

STOCK QUOTES

Animal Health Newsletter

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Quarterly Newsletter from the Animal Health
Bureau of the Montana Department of Livestock
(MDOL)

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STATE VETERINARIAN NOTES

Tahnee Szymanski, DVM

Highly Pathogenic Avian Influenza (HPAI) continues to be the primary topic of conversation as we are moving into the warmer and drier months of the year. Poultry detections for the week of June 17, 2024, totaled 3 premises in Iowa and Minnesota, while there have been 16 dairy premises in 5 states for the same period. The use of genetic sequencing has substantially informed what we know about viral spread, including the movement of clinically healthy, non-lactating animals and lateral spread through fomites (see page three). Many of the recent detections in poultry are the B3.13 genotype associated with infections in dairy cattle. The goal is eliminating the virus from dairy cattle and United States Department of Agriculture (USDA) continues to put forward several incentives on top of the federal order requiring the testing of lactating animals in interstate commerce. This includes a recent (June 27) [announcement](#) by USDA regarding Emergency Assistance for dairy producers who incur milk losses due to HPAI.

While Montana has a relatively small dairy industry and we have not yet detected the virus in any of our dairy herds, there are still important take aways that I believe benefit our larger livestock industries.

The first is the need for a sustained commitment to practicing good biosecurity. Six months ago, our conversations frequently acknowledged that our cattle industry didn't have a recent disease event that really drove home the need for attention to biosecurity. HPAI is hopefully changing that perspective. See page three for part two in a series on the stepwise development of an operation specific Secure Beef Supply (SBS) plan. We hope you will help us communicate with industry the value of even rudimentary biosecurity plans.

Second, while hot and dry is good for reducing the risk and spread of HPAI, it also means that fair season is upon us. Fairs bring multiple species from multiple locations together, often in shared airspace. Fair and other animal exhibitions provide some unique biosecurity challenges and bring together some of the species we least want to move the HPAI virus between (dairy cattle, poultry, and swine). To support fairs, access guidance specific to HPAI and exhibition [here](#).

Finally, while the impacts of HPAI infection on dairy cattle are less severe than in poultry, remaining vigilant for clinical signs that may suggest the presence of HPAI or any emerging or high-consequence disease. Prompt reporting allows the Department of Livestock (DOL) to determine the cause more rapidly and to protect the health of both people and livestock.

Two important updates regarding DOL and our ability to serve the health of the livestock industry. Two offers have been made to highly qualified veterinarians to fill open positions at the Department. We hope to have new veterinary staff on Board by mid-August. We will provide formal introductions after their start dates. And lastly, hopefully you have seen recent [news](#) or have even been by the site of the new Montana Veterinary Diagnostic Laboratory (MVDL) in Bozeman. Construction is underway with visible progress. We hope to take occupancy of the building in the spring of 2026. α

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WHAT'S NEW

- HPAI H5N1 Clade 2.3.4.4b, Genotype B3.13, p. 2-3
- Animal Disease Traceability (ADT) Final Rule, p. 5

HPAI H5N1 CLADE 2.3.4.4b, GENOTYPE B3.13

Tahnee Szymanski, DVM

Highly Pathogenic Avian Influenza (HPAI) in livestock, and specifically dairy cattle, continues to be a prominent topic of conversation as new detections continue. As of June 21, 2024, HPAI H5N1 clade 2.3.4.4b, genotype B3.13 has been detected on 119 dairy premises in 12 states. Three human cases of infection with HPAI have been reported since the first detection in dairy cattle. New infections in domestic poultry have been attributed to lateral transmission of the virus from dairy cattle to poultry. And due to the high viral load associated with these infections, the safety of our commercial meat and milk supply has been critically evaluated.

