

CHAPTER 12

AN APPROACH TO BEHAVIOURAL AND WELFARE PROBLEMS IN DOMESTIC ANIMALS

INTRODUCTION

Behaviour has evolved by natural selection and a knowledge and understanding of it has always been a practical matter for trappers and hunters, traditional shepherds and herdsman. It is a sequence of movements with appetitive and consummatory elements, and involves understanding not only what an animal does but how, when, where and why the behaviour occurs.

In recent years the teaching of animal behaviour has become important to veterinary and agriculture students for several reasons:

1. By understanding an animal's behaviour, facilities and management strategies can be designed with consideration for the behavioural needs of the animals. Features of a farmed animal's environment that merit attention include intensive housing systems, holding pens, loading and unloading ramps, transport vehicles and provision for special operations such as slaughtering, shearing and dipping.
2. An understanding of behaviour allows the management and movement of stock to be achieved without causing undue stress to the animals.
3. When an animal or group of animals is showing inappropriate or changed behaviour, it becomes obvious that an upset in the homeostasis of the animals has occurred.

A change of behaviour is usually the first indication that the health and welfare of an animal are at risk, so it should be the aim of those responsible for animals to quickly detect problems and correct them.

This chapter outlines an approach to animal behaviour and welfare problems by using a simple scheme, that ensures the major factors will not be overlooked.

METHOD

The behaviour of an animal is influenced by:

1. structure and function of the animal, and
2. the interaction of the animal with the external environment.

If these factors are examined in more detail, we can evolve a system of logical thinking that allows a person to describe, investigate and better manage behaviour and welfare problems.

The approach requires three activities to be completed (DIM):

- a. Describe
- b. Investigate and list problem(s)
- c. Manage

Describe

Describe the presenting problem(s) as accurately as possible by considering both the animal and the environment.

Investigate and List Problem(s)

The origins and the effects associated with the presenting problem(s) can be determined by investigating the animal and the environment.

1. The Animal

Investigation of the animal involves consideration of the structure and function of the organ systems. These can be listed by the mnemonic CRAUN LESH. If any of these systems suffers an upset in homeostasis, the first sign is often an alteration in the animal's behaviour. All the body systems can be quickly checked.

- C Cardiovascular
- R Respiratory
- A Alimentary
- U Urogenital (urinary and reproductive)
- N Nervous – C.N.S. (Central nervous system)
P.N.S. (Peripheral nervous system)
A.N.S. (Autonomic nervous system)
Special senses – sight, touch, smell (including pheromone detection), taste, hearing
Innate behaviour, such as nest building and suckling behaviour
- L Locomotive (musculo-skeletal)
- E Endocrine
- S Skin (fur, hair, hooves, sweat glands)
- H Haematological (blood, lymph, immune system).

A problem in behaviour or welfare may involve one or more of these systems so a quick run through ensures that no system is overlooked.

2. The Environment

The interaction of the animal with the environment may be examined under three headings:

- a. the physical environment,
- b. the chemical environment,
- c. the biological environment.

a. The physical environment includes:

- temperature, light, humidity and ventilation;
- husbandry designs, which include walls, feeders, types of flooring, position and type of drinker, mating pens.

b. The chemical environment includes:

- the nutritional environment and additives, such as antibiotics, probiotics, growth promotants, vitamins and flavourants;
- toxic chemicals that may be used in sprays, dips, etc., and their effects;
- poisonous plants.

c. The biological environment includes:

- disease organisms;

- social environment;
- reproductive environment.

Disease organisms: Pathogenic microorganisms and parasites may affect any of the systems mentioned and this, in turn, influences the behaviour and welfare of the animal.

Social environment: This can be considered as:

- the effect of man on his animals, which includes transport and movement of animals, husbandry procedures, and design of facilities for animals.
- the effect of different species, for example, predators.
- the effect of other animals on the same species, including crowding and over-crowding.

Crowding has a physical (i.e. density/m²) and a social element. This social element, which is often neglected, consists of:

Who is being crowded?
Is it the dominant animals in the hierarchy or the more subordinate animals who are suffering from being crowded?

When is crowding occurring?
It may occur only at a certain time of day, for example, at feeding time.

Where does the crowding occur?
There may be plenty of floor space but inadequate feeding or drinking space.

Reproductive environment: This includes the mating environment and the actual animal to be mated. Some males prefer certain females and females may refuse to mate with a certain male. The mating environment must be acceptable, and in groups of animals, a dominant male can affect the whole reproductive behaviour.

Sight, sound and smell form an important part of the reproductive environment.

Following the description of the presenting problem(s) and the detailed investigation of the animal and the environment, a list of problems should be formulated. The problem list should include:

- specific animal problems, and
- problems involving the external environment.

This problem list forms the basis for planning the management of the animal and/or the environment.

Manage

- problems in the animal,
 - environmental problems.
- a. Problems in the animal

The welfare of the animal is of major concern so management of problems in the animal is immediate and preferably short term. The treatment of animal problems can be

approached by considering three S's:

Specific treatment where there is a known cause, e.g. an appropriate antibiotic for a bacterial infection.

Symptomatic treatment, e.g. analgesics for pain.

Supportive/prophylactic treatment, e.g. fluid and electrolyte therapy, vaccinations.

b. Environmental problems

Where the physical, chemical or biological environment have contributed to behavioural and welfare problems, short-term management should be directed to the immediate removal of these problems. Modification of the environment has become a major public issue. Long-term management may be required to solve some environmental problems.

This is the area of animal-welfare legislation, codes and recommendations that may involve selective animal breeding programs, changing or modifying husbandry designs, husbandry procedures, animal transport and slaughter facilities to ensure optimum conditions for the animal's production and welfare. It also involves the prevention, if possible, of the same problem from recurring.

In each practical situation where a behavioural and/or welfare problem arises, application of this scheme allows all factors to be considered and the problem area to be accurately defined. This ensures complete management of the animal and the environment.

Summary

Animal behaviour and welfare problems in domestic animals may be approached using a simple scheme, describe, investigate, manage (DIM), as illustrated below:

