

Dairy worker safety and health: A new column from David Douphrate

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EDITOR'S NOTE: This article is the first in a series of online columns from University of Texas, School of Public Health assistant professor David Douphrate. Douphrate and his dairy industry colleagues will address ways that dairy managers and owners can comply with health and safety regulations.

Agricultural production is among the most dangerous occupations and accounts for a large percentage of worker fatalities and injuries. Researchers have identified dairy farming as having the second-highest risk for injuries among all U.S. agricultural sectors.

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Over the past three decades, the dairy industry has changed to more efficiently produce dairy products to meet higher demands. Herd sizes continue to increase, forcing farms to employ more workers.

Having larger numbers of employed workers presents new challenges for owners and managers in ensuring safe working environments and complying with state or federal occupational health and safety (OHS) regulatory standards.

Many owners and managers are now responsible for managing human resources and safety programs, yet most have not had formal training in human resource management or occupational safety. Owners and managers are challenged with complying with a large number of health and safety standards while simultaneously training an increasingly non-English speaking workforce on health and safety topics.

This short communication is the first of several *Progressive Dairyman* articles addressing worker health and safety on U.S. dairy farms.

The purpose of these articles is to present relevant and useful information to owners and managers related to not only OHS regulatory standards, but also practices and interventions directed toward maintaining a safe working environment for dairy workers and families. These articles will provide vital resources and information that owners and managers can utilize related to worker health and safety hazards and issues on dairy farms.

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Current situation

In 2009, the highest occupational fatality rate in the U.S. was in the agriculture, forestry and fishing sector, with 26 deaths per 100,000 full-time workers, about eight times the national average for all industries combined. The non-fatal injury rate (one-year cumulative incidence) for agriculture was 5.1 per 100 workers in 2009.

More specifically, the cattle industry had a modestly higher injury rate of 5.3, with beef and dairy industries experiencing rates of 6.5 and 5.4 per 100 full-time workers respectively. From 2003 through 2009, a total of 110 people were killed while working on U.S. dairy farms.

[Click here](#) and [here](#) to access these and similar statistics from the Bureau of Labor Statistics.

One of the more common causes of death and serious injury on U.S. dairy farms is heavy equipment use, specifically tractors. Other causes of fatalities include silage bunker collapse, manure pit entrapment, tractor power take-off (PTO) entanglements and injuries from large animals including milking cows and bulls.

Recent studies demonstrate the two main causes of worker injuries (fatal and non-fatal) are incidents involving machinery and animals. Machine-related incidents include tractor rollovers, being run over by tractors and entanglement in rotating shafts.

Animal-related injuries include kicks, bites and being pinned between animals and fixed objects. Researchers have identified dairy farming as having the second-highest risk for injuries among all U.S. agriculture groups.

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The majority of injuries originate from interactions with dairy cattle during milking activities. Other causes of injuries include chemical hazards, confined spaces (e.g., manure lagoons), use of power tools and improper use or lack of personal protective equipment.

Research in this field over the past 10 years completed two analyses of workers' compensation data among U.S. dairy workers. Results indicated dairy workers had an injury claim rate of 8.6 claims per 200,000 work hours (equivalent to 8.6 claims per 100 full-time workers per year), higher than the national injury rate (6.2 per 200,000 hours) reported by the Bureau of Labor Statistics (BLS) for 2003. The largest percentage of claims involved the upper extremity (33.5 percent) and were caused by the cow (28.9 percent) during livestock-handling activities.

Regulatory oversight

With the Occupational Safety and Health Act of 1970 (OSH Act), U.S. Congress created the Occupational Safety and Health Administration (OSHA) to ensure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance. OSHA is part of the U.S. Department of Labor.

The administrator for OSHA is the assistant secretary of labor for Occupational Safety and Health. OSHA's administrator answers to the secretary of labor, who is a member of the U.S. Cabinet.

The OSH Act covers employers and their employees either directly through federal OSHA or through an OSHA-approved state program. State programs must meet or exceed federal OSHA standards for workplace safety and health. Currently, there are 25 OSHA-approved state programs (plus Puerto Rico and Virgin Islands).

According to the OSH Act, any dairy farm which employs 11 or more employees at any time during the previous 12-month period or has an active temporary labor camp during that period is subject to OSHA regulatory oversight. A dairy operation is exempt from all OSHA enforcement if it employs 10 or fewer employees currently and at all times during the last 12 months, and has not had an active temporary labor camp during the preceding 12 months.

Family members of farm employers are not counted when determining the number of employees for OSHA oversight. A part-time employee is counted as one employee.

Under OSHA's current appropriations law, OSHA is not allowed to spend any funds appropriated to enforce any standard, rule, regulation or order under the OSH Act which is applicable to any person who is engaged in a farming operation which employs 10 or fewer employees and does not maintain a temporary labor camp.

Although OSHA is prohibited from inspecting small farming operations, these operations are not exempt from OSHA regulations and the standards are relevant. States with OSHA-approved state plans may enforce on small farms and provide consultation or training, provided that 100 percent state funds are used and the state has an accounting system in place to assure that no federal or matching state funds are expended on these activities.

Future articles

Upcoming articles will address regulatory standards and best practices related to worker safety and health issues such as injury record-keeping and reporting, chemical hazards, manure pits, safety training, safe machinery operation, livestock-handling, emergency preparedness and human resource management. **PD**

Those with specific questions about complying with health and safety regulations can leave a comment below or [click here](#) to email Douphrate directly. References used in this article have been omitted but are available upon request.

Dr. David Douphrate is an assistant professor at the University of Texas, School of Public Health. Douphrate conducts research and outreach related to worker health and safety through the High Plains and Intermountain Center for Agricultural Health and Safety (HICAHS), headquartered at Colorado State University. Douphrate and his HICAHS colleagues conduct research and outreach with dairy producers to improve safe working environments while simultaneously improving dairy productivity and efficiency. Robert Hagevoort is an extension dairy specialist with New Mexico State University.