Version.2024.04.01
Please note: This situation is evolving rapidly. Check back frequently for updated versions.

Testing Recommendations for Influenza A in Cattle

Contents

BACKGROUND:

The Animal and Plant Health Inspection Service, Food and Drug Administration (FDA), Centers for Disease Control and Prevention (CDC), State Animal Health and Public Health Officials, and National Animal Health Laboratory Network (NAHLN) laboratories are continuing to investigate an illness among dairy cows that is causing decreased lactation, low appetite, and other symptoms. APHIS has confirmed highly pathogenic avian influenza (HPAI) H5N1 in bovine-origin samples associated with the illness.

This document provides APHIS' current recommendations regarding testing of affected or exposed cattle. This is a rapidly evolving situation and new information is being received, reviewed, and analyzed constantly to inform and adjust recommendations accordingly. APHIS will share new information with our valued partners and stakeholders as soon as it is available.

At this time, APHIS is not requiring testing. Testing may be done on a voluntary basis and is a tool producers may use to help manage this disease or reduce the risk of introducing the disease. APHIS may fund some testing as outlined below.

TESTING AFFECTED CATTLE (Cattle that meet the Case Profile)

New suspect cases:

Dairy farms and other cattle herds with an active event: cows must be exhibiting clinical signs; there may be dead/sick birds, cats, or other mammals. All would be eligible for reimbursement by APHIS through NAHLN or Unexplained Morbidity/Mortality Event (UME) funding; please see specifics as outlined below.

Working Case Profile:

- Sudden drop in feed intake with concurrent decreased rumination and rumen motility.
- Subsequent marked drop in herd level milk production. More severely affected cows may have thickened milk that almost appears like colostrum or may have essentially no milk.
- Changes in manure - most reporting indicates tacky to dry manure in affected cattle.

A FAD/ED number is required prior to testing to qualify for reimbursement. Although the HPAI (H5N1) virus itself is a foreign animal disease (FAD), we are considering this as an emerging disease in cattle. APHIS encourages states and industry to use the established FAD/Emerging Disease investigation process to investigate credible reports of HPAI (H5N1) virus in dairy cattle (and beef cattle or other domestic livestock species).

APHIS will fund the NAHLN laboratory influenza PCR testing for up to 20 mammals (no more than two samples per mammal) and unlimited birds per premises. If lactating, one sample must be milk/mammary tissue. Samples must go to a NALHN laboratory approved to test for avian influenza.

- Accredited veterinarians may submit samples from suspect premises for reimbursement providing they obtain authorization from their State Animal Health Official and/or APHIS Area Veterinarian In Charge (AVIC) and obtain a foreign animal disease investigation or emergency programs (FAD/ED) number.
- NAHLN laboratories will follow the current mammalian HPAI testing plan (screen by influenza A [e.g. matrix-target assay]
    - NAHLN Laboratories must have an approved (signed) Blanket Deviation in place to test mammalian samples for avian influenza PCR testing.
    - NAHLN Laboratories must have a task order in place with funding specific for testing cattle samples for this event.
- APHIS requests NAHLN laboratories conduct reimbursable H5 testing for any influenza A positive samples regardless of the species or sample type.
    - NAHLN reimbursement will cover:
        - Up to 20 animals per farm, 40 samples.

- Samples only from clinically affected cows, or other sick and dead mammals or birds on or near the premises.
- Include an FAD#.
- This testing can include the matrix, H5, and H5 2.3.4.4.b assays.

- All samples with a non-negative result by influenza A PCR (e.g., matrix-target, regardless of species) must be forwarded to the National Veterinary Services Laboratories (NVSL).

Retrospective cases:

Herds with no clinical signs, but had a previous event that meets the case profile (see above for definition) since November 1, 2023:

APHIS is working to gather as much information as possible to help improve the understanding of this event. As such retrospective testing can provide insight into the movement of this virus as well as performance of serological assays for potential future use.

Banked or retained milk/tissue. APHIS is willing to fund influenza testing on banked samples from cattle and other mammals on the premises that match the case profile.

- State Animal Health Official approval is required.
- NAHLN laboratories must contact the NAHLN coordinating office for pre-authorization, sample limits apply as with the prospective cases (20 mammals/40 samples, per herd).

Banked or retained serum:

To better characterize the extent of the event, APHIS will support hemagglutinin inhibition (HI) testing at the National Veterinary Services Laboratories (NVSL). To coordinate this testing, please notify the NAHLN coordinators of the availability of serum. They will compile a list of samples/herds and then will prioritize and provide instructions on where to send.

NVSL, in partnership with University of Wisconsin Veterinary Diagnostic Laboratory, is actively working to evaluate commercial ELISA tests.

UNAFFECTED CATTLE - Movement Testing for (Influenza A)
APHIS does not reimburse for movement testing.

At this time, we strongly recommend minimizing movement of cattle as much as possible, with special attention to evaluating risk and factoring that risk into movement decisions. Do not move sick or exposed animals.

Based on our current information, it appears the virus has an affinity to replicate in mammary tissue. We have yet to identify animals with confirmed virus replication in tissues other than mammary tissue and milk.

Calves: Testing is currently not recommended. Move only healthy animals and producers should segregate upon arrival for at least 21 days.

Dairy beef: Testing is currently not recommended. Move only healthy animals and producers should segregate upon arrival for at least 21 days.

Pregnant, springing heifers, and breeding bulls: Nasal swabs. A single sterile swab can be used to sample both nostrils. Ensure the mucosa in the nasal passage is brushed firmly with the swab. After both nasal passages have been sampled, the swab is placed in PrimeStore MTM, BHI, or Saline (least preferable). Vigorously swirl the swab in the media, express fluid by pressing the swab agist the side of the tube and remove the swab. Do not retain the swab in the media. PrimeStore MTM is the only media that can be submitted without ice packs; do not submit dry swabs. Nasal swabs cannot be pooled. Any heifers that calve within 30 days of the movement, test the milk.

Lactating cows: Milk/udder secretions. It is very important for each quarter to be sampled, as there have been reports of only one quarter having virus. Pool the milk from each quarter into one sample for submission to the laboratory. Submit between 3-10 ml of milk per animal. Concentrating the milk by centrifugation is not helpful. To ensure exposure did not occur at the time of departure, milk PCR may be repeated 14 days after movement prior to introducing the cattle into the main herd.

Laboratories may pool up to 5 milk samples together. Combine 200 µl from each animal in a 1.5 ml ultracentrifuge tube. We recommend this pooling occur at the laboratory and, at this time for movement purposes, we do not recommend bulk tank sampling.

Unexplained Morbidity/Mortality Event (UME)

Once Influenza A has been ruled out, UME funding for additional diagnostics can still be used to pursue other potential etiologies for clinical signs. Reach out to APHIS.UME@usda.gov for questions or to submit testing plans.

Results Messaging Guidance for Influenza in cattle April 2024

- Program OID:
    - AI 2.16.840.1.113883.3.5.8.4
- Referral/ FAD Number
    - Please report the required FAD#
- Submission Purpose
    - Submission Purpose Text: FAD Diagnostics
    - Submission Purpose Code: F
- Species
    - Use the appropriate SNOMED code. If not sure, please reach out to the NAHLN Program Office.
- Specimen Type
    - If milk use:
        - Specimen Type Text: Milk specimen (specimen)
        - SNOMED Code: 119321005
    - If you test other specimen types, please reach out to the NAHLN Program Office if you are not sure of the correct SNOMED code to use.