H5N1 Dairy Workers Rapid Community Assessment – Colorado Survey Results
National Center for Farmworker Health
April 2025

Introduction

This project builds on the National Center for Farmworker Health's (NCFH) Rapid Community Assessments (RCAs) methods to assess attitudes, beliefs, and practices around key infectious disease threats, such as H5N1 avian influenza. Beginning in March 2024, the U.S. dairy industry began experiencing H5N1, highly pathogenic avian influenza, in dairy cattle. As of May 12, 2025, 1,065 herds had been detected in dairy cattle in 17 different states.[1] Evidence shows that the continued spread of the virus among cattle is likely due to local and interstate movement of cattle, products, equipment and people that have been in contact with infected cows.[2] While the risk to the general public is low, as of May 12, 2025 a total of 70 human cases have been identified in 13 states primarily among dairy and poultry workers, with three of these cases in people who were not exposed to livestock or poultry at the time of infection.[3]

This project utilizes a convergent mixed methods design to assess H5N1 knowledge, attitude and behaviors among dairy workers. Data collection is taking place from March – August 2025. The quantitative methods are in-person intercept surveys with dairy workers in sixteen counties in eight states. The qualitative methods include in-depth interviews with dairy workers, employers, dairy sector experts and staff from worker-serving organizations. This summary report is preliminary rapid analysis of the quantitative methods only for two counties in Colorado.

Objectives

1. To determine dairy workers' attitudes, knowledge, and practices related to H5N1.
2. To describe dairy workers' access to and use of recommended PPE and relevant trainings about H5N1.
3. To determine dairy workers' potential H5N1 cases and barriers to testing for H5N1
4. To determine dairy workers' access to healthcare services and barriers.
5. To determine dairy workers' vaccination rates of key adult vaccines including updated COVID-19 vaccines and seasonal influenza vaccines.
6. To identify dairy workers' key demographics such as age, sex, country of origin, and other characteristics.

Methods

Participant Eligibility Criteria

- 18 years of age or older at time of intercept survey
- Worked in dairy industry (NAICS code 112120) at least 30 days since January 1, 2024
- Works or resides in Morgan or Weld counties, Colorado at time of survey
- Speaks English, Spanish, or other languages spoken by dairy workers in selected county based on stakeholder feedback

Recruitment and Data Collection

Colorado was the second of eight states in this rapid assessment. To select states and counties, NCFH staff used US Department of Agriculture data on the number of dairy cattle in each county and state in the U.S.[4] We then selected two states that had at least 200,000 dairy cattle in four different regions: Northeast region - New York and Vermont; Midwest region – Minnesota and Wisconsin; West region – California and Washington; Rocky Mountain region – Colorado and Idaho. Two counties per state were randomly selected through a weighted random sample based on the number of dairy cattle in each county. The sampling universe in each state consisted only of counties with at least 30,000 dairy cattle. Morgan and Weld Counties were the two randomly selected counties for Colorado.

This assessment included a random selection of housing, work, and community sites in each of the selected counties. A sampling frame list of work and housing site locations was created through searching the AtoZ Database of registered dairy employers. Due to farm consolidation and closures, the list was shared with key stakeholders from the area to edit the list as needed for closures or new large operations that were not pulled from AtoZ Database, as well as any additional possible housing sites. A list of community sites was developed based on key local stakeholder input, past farmworker vaccination clinic locations, and locations of grocery stores, check cashing stores, and laundromats near areas with a high concentration of dairy workers.

Dairy workers were recruited at selected sites. Data collectors informed the potential participant about the purpose of the intercept survey and verbally shared the informed consent found at the beginning of the survey instrument. Participants received a $30 gift card incentive to a local grocery store in the area. Data collection occurred between April 25-29, 2025.

Analysis

Rapid descriptive analysis of the intercept surveys was conducted using R version 4.2.2

Only select key data are presented below. For questions regarding these results or other data questions please contact Nicandro Mandujano Acevedo at nmandujano@ncfh.org.

Key Findings

A total of 84 surveys were conducted with dairy workers in Morgan and Weld Counties, Colorado on a total of 34 different sites.

Demographics

Table 1: Key Demographics of Dairy Workers in Morgan and Weld Counties, CO

Characteristic	**n = 84**[1]
Sex	
Male	67 (80%)
Female	16 (19%)
Age Group	
18-25	8 (10%)
26-54	65 (77%)
55+	7 (8%)
Race	
Hispanic or Latino	68 (81%)
American Indian/Alaskan Native/Indigenous	8 (10%)
White	4 (5%)
Don't know	3 (4%)
Other	1 (1%)
Country of Birth	
Mexico	51 (61%)
Guatemala	15 (18%)
Nicaragua	11 (13%)
Honduras	4 (5%)
Peru	2 (2%)
United States	1 (1%)
Marital Status	
Married	42 (50%)
Single	25 (30%)
Civil union/Domestic partnership	12 (14%)
Divorced	4 (5%)
Widowed	1 (1%)

