



Working Document “Issues impacting the development of EU organic aquaculture”

August 2023

Introduction

The European **Green Deal and its associated strategies, the Farm to Fork Strategy and the Biodiversity Strategy**⁽¹⁾, have identified organic production as an important tool to achieve the objective of more sustainable agriculture and food systems and have set the objective of reaching ‘*at least 25% of the EU’s agricultural land under organic farming by 2030 and a significant increase in organic aquaculture*’.

On this basis, the Commission’s Communication on an “**Action Plan for the development of organic production**” - adopted on 25 March 2021⁽²⁾ - announced that “*the Commission will identify and address as appropriate any specific obstacles to the growth of EU organic aquaculture*”.

The “**Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030**”⁽³⁾ – adopted by the Commission on 12 May 2021 - promote the development of organic aquaculture and other aquaculture systems with lower environmental impact.

At world level, the Research Institute of Organic Agriculture (FIBL) survey 2022⁽⁴⁾ shows that, with respect to organic aquaculture, the EU is the world’s second largest producer (accounting for 31% of the total), following Asia (55%, mainly China) and preceding Latin America (14%).

The “**EUMOFA study on Organic Aquaculture in the EU**”⁽⁵⁾ estimates that the total organic aquaculture production at EU-27 level was 74.032 tonnes in 2020, accounting for 6,4% of the total EU aquaculture production. Furthermore, the study underlined that the organic aquaculture production increased by 60% from 2015 to 2020. This is mainly thanks to the growth in organic mussel production, which now represents 10% of the total EU mussel production, but also thanks to the increased production of organic oyster, seabass and seabream, while for other important species produced organically such as salmon and trout, the production volumes remain stable.

⁽¹⁾ [A European Green Deal \(europa.eu\)](https://european-council.europa.eu/media/en/press-room/item/153039)

⁽²⁾ COM(2021) 141 final

⁽³⁾ COM(2021)236 final

⁽⁴⁾ [Titel \(fibl.org\)](https://www.fiblorg.ch/)

⁽⁵⁾ [Organic+aquaculture+in+the+EU_final+report_ONLINE.pdf \(eumofa.eu\)](#)

The same EUMOFA study also reports a series of obstacles to the further development of the sector, which have been taken into account in the elaboration of this document. In fact, as planned under the EU Action Plan for the development of organic production, this document aims to present an overview of the main obstacles to the development of EU organic aquaculture and potential solutions for addressing these obstacles. It has to be underlined that some of the obstacles identified are relevant also for conventional aquaculture. Therefore, broader actions recommended by the abovementioned “EU strategic guidelines for sustainable aquaculture” are mentioned when relevant as they will likely benefit also the organic aquaculture sector.

It should be noted that some issues are perceived by stakeholders as obstacles while, in fact, they relate to the application of organic aquaculture standards, based on the organic principles set under EU organic rules, which make the difference between conventional and organic aquaculture. An example are the stricter water quality requirements for organic shellfish established in EU organic Regulation (EU) 2018/848⁽⁶⁾, which indeed aim to distinguish organic from conventional shellfish.

Detailed organic aquaculture rules have been adopted for the first time at European level in 2009⁽⁷⁾ and have been mostly confirmed under EU organic Regulation (EU) 2018/848 with a few exceptions such as the abovementioned new criteria for the water quality in shellfish production.

The **general principles** that underpin the organic production system are also relevant for organic aquaculture and are set under Article 5 of Regulation (EU) 2018/848 as follows:

- (a) respect for nature’s systems and cycles and the sustainment and enhancement of the state of the soil, the water and the air, of the health of plants and animals, and of the balance between them;*
- (b) the preservation of natural landscape elements, such as natural heritage sites;*
- (c) the responsible use of energy and natural resources, such as water, soil, organic matter and air;*
- (d) the production of a wide variety of high-quality food and other agricultural and aquaculture products that respond to consumers’ demand for goods that are produced by the use of processes that do not harm the environment, human health, plant health or animal health and welfare;*
- (e) ensuring the integrity of organic production at all stages of the production, preparation and distribution of food and feed;*

⁽⁶⁾ [Regulation \(EU\) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation \(EC\) No 834/2007 \(OJ L 150, 14.6.2018 p.1 \)](#)

⁽⁷⁾ Commission Regulation (EC) No 710/2009 of 5 August 2009 amending Regulation (EC) No 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007, as regards laying down detailed rules on organic aquaculture animal and seaweed production (OJ L 204, 6.8.2009)

(f) the appropriate design and management of biological processes, based on ecological systems and using natural resources which are internal to the management system, using methods that:

(i) use living organisms and mechanical production methods;

(ii) practice soil-related crop cultivation and land-related livestock production, or practice aquaculture which complies with the principle of the sustainable exploitation of aquatic resources;

(iii) exclude the use of GMOs, products produced from GMOs, and products produced by GMOs, other than veterinary medicinal products;

(iv) are based on risk assessment and the use of precautionary measures and preventive measures, where appropriate;

(g) the restriction of the use of external inputs; where external inputs are required or the appropriate management practices and methods referred to in point (f) do not exist, the external inputs shall be limited to:

(i) inputs from organic production; in the case of plant reproductive material, priority shall be given to varieties selected for their ability to meet the specific needs and objectives of organic agriculture;

(ii) natural or naturally-derived substances;

(iii) low solubility mineral fertilisers;

(h) the adaptation of the production process, where necessary and within the framework of this Regulation, to take account of the sanitary status, regional differences in the ecological balance, climatic and local conditions, stages of development and specific husbandry practices;

(i) the exclusion from the whole organic food chain of animal cloning, of rearing artificially induced polyploid animals and of ionising radiation;

(j) the observance of a high level of animal welfare respecting species-specific needs.

