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The PISCES Project

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FISH HEALTH AND WELFARE

As for all living species (animals and humans) a good health condition and survival is the main goal. In aquaculture, culture objectives attempt to maximise production, achieve an optimum output for the minimum input done in the minimum time. Good growth rate and good growth efficiency are essential as well as controlled energy flow into and out of the system (organism). In turn, this will allow among others, high feed conversion efficiency and further the performing reproductive activity.

Husbandry refers to the total care of animals of which we are responsible. It is important to maximize comfort (general care and welfare) because the animals are in an artificial environment.

Maintaining healthy stock is essential to profitable farming. Growing healthy farmed fish requires high quality, nutritious feed, the maintenance of reasonable stocking densities, ensuring of good water quality, limiting sources of stress or outside threats (i.e. - plankton blooms and predators) acquiring and developing good quality, healthy fish stocks to start with. Good husbandry relies on vaccination, the judicious use of antibiotics, disease screening and vigilance in all aspects of caring for the fish.

This good condition involves a sufficient quantity of adequate food and equilibrium between the energy obtained from food and the expenditure (exercise, feeding and growth). It also involves a highest ability to fight against any entering pathogen.

It is of great interest that fish and shellfish are at their maximal health condition. Priority interest has to be taken in providing an adequate energy balance for aquatic farmed animals. If the animal is in good condition it will have enough surplus energy and own resources to react against any infection by microorganisms. Therefore, healthy animals would hardly need therapeutic help in most occasions and they will fight using their own immune systems. Imbalanced or stressed animals will easily be unable to efficiently perform such a fight, and the opportunistic and otherwise non-pathogenic microorganisms may become pathogenic. On the other hand, as healthy animals will have all the needed power and energy surplus for growth and high conversion efficiency, they will ensure the success of aquaculture production and maximum benefits. Moreover imbalanced animals may not eventually die, but be unable to be commercialised because of inadequate external appearance or low quality meat.

Animal welfare is also an ethical issue in aquaculture. There is intensive research on non-stress procedures and assessment of their effects, and also research on the best procedures for handling and processing at slaughtering. New methods are undertaken to minimise the time after capture.

For more information on this topic visit the PISCES Forum at:

http://www.pisccestt.com/piscses/hottopics/healthandwf0_en.asp