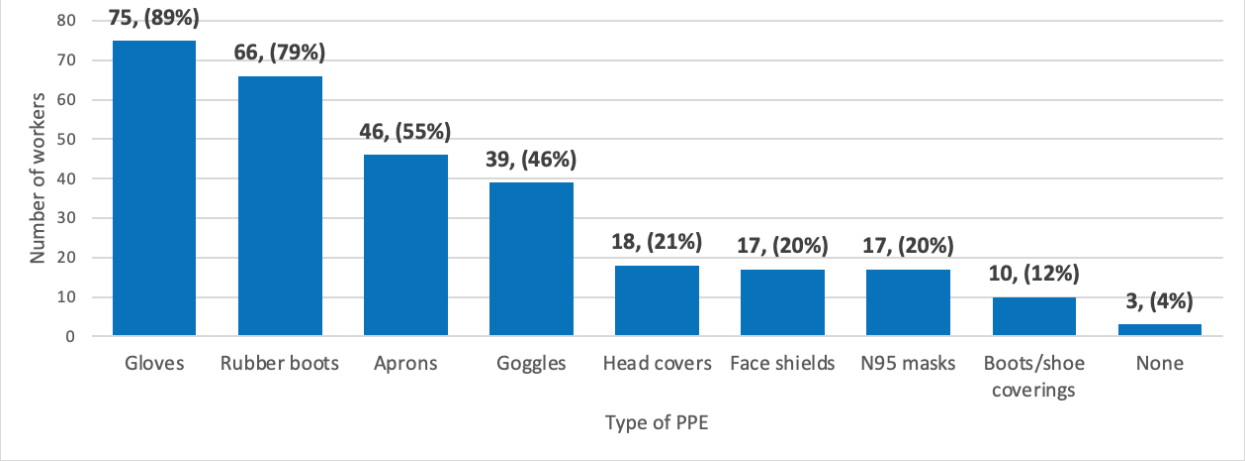
[1]*If "No answer" or "Don't know" were less than 5%, they were omitted on the table.*

H5N1 (Bird Flu) Related Findings

Table 2: H5N1 Knowledge of Dairy Workers in Morgan and Weld Counties, CO (n=84)

Characteristic	**n = 84**
Has heard of H5N1 (Bird Flu)	
Yes	58 (69%)
No	26 (31%)

Figure 1: Regular Use of NIOSH-Recommended Personal Protective Equipment to Prevent H5N1 Exposure Among Dairy Workers in Morgan and Weld Counties, CO (n=84)



Dairy workers were asked to describe the risk of contracting the H5N1 virus from an infected cow during various tasks. We have included workers' perception of risk from milking cows, as this is likely the highest risk task for workers inside a dairy if dairy cows are infected.

Table 3: H5N1 Risk Perception from Milking Cows Among Dairy Workers in Morgan and Weld Counties, CO (n=84)

Characteristics	**n = 84**
Perception of H5N1 risk from milking cows	
High	41 (49%)
Medium	24 (29%)
Low	11 (13%)
No risk	4 (5%)
No answer	4 (5%)

Vaccines

Figure 2: H5N1 Vaccine Acceptability Among Dairy Workers in Morgan and Weld Counties, CO (n=84)

