

Highly Pathogenic Avian Influenza (HPAI) Factsheet for the Dairy Industry and Dairy Consumers

Take-Home Messages

- This is the first reported spread of Highly Pathogenic Avian Influenza (HPAI) in cows, we are still learning how the virus is transmitted and how this impacts the animal and public health.
- Dairy farms are segregating cows showing signs of illness, limiting potential viral loads in raw milk.
- If HPAI virus is present in raw milk it is expected to be inactivated by milk pasteurization as less heat intensive pasteurization practices used in other foods have been shown to effectively reduce HPAI viral loads.
- Viral remnants (e.g., genetic material) from inactivated HPAI virus can still be detected using PCR in pasteurized milk; however, this presence does not represent a public health risk because only live, infectious virus can cause an illness.

About HPAI Virus

- HPAI virus needs a living host to survive and proliferate; it cannot grow outside of the host, only die-off.
- HPAI virus belongs to a group of enveloped viruses that are very sensitive to environmental conditions and are rapidly inactivated outside of the host.
- HPAI is a virus that primarily infects birds. Human infections are rare and are primarily associated with prolonged direct contact with infected animals.
- Cow-to-cow transmission has been confirmed by the USDA and raw milk from infected cows likely has a role in transmission. Respiratory transmission is a less common but not unlikely route of cow-to-cow transmission.
- There are no documented human cases of HPAI being contracted from properly cooked or pasteurized foods.

HPAI Risk in Milk and Dairy Products is Extremely Low Because:

- Infected cows that develop symptoms are segregated from the rest of the herd and the milk collected from these cows is diverted and destroyed. The prevalence of pre- or asymptomatic infections in cows and viral shedding is still being studied.
- Studies on pasteurization of egg products and cooking of meat and poultry products have shown that heating regimes that are less strict than milk pasteurization are effective at inactivating HPAI virus. Data specific to milk pasteurization is still limited, and while we expect that pasteurization can substantially reduce the viral loads in raw milk, we still don't know the full level of reduction milk pasteurization is able to achieve.
- Raw milk represents a public health risk; however, the risk of bacterial pathogens in raw milk is much greater compared to risk of HPAI.
- Data specific to aging of raw milk cheese is very limited; based on environmental persistence studies it would be hard to predict if 60-day aging required for raw milk cheese would be sufficient to inactivate all HPAI virus during aging. Regardless of the HPAI risk, the risk of bacterial pathogens is higher in raw milk cheese compared to pasteurized milk cheese.
- Virus remnants (e.g., genetic material) from inactivated HPAI virus can still be detected in pasteurized milk using PCR; however, this presence does not represent a public health risk because only live, infectious virus can cause an illness. Additional tests need to be performed to determine if detected viral genetic material is from an infectious or inactivated virus.

What Should Dairy Producers Do?

- Dairy producers should implement [enhanced biosecurity practices](#) to limit any contact of dairy cows with live or dead birds that could potentially be infected with HPAI.
- Dairy producers should closely monitor the dairy cows for any potential clinical signs of infection that may include:
 - i. Decrease in milk production.
 - ii. Decrease in feed consumption.
 - iii. Mild respiratory signs.
 - iv. Abnormal feces.
 - v. Fever.
- Dairy producers should report any cows with potential infections and [test](#) them to confirm infection.
- Dairy producers are obligated to test any cows prior to interstate movement.
- Laboratories and state veterinarians are obligated to report any positive tests to [USDA APHIS](#).

Additional Resources

- Visit this page from [Pro-Dairy, Cornell University](#) and National Dairy FARM Program to find more information on [Farm and Biosecurity Practices](#).
- Visit this page from Animal Health Diagnostic Center, College of Veterinary Medicine, Cornell University for more [information on testing](#).
- Visit this page from FDA to find [updates on highly pathogenic avian influenza virus](#) in milk.
- Visit this page from USDA APHIS to find updates on [highly pathogenic avian influenza detections in livestock](#).

If you have questions or would like more information, contact Nancy Long (foodsafety@cornell.edu).