

# INNOVATIVE TOOL TO QUALIFY THE STAFF OF AQUACULTURE FARMS IN HEALTH AND WELFARE OF FISH IN THE AQUACULTURE FARM (app FOR MOBILE AND TABLET) (app\_HEALTHY\_FISH)

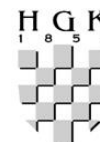
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### General information:

The project "**app\_HEALTHY\_FISH**" being developed by the consortium formed by the SPANISH MARINE FISH FARMING ASSOCIATION (**APROMAR**) and participated by other four partners: **SGS TECNOS (Spain)**, the Italian Aquaculture Association **API (Associazione Piscicoltori Italiani)**, the **Turkish University Dokuz Eylul University** and the **CROATIAN CHAMBER OF ECONOMY (CCE)** It's funded by the action "*Strategic Partnerships*" of the **Erasmus+ Programme** of the European Commission, specifically the **KA2: "Cooperation for innovation and the exchange of good practices"**. Its objective is to develop a "**Training Program standardized at European level for the aquaculture sector**", which includes the training modules for the qualification of the professionals and also includes the training content required to educate the staff in **HEALTH and WELFARE skills and on the PHYSICAL-CHEMICAL CONTROL of fish**.

This project presents an important innovation from the technological point of view, since up to now the current training of the employees of the fish farms has been carried out with traditional methodologies and materials that are not in agreement with the development of the current new technologies or with the European perspective on training.

The "technological innovation" implied by this proposal is the development of a app for mobile phones and tablets that will be specific for the qualification of the aquaculture personnel, with the development of some specific contents that until now had not been contemplated .

These innovations will mean for the sector:

- A "strategic development of the sector" because it will substantially improve the training service currently provided, allowing a more dynamic and effective management of training (technological innovation).
- A "technological development" within today's society, contributing to an improvement in competitiveness and a step towards excellence (technological innovation).
- A "professionalization, improvement of entrepreneurship and employability" of the goal with the contribution knowledgeable for the use of new technologies.
- "Promotion of transnational activities" in the sector and, therefore, the exchange of experiences and knowledge



The partners work together to meet a common need among them: to develop training content to qualify staff in some transversal competences: "health" and "welfare" of fish, "physicochemical parameters to be analyzed", "sampling terms and parameters "Protocols for physical and chemical analysis", "determination of corrective measures", "development of health programs for farms", "diagnosis of common diseases" and "veterinary treatments".

In short, they all have the common objective of putting into practice a European training program to develop skills not currently developed: HEALTH AND WELL-BEING of fish from aquaculture farms through innovative training in line with new technologies, Which improves the competitiveness of the sector through the professionalisation of its staff with new training and technological skills.

Some of the conclusions obtained so far, in the Qualitative Study conducted among the professionals of the sector (aquaculture companies, aquaculture farm employees and entities of the sector and VET providers in their countries), in relation to the analysis on the training and the necessary skills For an adequate management and production of fish in aquaculture farms with health and welfare conditions, and in particular the training needs identified in the sector related to the health and welfare of fish, have been among other subjects the following:

- Physiology of fish and shellfish
- Fish disease crustaceans and mollusks. Signs of disease. Transmission paths: Main fish diseases by species and causative agent, how to treat and prevent, biosecurity measures, vaccination, immunostimulation
- Recognition of symptoms and prevention.
- Therapy
- Welfare of farmed fish: on farm, during transport at the slaughterhouse
- Interactions between fish health and environment (water quality, space allocation...)
- Legal framework on fish health, fish welfare, fish movements, restocking and health measures, Biosecurity Plan
- Prevention of occupational hazards for veterinarians
- Selection of genetic resources
- Fagias therapies
- Oral vaculos
- Shipping Instructions: transport protocols, water controls
- Epidemiology
- Prophylaxis
- Hygiene and disinfection
- Calculation of sample size and sampling to detect diseases



Finally, specific contents were also proposed for the Physicochemical parameters to analyze, terms of sampling and measurement parameters, developing protocols for physical and chemical analysis, determination of correctives measures, development of Health Programs for farms, diagnosis of common diseases, veterinary treatment thematics are:

- Conditions of the parameter measurement
- Nutritional biochemistry of fish
- Chemistry of seawater
- Exercises producing its own ways to control, validation, corrective measures
- Training implementation of the basic analysis of the farm and hatchery
- Physico-chemical water analysis
- Specific and detailed manuals for recirculation
- Improve the legal framework knowledge on: development and maintenance of health programs, veterinary medicines responsible use, prevention measures.
- Practical application of health programs, veterinary treatments and vaccination programs
- Diagnostic easy tools on farm for chemical/physical water quality parameters
- Early diagnostic tools for fish disease (viral, bacterial and parasitic)
- Risk analysis approach
- Epidemiology
- Analytical methods

All of the above will be shown in the final product of the Project and will be accessible to the entire European aquaculture sector..

The next meeting is scheduled to be held in **Croatia in June 2017**, where the technical work being carried out so far will be reviewed, namely the Standardized Training Program and the prototype of the "HEALTHY\_FISH" app and pilot prototype experiments will be planned at Develop in each country

**[More information:](#)**

APROMAR will send several newsletters to describe the project's progress and its advances.

However, if you wish, you can contact via phone with APROMAR in the phone number: **+34 956.40.42.16** and/or in the mail: [adm@apromar.es](mailto:adm@apromar.es)

You can also consult the website of the project: <http://www.apromar.es/healthyfish>