5 REASONS WHY GENETICS HOLDS THE KEY TO AQUACULTURE DEVELOPMENT PROGRAMMES

XELECT
GENETIC SOLUTIONS FOR AQUACULTURE

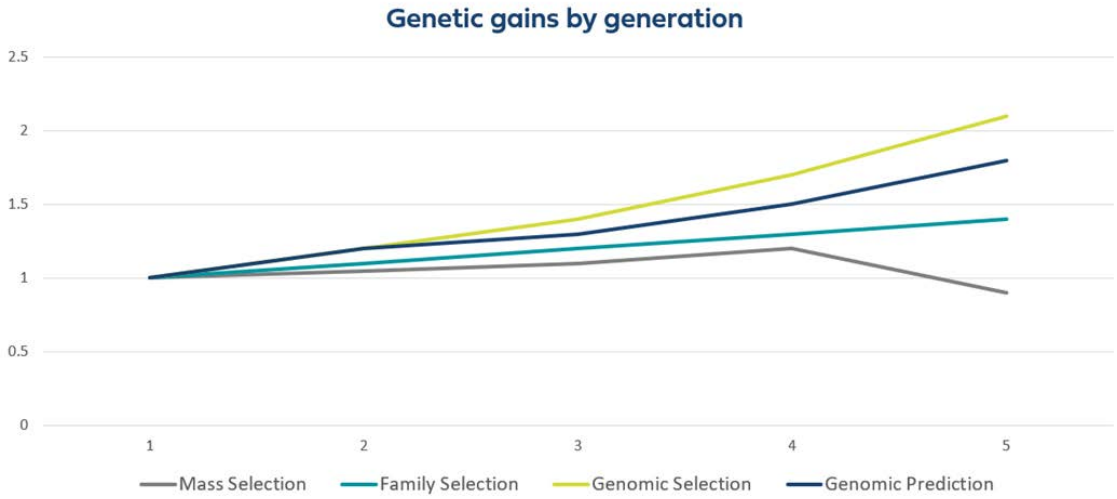
There's a common misconception that aquaculture genetic breeding programmes are expensive. The reality is that breakthroughs in computing power and knowledge mean that practical, cost-effective programmes are now available for producers of all sizes and species.

We believe that genetics is a critical component of any aquaculture development project.

Here are 5 reasons why.

1. IT'S AN INVESTMENT, NOT A COST

A well-managed genetics programme will pay for itself many times over within just a couple of years and leave a lasting legacy. Many species have – historically – been neglected in genetic terms, and the introduction of a simple breeding programme should deliver rapid improvements. Generational gains of around 12% in key traits such as growth are frequently observed. Since gains are cumulative, a modest investment in genetics is probably one of the best investments you can make.



2. NO GENETICS = NO SUSTAINABILITY

If an aquaculture project is set up without genetics input then the chances are it will be an uphill struggle. There's a high chance that if you begin selecting just the biggest and best fish every generation you are, in fact, breeding members of the same families. High levels of inbreeding will quickly result in sudden performance loss, increased deformity and declining vigour. Worst of all, once you've lost your genetic diversity you can't get it back without additional investment purchasing new broodstock sources.

3. YOU CAN OPTIMISE FOR THE ACTUAL LOCAL CONDITIONS

With genetics a breeding programme can create unique lines that are perfect for the actual conditions they will grow in. Fish and shellfish can be selected that are proven to thrive in the region's actual production environment, and you will be able to do this sustainably year on year. You can also target improvements in any diseases that are a problem in a particular area.

4. IT PROVIDES A VALUABLE RESOURCE FOR THE ENTIRE REGION

Genetics programmes don't just benefit one farm. If structured correctly one centralised programme can act as the nucleus to supply many, many operations. This helps provide food security on a much larger scale, reducing dependency on imported products.

5. IT CREATES VALUABLE, TRANSFERABLE AQUACULTURE SKILLSETS

By training production staff to implement genetic breeding programmes an additional benefit is the creation of a skilled workforce, who can transfer their knowledge to other operations in the region.

SPEAK TO THE EXPERTS

Xelect have considerable experience in delivering extremely cost-effective genetic consultancy to development projects in many regions, including Africa and Asia.

