

Welfare of Animals during Handling and Transportation

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ABSTRACT

Animal welfare is a major public concern because all farmed animals are thought to be sentient beings. Positive and negative aspects of the welfare of animals during transport should be assessed using a range of behavioural, physiological and carcass quality measures. Many of the indicators are measures of stress, involving long-term adverse effects, or indicators of pain, fear, or other feelings. Some of the key factors affecting the welfare of animals during handling and transport are: attitudes to animals and the need for staff training; methods of payment of staff; laws and retailers' codes; journey planning; traceability of animals; genetic selection; rearing conditions and experience; the mixing of animals from different social groups; handling procedures; driving methods; space allowance per animal on the vehicle; journey length; increased susceptibility to disease; increased spread of disease and the extent to which each individual can be inspected during the journey.

INTRODUCTION

The handling, loading, transporting, and unloading of animals can have very substantial effects on their welfare.

The welfare of an individual is its state as regards its attempts to cope with its environment (Broom 1986) and includes both

the extent of failure to cope and the ease or difficulty in coping. If animal is failing to cope with a problem, it is said to be stressed so stress is a form of poor welfare. Health is also an important part of welfare whilst feelings, such as pain, fear, and various forms of pleasure, are components of the mechanisms for attempting to cope so needs to be evaluated where possible in welfare assessment whilst animal welfare is a characteristic of an individual animal and varies from very good to very poor. Protection of animal is a human activity directed towards the prevention of poor welfare in the animals.

Care-taker cum staff and welfare

The attitude to animals of the people involved in the transport can result in harsh or careless treatment and hence injuries both creates high level of stress thereby poorer welfare. As untrained or naive staff may hit animals and cause substantial pain and injury as they do not consider that the animals feel pain, or because of lack of knowledge about animals and their welfare. Training of staff can substantially alter attitudes to, and treatment of, animals. During handling and transport, person doing the job causing little or no stress to animals must be favoured.

Laws and retailer codes regarding welfare

A valid certificate by a qualified veterinary surgeon certifying that animals are fit and healthy for transport to travel & are not suffering from any infectious or contagious or parasitic diseases and are properly immunized shall accompany each consignment. Carrier shall refuse transport of animal in absence of such certificate. Veterinary first aid equipment shall accompany with animals. Stocking density as per species, size, breed, must be checked and should be up to mark as per welfare of animal.

Role of planning prior to transportation

Before a journey starts, there must be decisions about the stocking density of animals on the vehicle and the grouping and distribution of animals on the vehicle. Planning should also take account of temperature, humidity, and the risks of disease transmission. Planning of routes should take account of the needs of the animals for rest, food, and water. Drivers or other persons responsible should have plans for emergencies including a series of emergency numbers to telephone to receive veterinary assistance in the event of injury, disease, or other welfare problems during a journey. For shorter journeys, preparation can include fasting esp. in pigs before collection and possibly movement away from the main herd to protect its health status. For longer journeys, where watering and feeding will be necessary on the vehicle, it can be an advantage to collect the animals involved 2-3 days before the transport, so that they can be prepared for the journey and become accustomed to the feed that will be offered en-route.

Rearing conditions, experience, and transport

Calves reared in individual crates are much more disturbed by handling and transport than they are reared in groups presumably because of lack of exercise and absence of social stimulation in the rearing conditions (Trunkfield *et al* 1991). Recently weaned cattle handled for a short period are much less disturbed by the procedures associated with handling and transport (Le Neindre *et al* 1996).

Handling, loading, unloading and welfare

Well-trained and experienced stock-people have knowledge of animal's flight zone; animal moves forward when a person enters the flight zone at the point of balance and can be calmly driven up a race by a person

entering the flight zone and moving in the opposite direction to that in which the animals are desired to go. Handling animals without the use of sticks or electric goads results in better welfare and less risk of poor carcass quality. Good knowledge of animal behaviour and good facilities are important for good welfare during handling and loading.

Behavioural assessment

Sheep and cattle try to lie down if the situation is not disturbing but stand if it is. Unfortunately for the animals, many journeys involve so many lateral movements or sudden braking or accelerations, that the animals cannot lie down and thereby leads to poor welfare.

Physiological assessment

Studies showed that there is a marked elevation of heart rate, plasma cortisol concentration when animals are loaded on to a vehicle and remained elevated for at least 15 minutes. These variabilities have been found to be a useful welfare indicator in cattle and other species.

Animal genetics and transport

Certain rapidly growing beef cattle which have grown fast have joint disorders which result in pain during transport and some strains of high-yielding dairy cows are much more likely to have foot-disorders. Modern strains of dairy cows esp. exotic or crossbred need much better conditions during transport and much shorter journeys if their welfare is not to be poorer than zebu dairy cows.

Ambient temperature and other climatic conditions during transport

Extremes of temperature can cause very poor welfare in transported animals. Exposure to temperatures below freezing has deleterious effects on small animals including domestic

fowl. However, temperatures that are too high are a commoner cause of poor welfare with poultry, rabbits and pigs being especially vulnerable. Studies shows that plasma cortisol, lactate, glucose, creatine kinase, lactate dehydrogenase and osmolarity were all higher in warmer summer conditions than in cooler winter conditions in transported rabbits. In each of these species, and particularly in chickens reared for meat production, stocking density must be reduced in temperatures of 20°C or higher. Elevated temperature causes substantial risk of high mortality and poor welfare

Mixing social groups during transport

If pigs or adult cattle (esp. male horned) are taken from different social groups and are mixed with strangers just before transport or during transport; there is a significant risk of threatening or fighting behaviour, The glycogen depletion associated with threat, fighting, or mounting often results in dark firm dry meat in ruminants and pale soft exudate meat in swine altogether with injuries such as bruising so associated with poor carcass quality. The problem is sometimes very severe, in welfare and economic terms; solved by keeping animals in groups with familiar individuals rather than mixing strangers.

Vehicle driving methods, stocking density and welfare

Animal comfort during transport is highly dependent on vehicle design, driving technique and the roads being traversed. Cattle always endeavour to stand in a vehicle in such a way that they brace themselves to minimise the chance of being thrown around and avoid contacting other individuals. Careful driving with maximum speed up to 30km/hr and a stocking density which is not too high are crucial for good welfare.

Journey duration and welfare

Journey should be done in favourable environment condition as unfavourable condition together with longer transport times affects comfortability of animal leading to increased stress, disease incidence together results in poorer welfare. Ruminants are better adapted for longer journeys than poultry, pigs or horses (e.g. Fisher *et al* 2010).

Inspection while transport & unloading of animals

During transport of animals a caretaker or experienced handler must travel with animals to look after wellness and health condition of all. If any uneven happens immediate mitigating action should be taken with proper veterinary assistance. Slope of unloading ramp should be minimum and with secured sideways. There should be clear route from lorry to lairage, yard or field. Animals may be tired or unsteady after the journey; allow them to move out of the vehicle at their own pace.

CONCLUSIONS

The methods used during handling, loading, and unloading can have a great effect on animal welfare. The quality of driving can result in very few problems for the animals or in poor welfare because of difficulty in maintaining balance, motion sickness, injury etc. The actual physical conditions, such as

temperature and humidity may change during a journey so favourable timings of journey should be pre-planned. A journey of long duration will have a much greater risk of poor welfare and some harsh conditions inevitably lead to problems. Hence, good monitoring of the animals with thorough inspections of adequate frequency are important.

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