

The Oraqua project

The overall vision of the OrAqua project is the economic growth of the organic aquaculture sector in Europe, supported by science based regulations in line with the organic principles and consumer confidence.

OrAqua suggests improvements for the current EU regulatory framework for organic aquaculture based on:

- a review of the relevant available scientific knowledge,
- a review of organic aquaculture production and economics,
- consumer perceptions of organic aquaculture.

The project did focus on aquaculture production of relevant European species of finfish, molluscs, crustaceans and seaweed. At the beginning of the project, a multi stakeholder platform was established to ensure interaction with all relevant stakeholders.

NAME : European Organic Aquaculture - Science-based recommendations for further development of the EU regulatory framework and to underpin future growth in the sector.

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Recommendations for a future European regulation on organic aquaculture



The four basic principles of organic aquaculture

Organic aquaculture is based on four main principles:

1

Produce aquatic organisms while sustaining and enhancing the health of the ecosystems, including the humans they feed and the planet as an holistic entity.

2

Is based on ecological systems and cycles interacting with nature, to work, emulate and contribute to sustain these.

3

Is built on relationships that ensure fairness regarding the common environment and life opportunities.

4

Is managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.

The three general objectives of organic aquaculture

1- Establish a sustainable aquaculture production that

- respects nature's systems and cycles and enhances the health of the receiving ecosystem, water, plants and animals and the balance between these,
- contributes to a high level of biodiversity,
- makes responsible use of energy and other natural resources,
- respects high animal welfare standards.

2- Produce high quality products.

3- Produce a wide variety of products

responding to the consumer demand using processes that do not harm the environment, the human health and the produced aquatic organism's health and welfare.

Findings and recommendations of the Oraqua project

Societal awareness and expectations about organic aquaculture

EU consumers have relatively low knowledge about organic productions and very few of them are familiar with the EU organic leaf label, whereas the National organic labels are better recognized. Consequently there is a great need to develop a clear and transparent communication strategy towards the consumers about the EU organic label and what it stands for. Survey results show that highest priorities of consumers regarding organic aquaculture are: no use of toxic chemicals (> 60%), close to natural living conditions (> 55%), good water quality and no use of medicines (50%) and organic feed without synthetic additives (> 45%). Communication should also focus on the high quality of the organic product, which justifies a 20% to 50% higher cost compared to conventional products.

Farm economics and competitiveness of organic aquaculture

Organic fish production is about 30% more expensive than conventional production. The main reasons for the higher production cost on farm level are:

- feed and growth, because of a higher feed price, in some cases a lower energy content of the feed and a more cautious feeding regime,
- fixed assets, because of the compelled maximum stocking density, which implies more investments in production capacity per fish,
- juveniles, because of higher production costs of organically produced juveniles,
- labor costs because of the smaller production capacity, more efforts to secure the required quality standards and more intensive control.

A cost analysis of the supply chain showed that the consumer prices are influenced not only by the costs of organic fish production on farm level are higher, but also the margins for processing and retailing.

Institutional framework and control

The institutional frameworks are currently too complex and fragmented, hence harmonization is necessary to reinforce the trust of the investors to develop the production.

Further, harmonization among control authority, accreditation and control bodies is necessary for an efficient control of the product quality and enhance the confidence of the consumers.

New provisions should be in line with practical and economic realities and derogations to the requirements applicable to organic productions should be strictly limited and controlled by the National competent authorities.



Production systems for organic aquaculture

The production systems for organic products should be as close to outdoor natural ecosystems as possible. Any type of systems, from flow through, ponds or tanks to water re-use systems are allowed, provided that they comply with that statement and secure responsible use of resources.

One farm may have parallel organic and non-organic productions if the facilities are clearly separated.

The production of local species should be preferred and the target of breeding programs should be more robust strains.

If organic seeds/juveniles are not available, non organic ones may be used, but they shall be kept under organic management at least the latter two third of their production cycle.

When organic aquaculture animals are not available, wild caught or non-organic aquaculture animals may be used for breeding or for improving genetic stock, if they have been kept under organic management for at least three months beforehand.

The use of hormones and derivates is prohibited and the use of pure oxygen is only allowed to safeguard the cultured species health during critical periods or transport.

Feed in organic aquaculture

Feed must fulfill the nutrient requirements of the aquaculture species to secure optimal performances, health and welfare, and a high nutritional quality for the flesh, and should have a low environmental impact. Fish ingredients are necessary in diets for fish and shrimp, which naturally feed on other aquatic animals such as plankton or fish, but the availability of fishmeal and oil is limited. Consequently, the possible origins of the essential feed ingredients are prioritized as follows:

Priority 1: Ingredients of organic aquaculture origin.

Priority 2: Fishmeal & fish oil from organic aquaculture trimmings.

Priority 3: Fishmeal & fish oil from trimmings of fish from sustainable fisheries.

Priority 4: Organic feed material of plant origin or animal origin.

Priority 5: Fishmeal & fish oil from whole fish caught in certified sustainable fisheries.

The composition of trimmings is fluctuating and unbalanced, and they cannot be used in feed for the same species. As supplemental amino acids are not allowed, the use of fish meal and fish oil from trimmings may negatively affect growth performance and environmental impact, which is in conflict with the organic principles. Therefore, trimmings will always constitute only a part of the feed ingredients.

Biosecurity, health and welfare

Optimal welfare of the reared species is ensured through limiting the stocking density and monitoring the water quality and the fish conditions.

Minimization of all stress factors is essential to maximize the organism's natural immunity.

Water quality in transport or temporary storage tanks should fulfill the physiological needs of the aquaculture species and transport should be done in such a way to ensure welfare.

Biosecurity measures (cleaning, disinfection, etc...) are essential as the use of antibiotics is strictly limited and only a few environmental gentle substances have been approved for water treatment.

Homeopathic veterinary medical products and probiotics may be used.

Environmental impact

All environmental impacts have to be minimized for all types of production systems.

All wastes, from nutrients in rearing water to packaging of the final products, should be recycled as completely as possible.

One of the main objectives is to minimize the ecological footprint of the production by all means (renewable energies, etc...). A specific management plan aiming at that objective will be updated and assessed yearly.