



H5N1 Dairy Workers Rapid Community Assessment – Minnesota Survey

Results

National Center for Farmworker Health

July 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 August 1, 2025, 1,077 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 August 1, 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 12 counties in six 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 Minnesota.

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 Morrison or Stearns counties, MN 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

Minnesota was the third of six 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; West region – California and Washington; Rocky Mountain region – Colorado. 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, or in case the state did not have more than one county with this criterion, approximately 30,000. Morrison and Stearns Counties were the two randomly selected counties for Minnesota.

This assessment included a random selection of housing, and community sites in each of the selected counties. A sampling frame list of housing site locations was created through knowledge from key stakeholders from the area. 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 as well as prior to data collection dates by local hired data collectors, aiming for a 50/50 break down of random surveys and pre-coordinated outreach. 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 July 15-17, 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 110 surveys were conducted with dairy workers in Morrison and Stearns Counties, Minnesota on a total of 26 different sites.

Demographics

Table 1: Key Demographics of Dairy Workers in Morrison and Stearns Counties, MN (n=110)

Characteristic	n = 110 ¹
Sex	
Male	83 (75%)
Female	27 (25%)
Age Group	
18-25	26 (24%)
26-54	79 (72%)
55+	1 (1%)
No answer	4 (4%)
Race	
Hispanic or Latino	83 (75%)
American Indian/Alaskan Native/Indigenous	19 (17%)
No answer	5 (5%)
Black OR African American	1 (1%)
Other	1 (1%)
White	1 (1%)
Country of Birth	
Mexico	98 (89%)
Nicaragua	7 (6%)
Guatemala	3 (3%)
United States	2 (2%)
Marital Status	
Single	49 (45%)
Married	31 (28%)
Civil union/Domestic partnership	23 (21%)
Divorced	2 (2%)
No answer	3 (3%)

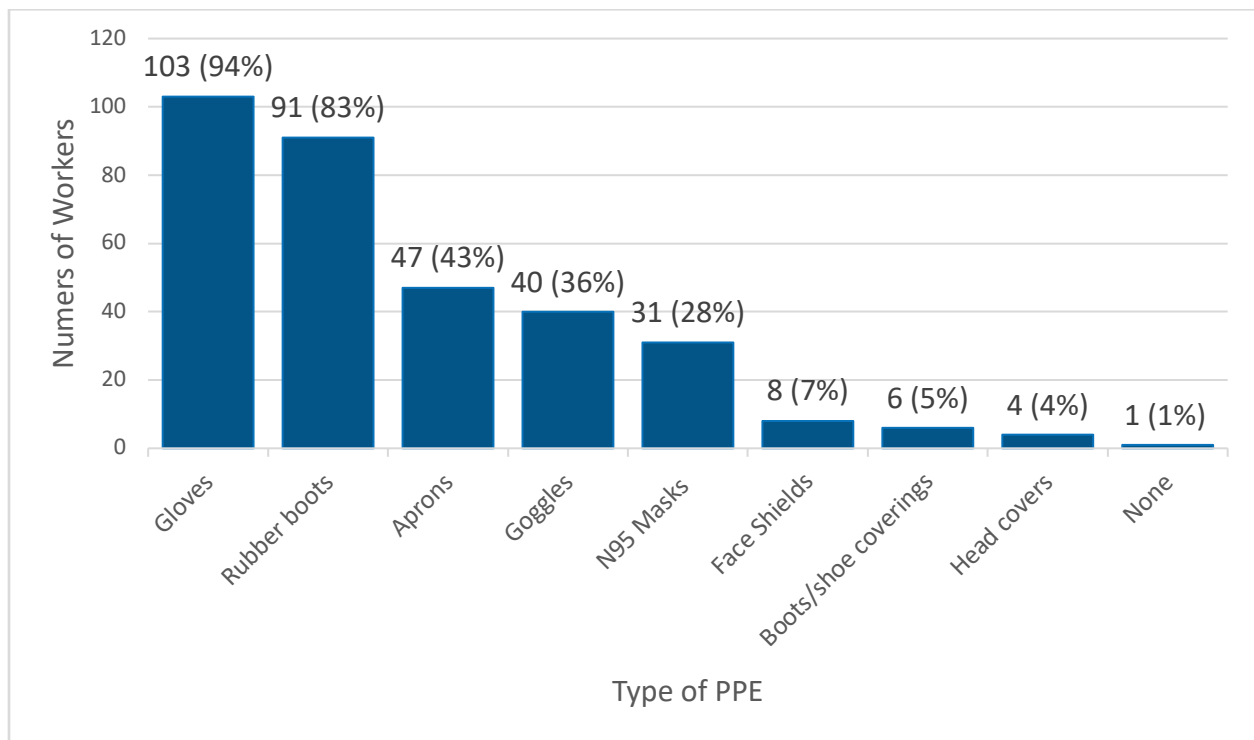
¹If "No answer" or "Don't know" were less than 5%, they were omitted on the table.

