

# Engaging Dairy Labor through Effective Training

Robert Hagevoort, PhD  
Topliff Dairy Chair, Extension Dairy Specialist & Associate Professor  
NMSU Ag Science Center at Clovis  
New Mexico State University

I. Noa Román-Muñiz, DVM, MS  
Associate Professor & Extension Dairy Specialist  
Department of Animal Sciences  
Colorado State University

## **Dairy worker training: putting out fires or supporting the dairy's goals?**

Historically, dairy worker training has been offered as a way to fix problems, mostly associated with animal health, welfare and production, but also related to human safety and health. The “putting out a fire” approach to training, communicated in many instances as an emergency, and seldom followed by appropriate feedback, sends the wrong message to workers and is not a sustainable practice. Instead, training interventions should be planned, timely, and congruent with the dairy’s production goals. Additionally, training programs should be supported by middle and upper management in terms of regular and effective communication, up to date and accessible standard operating procedures, and continuous opportunities for employee engagement and growth. Training of labor on a dairy farm is not a one way street.

Research work funded through the High Plains Intermountain Center for Agricultural Health and Safety (HICAHS) has been critical to better understand the perspectives of Latinx dairy workers and their training needs, as well as best practices for providing culturally congruent training interventions, in addition to understand better how to evaluate training effectiveness in these challenging environments.

## **The Role of Management**

Focus groups<sup>(1)</sup> and interviews<sup>(2)</sup> with dairy workers reveal that supervisors and middle managers are critical to effective training and communication, the dairy culture and the workers’ perceptions of health and wellbeing. While many workers describe relationships with managers as negative, they clearly identify traits of managers that foster positive working relationships. These traits include being fair, knowledgeable, caring, accessible, and a good communicator. In fact, perceiving that a supervisor is concerned about their health and safety and having good relationship with management increases job satisfaction among dairy workers. Additionally, employees that report a better quality of communication with management are more likely to report lesser job stress and better life-work balance.

Dairy workers cite lack of follow up by supervisors, inconsistent training and onboarding practices, poorly defined job duties and lack of communication between work teams on the dairy as areas in need of improvement. Although language and cultural differences are recognized as potential barriers to effective training and communication, workers express greater concern about the use of

interpreters who might have a conflict of interest and engage in unfair treatment of workers. Knowledge gaps in the areas of animal behavior, basic animal handling, and disease prevention strategies consistently surfaced through interactions with dairy workers.

### **A Culturally Congruent Training Program**

A variety of promising strategies to develop and facilitate culturally congruent training programs for foreign-born Latinx dairy workers were identified through a review of the literature<sup>(3)</sup>. These strategies which include but are not limited to empowering employees by fostering leadership skills, embracing cultural diversity by focusing on the why and how, and maximizing engagement by consulting workers regarding training logistics were employed in the creation of a training program for the prevention of zoonotic diseases (diseases that can be transmitted between humans and other animals). The training program delivered in a bilingual video format was made by dairy workers for dairy workers and focused on the why dairy workers should protect themselves against zoonotic diseases and how easy it is to protect themselves. Dairy workers who watched the video training demonstrated significant improvements in knowledge, attitude and behavior regarding best preventive practices<sup>(4)</sup> and appreciated the participation of dairy workers in the video creation.

### **What's next?**

Based on these findings, efforts should focus on:

- Developing supervisors and middle management. By developing leadership skills of this important group of people, the dairy's culture can become one that attracts, engages and retains skilled workers.
- Creating and offering culturally congruent training programs. Training should employ strategies with the potential to effect change, including the engagement of the workers in the planning and facilitation of the training interventions. Additionally, training should be planned and support the goals and needs of the dairy operation and should cover basic knowledge related to animal behavior, handling, health and safety.

### **Middle Management and Leadership Development**

Dairies, with increasing herd sizes and a larger number of hired employees require a different management structure. A layer of middle management or supervisors is now required to oversee the work being done in the different departments (e.g., parlor, maternity, fresh cow, hospital barn & hospital pen, day old calves, breeding heifers, close-up, dry cow, feeding, farming operations, maintenance-mechanic, etc.). Dairy owners in turn are becoming more dependent on front-line supervisors to effectively manage a larger workforce. As a result, owners are increasingly seeking supervisors who demonstrate effective management and leadership skills. However, good workers are often promoted to leadership positions because of demonstrated skill proficiency in their current role (managing cows), not because of leadership or management abilities needed in a supervisory position (managing people). This 'Peter Principle' approach often leads to ineffective supervisory performance, particularly as it relates to leadership in terms of job preparation and training, job evaluation and coaching, and resolving employee issues.