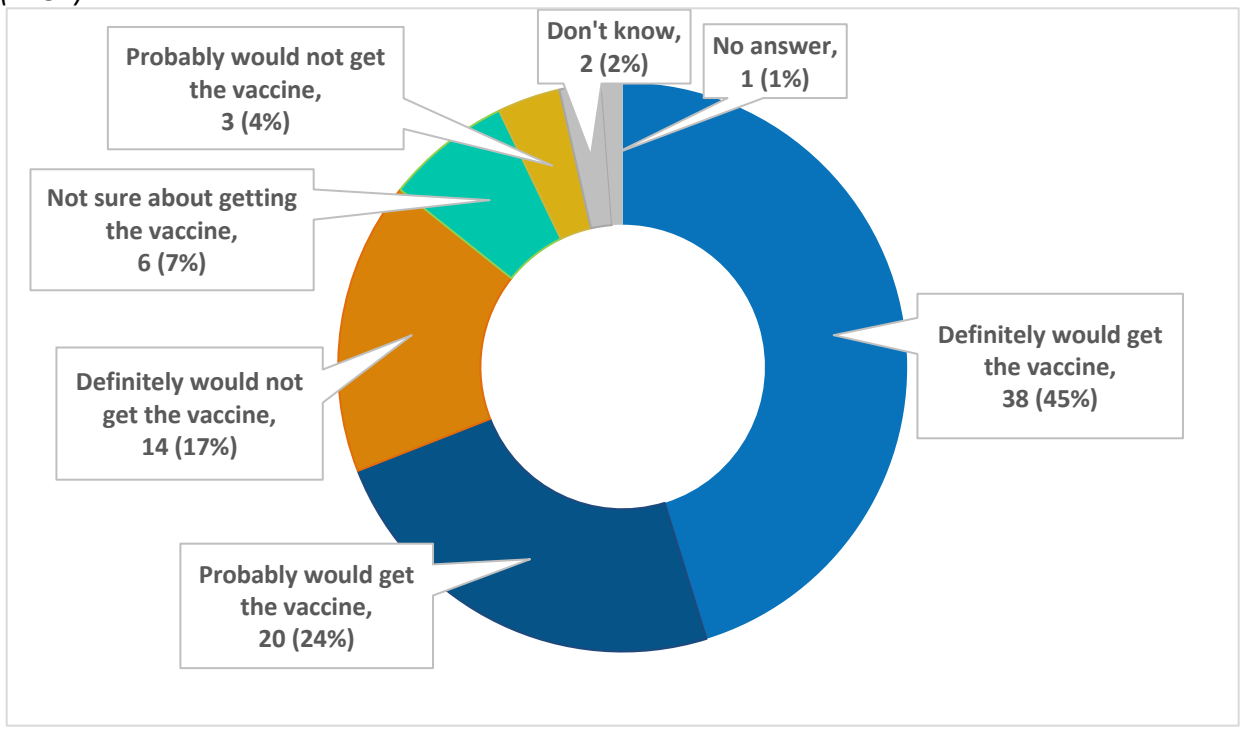
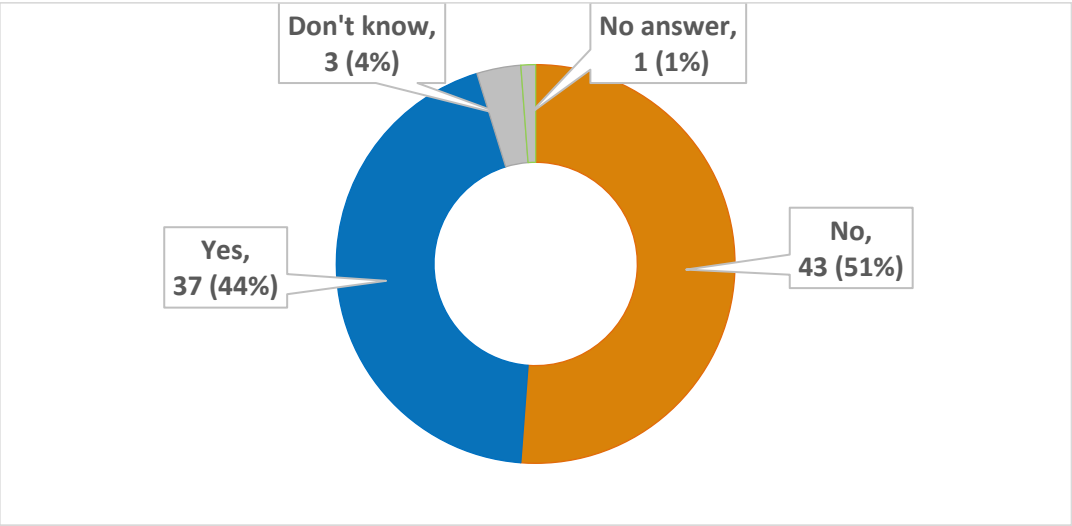
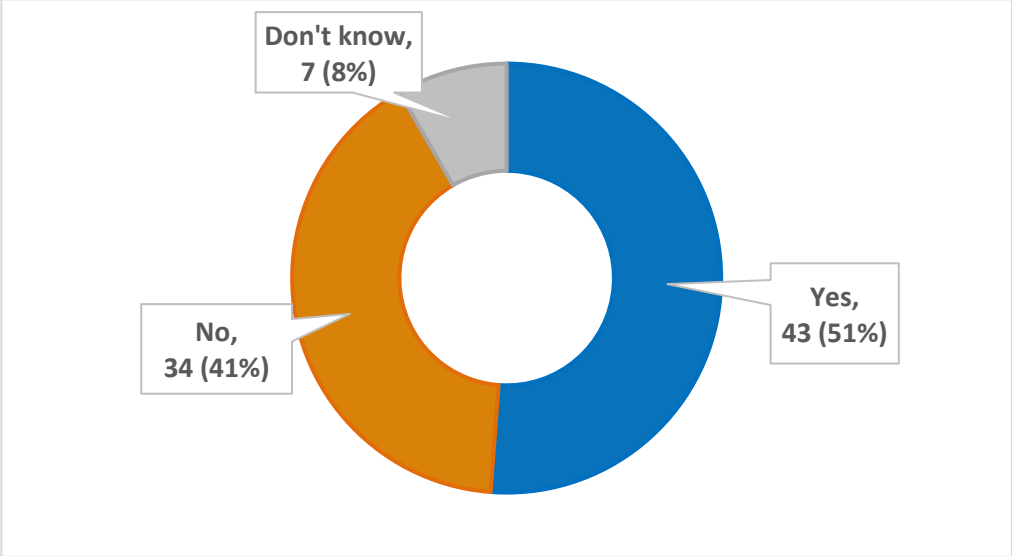


Figure 3: Seasonal Influenza Vaccine Uptake in the Last 12 Months Among Dairy Workers in Morgan and Weld Counties, CO (n=84)



Paid Sick Leave

Figure 4: Dairy Workers Who Have Paid Sick Leave in Morgan and Weld Counties, CO (n=84)



Disclaimer

This publication was supported by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling $4,000,000 with 100 percent funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, or the U.S. Government.

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