

Aquaculture for better nutrition

Aquaculture species are rich in essential nutrients. However their nutritional value is not always considered account in aquaculture development and management strategies. Integrating this approach is crucial to meeting the dietary needs of populations.



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Sea urchin fed on *Ulva* seaweed in an integrated multi-trophic aquaculture farm, South Africa.

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In many regions, aquaculture is primarily managed based on economic objectives, without fully harnessing its potential to improve the food security and well-being of populations. A recent scientific partnership between South Africa and France aims to lay the foundations for an approach to aquaculture that improves nutrition in the region.

The goal is to ensure the production of a diverse range of affordable, nutritious, culturally appropriate and safe aquatic foods, in sufficient quantity and quality, to sustainably meet the dietary needs of populations.

... A research and training programme aims to develop nutrition-sensitive marine aquaculture in Africa ...

One area of research focuses on evaluating the nutritional composition of aquaculture species to guide production choices not only based on yield but also on their nutritional quality. An initial study analysed the nutritional composition of marine species farmed in South Africa – fish, shellfish and seaweed – as well as their by-products, in order to quantify the nutrient contribution provided by national marine aquaculture production.

The results show that these species are rich in essential nutrients and make a significant contribution to recommended intakes of omega-3 fatty acids, vitamins B12 and D, selenium, iodine and zinc. However, each species has a specific nutritional profile, highlighting the need for a diversified diet to meet overall nutrient requirements.

“Research conducted within the framework of the African Interdisciplinary Laboratory for Sustainable and Nutrition-Sensitive Marine Aquaculture (International Joint Laboratory Limaqua) serve as an inspiring example of how a nutrition-sensitive approach to aquaculture can sustainably transform aquatic food systems. Beyond traditional economic objectives, this approach fully integrates the nutritional value of farmed species, thereby guiding the evolution of aquaculture towards optimising its nutrient contribution.”

Brett M. Macey, Department of Agriculture, Forestry & Fisheries, South Africa



Aquaculture course for a group of women in Dakar, Senegal.

The study also showed that by-products (heads, bones, viscera) are very rich in nutrients, and their reintegration into the food supply chain would significantly increase nutrient intake (+144% on average for the nutrients and species analysed).

These findings emphasize the importance of considering the nutritional value of species in aquaculture development and management strategies and exploring innovative solutions to utilize by-products. Such an approach is crucial to sustainably meeting the dietary needs of populations and enhancing their well-being.

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