



**AQUA-FAANG** is an EU funded research project on aquaculture. It aims to improve our understanding of the complex genetic basis for biological traits in the six most important fish species in European aquaculture.

By understanding how the fish's complete genetic code (its genome) is being controlled, we are able to address key issues presented in aquaculture, like the high occurrence of infectious diseases, thereby having a major impact on the sustainability and profitability of aquaculture production.



**1 NO POVERTY**  
Reduced disease resistance will increase fish farming profitability, providing opportunities for the aquaculture sector to develop and causing an increase in employment on European farms.



**2 ZERO HUNGER**  
By promoting cost-efficient and sustainable fish production, affordable sources of high-quality protein will be available for everyone.



**3 GOOD HEALTH AND WELL-BEING**  
By enhancing the aquaculture sector, the consumption of high-quality fish products will increase, thereby supporting good health and well-being of humans.



**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**  
Knowledge and tools developed by AQUA-FAANG will be freely shared, supporting progress in other important fish species, supporting an innovative and sustainable industry.



**12 RESPONSIBLE CONSUMPTION AND PRODUCTION**  
AQUA-FAANG builds trust and transparency in our food supply by explaining technical processes to society, helping people to understand the value of genetic information.



**13 CLIMATE ACTION**  
Improving key performance traits in fish and reducing fall-out on fish farms supports a sustainable aquaculture industry with reduced emissions.



**14 LIFE BELOW WATER**  
The preservation of natural ecosystems and wild fish populations will be enhanced by advanced understanding of the complex genetic composition of fish and reduced disease transmission.



**17 PARTNERSHIPS FOR THE GOALS**  
AQUA-FAANG brings together experts in genetics, genomics, immunology and breeding applied to aquaculture, contributing to excellent international cooperation and partnerships.

## IMPACT

AQUA-FAANG will support the main objectives of **Green Deal's Farm to Fork Strategy** by supporting the fish sector to preserve affordability while fostering fair economic returns and reducing impact on the environment and ecosystems. AQUA-FAANG will lay the foundation for finding genetic solutions to solve the main issues in aquaculture production, thereby improving fish welfare, farm profitability, sustainability and aiding to the **Sustainable Development Goals**.

## BACKGROUND

One of the main threats in sustainable farmed fish production is the occurrence of infectious diseases, in Europe alone accumulating to a yearly economic loss of 1800 million Euros. The occurrence of infectious diseases is expected to increase even more because of climate change, pressing the need for more resilient fish species. Advanced understanding on the regulation of genes in fish will help us to find genetic solutions to improve important traits such as disease resistance.

## PROJECT RESULTS

The AQUA-FAANG project will generate high-quality maps of the genome for six fish species, describing and exploiting DNA regions that have an influence on the expression of genes across life stages, environments and tissues. This knowledge will be used to study traits that are relevant for sustainable commercial fish farming.