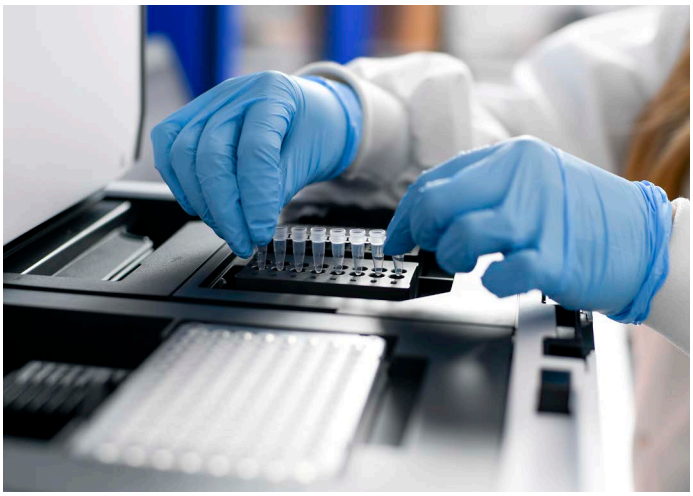
We are a specialist aquaculture genetics partner with a global portfolio of clients, including some of the biggest names in the industry.

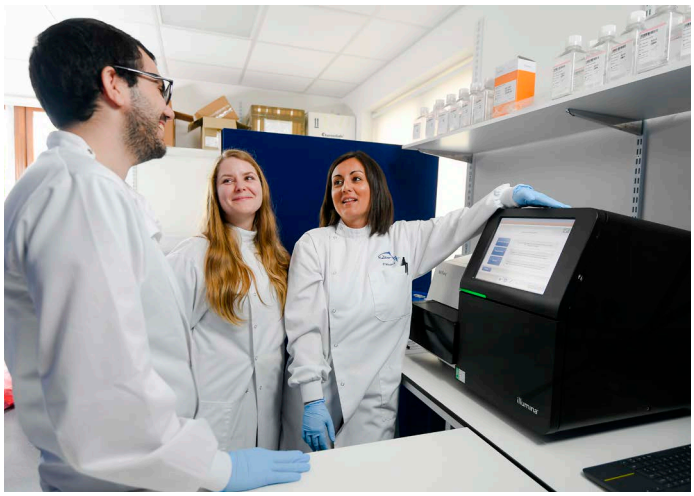
We employ a team of 16 specialist staff, most with a Ph. D. in aquaculture, genetics, bioinformatics and molecular biology. Our specialist consultancy and breeding programme management services are supported by a private, fully equipped molecular biology laboratory in St Andrews, Scotland. Since we do not need to outsource any part of our service, we have the whole process under our control from sample to result, ensuring the greatest reliability and confidentiality.

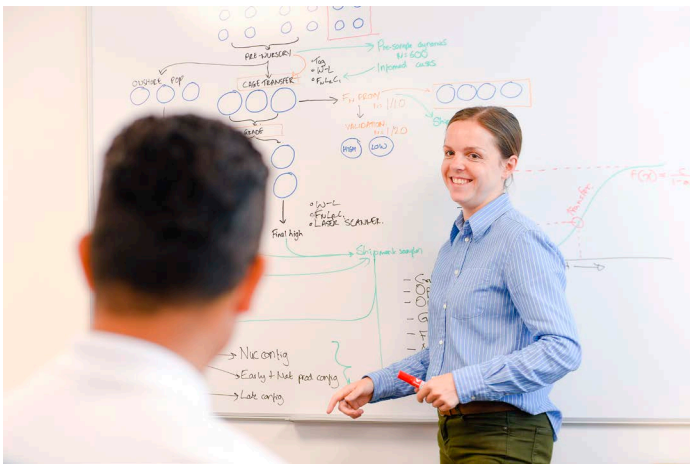
We have experience of working with all the main farmed fish and shellfish species, and our customers consistently give us excellent ratings for the quality of our service and value for money.

That's why we're trusted to actively manage breeding programmes in all continents except Antarctica, working with 12 major species.

If you'd like to find out more contact us on hello@xelect.co.uk or visit www.xelect-genetics.com.







www.xelect-genetics.com
hello@xelect.co.uk

XELECT