The genetic sequencing of viral isolates has contributed substantially to what we know about the epidemiology of HPAI infections in dairy cattle. Genetic sequencing indicates a single spillover event from wild birds to dairy cattle in the Texas panhandle region early in 2024. Like historical conversations about brucellosis and tuberculosis (TB) isolates, we look at single-nucleotide polymorphisms or SNPs (pronounced snips). The virus isolated from dairy cattle at the onset of this event had acquired new SNPs that have been retained in subsequent detections and absent in wild birds surveilled around dairy detections. In other words, all subsequent infections in dairy cattle are a result of movement of this specific strain of the virus around the country, either through the movement of live animals or movement of the virus on fomites (people, vehicles, and other equipment, for example). Likewise, detections of the same strain of virus have been found in HPAI detections in domestic poultry, further evidence of lateral transmission of the virus.

While lactating dairy cattle and their ability to shed virus present substantial risk and are the focus of the United States Department of Agriculture's (USDA's) [Federal Order](#), several infected premises received only non-lactating animals or received no animals but had some [shared risk factors](#) based on epidemiological investigations.

Two important considerations in our response to HPAI detection in dairy cattle include:

- The ability of this viral strain to still cause severe disease in domestic poultry - Common to all disease response activities, we want to limit the amount of viral load present in the environment to minimize transmission risk.
- The zoonotic potential of Influenza A viruses - While the risk to public health from this viral strain is low, minimizing human exposure to the virus is still recommended.

The goal is the elimination of the virus from our dairy cattle population to prevent ongoing transmission, to reduce potential human exposure, and to reduce the risk that the virus will again change, potentially becoming more infectious to people. Viral elimination is hindered by viral genome detection in animals and in animal products from areas where positive herds are not known to exist, and in the reluctance of dairy producers to report symptomatic animals because of the impacts to their operation. In other words, until we know the scope or full scope of viral spread, we will be unable to control and eliminate the virus.

To accomplish this goal and to minimize the impact on the dairy industry, USDA has made [financial support](#) available to the dairy industry. Available financial support includes: the cost of both mandatory and voluntary testing of animals at National Animal Health Laboratory Network (NAHLN) laboratories, support for affected herds for up to 120 days for biosecurity planning, Personal Protective Equipment (PPE), testing or shipping expenses, heat treatment of milk for disposal, veterinary fees, and support for non-affected herds to develop and implement on-farm biosecurity.

While our dairy industry in Montana is small and does not move animals in the same channels as larger dairy regions, there are still several points for Montana dairy producers, both large and small, to consider.

Biosecurity - The route of introduction of disease onto some dairies remains unknown, USDA has identified several risk factors for producers to consider. These include new introductions of animals; frequent visitors, including visitors with known non-farm...

continued on page 3

HPAI H5N1 CLADE 2.3.4.4b, GENOTYPE B3.13, continued

Tahnee Szymanski, DVM

...livestock contact; shared conveyances for live animals, milk, feed, manure, or mortalities; common veterinary care; and shared personnel. The implementation of biosecurity control is a critical element to protecting the health of cattle.

Reporting of symptomatic cattle – United States Department of Agriculture (USDA) is committed to protecting the health of people who are working around dairy cattle that are suspected or confirmed with Highly Pathogenic Avian Influenza (HPAI) H5N1 virus by providing financial support for Personal Protective Equipment (PPE).

Participation in voluntary surveillance - The presence of HPAI in dairy cattle has come with an increased focus on the human health risk associated with this virus and increased concern over the safety of our food supply.

- United States Department of Agriculture Food and Inspection Service (USDA FSIS) has conducted H5N1 [beef safety studies](#) that show the United States meat supply is safe due to our rigorous meat inspection process. Additionally, should HPAI virus be present in meat, safe handling procedures including cooking to a safe internal temperature kills bacteria and viruses.
- The Food and Drug Administration (FDA) has likewise done work to verify the [safety of our commercial milk supply](#) because of the pasteurization process and the diversion or destruction of milk from sick cows. The unknown with milk is the consumption of raw milk from dairy cattle who are infected with HPAI. Because animals can shed the virus without exhibiting clinical signs and the risk this presents to people is not known, the FDA has recently issued a [letter](#) to all states regarding the unsafe sale and consumption of raw milk.

