



New Tools to Improve Fish Health and Environment in Organic Aquacultur

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SHELTERFISH NEW TOOLS TO IMPROVE FISH HEALTH AND ENVIRONMENT IN ORGANIC AQUACULTURE

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Rainbow trout farming and in particular organic rainbow trout farms are critically challenged by the relatively high prevalence of skin/gill infections caused by various pathogens, especially the parasite *Costia* (*Ichthyobodo necator*) and amoebae, which are ultimately lethal for fry/smaller fish. In addition, a *Midichloria*-like bacterium causes the non-lethal skin disease Red Mark Syndrome (RMS), which results in downgrading/rejection of up to 30% of the fish when placed on the market. Treatment by use of antibiotics/parasitics/ auxiliary compounds is only possible to a limited extent in organic trout production. Hence, solutions to prevent and/or treat costia, amoebae and RMS are urgently needed, not only to secure production of organic rainbow trout in Denmark, but also enable a larger and more cost efficient production with high animal welfare and minimal environmental impact.

ShelterFish will focus on solutions addressing the interactions between fish - pathogens – farming environment and water quality; including 1) Test of artificial shelters (shade) to enrich environmental conditions and lower stress; 2) Test of biological herb extracts and a new bacterial surfactant to minimize gill/skin parasite infections; 3) Test of induced immunity to Red Mark Syndrome (RMS) by early exposure; and 4) Test of tools to reduce organic matter load in organic trout farms and hereby improve water quality, fish health/welfare