

# STOCK QUOTES

## Animal Health Newsletter

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

### STATE VETERINARIAN NOTES

Tahnee Szymanski, DVM

The first detection of High Path Avian Influenza (HPAI) in domestic poultry nationally in the ongoing outbreak was in February 2022 and in Montana, April 2022. As we enter year three of this outbreak, we continue to see disease in domestic poultry, with 12 new affected flocks since March 1, 2024. Most recently, HPAI virus was detected in dairy cattle in 7 states and in a dairy worker with conjunctivitis in Texas. All alongside ongoing detections in mesocarnivores and in goat kids in Minnesota.

The detections of the H5N1 virus in dairy cattle and the announcement of a human case of conjunctivitis due to HPAI specifically have garnered a lot of attention and concern. There is still much that we do not know, including full etiology of the observed disease, route of introduction, role of cow-to-cow transmission, and potential for spread to people. Management decisions with limited data are challenging, evident in the variability of import restrictions implemented by states. Currently 16 states have restrictions or enhanced entry requirements in place. Montana has not implemented import restrictions currently but is monitoring the national situation closely. Additional surveillance is needed and important for protecting human health.

These detections and the many unanswered questions reinforce the importance of biosecurity. This edition features Part one in a four-part series on biosecurity and Secure Beef Supply plans (page 2). The implementation of basic on farm preventive measures not only benefits producers and industry in case of a Foot and Mouth Disease (FMD) detection in the United States (US), but also aids in the prevention of more common pathogens. Biosecurity is one of few tools' producers must protect their herds.

While the detection of the H5N1 virus in dairy cattle emphasizes the need for good biosecurity, the recent detection of Seneca A Virus (SVV) (page 4) in a Montana swine herd provided an opportunity for United States Department of Agriculture (USDA) and Department of Livestock (DOL) to evaluate our internal response to a report of a potential Foreign Animal Disease (FAD). Because of the unique sequence of events in this case, it was decided to not submit duplicate samples (one to Foreign Animal Disease Diagnostic Laboratory (FADDL) and one to Montana Veterinary Diagnostic Laboratory (MVDL), a National Animal Health Laboratory Network (NAHLN) approved lab) because we felt confident in receiving confirmation of SVV at FADDL. A weather event in Tennessee however delayed the arrival of samples at FADDL. In hindsight, even with the recent diagnosis of SVV, we wish we had submitted duplicate samples to MVDL to prevent the delay in getting results.

Dr. Merry Michalski, the lead on the SVV case, has returned to private practice after two productive years with the Department. Her now vacant position is focused on emergency preparedness and zoonotic disease. If you or anyone you know has considered working in regulatory veterinary medicine, please reach out.

A closing note regarding budgets for the 2024 fiscal year. The budget allocated to USDA for the year required them to enact cuts in operational expenses. These cuts resulted in a decrease in federal funding received by states. While we are working to minimize the impact of these cuts, there will be cuts to reimbursements for ADT hardware and NPIP testing. Hopefully, these will be temporary. a

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### WHAT'S NEW

- Next Veterinary Accreditation: July 10, 2024
- Please save our new Montana State Veterinarian email address to your contacts – [mtstatevet@mt.gov](mailto:mtstatevet@mt.gov)

# SECURE BEEF SUPPLY PLANNING - PART 1

## GETTING STARTED: BIG JOURNEYS START WITH SMALL STEPS

Merry Michalski, DVM

While the United States (US) is currently free from Foot and Mouth Disease (FMD), if FMD was confirmed, the United States Department of Agriculture (USDA) has indicated a movement standstill for animals and animal products will be issued for at least 72 hours while animal health officials determine which areas of the US are affected and establish controls. After the 72-hour standstill, state veterinarians will set state guidelines for permitted animal movements. Permitted movements will require information about a producer's animals and production system to provide confidence that animals and animal products are not contaminated or infected. Movements may not be allowed for several days to weeks depending on the scope of the outbreak. To ensure the earliest return to commerce possible, producers should consider Secure Beef Supply (SBS) plans.

A SBS plan is a comprehensive and dynamic document which will help producers get prepared for a disease outbreak and movement restrictions. Planning for a disease of this nature will also reduce the risk for other production diseases. The recent confirmation of HPAI in dairy cattle provides an important reminder of the importance of on-farm biosecurity.

This article is the first in a 4-part series outlining the small steps that can be taken to reach the larger goal of creating an enhanced biosecurity and business continuity plan for cattle producers, or a SBS plan.