Voluntary participation in surveillance will help animal health officials better understand and respond to the presence of the H5N1 virus in dairy cattle. Dairy producers may elect to participate in a voluntary herd status program that will eliminate the need for pre-movement testing through weekly bulk tank sampling. Because food safety is not an issue with the presence of this virus in dairy cattle, we can hopefully work to limit spread and protect human health, while limiting the impacts to an already taxed dairy industry. α

MONTANA SECURE BEEF SUPPLY PLANNING PART 2: BIOSECURITY PLAN

Merry Michalski, DVM

Now that producers, along with their veterinarians, have completed Step 1 and have their Premises ID Number (PIN), the next step is creating a biosecurity plan. Implementing biosecurity plans will not only help prevent exposure of cattle to Foot and Mouth Disease (FMD) during an outbreak. The plan will also protect herds from more common production related pathogens.

Each premises should have its own unique biosecurity plan developed in partnership with a herd veterinarian:

First, assign a Biosecurity Manager. This individual is responsible for developing the biosecurity plan with the assistance of a veterinarian (if the Biosecurity Manager is not a veterinarian) and ensuring biosecurity training of, or communicating biosecurity measures with, all individuals who enter the operation. The Biosecurity Manager has the written authority to ensure compliance with biosecurity protocols and take corrective action as needed



Figure 1. Secure Beef Supply Source: DOL Staff

The Secure Beef Supply (SBS) website has several helpful documents and videos for both planning and training purposes at <https://www.securebeef.org/beef-producers/biosecurity/> and Department of Livestock (DOL) veterinarians are always available to help with navigating this process.

Second, define the premises. Clearly describe the animals (all species) and animal housing (buildings, pastures, and dry lots) associated with the operation. Additionally, other businesses operated from the same premises will need to be accounted for in the biosecurity plan (e.g., distribution or sales of feed, mineral, fertilizer, compost, seed, or equipment; livestock sales; hosting farm tours; etc.). Be sure to tune in to the next issue of this newsletter for the next part of this series: *Montana Secure Beef Supply Planning Part 3: Line of Separation.* α

BRUCELLOSIS SURVEILLANCE TESTING AND SUSPECT RESULTS

Bradley De Groot, DVM, PhD

Because of its automated, high throughput, rapid turnaround time, and its high specificity (>99%) and sensitivity (>99%), the Fluorescence Polarization Assay (FPA) is the primary screening test run in both Montana and Wyoming for brucellosis in livestock. Meaning the vast majority of the roughly 70,000 to 100,000 brucellosis tests run each year are done quickly, efficiently, and with few questions about interpretation. All animals with FPA results equal to or less than 10 milli-Polarization (mP) units are classified as negative, with no secondary testing performed. FPA results over 10 mP are checked against the Buffered Acidified Plate Antigen (BAPA) (testing in series), and the animal is classified as "Suspect" or "Positive" according to the United States Department of Agriculture Veterinary Services (USDA VS) Greater Yellowstone Area (GYA) Algorithm and managed accordingly.

The FPA is a quantitative test. The higher the mP returned by an FPA run on an animal's serum, the higher the probability that the animal is infected with culture, however that is not always the case. When the FPA returns values over 40 mP and the BAPA is negative, the animal falls into a difficult to interpret "suspect" category. The Complement Fixation (CF) test is also used as additional diagnostic information for animals in this category. For management of these cases, the Department of Livestock (DOL) restricts the offending animal for a 30-to-60-day retest and allows the rest of the herd to move with an approved herd plan. Once an animal's FPA values fall under 40 mP, it is again free to move in commerce.

While animals falling into this classification are troublesome, especially for ranchers who must figure out how to isolate and care for a single animal for a month or more, they are fortunately rare. Figure 2 below shows the numbers of cattle tested, FPA > 40 mp and BAPA negative, as well as those classified as serologically positive and subjected to culture, and those confirmed Brucellosis abortus infected by culture.

