

A MEDIUM-THROUGHPUT METHOD TO PHENOTYPE FISH FOR INDIVIDUAL FEED EFFICIENCY



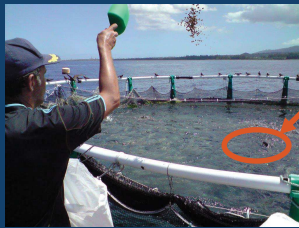
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Background

Feed conversion ratio (FCR) = ability of fish to convert feed into biomass

$$\text{FCR} = \text{feed intake} / \text{weight gain}$$



Individual feed intake unknown

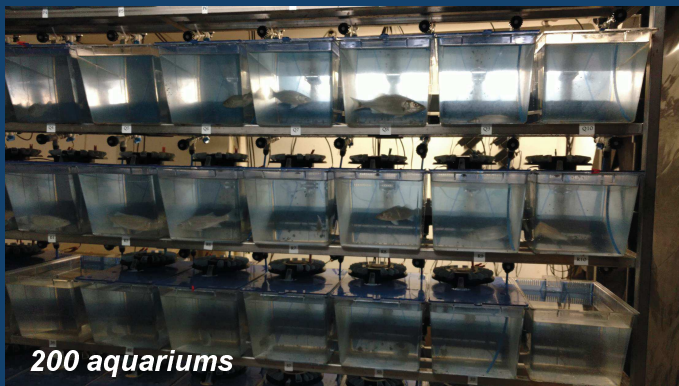


Easy to measure

→ Genetic parameters of FCR are unknown

Our innovation

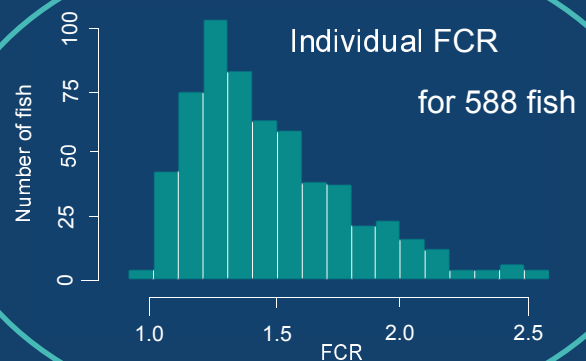
Phenotyping fish in individual aquariums



Fish kept in aquariums 6 weeks

→ Weight gain
Weight measured every 2 weeks

→ Feed intake
Automatic delivery of restricted ration
Uneaten pellets counted daily



Extra results

Individual phenotype

+

Individual genotype (3000 SNPs)

=

$h^2 = 0.26$

Individual FCR can be improved through selective breeding



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