The goal of one of our latest projects is to reduce injuries and fatalities among a vulnerable workforce on dairy farms by operationalizing an integrating a safety leadership and management model in dairy farm enterprises. The central hypothesis of the proposed project is that a targeted safety leadership and management training will yield improved safety leadership and management practices among dairy supervisors which in turn will improve the safety climate and behavior among workers. The rationale that underlies the project is that improved supervisory safety leadership and management will translate into a reduction of injuries and fatalities among workers.

This 5-year collaborative project is currently in year 2 of 5 and is conducted on participating dairies in Texas, New Mexico, Colorado and Kansas. The project is funded through the National Institute for Occupational Safety and Health (NIOSH) through the High Plains and Intermountain Center for Agricultural Health and Safety (HICAHS), headquartered at Colorado State University.

### **Effectiveness of Training**

The U.S. dairy industry trend towards large-herd milking operations, especially in the Western U.S., and it necessitates an increased number of workers on each farm. The U.S. dairy workforce is comprised of an increasing percentage of immigrant workers with limited English proficiency which presents a training challenge. The research objective was to develop, deliver and evaluate safety awareness training to U.S. dairy farm workers using mobile tablets as a personal learning environment<sup>(5)</sup>. A non-random sample of 1,436 dairy workers received safety awareness training on a mobile device platform. Kirkpatrick Levels 1, 2 and 3 training effectiveness evaluations were performed.

Results indicate that approximately 58.7% of training participants received a middle school education, and 22.7% were from Guatemala who reported K'iche' as their native language. A statistically significant large effect size suggests safety knowledge was gained among training participants when comparing post-test scores to pre-test scores (Level-2). Training participants rated their training experience favorably (Level-1), and applied knowledge gained in their daily work activities three months after training (Level-3). In conclusion, the findings suggest the utilization of mobile learning techniques is an effective means to deliver safety awareness training content to dairy workers. Dairy worker safety training should be culturally, linguistically, and literacy appropriate and comprehensive in nature to include all applicable dairy safety hazards. Our observations support the use of mobile devices as just one component of a more comprehensive health and safety management program on farms.

### **Literature cited:**

1. Menger LM, Pezzutti F, Tellechea T, Stallones L, Rosecrance J and Roman-Muniz IN. 2016. Perceptions of Health and Safety among Immigrant Latino/ a Dairy Workers in the U.S. *Frontiers Public Health* 4:106. <http://doi.org/10.3389/fpubh.2016.00106>

2. Ogle-Menger, L., Pezzutti, F., Stallones, L., Rosecrance, J., Roman-Muniz, N. 2019. Occupational Safety and Health of Foreign-Born, Latinx Dairy Workers in Colorado. *Journal of Occupational and Environmental Health*, 61(1): 61-68.  
<http://dx.doi.org/10.1097/JOM.0000000000001472>
3. Menger LM, Rosecrance J, Stallones L and Roman-Muniz IN. 2016. A Guide to the Design of Occupational Safety and Health Training for Immigrant, Latino/a Dairy Workers. *Frontiers Public Health* 4:282. <https://doi.org/10.3389/fpubh.2016.00282>
4. Rink, K., Amaya-Soto, F. M., Menger-Ogle, L., Stallones, L., Pinedo, P. J., Roman-Muniz, I. N. 2018. Assessing the effectiveness of a training program for Latino(a) dairy workers on Colorado dairies. *Journal of Animal Science*, 96(suppl\_3), 199-199.  
<http://dx.doi.org/10.1093/jas/sky404.432>
5. Anabel Rodriguez, G. Robert Hagevoort, Dianey Leal, Lisa Pompeii & David I. Douphrate (2018) Using mobile technology to increase safety awareness among dairy workers in the United States, *Journal of Agromedicine*, 23:4, 315-326.  
<https://doi.org/10.1080/1059924X.2018.1502704>