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Selective breeding to reduce the ecological footprint of aquaculture

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SELECTIVE BREEDING TO REDUCE THE ECOLOGICAL FOOTPRINT OF AQUACULTURE



M. Vandeputte, M. Besson, F. Allal, F. Phocas, E. Quillet



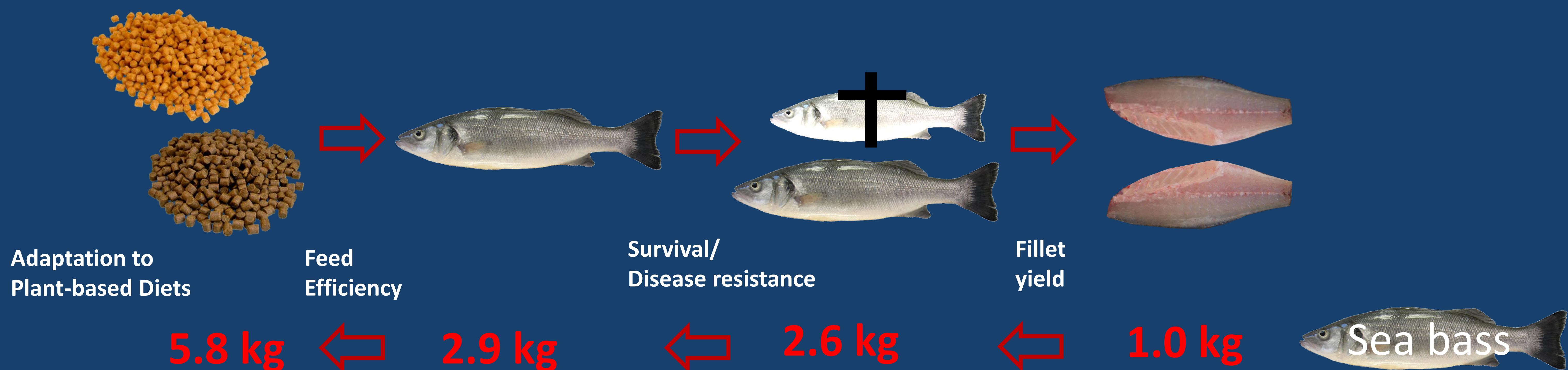
The big question

Fish farming has to grow to meet increased demand for fish

Selective breeding is an efficient method that has mostly been used to increase production in quantity (growth rate)

How to use this potential to improve production efficiency and decrease global and local environmental impact ?

Our vision



Producing 1 kg of sea bass fillet requires 5.8 kg of compound feed

All efficiency traits have a genetic basis that can be selected

Could sea bass reach the efficiency of rainbow trout ?

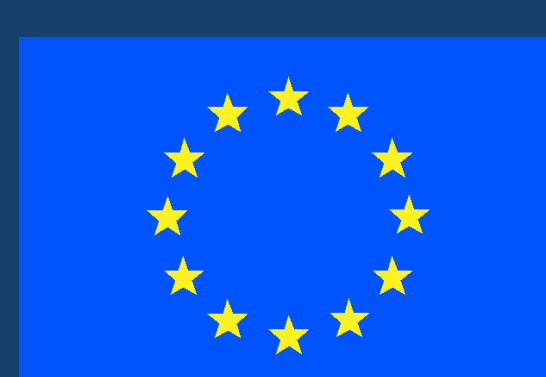


Challenges to be met

Develop efficient phenotyping methods and/or indirect predictors of efficiency traits

Evaluate how genomic selection can help use less (more precise) phenotypes

Ultimately, co-adapt fish strains and novel, agro-ecological production systems



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