Fiscal Year	FPA >40, BAPA Neg	Serologica l Suspect*	Serological Positive*	Total non-negative	Confirmed Infection*	FPA Tests – All of Montana
2020	8 (0.011%)	1	1	10	1	68714
2021	9(0.008%)	1	2	12	1	108151
2022	11(0.011%)	3	5	19	3	100952
2023	9(0.010%)	2	1	12	1	90976
2024	6(0.008%)	1	1	8	0	78983

* Includes animals in herds previously designated as affected herds

Figure 2. FPA Tests FY20-FY24 Source: DOL Staff

The numbers in the table above demonstrate several important points. The risk of livestock contracting brucellosis is low. In fact, it is very low – in the order of just over 1 case in 100,000 head at risk per year. Even though the spillover transmission risk is low, it is not zero with six infected animals over the past five years detected.

The number of livestock that are confirmed seropositive and not confirmed infected by culture following necropsy or slaughter is small, meaning the serological testing methods for brucellosis in livestock are quite good. Some of the seropositive animals from which *Brucella abortus* is not successfully cultured might represent the shortcomings of culture sensitivity. That is, they might have been infected, but at levels too low to reliably detect by culture.

Finally, the number of animals that fall into the FPA > 40 but BAPA negative suspect classification is small compared to the number livestock tested each year. These animals do, however, create a disruption that the USDA and DOL would like to eliminate. However, the limitations of diagnostic testing methods, both now and in the foreseeable future, mean that DOL is unlikely to make more than marginal improvements for now. That said, DOL is sensitive to the disruption experienced by the eight herds with brucellosis suspects in 2023 who had to keep a cow, or cows held separate and live with the uncertainty regarding outcome.

Options DOL is pursuing include:

- A request to USDA Center for Epidemiology and Animal Health (CEAH) to look at cumulative test data to determine if the cutoff values for the FPA test are appropriate. Because the number of suspects is low, despite the high number of animals tested, DOL is not hopeful that this may elicit a change.
- Providing producers alternative options for management of suspects. Potential options would be diagnostic purchase and indemnity if available or a less structured approach to follow-up testing, such as turning the animal out for testing at the next best opportunity. Neither option is ideal. The hope is to find a solution that is less impactful to the operation without ignoring the risk of the animal truly being infected. a

ANIMAL DISEASE TRACEABILITY (ADT) FINAL RULE

Tahnee Szymanski, DVM and Britta Sekora

The United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS) has finalized a significant update to Animal Disease Traceability (ADT) regulations. The final rule designates electronic identification tags, or 840-RFID tags, as the only official identification device for use in cattle and domestic bison. For animals in interstate commerce these regulations still only apply to sexually intact cattle and bison 18 months of age or older; all dairy cattle; and cattle or bison of any age used for rodeo, exhibition, or recreation. For other regulatory program work, such as official vaccination for brucellosis and brucellosis or tuberculosis (TB) testing, all ages will be impacted. As an example, heifers who are calfhood vaccinated prior to November 5, 2024, can be vaccinated and tagged with orange metal NUES tags. If a producer waits to vaccinate those animals until after November 5, 2024, they will require 840-RFID tags to be applied at the time of vaccination. The final rule will be effective November 5, 2024, 180 days after publication in the Federal Register, giving veterinarians and livestock producers time to prepare for the new requirements.

Please note, all visual-only official identification tags applied to cattle and bison prior to November 5, 2024, will be considered official identification for the lifetime of the animal. However, if an animal loses its tag or for animals with no existing official identification, a new 840-RFID tag must be applied, and the following information recorded and maintained for five years: date the new tag was applied, official identification number on the new tag, and official identification number on the old tag, if known.

USDA-APHIS has also recently announced the upcoming availability of import RFID tags. These will be 900 series RFID tags with the official USDA seal. These tags will be for application to Canadian and Mexican origin cattle that have lost their country-of-origin identification, as these animals are not eligible to be tagged with an 840 RFID tag. Look for additional information on availability of import tags in coming months.

For more information on the rule change, please visit the USDA-APHIS ADT [webpage](#) or contact the Montana Department of Livestock at 406-444-2976. a

AVAILABILITY OF NO COST RFID TAGS

Tahnee Szymanski, DVM

The recent announcement of the final rule for animal disease traceability requiring that animals moving across state lines be officially identified with identification (ID) that is both visually AND electronically readable has prompted several calls to Department of Livestock (DOL) regarding the availability of no cost RFID tags. Per communication from United States Department of Agriculture (USDA), USDA will continue to provide tags to producers free of charge and producers are directed to their respective State Veterinarians Office to inquire about the availability of tags.

