

## **Health and Safety Challenges among Dairy Workers in the United States**

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### **Abstract**

Dairy farming is among the most dangerous agricultural settings. The purpose of this study was to describe the work experiences of dairy workers in the United States (U.S.) to design appropriate safety training programs. The long-term goal of the work is to eliminate occupational injuries among a vulnerable (primarily Latino) workforce in industrialized dairy operations.

Focus groups were conducted before or after work shifts. Workers were asked to describe their work experience at the dairy, quality of relationships with their coworkers and manager/s, as well as safety policies and procedures, and training experiences. Focus groups were conducted in Spanish and required approximately one-hour. Discussions were recorded, transcribed and translated into English, and analyzed for themes. Forty-four dairy workers participated.

The workers described their jobs as highly stressful, characterized by strenuous manual labor and time pressures. Participants reported many equipment issues and environmental hazards on the dairy, including exposure to unsafe conditions and numerous harmful substances. Relationships with co-workers were generally described as positive and team-oriented, while relationships with managers were more varied and negative. Participants reported limited knowledge regarding safety policies and procedures and made numerous suggestions for how to improve safety training.

The participants identified individual, organizational and environmental points of intervention that can be used to inform management and training programs in order to promote and maintain a higher level of safety within the U.S. dairy industry.

**Keywords:** Occupational Health, Dairy Workers, United States

### **Introduction**

The dairy industry in the U.S. produces a substantial amount of the world's milk supply (International Dairy Federation, 2010). In recent decades, the industry has been shifting toward a high efficiency model with growing herd sizes driven by advances in milking technologies (Doughrte et al., 2013). With the trend towards large-scale industrialized operations, U.S. dairies are increasingly relying on immigrant, primarily Latino, workers (Schenker & Gunderson, 2013).

The dairy industry has been recognized as one of the most dangerous agricultural settings, with high rates of occupational injuries and illnesses (Hagevoort et al., 2013). The promotion of health and safety are high priorities for dairy industry leaders, yet there has been very little research to date on the determining factors of these outcomes among immigrant Latino dairy workers (Hagevoort et al., 2013). In order to advise the development of culturally sensitive training programs, the present study conducted focus group interviews to better understand dairy worker perceptions of the barriers to and facilitators of enhanced safety.

## **Materials and methods**

Dairy owners from three U.S. dairies were recruited and agreed to allow their workers to participate. Owners announced the opportunity to workers and encouraged them to participate by posting recruitment flyers in both English and Spanish. Eligibility was restricted to Latino/a dairy workers.

Focus groups (approximately one-hour in duration) were conducted on-site at each dairy before or after work shifts. Participants were asked questions about their previous and current work experiences. They were also asked to describe the quality and nature of relationships with their manager/s and co-workers. The interview closed with a discussion of safety policies, procedures and training. All focus groups were conducted in Spanish by a bilingual member of the research team. An interview guide was used to lead the discussion, while also maintaining flexibility to allow the workers to bring up other topics perceived as important. Confidentiality and anonymity were assured, and no demographic information was collected. However, some basic demographic and background information, such as gender, length of time working in the dairy industry, and country of origin, was gathered anonymously during the interviews. All participants provided written consent before initiation of the focus groups. Workers were incentivized to participate with a small gift certificate to a local store.

All discussions were audio-recorded, translated into English and transcribed verbatim with the help of a bilingual research assistant. Transcripts were analyzed by the first and third authors to identify themes. All discrepancies were discussed until consensus was achieved on the final list of themes.

## **Results**

A total of 44 dairy workers (9% female) participated in the study. Participants were primarily from Mexico, but there were also representatives from Puerto Rico as well as South and Central America. The prevailing themes identified were grouped into the following categories: the nature of the work, equipment issues, environmental hazards, relations with coworkers and managers, and safety policies, procedures and training.

The workers' jobs involved manual labor, time pressure and stress. Participants reported numerous equipment issues (e.g., broken machinery, lack of personal protective equipment) as well as various environmental hazards (e.g., exposure to electricity, chemicals, manure, dust, polluted water) that influenced safety and health outcomes. Participants described relations with co-workers as positive and team-oriented, although some noted tensions due to poor irresponsible behavior and poor performance. Participants described the quality of relationships with their managers as anywhere from positive to negative to non-existent. Participants reported limited knowledge regarding safety policies and procedures, perceived safety training to be insufficient, and made numerous suggestions for enhancements.

## **Conclusions**

This study provides novel and in-depth insights into the attitudes, beliefs and experiences of immigrant Latino workers on U.S. dairy farms, with a particular focus on safety. The participants identified numerous points of intervention—across individual, organizational and environmental levels—for better organizing, managing and training immigrant dairy workers in order to creating a more safe working environment.

Overall, the workers expressed a desire for more respect and acknowledgement as well as better integration across the different areas of the dairy. High workload and scheduling

issues were acknowledged as especially stress-inducing aspects of the job, suggesting considerable effort should be invested into reducing these stressors. Participants highlighted the importance of more quickly addressing environmental hazards and equipment issues to avoid putting animal and human health at risk. There was a shared belief among participants that dairy management tended to prioritize cow health and safety over that of workers. This belief has been found in other studies involving immigrant Latino dairy workers in the U.S. (e.g., Arcury et al., 2010). It is essential that dairy management work to promote a strong safety culture. Many participants requested additional personal protective equipment, particularly in the milking parlor and other high-risk areas of the dairy. It is important that the introduction of new personal protective equipment be accompanied by instructions and training regarding proper use.

The increasing reliance on an immigrant, primarily Latino, workforce within the U.S. dairy industry, calls for the development of culturally-relevant and evidence-based safety programming. It is important such programs be guided by workers' attitudes, beliefs and behaviors in order to ensure maximum effectiveness (Blancero, 2014). These findings serve as an initial step toward better understanding how to improve safety outcomes among immigrant dairy workers.

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### **References**

- Arcury, T. A., Estrada, J. M., Quandt, S. A. 2010. Overcoming language and literacy barriers in safety and health training of agricultural workers. *Journal of Agromedicine*, 15(3), 236-248.
- Blancero, D., Olivas-Lujan, M., Stone, D. L. 2014. Introduction to Hispanic and Latin American work issues. *Journal of Managerial Psychology*, 29(6).
- Douphrate, D. I., Hagevoort, G. R., Nonnenmann, M. W., Lunner Kolstrup, C., Reynolds, S. J., Jakob, M., Kinsel, M. 2013. The dairy industry: A brief description of production practices, trends, and farm characteristics around the world. *Journal of Agromedicine*, 18(3), 187-197.
- Hagevoort, G. R., Douphrate, D. I., Reynolds, S. J. 2013. A review of health and safety leadership and managerial practices on modern dairy farms. *Journal of Agromedicine*, 18(3), 265-273.
- International Dairy Federation. 2010. *Bulletin of the International Dairy Federation: The World Dairy Situation 2010* (Vol. 446/2010). Brussels, Belgium.
- Schenker, M., Gunderson, P. 2013. Occupational health in the dairy industry needs to focus on immigrant workers, the new normal. *Journal of Agromedicine*, 18, 184-186.



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