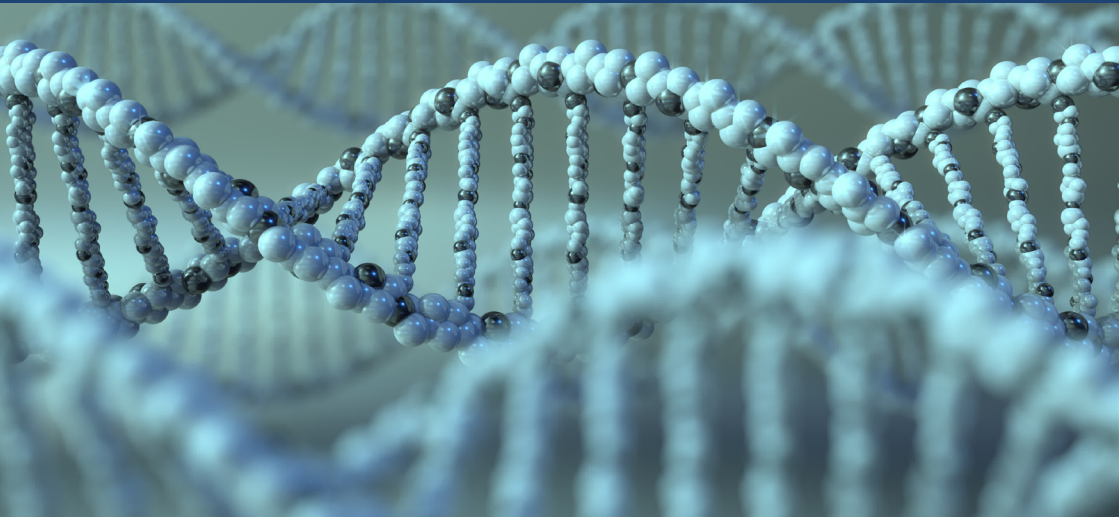


# ***AQUACULTURE GENETICS:***

# **5**

INSIDER SECRETS YOUR  
COMPETITORS DON'T  
WANT YOU TO KNOW



***“Genetics is very  
complicated, very  
expensive and it’s  
only for the elite  
few”***

A few years ago, that statement may have been true. However, aquaculture’s transformed beyond recognition in recent years. If you still think genetics isn’t for you, then perhaps you’re speaking to the wrong people?

The reality is that breakthroughs in technology, computing power and knowledge mean that a practical, cost effective genetics programme is now available for producers of all sizes and species. At Xelect we’re already working with a wide range of the leading and emerging species, in every continent except Antarctica.

Some producers don’t tend to publicise the fact they’re running a genetics programme for the simple reason that it’s giving them a major competitive advantage.

Genetics is rapidly moving from the preserve of the few to the norm for any serious producer.

Here’s why.

You can get a  
**VERY BIG**  
return on your  
investment

**#1**

For any producer with their own broodstock, a genetic based breeding programme is the secret weapon to success. You will be able to breed fish proven to thrive in your production environment and you will be able to do this sustainably year on year.

Take Atlantic salmon, for example. The most well managed family genetics programmes can give growth gains of around 12% per generation - a rate unimaginable in terrestrial livestock breeding.



Gains are  
cumulative so  
they get  
bigger  
**every**  
**generation**

**#2**

A good genetics partner will work with you to identify the traits that matter most (such as growth, or disease resistance) and build a bespoke breeding programme just for you.

The returns you'll get depend on how many traits you're trying to increase, and – of course – on environmental conditions. However, a well-run programme in a stable environment will mean that your improvements build cumulatively from one generation to the next.

For example, a 10% increase in growth rate could be more than 20% in the second generation. In other words, you get better fish that just keep on getting better.

If you're not  
using genetics  
you're already  
**lo\$ing**  
money

**#3**

Every year that you're not using genetics you're falling behind those who do. A competitor that's previously implemented trait selection can quickly over-take the market. Every year without genetic management is a future loss in genetic gain.

Even more of a concern to fish producers are the adverse effects of inbreeding. High levels of inbreeding can result in sudden performance loss. Worst of all, once you've lost your genetic diversity you cannot get it back without purchasing new broodstock sources.

The costs  
are much  
smaller  
than you  
might think

Historically, genetics has only been available to the largest of producers due to its associated cost. However recent reductions in the cost of laboratory services, combined with advances in computing power and analytical techniques mean that genetic services are now accessible to almost any producer. At the very least, a simple evaluation of inbreeding risks will stop you sleepwalking into a genetic dead-end.

You can, of course, choose to build your own in-house genetics team – however that would require a major internal investment. At Xelect we like to think that our customers effectively have fractional ownership of a dedicated genetics team, and they can easily scale up and scale down to meet their needs.

**#4**

# #5

This is only  
just the

**START**

We'd love to tell you about our latest technology and recent breakthroughs in this booklet - but things are moving so fast that it would be out of date within weeks.

For example, we're just about to launch our 'smart genomics' service, which uses cutting edge statistical tools to give incredibly accurate genomic based breeding selections at a fraction of the normal price.

Or we could tell you about our ground breaking work on using 3D scanning to predict fillet yield on live fish....

... or about our unique in-house software which uses evolutionary algorithms to run millions of breeding scenarios and pick exactly the right one for you

*If you'd like to find out more about aquaculture genetics don't hesitate to e-mail us, or get in touch through our website.*

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