FISHBOOST

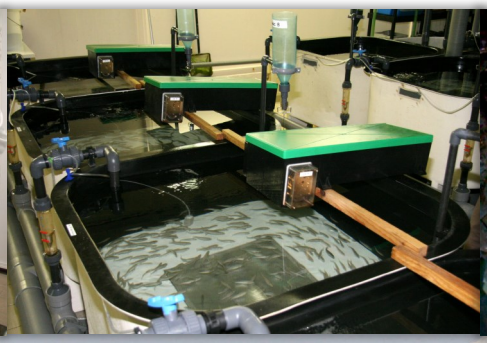
The next level of aquaculture breeding

Advanced Aquaculture Breeding training workshop

6-8 November 2018, Montpellier, France

Hotel le Clos de l'Aube Rouge

Selective breeding in aquaculture is moving from simple selection for production traits like growth to selection for traits which are more difficult to approach, e.g. **disease resistance, fillet percentage and feed efficiency.** Genomic resources are developed for more European species, which can be used for **gene mapping** and **genomic selection**. This new information requires **improved designs of European aquaculture breeding programmes**. In this workshop, results will be presented from EU funded FISHBOOST project on advances in these topics and the economics of breeding programmes. The training will finish off with a **technical visit to Ifremer expertimental platform** located in Palavas-les-Flots.

November 6, 2018
Methodological training

- 13:30 - 18:00 Genomic selection and genotyping/ RAD sequencing

November 7, 2018
Traits

- 08:00 - 12:30 Production efficiency
- 13:30 - 18:00 Disease resistance

November 8, 2018
Implementation

- 08:00 - 12:30 Breeding programmes
- 13:30 - 17:30 Technical visit

Practical information:

⇒ Registration costs € 142, accommodation at preferential rates at Clos de l'Aube Rouge

⇒ Limited places available

⇒ For teachers and researchers in genetics and breeding, and others with basic knowledge of the principles of selective breeding.

For more information and registration visit **www.fishboost.eu**

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FISHBOOST received funding from the European Commission under the 7th Framework Programme for Research and Technical Development under grant agreement No 613611.

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Detailed program:

6 November, 13:30 -18:00 Session 1: Genomic selection and genotyping/RAD sequencing

By Theo Meuwissen & Luqman Aslam

Different RAD sequencing protocols and their efficiency will be presented. Marker assisted and genomic selection are presented where genomic selection is a form of marker assisted selection at a genome wide scale. The commonly used SNP-BLUP and GBLUP models will be explained together with their equivalence. The use of whole genome sequence data will be discussed together with the factors that determine the accuracy of genomic prediction.

7 November, 08:00 - 12:30 Session 2: Production efficiency

By Antti Kause & Marc Vandeputte

Feed efficiency and fillet yield are among the most important traits to improve productivity and resource efficiency of aquaculture operations. So far, these traits have been challenging to record especially on live fish, and there has been controversy on the potential to improve these traits by breeding programmes. This section will demonstrate the advancements in the trait recording and selection methods that can be used to improve feed efficiency and fillet% in practical industry-scale breeding programmes.

13:30 - 18:00 Session 3: Disease resistance

By Luqman Aslam & Theo Meuwissen

Methods to select for disease resistance in aquaculture will be described, with special emphasis on sib testing methods. Models for the analysis of disease challenge test data will be covered, together with the detection and mapping QTL (Quantitative Trait Loci) for disease resistance. Finally, selection for disease resistance will be tested and the expected selection responses described.

8 November, 08:00 - 12:30 Session 4: Breeding Programmes

By Beatriz Villanueva & Hans Komen

There is large potential to improve the efficiency and profitability of European aquaculture by advancing selective breeding to the next level of sophistication for each main finfish species (Atlantic salmon, common carp, European seabass, gilthead seabream, rainbow trout and turbot). This can be achieved by (i) including new traits (disease resistance and feed efficiency) in the breeding objective; and (ii) applying low cost genotyping strategies. This session will demostrate the genetic gains and inbreeding that are expected from different selection and mating strategies that take into consideration the particularities and constraints of each species.

13:30 - 17:30 Technical visit to Ifremer experimental platform (Palavas-les-Flots)

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