Does Providing Bedding Change the Latency and Duration of Cattle Lying Behaviour During Long-Distance Transport Rest Stops?

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BACKGROUND

- Recently changed Canadian transport regulations require:
  - Maximum transport duration for weaned cattle: 36 h
  - Unload, feed, water, and rest for at least 8 h
  - Average transport duration of cattle loads moving from western to eastern Canada is 29 h before unloading for feed, water, and rest2,3
  - Mean distance loads travel:
    - To the rest station: 1,566 km (973 mi)2
    - To their final destination: 3,069 km (1,907 mi)2
  - Cattle are commonly rested for ~11 h2
  - Bedding is not currently provided but could potentially improve the quality of rest

RESEARCH OBJECTIVE

To assess whether straw bedding at rest stations affects lying behaviour of cattle during long-distance transport.

METHODS

- 75 animals (6/load, opportunistically selected) were rested in pens that were either bedded (n=38, straw, 14 cm deep) or non-bedded (n=37).
- Lying activity of each animal was recorded every 10 min for 8 h
- Independent variables: treatment, approximate animal weight/load, and space allowance in the trailer
- Linear and mixed linear regression models were fitted to assess lying latency and duration, respectively

RESULTS

Bedding significantly modified the effect of approximate animal weight and space allowance in the trailer on lying duration and latency, respectively

- Latency to lie:
  - Among potential combinations of space allowance and bedding, two significant differences were noted.
  - With low space allowance, bedded cattle lay down sooner (Table 1)
  - Among bedded animals, animals lay down sooner with low compared to moderate space allowance (Table 1)

- Lying duration:
  - Regardless of bedding, lying duration increased with approximate animal weight, but the effect was more pronounced for non-bedded animals (Fig. 1)

Table 1. Significant contrasts examining the interaction between space allowance (SA) in the trailer and bedding on latency to lie down

<table>
<thead>
<tr>
<th>Space allowance in the trailer*</th>
<th>Bedding</th>
<th>Latency to lie down (min1/2)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Bedded vs Non-bedded</td>
<td>-0.34</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Low vs Moderate</td>
<td>Bedded</td>
<td>-0.30</td>
<td>0.003</td>
</tr>
</tbody>
</table>

*Low' SA = 3.17-3.65 m²/300 kg animal, 'moderate' SA = 3.69-4.01 m²/300 kg animal

RESULTS (continued)

Fig 1. The impact of approximate animal weight (kg) and bedding treatment on the predicted lying duration (min) at two rest stations

IMPLICATIONS

Bedding influences the latency and duration of cattle lying behaviour at rest stations based on cattle weight and space allowance in the trailer

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REFERENCES