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

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### **Abstract**

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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 0.2–0.30 m<sup>2</sup> per animal (approximately 5 goats per m<sup>2</sup>). 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 m<sup>2</sup> per animal (ie loading densities 5, 7.5 or 10 animals per m<sup>2</sup>, 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 m<sup>2</sup> (maximum).

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