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Shrink and mortality of beef cattle during long distance transportation

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Abstract

The aims of this study were to determine the effects of long distance transport on shrink and mortality rate in cattle, and to understand the relationships between environmental temperature, bodyweight, shrink and dressing percentage. This survey was conducted on 121 transfers of bulls (Bos taurus) from commercial finishing units in Bugyi, Hungary to a public slaughterhouse in Ankara, Turkey between July and December 2010. A total of 3,874 bulls were transported and the journeys took approximately 30 h, including a 2-h rest period with water and feed available. In order to investigate the effect of thermal stress, the deviation of the average monthly ambient temperature from average six-monthly temperature was determined (d-value). Weight loss during transport and dressing percentage were determined monthly. The effect of month on shrink during transport was significant and average transport shrink was 5.57% during the six months. In general, the highest shrink rate was observed in the summer (August: 8.39%) and winter months (December: 7.27%), both of which are outside the thermoneutral zone for beef cattle. The lowest shrink rate was 0.464% during transportations. Mortality rate was high but the effect of month on mortality rate was not significant. There was a moderate positive correlation between transport shrink and d-value. In conclusion, transportations within thermal comfort zone range and good quality animal handling are recommended in order to prevent the adverse effects of long distance transportation, such as shrink and mortality.

Keywords: animal welfare, cattle, dressing percentage, road transport, thermal stress, weight loss