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## WORK PACKAGE 3 – BOOSTING FISH HEALTH AT ALL LIFECYCLE STAGES

### The Challenge

According to the European Aquaculture Technology and Innovation Platform (EATiP), one of the challenges that European aquaculture faces is the continuous change in husbandry practices in response to health challenges and animal welfare demands by the consumer. There is abundant and relevant scientific information on disease and disease management for Mediterranean fish pathogens from past and active EU-funded projects (e.g. TargetFish, ARRAINA, ParaFishControl, PANDA). These projects are mainly focused on basic research, such as pathogen taxonomy, comparative immunology or *in vitro* research on therapeutics. The application of the research outcomes in tangible tools, products or operational protocols to improve Key Performance Indicators (KPIs) at an industrial level is therefore limited.

### PerformFISH Proposed Solution

**PerformFISH** will use knowledge generated from on-going EU projects combined with epidemiological data recorded in industrial operations across the Mediterranean to define epidemiological patterns and identify indicators for biosecurity and effective fish disease management. To achieve this goal, **PerformFISH** will develop and implement efficient diagnostic, prevention and treatment tools. **PerformFISH** will also set up and test targeted preventive and control measures by delivering improved vaccination programmes. New experimental inactivated vaccines for European sea bass and gilthead sea bream and reformulated vaccines against Pasteurellosis will also increase vaccine effectiveness. Building on the results obtained from previous and on-going projects, **PerformFISH** will evaluate the efficacy of new pharmacologically active substances authorised for veterinary medicinal use in fish for human consumption, but not used or scarcely used in the Mediterranean Marine Fish Farming (MMFF) sector.

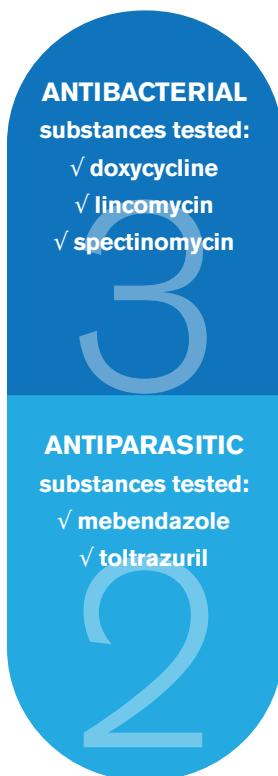


## Main Results to Date

To date, **PerformFISH** partners Universitat Autònoma de Barcelona, Hellenic Centre for Marine Research, University of Bologna, and Skretting have carried out relevant work in European sea bass and gilthead sea bream disease management. This work can be summarised in two main outcomes:

### a) Alternative pharmacological substances

Five alternative active substances\* (three antibacterial and two antiparasitic drugs) have been tested in pharmacological and pharmacodynamic approaches.



Studies confirm the suitability of these antimicrobial substances as therapeutic substances for European sea bass and gilthead sea bream and their suitability as alternative substances for antibacterial treatments

Studies confirm the suitability of these substances in the control of certain parasitic diseases of European sea bass and gilthead sea bream (mainly *Sparicotyle chrysophrii* infections and also myxosporean and microsporidian infections)

\*Not considered as critically important for human health by the World Health Organization (WHO)

### b) Report on best therapeutics practices for Mediterranean farmed fish

This report includes reflections on the main mistakes and inefficient practices detected in the current therapeutics in these two fish species, as well as recommendations on how to increase the **efficiency** and to **reduce the misuse and undesirable effects** of the substances in the treatments.



Development of new substances and improvement of existing therapeutic protocols



Improvement of KPIs related to fish health and added value to sustainable therapeutics



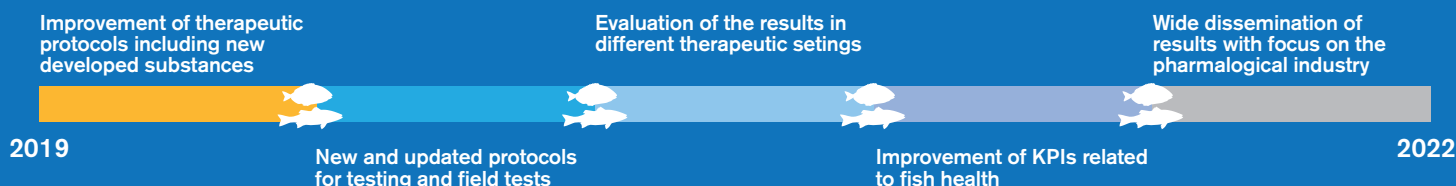
Improvement of fish quality and consumer satisfaction

These reports have been generated by **PerformFISH** partners and further validated by experts involved in other projects where complementary studies on parasite treatment control and treatment are also under development. This document, as deliverable reference D3.3, is available for download from the **PerformFISH** website at [bit.ly/2IVyXuu](https://bit.ly/2IVyXuu).

## Going Forward 2019-2022

These achievements, including new substances and improved therapeutic protocols, will be discussed amongst **PerformFISH** consortium experts during the third year of the project. These new and improved protocols will then be tested in the field. The evaluation of the results after the implementation of these new protocols in the different therapeutic strategies adopted in the field tests, will generate valuable data to assess the improvement on fish health related KPIs as well as other added value items related to sustainable and efficient therapeutics for European sea bass and gilthead sea bream farming.

These results will also be widely disseminated in different media platforms and specialised scientific and technical conferences and workshops. Special efforts will be made to draw the attention of the pharmacological industry as well as the national and international administrations involved in this field, such as the European Medicines Agency (EMA), as supervision from these administrations could help these achievements to reach a fast and final implementation as validated therapeutic strategies.



### Find out more:

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