

Breeding for climate resilience

More than half of the aquatic food we eat in the world comes from aquaculture. Aquaculture has potential to further increase European food production. However, challenges like changing climate put breeding companies to the test.

What is selective breeding?

The purpose of selective breeding is to select the best possible parents to produce offspring with good performance. This ensures that each generation performs better than the previous one. One challenge is that parents are always tested in the current environment, while following generations will perform in a future environment. When environment is changing, there is a risk that we will not select the best parents because we tested them in an outdated environment.

Our research revealed that fish families selected for performance in one environment performed well under the range of environments tested. This tells us that selective breeding for growth in Atlantic salmon, European seabass and Gilthead sea bream will remain effective, also in a changing environment.

Challenge: Breeding for the future

Solution: Continuation of selective breeding for growth in the current environment to produce fish that grow well under a range of environments.

The results of FutureEUAqua indicate that today's selective breeding is also breeding for future and will contribute to saving resources of:

- The breeding companies; one breeding program serves a large market.
- Fish farmer; robust fish for environmental changes promotes predictable production and optimizes use of resources.

Only limited range of environments were tested in the trials of FutureEUAqua. Future changes in climate may call for strategic choices in selective breeding. A strong strategy for breeding will contribute to better use of resources, increased predictability and greater economic profit. This contributes to the sustainability of European aquaculture



Read more on www.futureeuaqua.eu

FutureEUAqua researchers tested:

- ◆ Atlantic salmon
- ◆ European seabass
- ◆ Gilthead sea bream



Atlantic salmon (Nofima)



European sea bass (HCMR)



Gilthead sea bream (UTH)

Funded by:



This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 817737

Contacts:



Anne Helena Kettunen
 Researcher
Anne.kettunen@nofima.no
 +47 977 80 903



Oda Bjørnsborg
 EU Communication Officer
oda.bjornsborg@nofima.no
 +47 404 84 930