In addition, **specific principles** are laid down under Article 6; particularly relevant for aquaculture are the following:

(b) the limitation of the use of non-renewable resources and external inputs to a minimum;

(o) the continuing health of the aquatic environment and the quality of surrounding aquatic and terrestrial ecosystems;

(p) the feeding of aquatic organisms with feed from sustainably exploited fisheries in accordance with Regulation (EU) No 1380/2013 or with organic feed composed of agricultural ingredients resulting from organic production, including organic aquaculture, and of natural non-agricultural substances;

(q) avoiding any endangerment of species of conservation interest that might arise from organic production.

Not only the principles but also some of the main **objectives** that organic production is called upon to pursue under Article 4 of Regulation (EU) 2018/848 are guiding organic aquaculture, notably “*contributing to protection of the environment and the climate, to a high level of biodiversity, substantially contributing to a non-toxic environment and to high animal welfare standards and in particular to meeting the species-specific behavioural needs of animals, encouraging short distribution channels and local production in the various areas of the Union, encouraging the preservation of rare and native breeds in danger of extinction*”.

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1. METHODOLOGY

The overview of the main obstacles to the development of EU organic aquaculture which are included in this document, is based on discussions with Member States and the Aquaculture Advisory Council, on outcomes of relevant EU-funded research and innovation projects (e.g. ORAQUA, FutureEUAqua, AquaVitae) and on information from other sources such as the abovementioned EUMOFA study on organic aquaculture published in 2022.

The obstacles identified are grouped into three main categories, notably:

- general obstacles that are common to both conventional and organic aquaculture;
- specific obstacles related to the application of the EU organic standards;
- specific obstacles of a technical nature.

2. GENERAL OBSTACLES THAT ARE COMMON TO BOTH CONVENTIONAL AND ORGANIC AQUACULTURE

The obstacles identified below are obstacles common to both conventional and organic aquaculture. They are in some cases perceived by stakeholders as aggravated in the case of organic production, due to the stricter production standards set under EU organic rules.

2.1. Lack of consumer awareness

The special Eurobarometer report 2021 on EU consumer habits regarding fishery and aquaculture products⁽⁸⁾ shows that 32% of consumers still prefer wild to farmed products (even if this is 3 percentage points less than in the 2018 survey), 30% have no preference and only 7% prefer farmed products. On this issue, it is interesting to note that 15% of consumers do not know whether the products they buy or eat are wild or farmed (+4 percentage points since 2018).

The survey also underlines that European consumers are interested in obtaining additional information: not only would 76% like to see the date of the catch on the label, 44% would also like to get environmental information on the label (+5 percentage points compared to 2018).

The Marine Stewardship Council survey 2020⁽⁹⁾ indicates that, in Europe, 66% of the interviewed believe that, to save the ocean, we have to consume fish and seafood only from sustainable sources and 87% would like to get better information in order to be able to be more confident about the sustainability of products. This is also valid worldwide where, since the 2018 survey, among the motivations for purchasing fish and seafood, the sustainably sourced/environmentally friendly products motivation has increased in importance.

The organic aquaculture scheme applies only to aquaculture products and not to wild caught products, except for algae, which can be harvested and certified “organic” when in compliance with set requirements.

⁽⁸⁾ [ebs_515_report_en\(2\).pdf](#)

⁽⁹⁾ [Understanding seafood consumers | Marine Stewardship Council \(msc.org\)](#)

The necessary public availability of more information to increase consumers' awareness of the benefits of aquaculture is even more important for organic aquaculture, where more knowledge and transparency on production techniques applied by the organic sector would enable consumers to make informed choices and to understand the reasons for higher prices. It is in fact recognised that there is a lack of knowledge and confusion among consumers about the differences between conventional and organic aquaculture, as well as with respect to sustainability private labels, which are available for wild caught and farmed products such as MSC⁽¹⁰⁾, ASC⁽¹¹⁾, BAP⁽¹²⁾ etc.

The European organic logo is more and more recognised by consumers. The most recent Eurobarometer survey (2022) reported that 61% of consumers are aware of the EU organic logo⁽¹³⁾. However, in general, consumers seeking more sustainable sources of fish and seafood tend to turn to wild caught fish rather than to farmed fish, so the benefits of organic aquaculture should be clarified and organic aquaculture better promoted.

Actions

Marketing measures to inform consumers about organic aquaculture, promotion of organic aquaculture and improved conditions for placing organic aquaculture products on the market are needed.

The “*Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030*” underline the need to better inform consumers about aquaculture activities and its benefits.

The “Aquaculture Portfolio analysis H2020” that has been published in November 2022 concluded amongst others that the results of the SUCCESS⁽¹⁴⁾ EU-funded research and innovation project contributed to raising awareness of organic aquaculture. The project examined inter alia how to increase demand for EU seafood products, especially by improving the awareness of the advantages of European production (including sustainability requirements). The project analysed consumer preferences and awareness and highlighted the need to address the lack of information across the seafood value chain regarding quality and benefits. The results clearly indicate that there is a small consumer segment (10%) with a higher Willingness To Pay (WTP) for fish produced according to more sustainable production methods from European origin. By emphasizing animal welfare, organic and/or other production methods complying with sustainability standards, this consumer segment can be successfully addressed and this additional WTP can be activated. The project concluded that sound communication, considering specific consumer interests and focusing on animal welfare, specific sustainability issues and/or organic production is needed and promising.