### Step 1: Get a PIN

A complete SBS Plan requires a National Premises Identification Number, referred to as a Premises Identification Number or PIN, for any operation that houses animals. Having a PIN facilitates requesting movement permits during an outbreak by precisely locating an operation in relation to disease control areas. If a producer already has a PIN, make sure the information is up to date. Any changes in

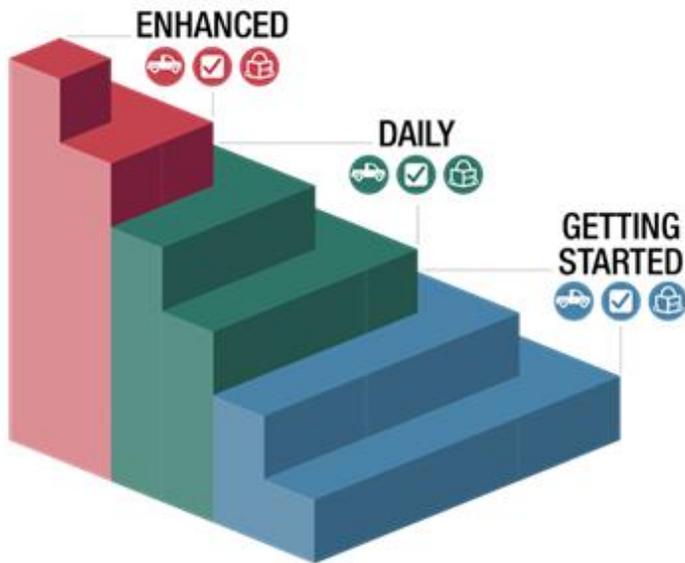


Figure 1: Secure Beef Supply (SBS) Planning  
Source: DOL Staff

livestock type or changes in land ownership are important details for managing an outbreak and re-opening export markets. Having a validated PIN also speeds up communication and response during an outbreak.

Request a PIN from the Montana Department of Livestock by filling out a request here [https://mtgov.formstack.com/forms/montana\\_premises\\_registration](https://mtgov.formstack.com/forms/montana_premises_registration). A PIN is linked to the geospatial location reflecting the actual location of the animals on the premises. This includes a valid 911 address and a set of matching coordinates (latitude and longitude).

When animals on a premises become infected, all premises with the same PIN number will be considered infected. Generally, it is best to have separate PINs for premises with animals reared off-site and accessed via a public road even if managed or owned by the same individual or corporation. Producers are encouraged to validate their PIN to ensure their data on file accurately represents the location of the animals and not a mailbox at a residence or business affiliated with the animal premises. Accurate locations enable rapid assessment of transmission risk and approval of low-risk movements. This shortens a producer's time to return to commerce and revenue generation. α



## LIVE ELK CAPTURE & BRUCELLOSIS SURVEILLANCE

Tahnee Szymanski, DVM

Montana Fish Wildlife and Parks (FWP) recently completed capture of 122 female elk in the Highland Mountains south of Butte as part of the ongoing targeted elk brucellosis surveillance project. All 122 animals tested negative for brucellosis, giving the study area an estimated seroprevalence of 0 (95% confidence interval: 0-3.1%). Additionally, 30 animals were fitted with Global Positioning System (GPS) collars. Location data will provide a better understanding of elk movements in the region.

The negative test results provide Department of Livestock (DOL) confidence that the current designated surveillance area (DSA) boundary is appropriate and that no additional livestock populations are currently at risk of infection from wildlife.  $\alpha$

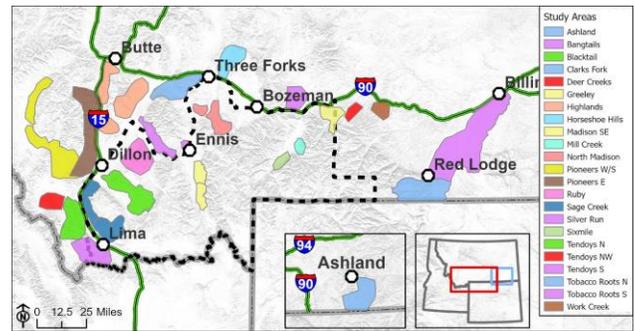


Figure 2: Live Elk Capture & Surveillance Map

Source: DOL Staff

## MALDI-ToF AT MONTANA VETERINARY DIAGNOSTIC LABORATORY

Erika Schwarz, DVM, PhD

The Montana Veterinary Diagnostic Laboratory (MVDL) has acquired new Matrix-Assisted Laser Desorption/Ionization – Time of Flight (or “MALDI-ToF” / MALDI) mass spectrometry equipment for the identification of bacterial isolates from clinical samples. MVDL is excited to complete the validation process and begin officially using this equipment as soon as possible, as MALDI-ToF is now the industry standard for bacterial identification in the clinical microbiology laboratory.



