

FISH
veterinary
SOCIETY

Guidelines On The Welfare Of Farmed Fish

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1) Introduction

This document has been produced by the Fish Veterinary Society for the use of the members of The Society and is aimed principally at veterinary surgeons involved in fish production.

It is the intention that all welfare issues addressed by the document are applicable to all farmed species of finfish cultured under a variety of conditions in the U.K. and a number of generalisations are inevitable. Several specific issues will be dealt with in greater detail in supplementary documents to be produced by The Society if requested to do so.

Animal welfare can be considered in terms of the five freedoms defined by Brambell (1965) with the additional two proposed by Seamer (1992). Although fish are aquatic ectotherms and differ considerably from other species normally dealt with in veterinary practice, the seven freedoms can be used as a framework for the consideration of fish welfare.

- 1) Freedom from thirst, hunger or malnutrition
- 2) Freedom from thermal or physical discomfort
- 3) Freedom from pain, injury or disease
- 4) Freedom from fear and distress
- 5) Freedom to express normal patterns of behaviour
- 6) Freedom from stress and suffering when transported
- 7) Freedom from stress or suffering when slaughtered

2) Specific Issues

2a) Stocking

Stocking densities must relate to the species involved according to their normal behaviour and system of aquaculture used e.g. Atlantic salmon using the whole water column or turbot using the available floor space.

All fish under intensive production should have adequate space to move freely.

Crowded conditions contribute to the spread of disease.

Stocking density should not compromise water quality or the health of the fish.

2b) Handling

Handling of fish for the purposes of grading etc. are vital farming practices. Handling is stressful to the fish but may be advantageous to the welfare of the stock as a whole.

Where handling is necessary, this must be carried out by the least stressful methods available - sedation may be appropriate to minimise stress on the individual.

Indications of poor handling include fin and skin damage and/or scale loss and procedures must be designed to minimise this damage.

Equipment should be designed and used to minimise damage.

Personnel carrying out handling procedures must have adequate training to minimise stress and damage.

Handling frequently involves crowding and adequate oxygenation of the water should be provided. Withholding food prior to handling will help to maintain water quality during handling procedures.

Fish taken from the water are out of their natural environment and adequate support must be given, particularly when dealing with large, heavy fish.

2c) Transport

Careful handling of the fish and adequate oxygenation of the water are essential.

Withholding food for 24 hours prior to transport will reduce faecal contamination and, therefore, biological oxygen demand and maintain good water quality.

The use of sedation may be appropriate during handling prior to transportation.

Sudden changes in temperature and pH should be avoided.

2d) Feeding

Feed must be of good quality to ensure adequate growth and minimal disease. Poor quality feed will result in increased levels of food being given with increased production of faeces and the risk of reduced water quality.

The area of feeding highlights the difference between the requirements of ectotherms and homeotherms, there are occasions in the life of some fish when feeding reduces or ceases and most fish are adapted to go without food for long periods.

There are many circumstances when it may be entirely appropriate to reduce or withhold feed from fish e.g. when administering antibiotics, before handling procedures and in response to disease.

2e) Health

Early recognition of disease is essential for the maintenance of a healthy stock.

Health and welfare of the fish will be compromised by the failure to seek prompt veterinary attention.

Veterinary surgeons should promote health schemes and endorse preventive procedures.

Aquaculture systems must be devised such that disease is minimised; the following will help to maintain the health of the stock:

- 2e1) Effects of disease will be reduced by the daily observation of stocks by experienced personnel capable of recognising signs of ill-health and initiating appropriate action.
- 2e2) Disease-free stock should be used for farming whenever possible.
- 2e3) Disinfection of equipment and personnel will decrease the risk of disease transfer.
- 2e4) Dead fish should be removed and hygienically disposed of. Moribund fish should be humanely killed and hygienically disposed of.
- 2e5) Fallowing sites, and the separation of generations will reduce the risk of transfer of disease between stocks.

2f) Diagnostic and other investigative procedures

There are certain specific procedures where the welfare of individual fish is compromised in order to maintain the health and welfare of the stock as a whole e.g. 'stress testing' for the detection of specific pathogens and salinity tolerance testing. These procedures must be carried out as humanely as possible.

Stress testing should be carried out under veterinary supervision.

Diagnostic and investigative procedures must be carried out by trained personnel.

Sampling live fish e.g. for parasites or blood collection may require anaesthesia to facilitate handling and minimise stress.

The Animals (Scientific Procedures) Act 1986 recommends stunning as appropriate for procedures carried out under licence.

2g) Slaughter

Appropriate equipment and adequate training of personnel in slaughter techniques are essential.

The slaughter method used should:

- render the fish insensible instantaneously and as efficiently as possible
- prevent the fish recovering from the above

Even the recommended methods have practical limitations and it is important that research is directed at slaughter methods in food producing fish.

2h) Disposal of surplus fish

Fish surplus to requirements should be disposed of in a humane manner e.g. anaesthetic overdose.

3) Concluding Statement

The veterinary surgeon's responsibility is to recognise good husbandry procedures and their relevance to disease in the animals under his care.

The veterinary surgeon has a duty to emphasise and promote good stockmanship on farms and be sufficiently acquainted with the farms to ensure the health and welfare of the animals under his care.

While general principals of welfare must be observed, the special requirements of aquatic ectotherms must also be considered.

4) References

Brambell, F.W.R. (Chairman) (1965) Report of the Technical Committee to enquire into the welfare of animals kept under intensive livestock husbandry systems. HMSO London.

Seamer, J. (1992) Transport of live animals for slaughter. *Veterinary Record* 130 (2) 38.