H5N1 (Bird Flu) Related Findings

Table 2: H5N1 Knowledge of Dairy Workers in Morrison and Stearns Counties, MN (n=110)

Characteristic	n = 110
Has heard of H5N1 (Bird Flu)	
Yes	64 (58%)
No	43 (39%)

Figure 1: Regular Use of NIOSH-Recommended Personal Protective Equipment to Prevent H5N1 Exposure Among Dairy Workers in Morrison and Stearns Counties, MN (n=110)



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 Morrison and Stearns Counties, MN (n=110)

Characteristics	n = 110
Perception of H5N1 risk from milking cows	
High	53 (48%)
Medium	31 (28%)
Low	11 (10%)
No risk	5 (5%)
No answer	10 (9%)

Vaccines

Figure 2: H5N1 Vaccine Acceptability Among Dairy Workers in Morrison and Stearns Counties, MN (n=110)

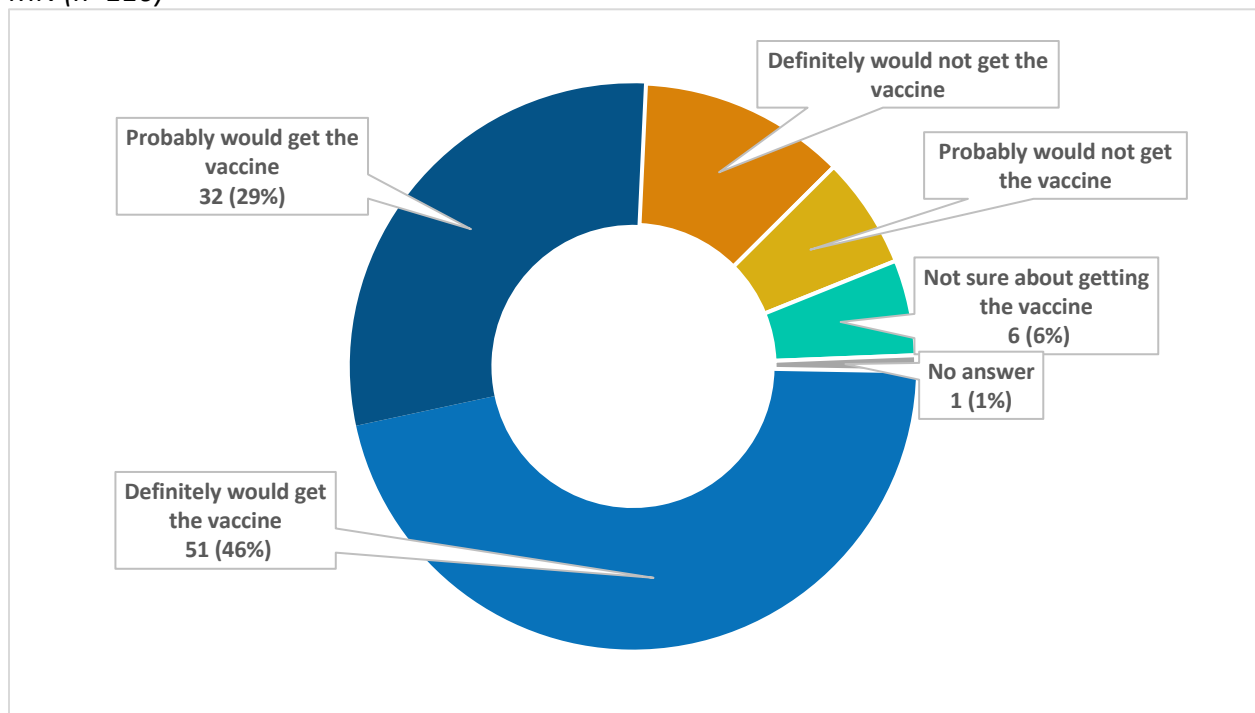
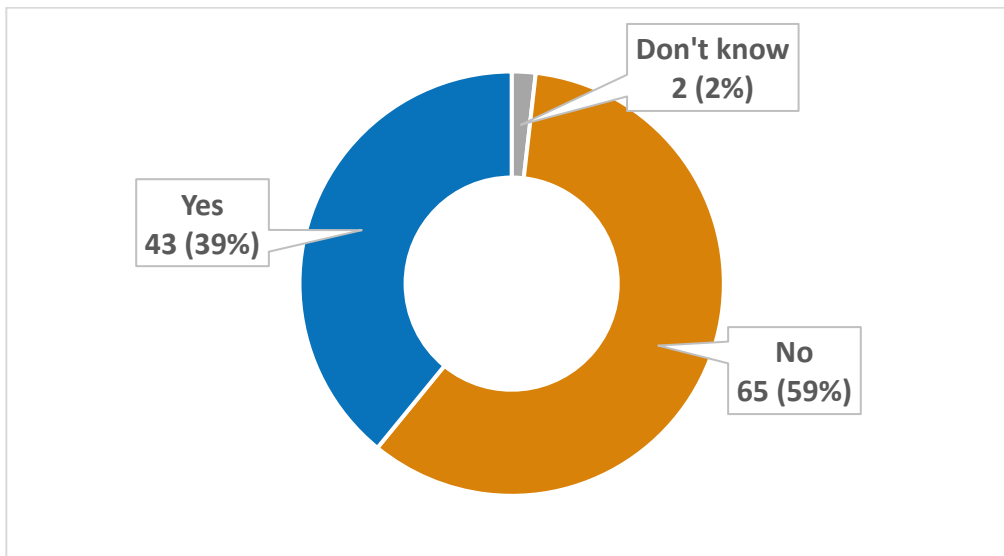
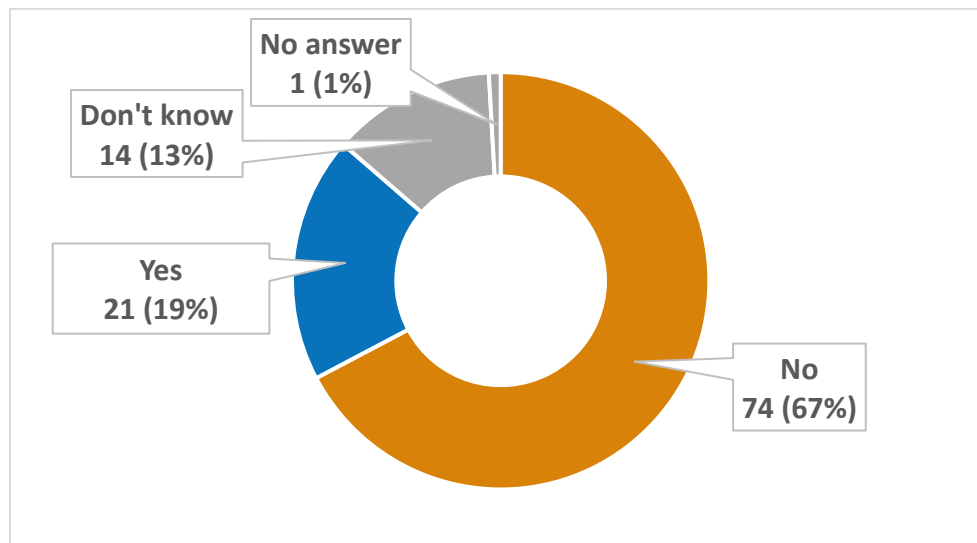


Figure 3: Seasonal Influenza Vaccine Uptake in the Last 12 Months Among Dairy Workers in Morrison and Stearns Counties, MN (n=110)



Paid Sick Leave

Figure 4: Dairy Workers Who Have Paid Sick Leave in Morrison and Stearns Counties, MN (n=110)





Disclaimer

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