Sheep: preventing hot and cold stress

Space on the vehicle

Sheep need enough room to adopt their preferred spacing strategy and it will prevent them of losing balance, slipping or falling. If space availability is not sufficient, animals will not lie down; even when they are tired. The amount of space needed by each animal depends on: body weight, presence of wool and thickness of fleece, presence of horns, temperature and behaviour of animals during transport.

- Always keep in mind, the space above the highest point of the sheep should be at least 15 cm on vehicles with forced ventilation and at least 30 cm on vehicles without forced ventilation.

<table>
<thead>
<tr>
<th>Minimum space allowance</th>
<th>Short journey</th>
<th>Long journey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shorn ewes</td>
<td>0.44 m² for 67 kg</td>
<td>0.44 m² for 40 kg</td>
</tr>
<tr>
<td>Fleeced ewes</td>
<td>0.56 m² for 65 kg</td>
<td>0.53 m² for 40 kg</td>
</tr>
<tr>
<td>Shorn lambs</td>
<td>0.3 m² for 32.5 kg</td>
<td>-</td>
</tr>
<tr>
<td>Fleeced lambs</td>
<td>0.4 m² for 40.5 kg</td>
<td>-</td>
</tr>
</tbody>
</table>

- Provide more space to all animals if they need to be rested, watered and fed on the vehicle. In this case, you will enable them to access the feed and water.
- Give 25% more space to unshorn sheep and lambs of ≥ 26 kg, than shorn sheep and lambs.
- Provide more space during transport at higher temperatures or higher humidity or if journey is likely to be more stressful.
- Provide more space, if the vehicle may be stationary for a longer period – unless the vehicle has forced ventilation.
- Even better! Newly shorn sheep should only be transported if they have a staple growth of at least 7.0mm (e.g. re-growth, shearing with suitable comb) and if they have not been shorn less than 24 hours before the start of the journey.

Bedding in the vehicle

Cold weather: increase bedding / insulation and remove wet bedding after each trip (to prevent freezing onto the vehicle).

Hot weather: use wet sand, wet shavings, sawdust or rice husks (instead of straw bedding).
Regulating the vehicle environment and climate control

1. **Minimise** the impact of **weather conditions** on the animals
2. Make sure the **temperature and humidity levels** within the vehicle are correct for the type, weight and age of the sheep
3. **Control** the **temperature** inside (min. 5°C, max. 30°C). Make sure the ventilation fans are working
4. **Monitoring system** should consider min/max temperature, but also the duration of out-of-range temperatures
5. For **long journeys**, check that the **ventilation and temperature monitoring system work properly**. These should be housed in the cabin to facilitate drivers to control them. Also, equip your vehicle with mechanical ventilation systems to regulate humidity and temperature. Sensors must be behind cabin in first floor for warm values and in the third floor at the end of the truck for cold values.

### Cold weather

**Avoid cold stress and wind chill**, particularly for recently shorn sheep and lambs. This includes:
- Enclose vents alongside the vehicle or stop the vehicle. Always maintain sufficient ventilation
- Provide food (before loading)
- Avoid loading wet sheep
- Provide additional heating

### Hot weather

**Minimise** the risk of **heat stress**. This includes:
- Load and transport sheep during the cooler parts of the day. Postpone transport until weather conditions are more favourable
- Provide more floor space
- Place the vehicle in a shady area with enough air flow or use forced ventilation (additional fans)
- Minimise duration of stops, when possible