Concerning the promotion of aquaculture in general, the Commission is preparing tools for a communication campaign on aquaculture that will be made available to stakeholders and Member States. Although the tools will not target specifically organic aquaculture they will indirectly be beneficial for organic aquaculture too. The EU aquaculture website¹⁵ will include a separate section on organic aquaculture.

Concerning the promotion of organic aquaculture, the EU's Action Plan on the development of organic production includes many actions to promote organic farming in

⁽¹⁰⁾ Marine Stewardship Council

⁽¹¹⁾ Aquaculture Stewardship Council

⁽¹²⁾ Best Aquaculture Practices

⁽¹³⁾ Eurobarometer 2022

⁽¹⁴⁾ [New policies and innovations to boost European seafood sector | SUCCESS Project | Results in brief | H2020 | CORDIS | European Commission \(europa.eu\)](#)

¹⁵ [Home | EU Aquaculture Assistance Mechanism \(europa.eu\)](#)

general, such as an inter-institutional declaration signed by the Commission, the European Parliament and the Council declaring 23 September the date of the annual ‘EU Organic Day’ and the creation of EU Organic Awards also covering aquaculture.

The agricultural promotion budget for 2021 included EUR 49 million (27% of the total budget) for the promotion of organic products; the 2022 budget included EUR 50 million. Organic aquaculture products can be covered by co-financed promotion programmes when associated with at least one other agricultural product, and they may consist of ‘simple’ programmes or ‘multi’ programmes. Simple programmes are programmes submitted by one or more proposing organisations that are all from the same Member State. Multi programmes are programmes submitted by at least two proposing organisations that are from at least two different Member States or one or more Union organisations.

For the programmes selected on the basis of the annual work programme 2022, the selection and evaluation procedure has been finalised and implementation started early 2023⁽¹⁶⁾. In 2022, one single programme included organic aquaculture for a total of around EUR 2 million and one multi programme did so for around EUR 2,4 million. It is to be noted that, among the programmes approved in 2021 for the European market, there was only one single programme for around EUR 700.000 covering several organic products including aquaculture. In total, in 2021 and 2022, four Member States included organic aquaculture among the promotion measures in the internal market.

For 2023, the Commission allocated EUR 14 million to simple programmes related to organic products, for information and promotion programmes aiming at increasing the awareness and recognition of the Union quality scheme on the organic production method, and EUR 5 million to promotion in Third countries, plus for multi-programmes in the internal market EUR 14 million and EUR 11 million for the promotion of organic and sustainable agriculture in Third Countries.

To be noted is also the ongoing EU-funded research and innovation project under Horizon 2020, FutureEUAqua⁽¹⁷⁾, which also covered organic aquaculture and reported on consumer awareness, perception and acceptance of European aquaculture and methods, in particular suggesting “*that consumer acceptance of aquaculture production systems vary with awareness, perception and how familiar European consumers are with them*” and concluding on the necessity of working further on targeted communication to consumers “*to maintain and improve positive attitudes and perceived benefits*” of the different aquaculture systems.

2.2. Lack of space

“Access to space and water” has been identified as a key area for action in the “*Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030*”. For organic aquaculture, the lack of space is even more problematic because of the stricter water quality requirements and because of the requirement for “*zones suitable for organic production*” to be identified with a minimum distance separation from conventional units.

Actions

This obstacle is to be addressed at national level taking into account, not only related horizontal and organic rules, but also relevant environmental, social and economic development programmes at national and regional levels.

⁽¹⁶⁾https://agriculture.ec.europa.eu/common-agricultural-policy/market-measures/promotion-eu-farm-products_en#annualworkprogramme

⁽¹⁷⁾ Website: www.futureeuqua.eu

In the context of the implementation of the “*Strategic guidelines on EU aquaculture*”, the Commission will develop a Guidance document on access to marine space by autumn 2023 and a Guidance document on access to inland aquaculture by 2023-2024. Organic aquaculture will also be concerned by the national implementation of these guidance documents. The guidance documents as well as the related training materials will be available on the EU Aquaculture website that is operational since December 2022⁽¹⁸⁾.

2.3. Complexity of procedures for and cost of conversion to organic production

Beyond the overall issue of the complexity of licensing procedures for aquaculture, the complexity of procedures can hamper the transition to organic certified production where the producers also have to bear the costs of the certification scheme and respect a period of conversion during which they cannot yet sell the products as organic. Small producers face market barriers because there is a relatively high cost for control and certification for organic aquaculture.

Actions

There is a series of new provisions under Regulation (EU) 2018/848 that could facilitate the activity of small business operators and lower the administrative burden and cost for organic certification, and consequently facilitate the marketing of organic aquaculture. In particular:

- the exemption, for all operators for which the activity is limited to sales and to selling only pre-packed organic products, from the obligation to notify and be certified;
- the possible exemption (to be decided at national level) of small operators from the obligation to be in the possession of an organic certificate when selling unpacked organic products directly to the final consumer;
- the specific provisions allowing the setting up of a group of operators, which could enable a simplification of certification and controls and promote the set-up of joint marketing systems for organic products, consequently lowering costs of certification;
- when a control fee is collected, Member States are required to ensure that any operator or group of operators pays a reasonable fee covering the cost of controls and that any fees collected are made public.

Finally, in the context of the implementation of the “*Strategic guidelines on EU aquaculture*”, the Commission is currently developing a “Guidance document on good practices on administrative procedures”, which will be finalised by autumn 2023. Organic aquaculture will also potentially benefit from the national implementation of such guidance. The Commission will organise trainings on this guidance document. The guidance document as well as the training materials will be available on the EU aquaculture website¹⁹.

