

Feed and Treat

Optimizing Water Quality and Treatment Efficiency in Recirculating Aquaculture Systems for Salmon Smolt Production through Better Adjustment of Fish Feed and Water Treatment Devices

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Atlantic salmon smolt RAS

Our consortium has been granted an EU FP7 research-for-SMEs project with the acronym Feed and Treat (duration 2 years; start date 01-02-2012, end date 31-01-2014) to establish environmentally friendly Atlantic salmon smolt production in RAS.

Objectives

- Improve treatability of fish excrements and optimisation of mechanical treatment of solids;
- Optimize existing biological water treatment concepts used for RAS for higher treatment performance and specific matching to the improved, adapted feed;
- Revise the denitrification step inside the system in order to reduce the increased organic load from a more effective mechanical treatment by using it as carbon source for the denitrification process;
- Reduce the freshwater intake/wastewater outflow and thus the energy consumption (heating) and the environmental impact.



Expected project results

- 1) Salmon smolt feed tested for RAS;
- 2) Mechanical treatment concept for RAS with increased treatment efficiency;
- 3) Biological treatment concept for RAS with reduced volume need;
- 4) Moving bed based denitrification concept ready to use and adjustable for other waste water streams;
- 5) Design criteria/blueprint of future RAS and commercial use.



Author affiliations and project consortium

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** Wageningen Aquaculture is a consortium of IMARES (Institute for Marine Resources & Ecosystem Studies) and AFI (Aquaculture and Fisheries Group, Wageningen University), both part of Wageningen University & Research Centre (WUR).

Project website:

http://www.imares.wur.nl/UK/research/aquaculture/projects/feed_treat/

Feed and Treat in the news:

- Towards environmentally friendly aquaculture for Atlantic salmon. Aquaculture Europe VOL. 37 (2) JUNE 2012 pp. 27
- Salmon, but better. Fish Farming Int. MAY 2012 pp. 21