Figure 3: MVDL Staff and the new MALDI Sirius Biotyper.

Source: MVDL Staff

Replacing most traditional benchtop biochemical and metabolic methodologies used for grouping and identifying bacterial isolates, MALDI provides more rapid and less subjective identification, improving both accuracy and turnaround time to diagnosis. Traditionally, to identify an organism from a culture, the specimen would need to be plated on multiple media types, grown at specific conditions for at least 24 hours, and then each morphologically distinct colony would be sub-cultured and subjected to a variety of biochemical and metabolic tests to determine identity. Traditional bench-top bacteriology methods typically yield a turnaround time of three to five days until identification but may take up to two weeks or more for certain fastidious species.

MALDI-ToF can be applied to the identification of aerobic and anaerobic bacterial organisms, fungi, and yeast. MALDI-ToF drastically shortens turnaround time to identification, as only a single, well-isolated bacterial or fungal colony is usually

needed for testing by mass spectrometry. Once grown or isolated, the colony in question is added to a plated matrix, inserted into a chamber of the MALDI machine, and a laser is used to ionize and desorb the molecules on the plate. The resulting cloud of ionized molecules is accelerated into the analyzer and a mass spectrum is generated and compared to an extensive database of known organisms to determine identification of the clinical isolate. With rapidly growing, non-fastidious, aerobic bacterial isolates, identification may take as little as 24-48 hours following receipt of a clinical sample (a similar turnaround time to many polymerase chain reaction (PCR) assays).

This upgrade in technology will majorly benefit Montana Veterinarians by offering quick and accurate diagnosis of common and high consequence bacterial and fungal pathogens. MVDL expects the MALDI to fully replace the traditional bench-top bacterial identification methods by Summer 2024. Fees associated with bacterial/fungal culture and isolate identification can be found on the updated Submission Guide and Fee Schedule at <https://liv.mt.gov/Diagnostic-Lab/Guidance-Documents-and-Test-Fees>. Please contact Dr. Erika Schwarz at 406-994-4885 with any questions regarding this methodology.  $\alpha$

## CONDITIONAL, AUTOGENOUS, AND PLATFORM VACCINES

*Tahnee Szymanski, DVM and Bradley De Groot, DVM, PhD*

The United States Department of Agriculture Animal and Plant Health Inspection Services (USDA APHIS) Center for Veterinary Biologics (CVB) licenses vaccines and the State grants permission for import into Montana. Veterinarians are likely most familiar with fully licensed vaccines, the most common commercially available product. The Department of Livestock (DOL) issues permission for importation with only occasional limitations. Examples of restrictions on fully licensed products include the restriction on sales of rabies vaccines to veterinarians or public health officials and on importation of modified live vaccines for infectious laryngotracheitis only for flocks with confirmed infection due to the vaccines ability to cause clinical illness.

The CVB also issues conditional and autogenous licenses which allow biological firms to respond to disease outbreaks sooner than the full license pathway. This is because conditional and autogenous products have not met the requirements for a fully licensed commercial product, which may include the demonstration of efficacy or potency. Distribution of conditional and autogenous vaccine products in Montana is typically restricted to veterinarians only.

Conditionally licensed vaccines address emergency conditions, limited markets, and other special circumstances while allowing sponsors time and access to field applications to develop efficacy data. Examples of products available under conditional licensure include Rabbit Hemorrhagic Disease 2 vaccine and a bovine pinkeye vaccine.

Release requirements set forth by USDA for autogenous vaccines are that the vaccine is pure, and each serial must pass some level of safety testing. There are no efficacy or potency requirements for autogenous products, therefore determination of efficacy is up to the practitioner overseeing field use.

Autogenous vaccines incorporate antigens for the specific pathogen(s) causing disease in a particular herd. We know however, that pathogens are shared among epidemiologically linked operations (common seedstock, fence line, trucking, or other environmental exposure, for example). Therefore, regulations allow agents isolated from different herds to be incorporated into multivalent, autogenous vaccines for use in epi-linked operations, both adjacent and nonadjacent. Importantly, the regulations also allow practitioners in a geographically defined area to collaboratively collect agents to use among epi-linked clients. With agreement between the vaccine manufacturer and the distributor, along with USDA approval, autogenous vaccines can even be sent to third party distributors to be shipped as needed to participating operations or practitioners. For wider application of autogenous vaccines, Montana State Veterinarian approval is required prior to shipment.

The final category of biologics veterinarians may encounter are prescription platform products. Prescription platform vaccines utilize the genetic sequence of an isolate and insert genes of interest into a "backbone" vector to produce a custom product for an individual animal or animals. DOL sees the application of these products for both large and small animal patients. Initially, DOL restricted distribution of these products to licensed veterinarians, but is currently working with a vendor to permit distribution directly to a producer.