The information regarding availability of no cost tags has caused a fair amount of confusion here in Montana. Montana is one of a handful of states where our local USDA Veterinary Services (VS) office handles tag distribution to veterinarians. As a result of this, when USDA first made no cost RFID tags available to states, we continued with the same model. All Montana's allocation of no cost RFID tags is distributed to veterinarians. Veterinarians are eligible for a percentage of total tags available based upon historical tag request orders to ensure that a small handful of veterinarians don't consume the entire allocation.

For the current fiscal year (FY), 50 veterinary clinics have taken advantage of Montana's no cost tag allocation, totaling 48,000 tags. Montana recently received notice from USDA that Montana has an additional 121,000 tags available for the remainder of FY24, with pending requests for 127,000 tags. Because most requests from Montana Veterinarians are for Official Calfhood Vaccinate (OCV) tags, Montana has requested that the remaining 121,000 tag allocation be shipped as OCV tags. It is worth noting that Montana's no cost tag allocation for FY24 is less than previous years. Montana's historical allocation has been roughly 270,000 tags.

The new tag allocation fiscal year will begin October 1. Requests for no-cost RFID tags can be submitted to USDA VS Montana at 406-437-9457 or Yvette.k.leidorf@usda.gov. DOL and USDA are working to ensure that as many people as possible have access to no cost tags while evaluating how to prioritize tag distributions to meet traceability needs. Veterinarians can also purchase these tags directly from manufacturers and distributors at market rates.

While DOL hopes that allocation of tags increases, we do not see it reaching a level that would cover all animals requiring official identification, meaning industry will bear some expense associated with implementation of the final rule in November. a

MANAGING POTENTIAL RABIES EXPOSURES

Tahnee Szymanski, DVM and Britta Sekora

It is the time of year when nice weather and outdoor recreation increase, and with it, the potential for pets and people to have contact with wildlife, and therefore, potential rabies exposures. All rabies and potential rabies exposures should be reported to the Department of Livestock (DOL), and we are always available to help answer any rabies-related questions to ensure we get case management right.

For animals that expose people: Rabies is a serious disease that can affect both animals and humans. When a dog, cat, or ferret potentially exposes a person to rabies, animals should be quarantined for 10 days to monitor for signs of rabies regardless of vaccination status, with day zero being the day of the exposure or bite. If the animal remains healthy during this time, there is no risk to the exposed individual and no need for post-exposure prophylaxis. Please do not vaccinate animals during this time. Vaccinations should be administered on day ten or after.

For animals that are exposed: Unlike pets that expose people, vaccination status plays a pivotal role in management decisions.

- If a past-due or currently vaccinated animal is exposed to a rabies-positive or suspected-positive animal, it should receive a booster vaccination and undergo a 45-day observation period.
- If a non-vaccinated animal has an exposure, it must be quarantined for 120-180 days, with administration of a rabies vaccination as soon after exposure as possible. The purpose of this quarantine is to minimize the exposure of people or animals should the animal go on to develop rabies.

Keeping your clients' pets currently vaccinated is our best tool in protecting the health of our pets and their owners. a

Contact Information:

Tahnee Szymanski, DVM
State Veterinarian,
Administrator
(406) 444-0782
tszymanski@mt.gov

Brad De Groot, DVM, PhD
Brucellosis Veterinarian
(406) 444-3374
bradley.degroot@mt.gov

Britta Sekora
Import Office Manager
(406) 444-2892
britta.sekora@mt.gov

Import Permit Office
Feral Swine Reporting
24/7 Line
(406) 444-2976

Montana Veterinary
Diagnostic Laboratory (MVDL)
(406) 994-4885
mvd@mt.gov

Montana Department of Livestock

Animal Health Bureau
P.O. Box 202001
Helena, MT 59620-2001
Return Service Requested
Phone: 406-444-2976
Fax: 406-444-1929
Email: livpermits@mt.gov



We're on the Web:
www.liv.mt.gov