Hi Everyone,

It finally feels like summer with the school year ending and with the warmer weather we've been having recently. This month's Update from the Field focuses on livestock handling systems.

If you have any questions, comments, or would like the full article, please email me at kelsey-strandberg@uiowa.edu.

Best,
Kelsey

Livestock-Handling Injuries in Agriculture: An Analysis of Colorado Workers' Compensation Data

Douphrate, D. I., Rosecrance, J. C., Stallones, L., Reynolds, S. J., & Gilkey, D. P. (2009). Livestock‐handling injuries in agriculture: An analysis of Colorado workers' compensation data. American journal of industrial medicine, 52(5), 391-407.

Previous studies have reported that livestock-handling injuries are among the most severe of agricultural injuries. This study identifies the costs, characteristics, and contributing factors associated with livestock-handling injuries among Colorado dairy farmers, cattle/livestock raisers, and cattle dealers. A 10-year (1997–2006) history of Colorado's workers' compensation claims data was used for analysis. Descriptive analyses of livestock-handling injury claims were performed. Claim cost analysis was also conducted. The agent–host–environment epidemiological model was used to analyze injury event descriptions. A total of 1,114 livestock-handling claims were analyzed. Claims associated with milking parlor tasks represented nearly 50% of injuries among dairy workers. Claims associated with riding horseback, sorting/penning cattle, and livestock-handling equipment represented high proportions of livestock-handling injuries among cattle/livestock raisers and cattle dealers. Claims associated with livestock-handling represented the highest percentage of high-cost and high-severity injuries in all three sectors. Livestock-handling injuries are a significant problem, more costly, and result in more time off work than other causes of agricultural injuries. There is a strong and compelling need to develop cost-effective interventions to reduce the number of livestock-handling injuries in agriculture.

Livestock Behavior and Psychology as Related to Handling and Welfare

Grandin, T. (2019). Livestock behavior and psychology as related to handling and welfare. In Stud Managers' Handbook (pp. 390-401). CRC Press.

Reducing handling stresses can help improve livestock productivity. For example, research indicates that agitation and excitement during handling for artificial insemination can lower conception rates. Cattle and sheep are creatures of habit and they become stressed when they

experience a novel or painful situation. Novelty can be a strong stressor if the animal perceives it as being threatening. Cattle and sheep are less stressed and shrink less when they are handled in familiar corrals. Livestock will shrink less the second time they are transported because the truck is less novel the second time. High-pitched sounds such as cracking whips are stressful to cattle, which are more sensitive to high-pitched noises than are humans. Cattle will often become excited and rear up when a handler leans over them, because he has deeply penetrated their flight zone. The animals respond by leaping and rearing in an attempt to increase the distance between themselves and the handler.

Barriers to the Adoption of Safe Beef Cattle Handling Practices, Equipment, and Facilities in Iowa

Scott-Harp, D. (2017). Barriers to the adoption of safe beef cattle handling practices, equipment, and facilities in Iowa (Master thesis, The University of Iowa).

Agriculture is one of the most hazardous industries in the United States, with a fatality rate that consistently surpasses other industries. Livestock handling is among the top leading causes of on-farm injuries, with cattle being responsible for the most injuries and fatalities on farms of any animal. Cattle-related nonfatal injuries have been shown to be some of the most costly and result in more time off work than other injuries. While much research has been conducted to design safer equipment and to understand the behavior of cattle, injuries are still occurring on beef farms in Iowa. The purpose of this project was to identify the types of handling equipment that Iowa beef farmers use and whether this had any impact on the number of injuries occurring. Farmers' beliefs regarding beef handling safety were assessed and they also provided information on what prevented them from making changes to their operation. It was found that a majority of farmers utilize a few key types of handling equipment, but having equipment had no influence on the risk of injury. Increased herd size did however seem to increase the rate of injury. Farmers indicated that the cost of equipment, adequate function of their current handling facility, and their lack of time as being the main reasons they have not implemented changes on their operations.