



Assessing Cow-Calf Welfare. Part 2: Risk Factors for Beef Cow Health and Behavior and Stockperson Handling

G. E. Simon*, B. R. Hoar† and C. B. Tucker*

* Department of Animal Science, University of California, Davis 95616

† College of Agriculture and Natural Resources, University of Wyoming, Laramie 82071

Abstract

Epidemiological studies can be used to identify risk factors for livestock welfare concerns but have not been conducted in the cow-calf sector for this purpose. The objectives of this study were to investigate the relationships of 1) herd-level management, facilities, and producer perspectives with cattle health and behavior and stockperson handling and 2) stockperson handling on cattle behavior at the individual cow level. Cow ($n = 3,065$) health and behavior and stockperson handling during a routine procedure (e.g., pregnancy checks) were observed on 30 California ranches. Management and producer perspectives were evaluated using an interview, and handling facility features were recorded at the chute. After predictors were screened for univariable associations, multivariable models were built for cattle health (i.e., thin body condition, lameness, abrasions, hairless patches, swelling, blind eyes, and dirtiness) and behavior (i.e., balking, vocalizing, stumbling and falling in the chute and while exiting the restraint, and running out of the restraint) and stockperson handling (i.e., electric prod use, moving aid use, tail twisting, and mis-catching cattle). When producers empathized more toward an animal's pain experience, there was a lower risk of swelling (odds ratio [OR] = 0.7) but a higher risk of lameness (OR = 1.3), which may indicate a lack of awareness of the latter. Training stockpersons using the Beef Quality Assurance program had a protective effect on cow cleanliness and mis-catching in the restraint (OR = 0.2 and OR = 0.5, respectively). Hydraulic chutes increased the risk of vocalizations (OR = 2.7), possibly because these systems can apply greater pressure to the sides of the animal than manual restraints. When a moving aid was used to move an individual cow, it increased the risk of her balking, but when hands, in particular, were used, the risk of balking decreased across the herd (OR = 34.1 and OR = 0.3, respectively). Likewise, individual cows were at a greater risk of balking, vocalizing, stumbling and falling in the chute, and stumbling and running at exit when they were touched with an electric prod (OR = 11.0, OR = 3.3, OR = 1.9, OR = 2.3, OR = 1.8, and OR = 1.7, respectively). Although the implications of using moving aids are unclear, reducing the use of electric prods could improve cattle handling. In conclusion, cattle handling was influenced by a number of facility and stockperson factors: personnel training, facility design, and electric prod use are key areas for future improvements.

[Journal of Animal Science. Vol. 94 No. 8, p. 3488-3500](#)

The study reported here in this Research Brief was not funded by the beef checkoff, but is made available to expand the usefulness of this checkoff-funded website for those interested in beef sustainability.