Aquaculture from an animal welfare perspective

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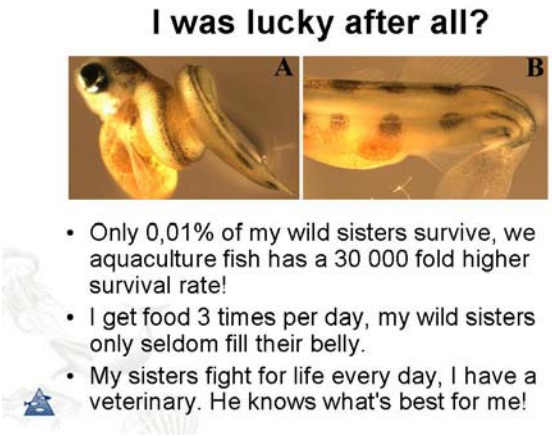

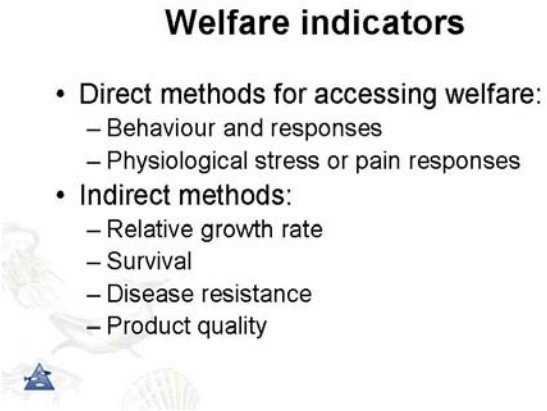

The domestication of major species in European aquaculture like Atlantic salmon, sea bass, sea bream, cod and turbot has been conducted for shorter than 10 generations. The species in intensive aquaculture, with few exceptions, are the therefore wild fishes kept in captivity, and their evolution as farm animals has just started. This gives great challenges in developing aquaculture systems and productions methods satisfying the species' basic needs. Due to the short history of aquaculture production of these species, the experience and knowledge basis both in the industry, regulatory bodies and scientific community are comparably lower than for terrestrial farming. Adaptation of regulations and procedures from terrestrial animal production to aquaculture without the necessary knowledge basis in marine biology, oceanography and ecology has enforced sub-optimal production systems and threaten the animal welfare.

In general it is required that the basic needs and instincts of farmed animals should be satisfied. The regulations accept that farmed fish are exposed to pain or stress with limitations. These limitations include an ethical element, where the general public opinion is of importance. It also requires best practice considerations within economical limits and a balance sheet for sustainability. Challenging in the aquatic systems is to be able to measure the animal welfare. There are few or none operational, direct welfare indicators.

Welfare has two dimensions; (a) the intensity of the stress or pain and (b) the duration. There is a tendency to focus on the high intensity incidences like harvest, grading, tagging and transportation. Far less focus is generally put on sub-optimal farming conditions, diseases and parasites and escaping of farmed fish. From a welfare point the last ones are the most serious.

There are close relationships between animal welfare and aquaculture productivity. Stress and pain influence both survival, growth and product quality, key factors in economical viability of the aquaculture industry. It is surprising that the aquaculture industry has put so little resources into exploiting this potential.