As practitioners, veterinarians have many options available to prepare clients' animals for infectious challenges. The vendor selected should help navigate this process, but veterinarians are always welcome to contact DOL with any questions. a

## SENECAVIRUS A

Merry Michalski, DVM

Seneca virus A/Seneca Valley Virus (SVV) is a non-enveloped single-stranded ribonucleic acid (RNA) virus of the family Picornaviradae. Foot and Mouth Disease (FMD) and swine vesicular disease virus (SVDV) are members of the same viral family. All three diseases have similar clinical presentations. SVV is a low consequence disease, and animals can be sent to market once lesions have healed. However, given the similarities to FMD, any cases that are present with snout or coronary band vesicles are investigated as a Foreign Animal Disease (FAD) to rule out FMD infection.



Figure 4: Infected Swine Snout Vesicles  
Source: MDOL Staff

A Montana isowean swine facility in northcentral Montana recently underwent a FAD investigation for vesicular lesions and was determined to be SVV infected. The facility's three-week-old weanlings developed diarrhea and increased mortality. Extensive testing for common pathogens was negative, so samples were tested and confirmed for SVV. As part of the on-farm disease management, the facility fed the sow herd an intestinal homogenate from the deceased piglets to provide immune stimulation and support immunity in the sows. The sows began developing vesicles on the snout and feet within a few days of ingesting the homogenate. The sows also were stiff, painful, feverish, lethargic, not eating well, and three died. It is suspected that the high viral load experienced by the sows led to the severity of their symptoms. SVV is often clinically described as healthy pigs with vesicles.

The piglets and the sows followed the typical presentation of clinical signs, and there was a high suspicion that the sows were also infected with SVV. The sows were negative for FMD, African Swine Fever (ASF) and Classical Swine Fever (CSF).

Because of the similarities to FADs, swine with vesicular lesions must be reported to the Department of Livestock (DOL) immediately at the 24-7 phone line 406-444-2976. Vesicular diseases cannot be reliably differentiated without appropriate diagnostic testing. A FAD in North America would disrupt animal movements and commerce. It is crucial to monitor for vesicular lesions in your swine patients and report abnormalities for rapid identification and control. α

## NEW CVI PLATFORM: MYVETTECH

Britta Sekora

While the adoption of electronic certificates of veterinary inspection (CVIs) is right at 99%, the Department of Livestock (DOL) still recognizes the need for additional products to meet the needs of varied practice models. Feedback on the functionality of electronic CVIs often touches on off-line functionality and the ability to get documentation into the hands of owners and haulers. Developed in collaboration with veterinarians and technologists, MyVetTech offers a platform intended to simplify the creation, management, and distribution of health certificates for livestock, including offline capabilities for veterinarians operating in remote areas where internet connectivity may be unreliable or non-existent. This offline functionality should help ensure that veterinarians can access and create health certificates anytime, anywhere, without worrying about internet access. With MyVetTech, veterinarians can also securely store and manage health certificate records, access essential information offline, and sync data when back online.

MyVetTech offers a user-friendly interface, from initial certificate creation to final approval. Veterinarians can easily input relevant information, attach necessary documents, and generate professional-looking health certificates offline with just a few clicks. To learn more about MyVetTech and to evaluate if it may benefit your practice or operation, visit <https://www.myvettech.org/>. α

# SWINE HEALTH IMPROVEMENT PLAN (SHIP)

Merry Michalski, DVM

The primary focus of the United States Swine Health Improvement Plan (US SHIP) is biosecurity, disease surveillance, and movement traceability. SHIP enrollment and certification provide producers a means to demonstrate the steps they have taken to mitigate risk of disease introduction on their farm, making their products more appealing in commerce and providing a foundation for movement permit priority in the case of a foreign animal disease (FAD) detection in the US. African Swine Fever (ASF) introduction and the resulting national standstill remain a substantial concern for swine producers.

US SHIP is not only for large production facilities – it benefits all swine owners. In its fourth year and with 65% of the breeding herds enrolled, the program is striving to expand enrollment to include small operations, fair and other swine exhibitors. Small farms and show pig owners have important roles in SHIP’s success.

SHIP helps protect swine operations and businesses by decreasing the risk of disease through biosecurity and getting owners back into commerce sooner in case of FAD in the US.

Small farm participation is crucial to the long-term success of the swine industry, including access to international markets. Please call the Department of Livestock (DOL) at 406-444-2976 for SHIP enrollment questions. α



Figure 5: United States SHIP Logo  
Source: US SHIP

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