⁽¹⁸⁾ [The European Maritime Spatial Planning Platform | \(europa.eu\)](#)

¹⁹ [Home | EU Aquaculture Assistance Mechanism \(europa.eu\)](#)

2.4. Competition between EU organic products and organic products from non-EU countries (Scotland, Norway, Iceland, China)

As already mentioned, the total organic aquaculture production in the EU-27 amounted to 74.032 tons in 2020, while the total EU-27 import of organic fish and other seafood (mainly shrimps) reached 10.000 tons (of which 8.064 tonnes of fish) in that same year⁽²⁰⁾. The general data on EU aquaculture products show that the overall EU aquaculture production reached 1,37 million tons in 2019 and aquaculture imports 1,79 million tons⁽²¹⁾.

Despite the lower import share in the organic sector, the competition is high, as reported by the EUMOFA report on organic aquaculture⁽²²⁾, in particular with respect to salmon⁽²³⁾, as it is very difficult for small-scale producers to compete with Scotland and Norway in terms of the cost of production.

Actions

Norway and Iceland have agreed to integrate the new EU rules for organic aquaculture production and decisions of the European Economic Area (EEA) have been adopted in 2022 so that the new Regulation (EU) 2018/848 on organic production is applicable in the EEA EFTA States.

Scotland is under the EU-UK trade and cooperation agreement (TCA) and the EU has recognised that the UK's laws on organic production and certification are equivalent to EU law. With this "equivalence", the UK certified organic products can be exported to the EU and labelled as organic until 31 December 2023. The TCA will be reviewed soon.

With respect to products from Third Countries, new Regulation (EU) 2018/848 and its secondary legislation introduced a more detailed and strict regime of control and the new compliance scheme. Moving from the equivalence scheme to the full compliance scheme shall result in imported organic products that are compliant with the EU's production rules from January 2025. This comprehensive new legal framework will enhance the enforcement of the organic rules by control bodies, and increased controls and supervision from the Member States and the Commission to ensure respect for the high organic standards.

On the new controls provisions for organic products, more in depth information is available at the following webpage: [Legislation \(europa.eu\)](https://legislation.europa.eu).

2.5. Lack of national measures concerning water efficient management, recycling systems, energy efficiency, renewable energy and promotion of conversion to eco-management and organic aquaculture

There is a problem related to the insufficient interest and funding in Member States on these measures. The FAME report 2019⁽²⁴⁾ on the implementation of the European Maritime Fishery Fund (EMFF) concluded that "*Measures attracting the least interest relate to ... energy efficiency and renewable energy in aquaculture (Article 48(1) (k));; and conversion to eco-management, audit schemes and organic aquaculture*

⁽²⁰⁾ [EU Agricultural Economic briefs \(europa.eu\)](https://legislation.europa.eu)

⁽²¹⁾ 2021 report on the EU Fish Market of the European Market Observatory for Fisheries and Aquaculture Products (EUMOFA)

⁽²²⁾ [Organic+aquaculture+in+the+EU_final+report_ONLINE.pdf \(eumofa.eu\)](https://www.eumofa.eu)

⁽²³⁾ Organic salmon constitutes the 75% of total organic aquaculture production in Europe.

⁽²⁴⁾ <http://www.bsec-bsvkc.org/Documents/Library/6d5093cbadc74f67bf14c125f5ae078b.pdf>

(Article 53). *The amounts committed for these measures add up to less than 10% of the total planned EMFF allocation.*”

Actions

Financial support for measures concerning the efficient use of resources is available under the European Maritime Fishery and Aquaculture Fund (EMFAF) programmes 2021-2027 to promote sustainable aquaculture activities that shall be consistent with the multiannual national strategic plans for the development of aquaculture referred to in Article 34(2) of Regulation (EU) No 1380/2013, which include among their objectives *the promotion of aquaculture practices and research with a view to enhancing positive effects on the environment and on the fish resources, and to reducing negative impacts, including reducing pressure on fish stocks used for feed production, and increasing resource efficiency.*

Financial support is also available for conversion to organic aquaculture as laid down under Regulation (EU) 508/2014. Member States have to include such objectives in their National Strategic Plan on Aquaculture (NSPA) and in their EMFAF Programme. Almost all Member States have included the further development of organic aquaculture in their revised NSPAs²⁵ and some have included concrete targets like Poland²⁶ and Hungary²⁷. A summary in English of the NSPA's is available on the EU aquaculture website. Almost all Member States have included measures to further develop organic aquaculture in their EMFAF Programmes.

2.6. Need for studies to improve animal welfare in aquaculture

Organic aquaculture is applying high standards of animal welfare as this is one of the main principles of organic production. The EU organic rules set specific animal welfare requirements for organic aquaculture production, which include, amongst others, species-specific maximum stocking density levels, restrictions to the use of artificial light and of oxygen, the prohibition of the use of hormones, and of practices like eyestalk ablation, ligation, incision and pinching. There is also a general requirement for training fish farmers on fish health and welfare, and requirements on slaughter techniques.

For slaughter in particular, the EU Regulation on organic production⁽²⁸⁾ states that: “*Any suffering shall be kept at minimum during the entire life of the animal including at time of slaughter*” (point 3.1.6.7.) and “*Slaughter techniques shall render fish immediately unconscious and insensible to pain. Handling prior to slaughter shall be performed in a way that avoids injuries while keeping suffering and stress at a minimum. Differences in harvesting sizes, species, and production sites shall be taken into account when considering optimal slaughtering methods.*”(point 3.1.6.9.). Opinions to improve slaughter techniques have been published by EFSA⁽²⁹⁾, and further research is needed to cover all species with the most advanced and adapted techniques to minimise any suffering.

