

Genotyping for trout breeding with GxE

Selective genotyping of superior animals: bias & less accurate GEBV?

To improve animal growth in commercial environment (C), selective genotyping based on traits measured in breeding environment (B) is not good?

->What is good genotyping when limited resources & unregistered pedigrees?

We recommend:

- **Phenotypic genotyping of top fish in B**

- **& top and bottom fish in C**

for the purpose of selecting breeding animals when a genomic breeding program for trout aims to improve animals' performance in C.

Fig. 1: Genetic gains of different genotyping strategies for breeding fish

Fig. 2: Genetic gains of different genotyping strategies for production fish

Random: Random genotyping; TopBot: phenotypically best & worst fish genotyped

Top: phenotypically best fish genotyped

Chu TT, AC Sørensen, MS Lund, K Meier, T Nielsen & G Su (2020) Phenotypically selective genotyping realizes more genetic gains in a rainbow trout breeding program in the presence of genotype-by-environment interactions. *Frontiers in Genetics*. Vol. 11:866.

Fig. 1

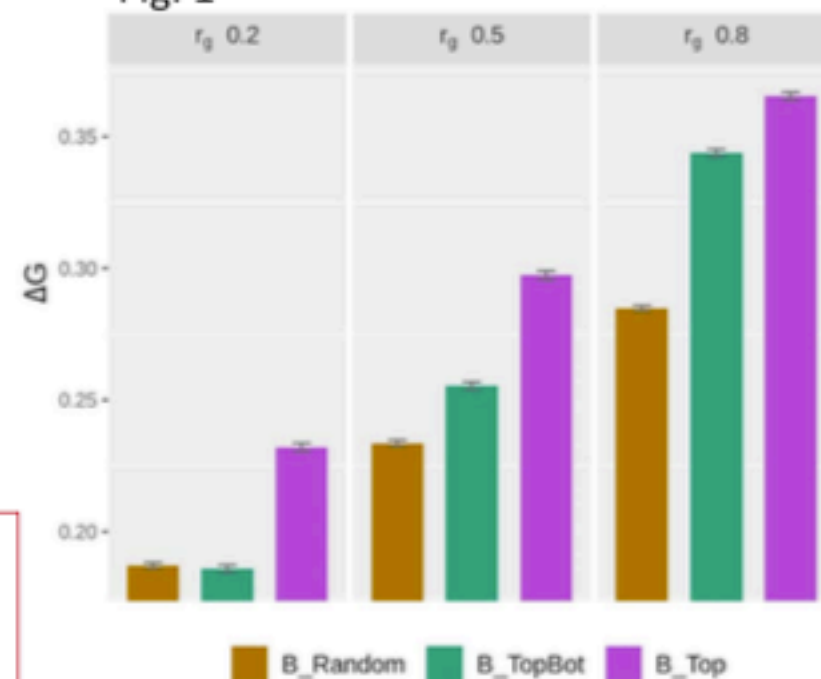


Fig. 2

