



# Desired genetic gains for a breeding objective: A novel approach

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# Participatory approach

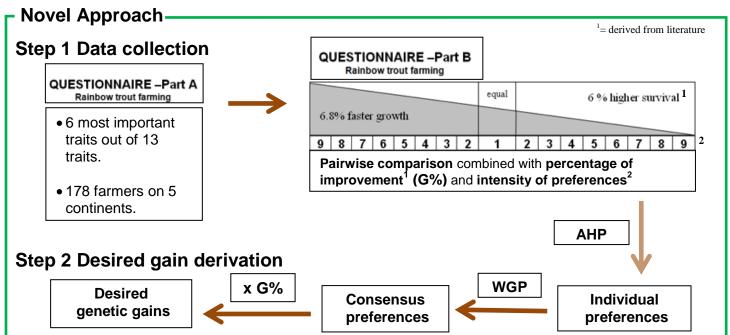
 Analytical hierarchy process (AHP) and weighted goal programming (WGP) are widely used in social sciences for estimating individual and consensus preference values.

# **Objective**

 Use AHP and WGP to derive desired genetic gains for a breeding objective serving a global and diverse markets. Rainbow trout was used as a case study.

### **Conclusions**

- AHP and WGP can be used to define desired genetic gains that reflect a consensus in customer preferences.
- Production traits (FCR, survival, growth) are more preferred than processing or quality traits (maturation, fillet%, CF).



### Results

Table 1 Potential maximum genetic improvement (G%, % of a trait mean), consensus preference value, and desired genetic gain (DesiredG%) for six most important traits.

Trait	G%	Consensus preference	DesiredG%
FCR	7.6%	0.258	1.96%
Survival (%)	6.0%	0.257	1.54%
Growth	6.8%	0.213	1.45%
Maturation (Day)	14.3%	0.114	1.63%
Fillet (%)	0.7%	0.094	0.07%
Condition factor	4.9%	0.064	0.31%



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