GENERALITAT VALENCIANA

SOLICITUD DE AYUDAS A GRUPOS DE INVESTIGACIÓN DE EXCELENCIA PARA LA CONSTITUCIÓN Y ACREDITACIÓN DE INSTITUTOS SUPERIORES DE INVESTIGACIÓN COOPERATIVA (ISIC 2012)

PLAN ESTRATÉGICO DE DESARROLLO DEL ISIC

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RESUMEN EJECTUVO DEL PLAN ESTRATÉGICO DE DESARROLLO DEL ISIC (*)

Aquaculture is the food producing sector that is growing fastest worldwide (> 6.6% per year) and it is expected to exceed commercial fishing as source of fish for human consumption by 2030. Then, 65% of aquatic food will be produced by the aquaculture sector. However, fish farming is limited mainly by diseases, either resulting from malnutrition, adverse environmental conditions, or infections with microorganisms or parasites. Pathogens not only cause direct losses through mortality, but also by reductions in production and the prophylaxis and treatment costs. Thus, research in fish pathology of relevant species for aquaculture is in great demand and is fundamental to improve the productivity of the sector. Aquaculture is an emerging economic sector in the Valencian Community (VC), mainly fish farming. In fact, in spite of the current recessive scenario, in 2010 the VC was the first regional producer of sea bream and fourth of sea bass in Spain.

Several research groups in aquatic pathogens of the University of Valencia (UV) and the Spanish National Research Council (CSIC) have been selected as partners of the Research Microcluster of "Sustainability of Aquatic Resources" of the "Valencia Excellence Campus" (VLC Campus), and have been recognized as Research Groups of Excellence in successive assessments by the Generalitat Valenciana. Currently two of them are leaders of and are considered as "Prometeo Excellence Groups" by the Generalitat Valenciana. These Prometo groups (ZOOMAR and NISAAM), oriented towards the study of protozoan and metazoan parasites of marine organisms represent the core of this ISIC, together with two highly competitive teams, one of the UV specialized in bacteriology of fishes and another from the Miguel Hernández University focused on fish virology. The four groups have complementary expertise in research of fish farm pathogens.

The main objectives of the ISIC range from fundamental and applied research of fish pathogens to transfer of R&D results to Mediterranean fish farming companies, particularly those of the VC. Therefore, one aim is to carry out research at international level by integrating pathology studies in virus, bacteria and parasites that affect the current production in fish farms. In addition, special attention to identification, characterization and development of rapid diagnosis of pathogens that can affect and compromise farming of "new species" will be paid. Methods for pathogen control and risk analysis of the use of drugs and/or vaccines will be also fostered. Moreover, given that pathogen control is one of the greatest challenges for biosafety that have to be tackled by aquaculture in the coming years, it is intended to start studies about transnational diseases associated to aquaculture, that is those related to import and export of live animals. Linked to this objective, an alert network for detection of biological invasions by pathogens in our waters will be set up, because most fish farming production is carried out at sea. Finally, some global-warming scenarios affecting biosafety will be studied, assuming, among the effects of climate change, the warming of Mediterranean waters affecting the occurrence of pathogens and increasing fish vulnerability to disease.

Concerning transfer of knowledge to the sector, it is intended to intensify even more direct collaboration with a number of fish-farming companies, with the Valencian Association of Fish-Farming Companies and allied institutions, particularly the Sanitary Defence Aquaculture Society and the Spanish Federation of Sanitary Defence Associations within the Bussiness Association of Mariculture Producers, analyzing and solving specific problems. It is also intended to provide direct support to companies and allied parties by dissemination of research results in scientific, technological and outreach forums, as well as the organization of workshops and life-learning and specialized courses in sanitary aspects in aquaculture for technical staff of the companies.

Valencia a 26 d' septiembre de 2011
Investigador principal de la entidad coordinadora

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(*) El Resumen Ejecutivo del Plan Estratégico se presentará en inglés.