



Spread and Prevention of H5N1 Virus in Dairy Cattle

Preventing disease is easier when you know how a virus like H5N1 spreads. A lot has been learned since the first diagnosis in U.S. dairy cattle on March 25, 2024. We continue to learn how and where the virus survives, spreads, and infects additional mammals and poultry. Below are the known ways H5N1 spreads to dairy cattle with recommended prevention steps. Recommendations will be refined as more is learned about H5N1 through additional herd testing, producer interviews, and research. Federal and State-specific guidance should always be followed.

ANIMALS

Infected lactating cattle can shed high amounts of H5N1 virus in their milk before showing clinical signs (infected, undetected) and after. Low amounts of virus have also been found in urine, nasal secretions and saliva, and none in feces. Per USDA, the herd level incubation period in dairy cattle appears variable, from 12 to 21 days. Youngstock do not show clinical signs and it is rare to find virus on nasal swabs.

Prevention:

- Make risk-based decisions on sending and receiving lactating cattle.
- Conduct pre-movement testing to find infected, undetected cows.
- Isolate newly introduced lactating cows or those returning from an off-site location for at least 30 days, milk separately or last.
- Stop movement of infected cows.
- Follow state and federal movement requirements.

ANIMAL PRODUCTS

Unpasteurized (raw) milk from infected cows

contains millions of H5N1 virus particles.

Mammals, including people who drink raw milk or eat fresh raw milk cheeses made from sick or exposed cows, may be exposed to H5N1. Testing of virus survival in raw milk cheeses is in progress.

Human prevention:

- Do not drink or eat raw milk dairy products.
- Encourage people to wear eye, nose and mouth protection (e.g., face shield or goggles, masks) when milking cows.
- Wash hands after handling cows or raw milk.

Animal prevention:

- Heat treat raw milk or avoid feeding to other mammals, including cats.

VEHICLES AND EQUIPMENT

Deliveries and removals of livestock, milk, carcasses and other vehicles/equipment that have been on other dairy or poultry farms may carry virus on their tires, undercarriage, wheel wells, inside livestock trailers, on chutes, treatment equipment and in truck-mounted milk transfer hoses.

Prevention:

- Move livestock and carcasses to the perimeter for pick-up.
- Restrict off-farm vehicles from shared drive-paths with on-farm traffic, in animal areas, areas where animals travel, and near feed.
- Clean and disinfect contact surfaces (tires, hoses, etc.) before entering shared drive-paths, animal areas, or feed areas.
- Wash then disinfect surfaces in the milk house after raw milk pickup if transfer hose was used on another farm.

PEOPLE

Workers, veterinarians, contract haulers, milk inspectors and testers, nutritionists, consultants, hoof trimmers, artificial insemination technicians, and others that have direct contact with lactating dairy cattle or poultry (live or dead) or raw milk could carry virus on their clothing, footwear or personal items (hats, gloves, etc.).

Prevention:

- Limit livestock contact to essential people.
- Arrive at the dairy having showered, wearing clean clothing, footwear and personal items since last contacting animals or poultry (live or dead), their areas, or raw milk.
- Wear dairy-dedicated clothing, footwear and personal items or put on clean protective gear like coveralls and disposable/disinfectable boots over street clothing and footwear.
- Leave soiled clothes or coveralls on the dairy to be laundered or place in a garbage bag/tote that can be closed and stored until they can be laundered/cleaned off-site.
- Leave soiled footwear on the dairy or clean then disinfect before leaving.
- Wash hands with soap and water frequently.

BIRDS

Waterfowl and other birds, including grackles, pigeons and poultry, can shed H5N1 in their oral, nasal and fecal secretions. Data shows that waterfowl initially introduced the H5N1 virus to dairy cattle in Texas through a single spillover event. There is no evidence that wild birds continue to introduce H5N1 to dairies in new states. Wild birds and poultry on infected dairies can get sick or die. Birds may also carry the virus

on their feet and feathers. Ongoing bird testing aims to better understand their role in the spread. There is evidence that H5N1 infected dairies can spread the virus to poultry.

Prevention:

- [Disrupt habitats](#) like shelter, food, and water sources that may attract birds. Methods must follow state and federal regulations. Complete elimination is difficult. Contact the U.S. Fish and Wildlife Service office, USDA Wildlife Services office, state agriculture or natural resources department for guidance on managing birds.

MORE INFORMATION ABOUT BIOSECURITY FOR H5N1 IN DAIRY CATTLE

- [Dairy Cattle: Biosecurity for H5N1 Virus](#)
- [Secure Milk Supply \(SMS\) Plan Enhanced Biosecurity for H5N1](#)
 - Details related to setting up isolation areas, designing and setting up a line of separation, cleaning and disinfecting vehicles, equipment, milk house, and biosecure entry procedures for personnel

ACKNOWLEDGEMENTS

This resource was created by NMPF and Preventalytics based on USDA, CDC and FDA recommendations, enhanced biosecurity resources in the SMS Plan, published and pre-print research, and USDA epidemiological reports. It was reviewed by the American Association of Bovine Practitioners Working Group consisting of veterinarians working with dairy clients with clinical cases, diagnosticians, academicians, industry representatives, preventive medicine specialists, epidemiologists and biosecurity subject matter experts, NMPF, National Cattlemen's Beef Association and the American Veterinary Medical Association.



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