

Strong EU regulations for organic trout farming

Fish welfare is crucial for any aquaculture production and in particular, this issue is addressed in the EU regulations for organic aquaculture production. However, do the regulations meet other similar standards for fish welfare?



Lihme Organic Trout Farm. Photo: Alfred Jokumsen

Project coordinator, Alfred Jokumsen, from the Organic RDD4 research project, "[ShelterFish](#)" has investigated fish welfare issues in the EU regulations for organic trout farming in relation to the English RSPCA Standard to elucidate whether the EU regulations meet comparable standards for fish welfare.

"RSPCA" (Royal Society for the Prevention of Cruelty to Animals) is the biggest animal welfare organisation in England and it has its own "RSPCA Assured" label. The organisation was founded in 1824 and has since then been basic for similar organisations like Scottish SPCA, RSPCA Australia and ASPCA in USA.

The RSPCA Standard versus the EU regulations

The RSPCA Standard is based on "The five freedoms", which secure natural behavior of the fish to prevent: hunger, discomfort, pain, wound, disease, fear and stress, which is implicit, the conditions for any sustainable fish production.

"The RSPCA Standard is very detailed, but most of the requests of the Standard are already met in the current EU regulations, as most of the items in the RSPCA Standard are implicit "Best praxis and management" in organic trout farming according to the EU regulations – and in so far as also in conventional farming. The prerequisite for a farmer to meet the current organic regulations is constant full focus on the health and welfare of the fish being equal to the RSPCA Standards", explains Alfred Jokumsen.

High skills and in-depth experience with farming and taken care of fish is requested to meet the standards in the current EU regulations, including optimum farming conditions, approved organic report, environmental approval, plan for fish health and welfare, which overall at least meet the RSPCA Standard. The RSPCA Standard e.g. give figures for maximum stocking density

of 60 kg/m³ for rainbow trout in fresh water, compared to max. 25 kg/m³ in the EU regulations for organic aquaculture production.

However, a recent comprehensive literature study in the EU project, "OrAqua", concluded, that stocking density is not the most important factor in relation to fish welfare, but has to be evaluated in a holistic approach taken an interplay with other parameters into consideration, e.g. water quality, feed, growth and feed conversion, behavior, temperature, currents, management conditions etc. Hence, currently no measureable welfare indicators exist. The outstanding challenge includes a science-based understanding of the interplay between the different factors in relation to fish stocking density and fish welfare.

EU regulations being on par with the RSPCA Standard

According to the current EU regulations for organic aquaculture fish welfare is addressed (development, physiology and behavior) in relation to among others:

- Farm design securing animal health and welfare
- Good water quality including sufficient oxygen (min. 60 % oxygen saturation for trout)
- Feed meeting the basic nutritional needs
- Feed ingredients from whole fish caught in sustainable fishery
- Stocking densities: - Fresh water: Trout 25 kg/m³; Salmon 20 kg/m³ – Salt water/sea cages: Salmon and trout 10 kg/m³
- Hormones are prohibited in organic fish farming
- Health consultancy (written agreement with veterinarian including at least an annual visit)
- Limitation in allowed numbers of treatment against diseases
- Gentle water treatment (only limited number of products permitted)
- Fish must be handled as little as possible and with utmost caution to prevent stress and secure fish welfare
- Transport of live fish must take place in adequate tanks and with consideration to their physiological needs as regards temperature and dissolved oxygen
- Artificial light must be most possible limited in relation to the normal day rhythm of the fish
- Natural bottoms for farming in fresh water is requested
- Careful slaughtering (unconsciousness and numb)
- Daily registration of all procedures and measurement parameters.

“Comparing the EU regulation for organic aquaculture with the RSPCA Standard as to fish welfare it is my best assessment, that the requests in the current EU regulation is at least on par with the RSPCA Standard”, Alfred Jokumsen concludes.

Fish welfare is a core theme for the Organic RDD 4 research project [ShelterFish](#), which is carried out in collaboration between DTU Aqua, Department of Veterinary and Animal Sciences at University of Copenhagen, The Danish Aquaculture Organisation, Lihme Dambrug, Vork Dambrug and Ravnstrup Mølle. The project has received grants from the Green Growth and Development programme (GUDP) under the Danish Ministry of Food, Agriculture and Fisheries, and is coordinated by International Centre for Research in Organic Food Systems (ICROFS).