Loading density and welfare of goat kids during long distance road transport

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Abstract

Many goat kids (Capra aegagrus hircus) are transported live from The Netherlands for slaughter in France or Spain. Current standards indicate that goats (<35 kg) should have sufficient space at 0.2–0.3 m² per animal (approximately 5 goats per m²). Research was devised to assess behaviour and physiological responses of goat kids transported at different space allowances. After weaning, goat kids were fed milk for six weeks using a lambar-type feeder and then transported to Spain (circa 1,400 km). These kids (8–10 kg, maximum eight weeks old) were transported at space allowances of 0.2, 0.13 and 0.1 m² per animal (ie loading densities 5, 7.5 or 10 animals per m², respectively) in three journeys. Before loading and upon arrival, six goats per compartment were weighed, blood sampled and had rectal temperature measured. Three goats per compartment were equipped with ECG loggers. On average, kids lost approximately 4% in bodyweight and rectal temperature fell 0.2°C during 20 h transport. Heart rate ranged between 100–190 bpm irrespective of loading density during actual transport. All animals stood at the beginning but were never all recumbent independent of loading density. Kids tended to huddle together at lower loading densities. High loading density restricted movement. Blood concentrations of haemoglobin and haematocrit increased, as did osmolality indicating dehydration. It is recommended that water be supplied using a drinking system to which animals are accustomed. Since movement was restricted it is recommended that kids be transported at nine animals per m² (maximum).

Keywords: animal welfare, behaviour, goat kids, live transport, loading density, physiology

Introduction

Consumers and public organisations across Europe are becoming increasingly concerned about the rearing and handling of human foodchain production animals. These concerns include questions about the need to transport live animals. Policy-makers and various governmental organisations are aware of the fact that something has to be done to address these concerns.

At the same time, demand for Dutch dairy products from goats (Capra aegagrus hircus) is growing, which consequently results in surplus numbers of ‘Billy’ or male goats. In order to avoid the on-farm slaughter of male goats the industry endeavours to fatten male goats and slaughter them nearby. At present, there is insufficient slaughter capacity in The Netherlands, necessitating that a large number of male goats are transported live for slaughter upon arrival in southern Europe (eg Spain or France). This practice is contrary to the intentions of the Dutch ministry to restrict live animal transportation.

Transportation is a source of emotional and physical stress affecting goat welfare (Nwe et al 1996; Kannan et al 2000; Das et al 2001). Different phases of transportation, ie loading, unloading, stopping and starting can be particularly stressful. A recent review of EU Directive 1/2005 recommends maximum journey times for several species including goats of up to 8 h (European Food Safety Authority [EFSA] 2011). Competent authorities are concerned about the authenticity of present European standards for goats. According to present EU standards, goats weighing up to 35 kg should have sufficient space with an allowance of 0.2–0.3 m² per animal, or approximately five goats per m² (EC Regulation 2004). However, the law remains unclear and allows for differences in interpretation with respect to variation in environmental conditions, ie ambient temperature. Therefore, if the goats weigh between 9–10 kg (<35 kg) the guideline is five animals per m² to ensure animal welfare standards. According to the Directive on transportation of live animals, the space allowance for goat kids may be less than 0.2 m² per animal depending on age, body size, weather conditions and length of journey. Adjustments, based on the size of the animals to be transported, appear justifiable, but long journey times, physical restraints of young animals and extreme weather conditions in Spain have restricted acceptance of higher stocking densities. These restrictions were made in relation to recommendations made in the report of the EFSA scientific committee on animal health and animal welfare (SCAHAW 2002).