

NEW FISH TO FEED THE WORLD

DIVERSIFY identifies the potential of new species for fish farming

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The project: Knowledge on new or emerging finfish species for European aquacultures

Fish farming has become an important factor in the provision of protein worldwide. Aquaculture is already delivering two to six million tons of seafood every year, by increasing rates. Therefore DIVERSIFY's main objective is to acquire the necessary knowledge for the diversification of European aquaculture production based on new and emerging finfish species.

Already the project has identified a number of promising new and emerging finfish species for the expansion of EU aquaculture. Although the emphasis is on Mediterranean cage-culture, fish species suitable for cold-water, pond culture, extensive culture and intensive fresh water aquaculture have been included as well. These new or emerging species are fast growing, and they can be marketed on a large scale. Their inclusion in a range of products could provide the consumer with both a greater diversity of seafood and new, better value food products.

Species-specific husbandry and technological protocols, new products and business models and marketing methods developed within DIVERSIFY will provide the insight for industry expansion and the means for diminishing the dependency of the EU on imported fish products. The European aquaculture industry is presently struggling to satisfy their clients' and consumers' demands. The knowledge to produce and effectively sell, alternative fish species is sought by the industry.

Most companies produce only one or two species, making them extremely vulnerable to the boom-and-bust cycles that periodically hit the aquaculture industry. However, producing a new species involves a large and risky economic investment for a company. For this reason, the results of DIVERSIFY will also address all predicted bottlenecks and offer maximum certainty for the producers that could take on this challenge. Another important innovation considered in this project is the analysis of the aquaculture-production business model as a whole.

The product: New species, new fish products, less dependency on imports

The target fish species of DIVERSIFY are as follows: meagre (*Argyrosomus regius*) and greater amberjack (*Seriola dumerili*)

for warm-water marine cage culture, wreckfish (*Polyprion americanus*) for warm and cold-water marine cage culture, Atlantic halibut (*Hippoglossus hippoglossus*) for marine cold-water culture, grey mullet (*Mugil cephalus*) a euryhaline herbivore for pond or extensive culture, and pikeperch (*Sander lucioperca*) for freshwater intensive culture using recirculating systems. The technologies for producing these selected species will be improved through DIVERSIFY.

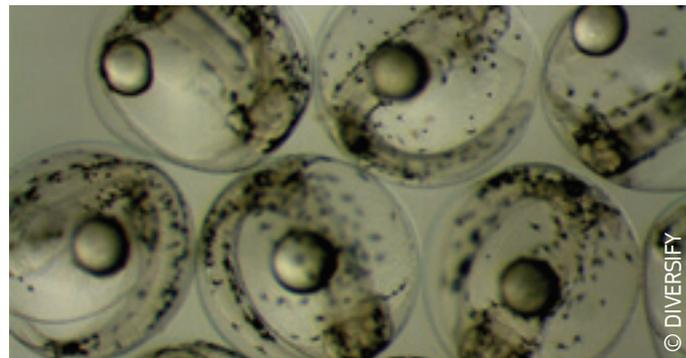
Some of these species are already being produced to a certain extent and have great potential for expansion, while for other new species more research is required. DIVERSIFY will provide the tools and develop new production technologies for fish producers to increase the variety of fish species suitable for the aquafood market.

Moreover, one of the main objectives of DIVERSIFY is to improve marketing of processed fish products (fillets, smoked, battered 'fish finger' type products, ready-to-eat meals and other value-added products). The project thus is also expected to identify the bottlenecks in markets and help to alter consumer perception and consumer preference.

This integrated combination of biological, technological and socioeconomic activities will lead to less imports from non-EU countries with questionable health, environmental and social standards for farmed fish production.

The end-users: Aquaculture farms, fish processors, fish-feed companies, wholesalers and retailers, consumers

DIVERSIFY will lead to a greater diversification in fish breeding and to an enhancement of production volumes. Prime partners of the project are aquaculture companies and their related aqua companies (feed supplier, equipment suppliers, etc).



Further developed processing of fish will lead to new fish products, new deep-freeze products, ready-to-eat meals and protein snacks, for which the diversified supply of new fish can deliver appropriate ingredients.

In this regard, retailers play a much stronger role in forming consumer preferences and are an indispensable link between producer and consumer.

Development stage: Biological research, selection, studies

The research areas are: genetic and reproduction, nutrition, larval husbandry, grow-out husbandry, fish health and socioeconomics.

Expected outcomes of the project are proof of principle and concepts:

An analysis of macro-environmental and micro-environmental (competitive) factors that influence supply and demand in the aquaculture production chains in general, and the chains of the considered species that are currently in production (meagre, halibut, pikeperch and mullet) or are supplied by capture fishery (wreckfish and greater amberjack). This analysis will define the opportunities and threats for product development.

A feasibility study will explore the market expansion, market development and new-product marketing strategies.

Wide dissemination of this information to key stakeholders (aquaculture personnel, producers, retailers, industry and consumer groups).

The development of a long-term business plan for market potential of each species.

The inventors: Academics, SMEs, industries, professional associations

DIVERSIFY is a consortium of 20 RTD organisations, nine SMEs, three large enterprises and six professional associations, coming from ten EU countries and including two non-EU members, Israel and Norway.

The consortium covers a wide geographic area working with different fish species. The project also aims to create an extensive dialogue between researchers on the one hand, and aquaculture breeders, producers, retailers and aquaculture feed producers on the other.

Policy impact: Legislation and certification

Effective communication with policy makers and standard bodies will also be very powerful and beneficial for the industry. One of the project's specific objectives is to perform an assessment of the obstacles for growth in current aquaculture production. These analyses will be provided to the corresponding authorities. The aim is for the creation of new insights into the level playing field of the selected species in relation to wild fish and similar species from other world-regions.

Moreover, a certification framework for the species addressed in DIVERSIFY will be proposed to the public bodies.

Next steps: Marketing campaigns, talks with retailers to offer more variety

As a result of the research, new policy and strategy recommendations will be available for the market expansion of the sector. At the same time, European fish processors are

presently touring the world in search of fish, be they wild or farmed. Providing a new source of quality fresh fish produced at the right price and suitable for efficient processing should attract interest from the European aquaculture market. Except for Atlantic salmon, which is used in a wide range of processed products, the rest of EU aquaculture fish are sold mostly as whole fish, which limits the shelf-life and the product range offered to the markets. Better transfer of knowledge to retailers is therefore a must.



DIVERSIFY

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