

An update

In 1997, the Board of EAS - under the Presidency of Patrick Lavens – decided that the society should make a proposal to the European Commission to build a European network for the dissemination of RTD results to SMEs in the sector. In cooperation with FEAP and AquaTT, AquaFlow was born, and functioned successfully under two EC contracts, from 1998 to 2003.

Operating in 16 languages and in 19 countries, AquaFlow not only delivered its contractual obligations, but also played a significant role in facilitating the contacts between researchers and producers, leading to the strengthening of SME participation in cooperative research.

AquaFlow also carried out an extensive questionnaire to European SMEs, to identify dissemination needs and areas of interest and concern of SMEs. In 2002, EAS and AquaTT became partners in the PROFET initiative, lead by the Federation of European Aquaculture Producers (FEAP), to carry out a series of regional workshops to present the status of RTD in different areas of the industry and to assess RTD needs in the sector.

In June of this year, the research unit of DG Fish reported that 10% of all cooperative and collective research projects under the horizontal SME measures of the 6th Framework Programme (FP6) were in aquaculture, fisheries and seafood processing. This is an extremely high figure, considering that the horizontal measures cover all RTD areas in the European Research Area.

The following pages give an update of EAS involvement and coordination of several new initiatives under FP6. Although

project participation and leadership is not considered as ‘core business’ for EAS, it is still highly important. Our dissemination activities in certain projects are totally concomitant with our key objectives of promoting contacts and disseminating information within European aquaculture.

Furthermore, the coordination by EAS of Specific Support Actions to EU policy and Coordination Actions strengthens our role in the development of sustainable aquaculture in Europe. The Commission views EAS as an independent and professional organisation with an excellent track record in the management of these kinds of actions. This gives EAS – as a *European* organisation – an extra dimension when compared to the national aquaculture societies, with which we need to further ties with regard to dissemination and cooperation in the organisation of regional aquaculture events.

EAS is involved in the following ongoing projects:

- ✂✂ Creating supporting network for international transfer of innovative technologies in European aquaculture (CSN Intran);
- ✂✂ Collective Research on Aquaculture Biofouling (CRAB);
- ✂✂ Impact Assessment of the FP4 and FP5 Research Programmes on Fisheries, Aquaculture and Seafood Processing Research Area and the Fishery Industry (IMPACT FISH)
- ✂✂ Multi-Stakeholder Platform for Sustainable Aquaculture in Europe (CONSENSUS)

Collective research on aquaculture biofouling

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| Acronym: | CRAB |
| Action: | Collective Research |
| Start and Duration: | June 2004 (36 months) |
| Total Budget: | Euro 2.347.356 |
| EC contribution: | Euro 1.584.733 |
| EAS role: | Dissemination Partner (Coordinator is TNO Industrial Technology, NL). |



Summary

This EU funded project will provide the European marine aquaculture industry with low cost practical solutions to control biofouling

Surfaces immersed in the aquatic environment become biofouled when unwanted aquatic organisms such as

barnacles, tubeworms and seaweed settle and grow on those surfaces. Biofouling is a complex and recurring problem in all sectors of the European fish-farming industry. Problem areas include biofouling on:

1. INFRASTRUCTURE: Immersed structures such as cages, netting and pontoons; equipment and structures such as pipelines, pumps, filters and holding tanks.

2. STOCK SPECIES: Farmed species, particularly shellfish such as mussels, scallops, oysters etc.

Uncontrolled biofouling leads to significantly increased maintenance costs and production losses (low growth/poorer quality). The cost of changing nets on medium sized salmon farmers is for example €60000 per year. Current estimates based on figures from the industry and the FAO suggest biofouling on fish cages and shellfish costs the European industry between 5 and 10% of the industry value (up to €260 million/year). In some sectors the costs of manual cleaning of biofouled shellfish amounts to 20% of the product market value. Fouling also reduces product value, currently tubeworm fouling of mussels downgrades them from Class A (1300 Euro per tonne) to Class B (570 Euro per

- New materials such as non-toxic antifouling coatings
- Electrical methods generating biocides (Cl⁻) or pH shifts
- New shellfish handling and immersion techniques
- Optimised cleaning techniques, for example using enzyme technology to weaken the bond between biofouling and stock organisms
- Developing an improved knowledge base of biofouling



Cage rings

that will allow avoidance measures to be taken.

Expected outcomes

Key deliverables include best practice guidelines; training courses and materials for industry workers on biofouling and suitable control techniques; and sustainable antifouling strategy management and decision support tools. Training aquaculture managers and workers to make optimal use of the findings of the program are given high priority. Effective dissemination strategies ensure the outcomes of the project are directly applicable by the European Aquaculture Industry.

A key ambition is to increase the knowledge base of the European aquaculture community. By informing farmers about the importance and extent of biofouling at a local regional level combined with effective training of management tools will give farmers the skills and know-how to make informed appropriate choices for their farming situation.

Effective control of the biofouling problem is expected to reduce annual production costs throughout the industry by 5-10% and secure the quality of product.



Underwater cleaning

tonne). At a local level, periodic heavy fouling can be catastrophic reducing saleable product by 60-90%.

Objectives

The objective of this 3-year project is to develop effective biofouling management strategies for the aquaculture industry. The project will review current fouling control techniques and then select and optimise suitable strategies to combat biofouling in aquaculture.

The following antifouling methods and strategies are covered:

- Biological control (using natural grazers such as sea-urchins to control biofouling)