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Stocking density requirements for lairage are outdated

As the average size of cattle increases, so must lying space, according to a new article in *Applied Animal Science*

Finished steer and heifer weights have increased greatly since 2000, but recommendations for adequate space for cattle to lie down overnight in the holding pen (lairage) have not been updated. Thus, at the request of the North American Meat Institute (NAMI), researchers at Colorado State University conducted an observational study to determine new industry guidelines for stocking density in the lairage for the larger *Bos taurus* steers and heifers that are currently being processed.

Researchers used video cameras mounted above the lairage areas to collect 10 minutes of video and 20 still images each night of a five-day period as well as visual observation to determine pen crowding. Through this method, the investigators determined the NAMI recommendation of 1.86 m² per animal, published in 2013, is not sufficient for heavier weight classes of cattle to lie down simultaneously.

“Since the year 2002, finished steer and heifer carcass weights have steadily increased; thus, it was important to reassess stocking rates for lairage,” lead author Helen C. Kline of Colorado State University said. “We found that a smaller animal, around 544 kg, should be given 1.86 m² of space, but a large animal, around 725 kg, needs 2.23 m² to comfortably lie down.”

Using their observations, the researchers developed lairage stocking density recommendations for five different weight classes of cattle. All recommendations except for the smallest cattle were higher than the previous NAMI-recommended stocking density. These updated numbers should help ensure the welfare of cattle in lairage as well as compliance with the US Humane Slaughter Act for slaughterhouses.

“Our work provides industry the necessary information to calculate the number of animals that can be held in a pen overnight, while also accounting for the increased average live weight of the cattle and the space needed for them to be able to lie down simultaneously,” Kline added.

The full report on stocking densities in pens for finished steers and heifers in commercial slaughter facilities from the Colorado State University researchers will be published in the February issue of *Applied Animal Science*.

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NOTES FOR EDITORS

“Short Communication: Field Observation: Pen stocking capacities for overnight lairage of finished steers and heifers at a commercial slaughter facility,” by Helen C. Kline, Lily N. Edwards-Callaway, and Temple Grandin (DOI: <https://doi.org/10.15232/aas.2018-01799>), *Applied Animal Science*, Volume 35, Issue 1 (February 2019), published by FASS Inc. and Elsevier Inc.

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