March 2016 Alive & Well Updates: Dairy Farm Hazards

Profiling the safety environment on Saskatchewan farms. Hagel, L; King, N; Dosman, JA; et al. FEB 2016. SAFETY SCIENCE Volume: 82: 103-110.

Objectives: Our objectives were four fold: (1) to provide a contemporary update on the prevalence of hazards on farms; (2) to document the safety practices of farm owner-operators; (3) to measure investments in farm safety and (4) to assess their relationship with injury within a current regulatory environment.

Methods: The study sample included 1218 farms that provided reports via a mailed questionnaire as part of a larger prospective cohort study. Participating farms were operated as individual family farms (56%), family corporations (26%), or formal partnerships (17%). Leading commodities produced included grain (88%) and beef or dairy cattle (42%). The median acreage was 1480 acres, with 28% operating more than 2500 acres. Analyses were descriptive and etiological and focused on the prevalence of hazards, investments in safety, safety practices and work habits, and how they related with farm injury.

Results: Physical conditions on farms and associated farm operator attitudes and beliefs were often inconsistent with safe work practices. Investments in farm safety and also engagement in safe farm work practices were inversely related ($p < 0.05$) to the presence of hazards. Results: After adjustment for confounding, these investments and practices were related to decreased risks for farm injury, but not serious farm injury.

Conclusions: Reliance on safety standards that are mainly voluntary continues to put some farm people at risk for injury. Yet those that do comply with obvious and known safety measures are likely to have fewer exposures to physical hazards and unsafe work practices.

The associations between occupational health and safety management system programming level and prior injury and illness rates in the US dairy industry.

Autenrieth, DA; Brazile, WJ; Sandfort, DR; et al. APR 2016. SAFETY SCIENCE Volume: 84: 108-116.

U.S. dairy workers suffer occupational injuries and illnesses at rates higher than the national average. Occupational health and safety management systems (OHSMS) have been proposed as a way to reduce injuries and illnesses for businesses of all types and sizes. The Occupational Safety and Health Administration (OSHA) On-Site Consultation Service provides assistance establishing an OHSMS to U.S. businesses. As part of this service, the consultants determine the level of OHSMS programming using the Safety and Health Program Assessment Worksheet (Revised OSHA Form 33). A total of 167 dairy industry records were obtained from OSHA. Forty-five of those records had both injury rate and OHSMS data. Using these records, a Spearman Rank-Order correlation was used to determine the strength and significance of the associations between prior injury rates and OSHA measured OHSMS programming level for dairy operations. Additional analyses were conducted to examine potential relationships between workforce size, injury rates, and OHSMS programming levels. There was a negative correlation between OHSMS programming level and injury rates, both for the overall OHSMS and by OHSMS component. Management Leadership was the OHSMS component most strongly associated with lower injury and illness rates. OHSMS interventions, as part of a comprehensive risk management approach for the U.S. dairy industry, may be warranted to help reduce the unacceptable number of injury and illnesses in the U.S. dairy industry. Further research is needed to determine if similar relationships between OHSMS programming and injury rates occur in other industries.

Human-animal interactions and safety during dairy cattle handling-Comparing moving cows to milking and hoof trimming. Lindahl, C; Pinzke, S; Herlin, A; Keeling, LJ. MAR 2016. JOURNAL OF DAIRY SCIENCE 99(3): 2131-2141.

Cattle handling is a dangerous activity on dairy farms, and cows are a major cause of injuries to livestock handlers. Even if dairy cows are generally tranquil and docile, when situations occur that they perceive or remember as aversive, they may become agitated and hazardous to handle. This study aimed to compare

human-animal interactions, cow behavior, and handler safety when moving cows to daily milking and moving cows to more rarely occurring and possibly aversive hoof trimming. These processes were observed on 12 Swedish commercial dairy farms. The study included behavioral observations of handler and cows and cow heart rate recordings, as well as recording frequencies of situations and incidents related to an increased injury risk to the handler. At milking, cows were quite easily moved using few interactions. As expected, the cows showed no behavioral signs of stress, fear, or resistance and their heart rate only rose slightly from the baseline (i.e., the average heart rate during an undisturbed period before handling). Moving cows to hoof trimming involved more forceful and gentle interactions compared with moving cows to milking. Furthermore, the cows showed much higher frequencies of behaviors indicative of aversion and fear (e.g., freezing, balking, and resistance), as well as a higher increase in heart rate. The risk of injury to which handlers were exposed also increased when moving cows to hoof trimming rather than to routine milking. Some interactions (such as forceful tactile interactions with an object and pulling a neck strap or halter) appeared to be related to potentially dangerous incidents where the handler was being kicked, head-butted, or run over by a cow. In conclusion, moving cows to hoof trimming resulted in higher frequencies of behaviors indicating fear, more forceful interactions, and increased injury risks to the handler than moving cows to milking. Improving potentially stressful handling procedures (e.g., by better animal handling practices and preparation of cows to cope with such procedures) can increase handler safety, animal welfare, ease of handling, and efficiency.