ANIMAL WELFARE DURING LONG DISTANCE TRANSPORT OF CATTLE - FACTS AND PUBLIC PERCEPTION

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Introduction

Animal transport gives cause for concern for several reasons: (1) Transport can cause severe stress in animals entailing poor welfare. (2) Stressful transports may have a negative effect on meat quality. (3) There is the risk of spread of infectious diseases over large distances (HARTUNG et al., 2003). Particularly long distance transports of animals are one of the most emotionally discussed topics in the field of animal protection today, and the transport of slaughter cattle to the Near East Region touched the nerve of the public after some television programmes showed cruelties against animals during unloading in the harbours at destination. The European Union was challenged to act and issued the Council Directive 91/628/EEC of 19th November 1991 on the protection of animals during transport (1991) followed by several regulations such as the criteria for staging points and the route plan (1997) and standards for long distance road vehicles (1998). The most important details for long distance transports (longer than 8 h in special vehicles) refer to the transport time and the unloading rule for the 24 h resting period. The transport times for cattle are 14 h transport followed by 1 h rest and a second period of 14 h transport. Thereafter, the animals have to be unloaded in the resting facilities of a staging post for 24 h. After reloading the journey can continue in the same pattern.

This paper investigates whether these resting and driving times really protect the animals from poor welfare and meet their physiological needs. Examples are given for heart rate and energy metabolism of transported cattle.

Stressful situations during transport

There is no doubt that transport is an unknown procedure for cattle which can be irritating and aversive. The most aversive factors are loading and unloading, bad handling, inappropriate driving, poor road conditions, too hot or too cold climate, insufficient ventilation, high stocking densities, mixing of unfamiliar groups, deck height, lack of water and food, vibration, vehicle motion and length of the journey. Levels of stress in animals may be measured by physiological (e.g. heart rate, body temperature), biochemical (e.g. cortisol, catecholamines, lactate, creatine kinase) and behavioural (video observations) indicators (BROOM, 2003).

Loading and unloading: In Figure 1 the mean of the heart rate responses of 12 bulls on a journey of 60 h is shown. High heart frequencies can indicate a status of reduced welfare. High heart rates of more than 150 bpm (beats per minute) were observed during loading and unloading, weighing, shortly after the start of the transport and during blood sampling. During the transport journey the heart rate slowed down to 70 and 80 bpm on the average (MARAHRENS et al., 2003). Therefore the repeated unloading and loading during long distance transports should be avoided. This will also help to reduce the incidence of transport injuries which frequently happen when loading and unloading. Resting, feeding and watering should take place on the vehicle in properly equipped supply stations. It seems to be more adequate to realise welfare than stressful loading procedures.

Cortisol is one of the often measured stress indicators. In Figure 2 cortisol levels in the blood plasma of bulls, steers and heifers before and after transport and after resting time at lairage are given. During collection, weighing and loading the cortisol concentrations increased in the blood of the bulls and steers by a factor of 4 to 5 (40 – 50 ng/ml) above basal values (less than 10 ng/ml in the blood plasma of the male cattle). In heifers cortisol increased by a factor of two only. Steers are usually reared on pastures where they have sufficient physical exercise but not much contact to unknown people and strange situations such as handling, weighing and loading. It seems that the increase of cortisol may be an indication of an emotional stress reaction rather than a
plasma of bulls, steers and heifers before and after transport and a large number tends to a ketotic metabolism which is also confirmed by high plasma levels of ß-hydroxybutyrate (MARAHRENS et al., 2003, data not shown). Similar high energy expenditure is observed in bulls when kept in resting areas for 24 h without mounting prevention. The steers seem to be able to recover quickly. It was observed that, in contrast to the bulls, they calmed down and consumed roughage and water soon after penned in the lairage.

Conclusions and Recommendations

These few results show that transport of cattle need not to be a serious stressful experience for the animals if the nature and needs of the animals are sufficiently taken into account. For this purpose the present transport directive should be amended according to the needs of the animals.

Loading and unloading in staging posts is stressful for all cattle and should be abolished. During the transport journey stress indicators such as heart frequency are tending towards normal values. However, the welfare can become poorer as journey length increases particularly when the food energy supply is insufficient. Heifers in particular tend to develop an energy deficit in long distance transports. Therefore, it seems useful to supply some energy rich feed during the breaks. For this purpose, the resting time after the first 14 h transport period should be extended from 1 to at least 3 h to give sufficient time for feeding and watering.

For bulls transport is less stressful than resting in lairages when fighting and mounting cannot be avoided. In that case, bulls should be transported as gently and as fast as possible to their destination avoiding long breaks.

Steers recover very quickly after transport when given the opportunity to eat. The welfare of bulls, steers and heifers is limited by their needs not by a fixed maximum transport time, if vehicle and transport conditions are appropriate. The adaptation of transport schemes to the needs of the animals is necessary. Further improvements should also include an intensified education of handlers and drivers in animal welfare (pay for gentle driving not for speeding), better monitor systems for driving conditions, climate etc. and a more comfortable suspension and vehicle body design.

Last but not least is it necessary to inform the public about the progress made in animal friendly transport schemes and ask for their support.

References


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