²⁵ The Netherlands did not include organic aquaculture in its NSPA because they only have RASs and in Estonia the market for organic aquaculture is very small.

²⁶ The objective is to double organic aquaculture production in Poland by 2030.

²⁷ The objective is to reach 20% area of lakes for organic aquaculture in Hungary.

⁽²⁸⁾ Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products

⁽²⁹⁾ [Fish welfare | EFSA \(europa.eu\)](https://www.efsa.europa.eu/en/topics/topic/fish-welfare)

Actions

The need to improve fish welfare has been identified as a key area for action in the “*Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030*”⁽³⁰⁾. The Commission is revising the EU animal welfare legislation, which will also look into the welfare of farmed fish. On this point, a Roadmap of future mandates to EFSA has been set up in the field of animal welfare and it includes mandates for farmed fish.

The Commission will set up an EU Reference Centre on the welfare of aquatic animals by the end of 2023.

In the context of the implementation of the “*Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030*”, a background document on good husbandry practices for aquaculture will be developed by the end of 2023 that will address welfare aspects. In 2024, the Commission will work on a code of good practices on fish welfare and on fish welfare indicators. The Commission will also continue to support research and innovation on the welfare of farmed fish under Horizon Europe. For example, the new EU-funded project “CURE4AQUA”³¹ will address health and welfare innovation in aquaculture and the EU Partnership on Animal Health and Welfare will also launch projects on the welfare of farmed fish.

Organic aquaculture is already applying high animal welfare standards. However, results of these projects could also be relevant for further improving animal welfare in organic aquaculture.

3. SPECIFIC OBSTACLES RELATED TO THE APPLICATION OF EU ORGANIC STANDARDS

Issues identified below have been reported as obstacles by stakeholders, who have referred to a lack of clarity in the implementation of legal provisions by Member States.

To ensure a harmonised implementation of Regulation (EU) 2018/848, the Commission Services have addressed several questions and made publicly available a Frequently Asked Questions (FAQ) document that includes a chapter on organic aquaculture. The FAQ document is regularly updated with new questions and is public on the EU organic webpage at the following link: [Organics at a glance | European Commission \(europa.eu\)](#). The last update of the document occurred in June 2023. Moreover, an updated overview of all organic legislation is also publicly available on the same EU webpage at the following link: [Legislation \(europa.eu\)](#)

3.1. Restriction on the use of Closed Recirculation Aquaculture Systems for organic aquaculture production

As already established under previous Regulation (EC) 889/2008, Regulation (EU) 2018/848 prohibits the use of closed recirculation aquaculture facilities in organic aquaculture, with the exemption of hatcheries and nurseries or facilities for the production of species used for organic feed.

⁽³⁰⁾ COM(2021) 236 final

³¹ <https://cure4aqua-project.eu/>

The Commission has no empowerment under Regulation (EU) 2018/848 to amend such provisions⁽³²⁾.

The report on aquaculture (2014)⁽³³⁾ from the Expert Group for Technical Advice on Organic Production (EGTOP) provided a comparison of advantages and disadvantages between flow-through systems and closed recirculation aquaculture systems (RAS), and concluded that closed RASs should remain prohibited for on-growing purposes in organic production, while the re-use of water is seen as a better alternative to be further explored and promoted.

The EGTOP report states that: *“Closed recirculated systems (RAS) have several environmental advantages, but require significant input of external energy, high stocking densities (for economic reasons), advanced waste water treatment devices, use of UV radiation and use of pure oxygen. All the above, together with the disconnection of the aquaculture production from the external natural aquatic environment, makes the closed recirculated systems (RAS) not in line with the principles of organic production”*.

It is important to recall that organic production is a sustainable management system for which objectives are set under Regulation (EU) 2018/848 as well as a series of general and specific principles, on the basis of which production rules have been defined. The general principles that are particularly relevant in this context are set under Article 5 as mentioned above, in particular Article 5 (c) (f) (g) (i) and specific principles under Article 6 (b) and (o).

Moreover, the EUMOFA study reports that, for the definition of “closed recirculation aquaculture facility”, there is an alleged lack of harmonised interpretation among Member States and certification bodies. However, the EU organic legislation provides for a clear definition of closed recirculation aquaculture facilities.

Actions

While closed RASs are prohibited for organic production for on-growing purposes, the development of other types of systems could be further explored, in line with the above-mentioned relevant organic principles in particular aiming to minimise the negative impacts on the surrounding environment, including the possibility of recycling organic by-products and the use of renewable energy. On this point, results from EU-funded research and innovation projects on Integrated Multi-Trophic Aquaculture such as SEAFOODTOMORROW, IMPAQT, ASTRAL and AquaVitae could be of value also for organic aquaculture.

The Commission can always demand advice to the EGTOP on new techniques of production on the basis of new scientific and technical evidence. The expert group will then assess whether or not the new technique (e.g. semi-closed RASs) can be in line with the objectives and principles of EU organic production⁽³⁴⁾.

As mentioned above, the FAQ document includes also clarifications concerning RAS.

⁽³²⁾ The definition of “closed recirculation aquaculture facility” is provided by article 3(34) of Regulation (EU) 2018/848: “a facility on land or in a vessel where aquaculture takes place within an enclosed environment involving the recirculation of water and which depends on permanent external energy input to stabilise the environment for the aquaculture animals”.

