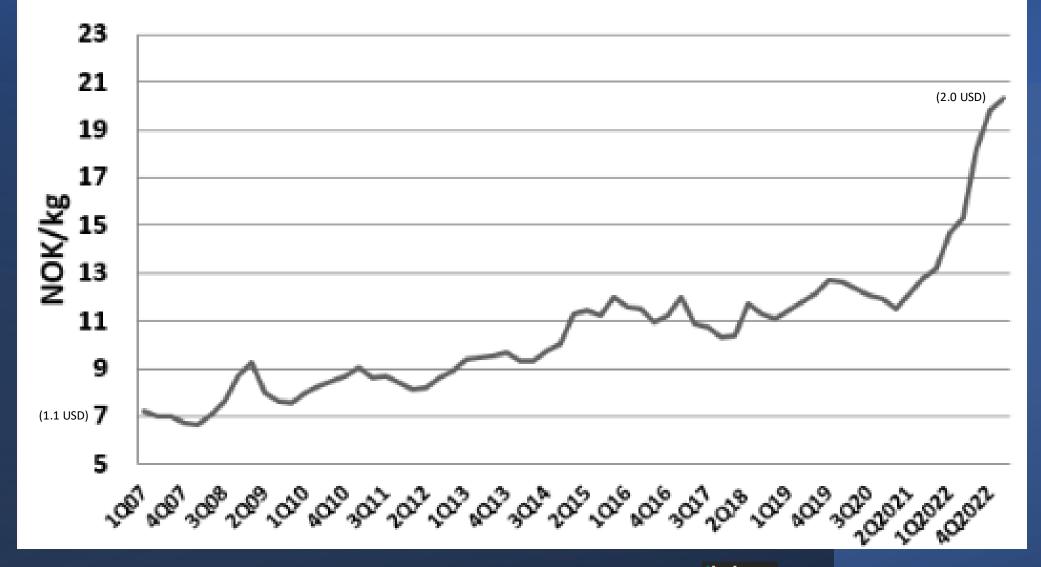
Aas et al., Aquaculture Reports, vol. 26 October 2022





- Micro ingredients
- Carbohydrate sources
- Vegetable oils
- Vegetable protein sources
- Marine oils
- Marine protein sources

Price fish feed



Laks no /BioMar (May 4 2023)

5/25/2023

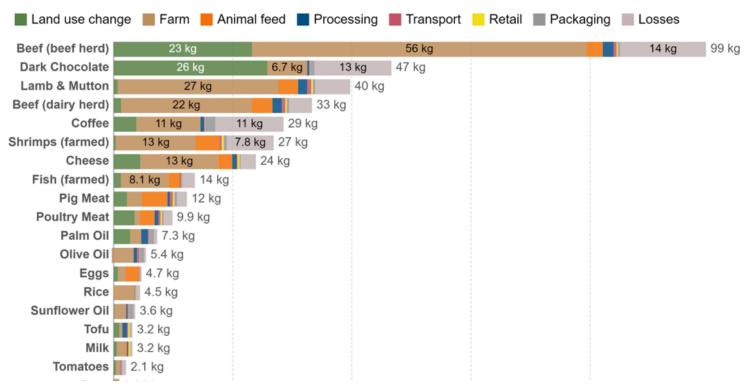
Consumer assurance Food safety Sustainability (ecological and social) Climate impact

Carbon footprint is increasingly influencing food choices

Food: greenhouse gas emissions across the supply chain



Greenhouse gas emissions¹ are measured in carbon dioxide-equivalents (CO₂eq)² per kilogram of food.



Take home messages

In addition to satisfying nutritional requirements fish nutrition is about selecting feed raw materials that are sustainable, safe, affordable, traceable and have the lowest possible carbon footprint Novel raw materials must be developed. The more local the better! Increased focus on national food security should ecourage legislators and competent authorities to speed up approval processes

2

End-user perceptions must be influenced so that the ability of the supply chain to adopt to emerging ingredients like insects, microbes and even genetically engineered ingredients is not upset

3

We need to make the case that shows clear and tangible benefits to consumers. This is the key to expanding the basket of ingredients to supply the growing aquaculture feed market

4

A good story can easily be lost in misdirected communication

Thank You!



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