General introduction to the Policy background on the control of diseases and infections in aquatic animals

Background

The prevalence of aquatic animal diseases depends on the species, farming systems, environmental conditions and pathogen characteristics. The precautions of good husbandry and management practices at farm level, through shifting the balance in favour of cultured organisms versus opportunistic or real pathogens, is in all cases the cornerstone of any successful health strategy.

Appropriate water quality and stocking densities, correct feeding strategy and good hygiene standards as well as appropriate vaccination plans are factors that, when monitored in the farms by trained personnel, could play a significant role in the improvement of farm health status.

The dissemination of research results and interaction between scientists, farmers and policy makers is required throughout the EU in order to improve health management standards. Local, regional and EU policy makers should aim to reduce the introduction, occurrence, prevalence and spread of serious aquatic animal diseases avoiding economic losses in the aquaculture industry and in wild stocks through the development of a set of principles and a legislative framework.

European Legislation

Following an on-going external evaluation of the EU's animal health policy, a new EU animal health strategy is being developed, aiming to strengthen the policy of disease prevention, make emergency vaccination a more viable option, simplify the legislation and finance new actions. All interested parties, including the European Parliament and Council, have been invited to support an overall strategy for the future, creating overarching guidelines to consolidate existing efforts and to foster the adoption and implementation of new key measures. A Commission Communication is anticipated in early 2007, setting out actions for the period 2007-2013.

For fish and shellfish, the legislative framework is based initially on the content and the lists of notifiable diseases that are defined in the recent European Directive 2006/88 as well as in the International Aquatic Animal Health Code of the OIE.

The introduction or exclusion of diseases in these lists requires detailed risk assessment studies on exotic diseases and in diseases that are present in certain countries but are of socio-economic importance. Since the spread of diseases via water or trade is a significant and constant risk, detailed contingency plans, zones and eradication programmes should be defined for every listed disease.

The improvement of existing and the development of new risk assessment methods are required for an appropriate disease listing that reflects a real impact in aquaculture and wild species. Research on appropriate quarantine methods, disinfection protocols and movement restrictions are vital parts of such contingency plans.

The transport of live aquatic animals and gametes should be monitored and should always follow a risk assessment. Quarantine involving thermal or chemical water disinfection is a necessary precaution during imports of live animals and gametes.

Appropriate protocols for disinfection and sanitary handling and disposal of mortalities and appropriate methods for treatment of infected fish by products are essential to contain the disease in a farm or an area.

Policy issues

Key difficulties in formulating policy on the health of aquatic animals, in common with livestock agriculture, are:

- The complexity and breadth of the subject matter
- The interdependence of issues
- The range of interests and stakeholders (professional/civil/legal)

In a Conference on a review of the Community's Animal Health Policy (CAHP Strategy (2007-2013) – Nov 6 2006 [Brussels]), it was noted that the policy appeared to be

- 'a series of interrelated actions/actors at institutional & civil society level operating under a large umbrella of legislation and formal/informal networks …

…but

- without a definition of strategy for the whole and limited assessment of actions taken in terms of performance review and feedback.'

This Conference recognised that there is a 'lack of appropriate tools (e.g. diagnostics, vaccines) which is [another] major reason for limited results and that there is a need for more (EU funded) research in this field.'

It was also noted that 'Emergency measures have tended to take up a disproportionate & unpredictable share of overall budget. Consequently policy is seen as insufficiently focused on prevention activities.'

Recommendations included:

- improved risk based targeting of funding, cost effectiveness and cost benefit analysis);
- better prioritisation of actions (e.g. for eradication and surveillance, R&D etc.);
- more targeted measures and incentives,
- early detection of exotic and new/emerging threats, including controls on illegal potentially risk carrying materials.
- These recommendations apply as well to the aquaculture sector as they do to the agriculture livestock.

The priorities of research

Fragmented research does not always cover the industry requirements especially in the case of introduction of exotic diseases. Ornamental fish mortalities, mollusc trade mortalities and the wastes and by-products of imported frozen commodities could affect the health status of wild and cultured aquatic species in the destination country.

Appropriate disinfecting agents as well as detailed comparative studies of available compounds may be difficult to find.

Evaluation of disease status, pathogen reservoirs and mechanisms of spread are based on epidemiological studies through active (inspections in farms, slaughter houses and wild fish) and passive surveillance (based on results from research programmes) schemes.

Epidemiological studies for each pathogen are required in order to define the procedures for quarantine measures, regulations for transport, import and export regulations, principles for zoning as well as the type of eradication programme, carcass handling, disinfection, fallowing and restocking.

Epidemiology in aquaculture is still a young science and many issues are still to be resolved in order to produce tangible inputs for the industry and policy makers.

The creation of a European Technology Platform on Global Animal Health (see http://www.ifahsec.org/europe/EUPlatform/Platform.htm) has provided focus on many of the issues facing livestock breeders, including aquaculture.

The Platform observed that effective tools for controlling animal diseases of major social and economic importance are vital not only for Europe but also for the rest of the world. The control of infectious and contagious disease can be complex with education, training, zoosanitary and other hygienic measures having an important role to play. Epidemiological assessments, economic evaluations and risk analysis are part of the approaches, which can be adopted and for which research continues to be required. In the longer term breeding for resistance may have an important role to play in disease control.

There is an urgent need to boost research by developing mechanisms to prioritise requirements and develop more effective funding, so that new or improved veterinary medicines - vaccines and pharmaceuticals - and diagnostic tests can be delivered. Closely associated is the effort required to ensure the effective transfer of innovations and breakthroughs from the research base into the development, manufacture, authorisation and distribution of new and safe products for practical use. There are many challenges to be overcome if new products are to become available, especially as this is an area where the return in terms of financial profit may be low but where the social, economic, public health and environmental gains could be high.

EC research projects on the control of diseases and infections within European aquaculture

The summaries (Technical Leaflets) on past and current research projects related to the control of diseases and infections in aquaculture are given in the following pages of this section.

- EPIZONE
- FISHAID
- ISA
- SALMOGYRO
- SEARCH
- SUMBAWS