⁽³³⁾ [EGTOP reports on organic production | European Commission \(europa.eu\)](#)

⁽³⁴⁾ [Register of Commission expert groups and other similar entities \(europa.eu\)](#)

3.2. Lack of allowed fertilisers for organic algae production

Like previous Regulation (EC) 889/2008, Regulation (EU) 2018/848 limits the use of external inputs. In particular, for organic algae, fertilisation is possible only indoors and fertilisers have to be specifically allowed under Article 24 of Regulation (EU) 2018/848 and can only be of plant or mineral origin in accordance with point 2.3.2. of Part III of Annex II to Regulation (EU) 2018/848 as follows: “2.3.2. *In facilities on land where external nutrient sources are used, the nutrient levels in the effluent water shall be verifiably the same, or lower, than the inflowing water. Only nutrients of plant or mineral origin authorised pursuant to Article 24 for use in organic production may be used.*”

These same provisions were already set under previous Regulation (EC) 889/2008 and derive from environmental and hygiene concerns about the use of chemical and animal origin fertilisers.

Stakeholders have repeatedly demanded to adapt the EU organic production standards for algae production, in particular with respect to animal origin fertilisers. However, the Commission has no empowerment under Regulation (EU) 2018/848 to amend such general provisions concerning the origin of the nutrients used for algae. Moreover, this would not be coherent with the organic principle “*to limit as much as possible use of external inputs*”.

Actions

Still, in accordance with Article 24 of Regulation (EU) 2018/848, the Commission may authorise certain products to be used in organic production subject to respecting the organic principles and to specific criteria laid down in the Article itself⁽³⁵⁾.

A new product of mineral origin has recently been assessed by EGTOP⁽³⁶⁾ with positive results and is now listed as authorised fertiliser for use in organic algae production by Regulation (EU) 2023/121.

Finally, the Commission adopted on 15 November 2022 the Communication “Towards a strong and sustainable EU algae sector”⁽³⁷⁾ and is, among others, planning to work with the algae industry and Member States *to identify valid and safe alternatives to the use of nutrients and CO₂ from various sources for microalgae cultivation and organic certification*. Recently, a technical dossier in compliance with Article 24 of Regulation (EU) 2018/848, has been submitted by a Member State to the Commission to support the possible approval of the use of CO₂ in organic algae cultivation and will be assessed by EGTOP in 2023.

3.3. Lack of alternatives to hormonal stimulants for artificial reproduction and induced polyploidy

A Member State reported to the Commission that the conversion to fully organic aquaculture would have devastating consequences for its fish farming, in particular

⁽³⁵⁾Article 24 (5). The authorisation of the use of chemically synthesised products and substances, in accordance with paragraphs 1 and 2 of this Article, shall be strictly limited to cases where the use of external inputs referred to in point (g) of Article 5 would contribute to unacceptable impacts on the environment.

⁽³⁶⁾ [EGTOP reports on organic production | European Commission \(europa.eu\)](#)

⁽³⁷⁾ [Communication from the Commission: Towards a strong and sustainable EU algae sector \(europa.eu\)](#)

because of the prohibition to use hormonal stimulation for artificial reproduction. This is due to the fact that its main farmed species of fish are based on artificial reproduction using hormonal stimulation. In fact, certain fish species cannot reproduce in captivity without hormonal stimulation (in particular white amur and tolstolobic carps). Some other species of farmed fish (e.g. sturgeon) are usually subject to a change of ploidy due to better growth and husbandry characteristics, allowing higher market fish production for the market.

As already mentioned, organic aquaculture is based on the abovementioned organic principles and different from conventional production. For this reason, consumers are ready to pay higher prices. Again, these prohibitions to use hormones and induced polyploidy are linked to the fundamental principles of organic production to limit the use of external inputs and respect the natural cycles and improved animal welfare. The prohibition to use hormones and induced polyploidy are clearly laid down in Regulation (EU) 2018/848 as follows:

3.1.2.2. With regard to breeding, the following rules shall apply:

- (a) hormones and hormone-derivates shall not be used;*
- (b) the artificial production of monosex strains, except by hand-sorting, the induction of polyploidy, artificial hybridisation and cloning shall not be used;*
- (c) appropriate strains shall be chosen.*

Moreover, the Commission has no empowerment under Regulation (EU) 2018/848 to change such provisions, which are fully in line with organic principles and in fact were already established in previous Regulation (EC) 889/2008.

Actions

Further research to identify alternative techniques to facilitate the reproduction of species in captivity and increase aquaculture productivity respecting the objectives, principles and standards of organic aquaculture could be proposed as a follow-up to the results of previous EU-funded research and innovation projects, such as PROSPAWN⁽³⁸⁾ on natural spawning and GTHREG⁽³⁹⁾ focused on scientific advancements related to fish reproduction and its regulators. These projects recognised that limited knowledge is available on the mechanisms that control reproduction in farmed fish and underlined the importance of environmental conditions and broodstock management in natural spawning.

3.4. Lack of alternatives to veterinary treatments, in particular against parasites

In organic aquaculture, a very limited use of veterinary medicines is allowed.

For organic terrestrial animals, there are no limits for treatments against parasites. The aquaculture sector claims that there should be no limits on parasites treatments either for organic aquaculture.

The established frequency of treatment of organic aquaculture against parasites is based on scientific expert advice (EGTOP)⁽⁴⁰⁾.

