

# ORGANIC TROUT OVA/FRY ALSO AVAILABLE FROM DANISH HATCHERIES

One year ahead of the deadline for implementation of complete organic aquaculture life cycle - organic trout ova/fry is available from Danish hatcheries.

BY ALFRED JOKUMSEN, SENIOR ADVISORY SCIENTIST, TECHNICAL UNIVERSITY OF DENMARK, DTU AQUA, THE NORTH SEA RESEARCH PARK, HIRTSHALS, DENMARK.

Organic aquaculture production is one of the most dynamic food production sectors in Europe and the production has increased rapidly in recent years. Denmark is among the leading European organic aquaculture producers. The Danish annual production in organic aquaculture is currently about 1000 MT of rainbow trout and about 400 MT blue mussels and additionally production of organic seaweed and crustaceans has been initiated.

According to Commission Regulation (EU) No 1364/2013 the life cycle of all animals in organic aquaculture must be 100 % organic by 1<sup>st</sup> January 2016. The hitherto national organic rules in force have also been harmonized.



Organic fry of rainbow trout from Danish hatcheries. Photo V.J. Larsen

This request of exclusively organic fry from 2016 entails big challenges to the organic farmers. The organic rules only allow very limited treatments against diseases to keep the organic certificate. Fry is vulnerable to diseases and hence the robustness of fry to diseases is crucial. In particular this concerns one of the most serious trout fry diseases in Danish aquaculture, Rainbow Trout Fry Syndrome (RTFS).

To further strengthen and develop Danish organic aquaculture, a national funded research project, RobustFish (2014-2017) has recently been launched. The project focuses on organic robust trout fry to prevent disease and medical treatments. The project will also provide knowledge about market conditions for organic aquaculture products, consumer attitudes and development potentials for organic aquaculture. Further information at the project website: [http://www.icrofs.org/Pages/Research/ORG\\_RDD2\\_Robustfish.html](http://www.icrofs.org/Pages/Research/ORG_RDD2_Robustfish.html)

The basic hypothesis of RobustFish is that there is a relation between the time of absorption of the fry yolk sac followed by swim-up/searching for feed at the water surface - and the robustness and growth potential. Thus it is assumed that the first fry at the water surface ("early swim-up") will perform better during grow out than the last swim-up fry ("late swim-up"). Using a specific developed sorting device the fry is sorted into fractions ("Early" - "Medium" - "Late") as they are swimming up.

The project will investigate the robustness of the various fractions of fry. This includes investigations of the influence of the dietary content of essential  $\Omega$ -3 fatty acids (HUFAs), which are important for growth, health and welfare of the fish, as well as testing robustness to stress.



Fry (above) and yolk-sac fry. Photos Lone Madsen.



continued on page 36

## ORGANIC TROUT OVA/FRY ALSO AVAILABLE FROM DANISH HATCHERIES

*continued from page 27*

Stress and RTFS tests are going to be performed to investigate if these two factors can be included in strategies to increase the robustness of the fry. Further, the effect on health and welfare of water treatments using approved agents in organic aquaculture are tested. However, the outcome of RobustFish can as well improve the productivity of the conventional trout farming by lower prevalence of RTFS, reduced medication and lower environmental impact.

The perspectives of the RobustFish project is that Danish organic hatcheries will be able to produce even stronger more healthy and stress resilient organic trout fry to underpin increased European organic trout production.

The project is carried out in cooperation between Technical University of Denmark (DTU Aqua and DTU Vet), University of Copenhagen (Dep. of Food & Resource Economics), University of Aalborg (Dep. of Development and Planning) and The Danish Aquaculture Organisation.

RobustFish is part of the Organic RDD 2 programme, which is coordinated by International Centre for Research in Organic Food Systems (ICROFS). It has received grants from the Green Growth and Development programme (GUDP) under the Danish Ministry of Food, Agriculture and Fisheries. ■