

Animal Behavior

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Animal behaviour refers to the physical expression of bodily movements that result from an internal drive or motivation. A motivation is caused by a real or perceived need and performance of a behaviour that leads to this need being met will ordinarily reduce the motivation to perform the behaviour, at least temporarily. Behaviour is therefore the intervening step between the identification of a need and the satisfaction of that need. The behaviour performed at any given moment is often the outcome of many different motivations, some of which compete (for example the motivations to feed and to hide from predators). Behavioural expression can become extremely complex and dynamic especially where behaviour controls the interactions between individuals

Behaviour is also core to the interactions between animals. It is the mechanism by which one animal influences another and it is the method by which needs and intent are communicated between members of a species and sometimes between species. Behaviour therefore performs both a direct role in meeting the needs of the animal but also a communicatory role between animals, either for the benefit of the signaling animal, the receiver or both.

Normal Behaviour

The term 'normal' behaviour is also often used as a synonym of 'natural' behavior meaning that the behaviour of an individual or population in the wild is normal and all deviations from this caused by captivity are, by extension, abnormal. This linking of natural behaviour with 'normality' is the basis for why some consider that the ability to behave naturally is a prerequisite for good welfare.

Abnormal Behaviour

Abnormal behaviour is typically regarded as behaviour that deviates in some way from its natural form (or does not occur in the wild) and is

problematic in some way. It results from a mismatch between the stimuli present in the captive environment and the animal's ability to cope with the stimuli through mechanisms that it has acquired through evolution or lifetime development.

Types of Abnormal Behaviour:- Abnormal behaviour forms can be classified as the following types ;-

- 1) Redirected behaviour
- 2) Stereotypical behaviour
- 3) Sham behaviour
- 4) Self-directed harmful behaviour
- 5) Learned helplessness

1. Redirected behavior

Behaviour that is redirected towards a group member rather than a more appropriate target

Ex. Feather pecking and cannibalism (hens); fin chewing (farmed fish); tail and ear biting (pigs); belly nosing (pigs) and cross sucking (calves).

2. Stereotypical behavior

3. Sham behavior

Behaviour performed despite the absence of substrates to allow its proper execution

Ex. Dust bathing movements in poultry in cages that are devoid of substrate; Nest building movements in sows in environments lacking litter; Courtship responses and displays directed at inanimate objects

The lack of a resource usually manipulated during the normal performance of behaviour does not always prevent the behaviour being executed if it is highly motivated. In the wild, sows gather vegetation and build elaborate nests in which to give birth. Housing of sows in crated systems prevents physical movement and offers no form of resource with which to build a nest. Despite this, pawing movements with the feet and movements of the head identical to those seen in the wild are performed in the complete absence of substrates to manipulate. Similarly, hens housed in wire-bottom cages devoid of substrate will perform sham dust bathing in which movements are performed that would normally cover the feathers in dust.

4. Self-directed harmful behavior

Self-directed harmful behaviour is self-mutilation in response to severe stress. Excessive grooming and biting at limbs in dogs, laboratory rodents and other species are examples for this abnormal behaviour. Housed birds, such as parrots, may pluck out their feathers and often these behaviour can continue even when the animal has caused significant tissue damage to itself

Ex. Excessive grooming, Licking and biting at limbs in dogs, Laboratory rodents and other species; Feather plucking in parrots.

5. Learned helplessness

This form of abnormal behaviour occurs when there is a failure to show a behavioural reaction to ongoing physical injury as a result of a prolonged inability to control the environment. This was first shown experimentally where animals given repeated electric shocks eventually ceased to respond and did not move away when they received shocks.

Ex. Pigs that are the victims of severe tail biting; hens that are the victims of severe feather Pecking

Application of Behavioral Knowledge during Handling and Restraint

Humans are regarded as a predator or threat by many of the species we manage. Handling of most species therefore invokes an amount of anxiety or fear, the level of which differs between species and individuals. Minimization of fear during handling can:

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- Reduce the risk of injury to humans and animals
- Increase the efficiency of handling, and
- Improve the productivity and reproductive performance of livestock.

Fundamental to achieving these benefits is knowledge of which aspects of human behaviour or the physical environment cause stress and how this is manifest in behavioural reactions indicative of fear. Handling of cattle provides a useful example as cattle are fearful of new events or places ('novelty') and dislike social isolation.

Fear among cattle is expressed by: -

- Vocalizations
- Defecation
- Freezing (becoming physically immobile but with the body rigid and tense)
- Kicking at a threat and
- Running and jumping in an attempt to escape

These behaviours are most evident when a human enters within the 'flight zone' of the animal which is a region of protected space that, when entered, will cause the animal to withdraw. An inability to withdraw leads to panic and vigorous escape behaviour with associated risk of injury. Entering the flight zone should be a strategy used only when the animal has the opportunity to withdraw and correct use of the flight zone is what separates good handlers from poor ones. In addition to human behaviour, it is also critical that the physical handling systems themselves are designed using knowledge of how animals have evolved behaviourally to respond to threats.

Naturally predated species continue to show high levels of vigilance when domesticated and will withdraw from startling stimuli such as sudden noises or unexpected movements. Handling systems must be quiet and free of objects that are blown by the wind. Livestock will attempt to return towards their point of entry into a handling system and a system should therefore be orientated to exploit rather than work against this tendency. The point in the system in which they will experience the greatest isolation and proximity of humans (e.g. the point at which health treatments occur) should allow a clear view of the exit of the system and the route back to their 'home' environment. Wild-living herbivores will often circle a threat rather than retreat in a straight line from it. Modern handling systems for cattle and sheep exploit this behaviour by using curved rather than straight passageways to encourage calm forward movement. Herbivores show much greater behavioural evidence of fear when handled in isolation from other animals and it is often quicker, easier and safer to move two animals that have a calming influence on each other than one. These behavioural principles are increasingly adopted on progressive farms and abattoirs.