⁽³⁸⁾ [Industrialising European aquaculture | PROSPAWN Project | Results in brief | FP7 | CORDIS | European Commission \(europa.eu\)](#)

⁽³⁹⁾ [Periodic Reporting for period 1 - GTHREG \(Differential regulation of gonadotropins\) | H2020 | CORDIS | European Commission \(europa.eu\)](#)

⁽⁴⁰⁾ [EGTOP Final Report on Aquaculture IV\(2019\)](#)

Actions

As laid down in the EU organic Regulation, with regard to parasites, it is important first of all to apply all possible preventive rearing measures and extend the use of vaccinations as a cost-effective measure.

EU-funded research and innovation projects like PARAFISH Control⁽⁴¹⁾ under Horizon 2020 have been carried out to understand the interactions between parasites and fish and to develop solutions and tools for prevention, control and mitigation. The results are also relevant for organic aquaculture, in particular with respect to preventive measures. Other projects are ongoing under Horizon Europe, such as IGNITION⁽⁴²⁾, to improve animal welfare and reduce the use of veterinary medicines. This project as well can bring relevant results also for organic aquaculture.

The Commission has the empowerment to change the provisions related to veterinary treatments for aquaculture animals under Article 15 of Regulation (EU) 2018/848. The aquaculture sector can always provide scientific evidence to substantiate the alleged need to change the legislation. On the basis of new scientific evidence, the Commission may, as mentioned above, require EGTOP advice and, in case of positive conclusions, on the basis of the empowerment provisions included under the Regulation (EU) 2018/848, propose an amendment of current legislation.

3.5. Lack of organic juveniles

The present production of organic juveniles is considered inadequate to supply the growing demand of the organic aquaculture. This has been raised by stakeholders as a major obstacle for some time now, together with a request to extend prior derogations from the requirement to use organic juveniles.

However, prior derogations concerning the use of non-organic juveniles for on-growing purpose have been phased out since December 2016. Regulation (EU) 2018/848 (point 3.1.2. of Part III of Annex II) introduced a new derogation for the use of non-organic juveniles: “*Member States may authorise the introduction for on-growing purposes on an organic production unit of a maximum of 50 % of non-organic juveniles of species that were not developed as organic in the Union by 1 January 2021, provided that at least the latter two thirds of the duration of the production cycle are managed under organic management*”. Such derogation may be granted for a maximum period of two years and shall not be renewed. On the contrary, for breeding, the Regulation provides the possibility for Member States to authorise, in duly justified cases, the use of wild-caught and non-organic animals under certain specific conditions to be respected.

The Commission has sent a clarification reply to the Member States on this issue and included the subject in the FAQ document. The Commission has no empowerment under Regulation (EU) 2018/848 to change such provisions.

Actions

Specific breeding programmes for organic juveniles should be developed. Moreover, there is a lack of detailed production rules for organic hatcheries, including brood stock management, in order to better distinguish and promote organic production. Indeed, in organic production, the following techniques are prohibited: the use of hormones in all

⁽⁴¹⁾ [ParaFishControl Project](#)

⁽⁴²⁾ [Improving GreeN Innovation for the blue revoluTION: new tools and opportunities for a more sustainable animal farming | IGNITION Project | Fact Sheet | HORIZON | CORDIS | European Commission \(europa.eu\)](#)

stages of growth, the artificial production of mono-sex strains except by hand sorting, the induction of polyploidy, the artificial hybridisation and cloning; finally, the use of veterinary medicines is strictly limited.

The Commission intends to address the lack of organic juveniles via EU funded research and innovation projects⁽⁴³⁾. In particular, the Work Programme for 2023-24 under Horizon Europe⁴⁴ includes a call on selective breeding for organic aquaculture. Under this call, 3 million € are dedicated to projects related to breeding programs under organic conditions for the main European aquaculture finfish species, i.e. seabass, seabream, trout and salmon. The objectives are to breed organic juveniles respecting high animal welfare standards and improving species resilience, disease resistance and feed efficiency by satisfying the nutritional needs of each species using as much as possible alternative feed materials to increase the sustainability of production.

In addition, Article 26 of Regulation (EU) 2018/848 provides for new databases⁽⁴⁵⁾ or systems to be made available by Member States to promote the market, in practice to allow operators that market organic aquaculture juveniles and are able to supply them in sufficient quantities, to make public on a voluntary basis free of charge their data on available organic juveniles. Such systems should be in place from January 2022. At present, 17 Member States have communicated their web links to the system in place and the Commission Services are following up on their implementation. Moreover, the national authorities will have to report annually the data on the availability of juveniles to the Commission and other Member States. The deadline for the first transmission was set by 30 June 2023.

In addition, the Commission will explore non-legislative ways to promote hatcheries in the EU and raise the awareness of the Member States in the framework of the Technical Seminars on aquaculture that take place at least twice a year.

3.6. **Difficulties in compliance with the water quality requirements for organic shellfish farming**

In order to differentiate organic from conventional shellfish, Regulation (EU) 2018/848 has introduced stricter rules for the identification of areas suitable for the production of organic shellfish. In particular, the criteria for the selection of the areas refer to the highest quality criteria set under the food safety legislation for shellfish and set for water under the Water Framework directive and Marine Strategy Directive. Some Member States have expressed difficulties to implement the new rules.

Shellfish farmers argue that this is a major obstacle to the further development of organic mollusc production. The Commission notes that these provisions aim to differentiate organic shellfish, where among the organic aquaculture requirements there is that of the location of organic operations not to be situated in polluted areas compromising the organic nature of the products and the high quality of final product. Furthermore, the Commission has no empowerment under Regulation (EU) 2018/848 to change these provisions.

⁽⁴³⁾ To note the EU Organic Action Plan commits to promote the hatcheries and nurseries activities for juveniles

⁽⁴⁴⁾ [Microsoft Word - HORIZON-CL6 07_14_2022 \(sciencebusiness.net\)](#)

⁽⁴⁵⁾ https://ec.europa.eu/agriculture/ofis_public/national_databases/index.cfm?lang=en

As also reported in the EUMOFA study, there are no significant differences in the method of production between conventional and organic shellfish production. The only differences are the criteria for quality of water suitable for organic production and the prohibition of induced polyploidy.

Actions

A letter clarifying the new rules has been made available to all Member States following a discussion at the Organic Production Committee and its content is part of the FAQ document available here: [organic-rules-faqs_en.pdf \(europa.eu\)](#).

Furthermore, the Commission is working on guidance for the access of aquaculture to space. Organic and shellfish aquaculture may also benefit from the future implementation of such guidance.

4. SPECIFIC OBSTACLES OF TECHNICAL NATURE.

4.1. Lack of availability of organic feed and of alternatives to fish meal and fish oil

Stakeholders complain about the difficulties to obtain organic feed compliant with the EU Regulation. In particular, the sustainable certification of trimmings is judged by the sector as very difficult to achieve.

Point 3.1.3.1. of Part III of Annex II to Regulation (EU) 2018/848 requires that the feed fraction derived from aquatic animals (including trimmings) must originate from organic aquaculture or from fisheries that have been certified as sustainable under a scheme recognised by the competent authority in line with the principles laid down in Regulation (EU) N° 1380/2013. The Member States in doing this can rely on specific FAO Guidance⁽⁴⁶⁾. It is important to note that the Commission is not empowered under Regulation (EU) 2018/848 to change the general provision in point 3.1.3.1. Moreover, scientific evidence deepening species' nutritional needs would be required for any possible amendment related to species requirements.

There is also a need to identify alternative feed ingredients (both proteins and lipids) for aquaculture and to reduce the use of fish meal and fish oil while at the same time ensuring nutritionally efficient diets. In organic aquaculture, a sourcing list of feed materials has been established under Regulation 2018/848⁴⁷. For organic aquaculture, finding alternative feed ingredients (e.g. algae, insects) is even more of an issue since they have to be organic themselves.

Actions

On-going research is evaluating alternative ingredients to fish oil and fish meal and assessing product quality to meet the challenges for the production of the organic feed (e.g. essential amino-acids produced via fermentation). In addition, sensitivity to alternative ingredients is species specific and related to the fish's developmental stage.

⁽⁴⁶⁾ [Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries. Revision 1 | GLOBEFISH | Food and Agriculture Organization of the United Nations \(fao.org\)](#)

⁴⁷ 1) Organic feed products of aquaculture origin, 2) Fish Meal & Fish Oil from organic aquaculture trimmings sourced from fish, crustaceans or molluscs, 3) Fishmeal & fish oil derived from trimmings of fish crustaceans or molluscs already for human consumption caught in sustainable fisheries, 4) Fish meal & Fish oil derived from whole fish crustaceans or molluscs already caught in sustainable fisheries not for human consumption and 5) Organic feed materials of plant or animal origin.

Further extensive studies are still required to have a clearer picture of the potential effects of alternative ingredients in gut microbiota, immune parameters and overall fish health status. Studies on the use of probiotics in feed are ongoing.

There is also a need to identify proper sources of vitamins and research is ongoing to identify proper sources for the organic sector (e.g. ORGANIC-PLUS ⁽⁴⁸⁾ project funded under Horizon2020).

Several EU-funded research and innovation projects on aquaculture under Horizon 2020 and Horizon Europe could bring relevant results to the sector, including the organic aquaculture sector. Among these projects are: Ifishiency⁽⁴⁹⁾ running until July 2023 (EUR 7 million), ASTRAL⁽⁵⁰⁾ on Integrated Multi trophic aquaculture (IMTA) running until November 2024 (around EUR 8 million), AquaVitae⁽⁵¹⁾ running until November 2023 (around EUR 8.7 million), and FutureEUAqua⁽⁵²⁾ running until April 2023 (EUR 7 million). The last one in particular will promote innovations working on feed optimisation and new diets for fish health and welfare.

Under the Horizon Europe Programme 2021-2022, the project “OrganicTargets4EU”⁽⁵³⁾ was launched (4 Million €) that will develop transformation scenarios for boosting organic farming and aquaculture towards the Farm-to-Fork targets. The project is running from September 2022 to February 2026. The project will also look into organic aquaculture and feed issues will be addressed.

Recently EGTOP has assessed a dossier supporting the use of algal oil derived from the marine alga Schizochytrium sp, which is a rich source of omega-3 eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), and concluded positively on the product which can be an alternative to the use of fish meal in organic production, even replacing it completely⁽⁵⁴⁾.

Finally, the Commission is currently working on secondary legislation for the introduction of specific rules for the production of organic insects to be used as food and feed. It is expected the new rules could be finalised in 2024.

⁽⁴⁸⁾ [Pathways to phase-out contentious inputs from organic agriculture in Europe | Organic-PLUS Project | Fact Sheet | H2020 | CORDIS | European Commission \(europa.eu\)](#)

⁽⁴⁹⁾ [Homepage - iFishienci](#)

⁽⁵⁰⁾ [ASTRAL Project \(astral-project.eu\)](#)

⁽⁵¹⁾ <https://aquavitaeproject.eu/>

⁽⁵²⁾ <https://futureeuaqua.eu/>

⁽⁵³⁾ [Home | OrganicTargets4EU](#)

⁽⁵⁴⁾ [EGTOP Final Report on Feed VII and Pet food II \(2023\)](#)