StockQuotes: Animal Health Newsletter

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June 2017

Quarterly Newsletter from the Animal Health Division of the Montana Department of Livestock

Volume 10, Issue 2

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CALENDAR OF EVENTS:

Deputy Veterinarian Training:
September 21

MVMA Meeting:
Fall Symposium Sep 7-8
Winter Meeting Jan 26-27

State Veterinarian Notes

DEPARTMENT RE-ORGANIZATION: On July 1, the Animal Health Division will become a Bureau in the Division of Animal Health and Food Safety (DAHFS). The new name reflects changes by the 65th Legislature and the Board of Livestock to streamline budgeting and function which consolidated several units. The DAHFS will include the bureaus of Animal Health, Meat Inspection, Milk and Egg, and the Veterinary Diagnostic Laboratory.

Prior to this reorganization, the relatively small Montana Department of Livestock (MDOL) had six separate units which added unnecessary complexity in budgeting and personnel management. For example, moving funds or positions between the Animal Health Division (Animal Health Bureau after July 1) and the Veterinary Diagnostic Laboratory required a formal request to the Governor's budget office which if approved, would then be reviewed by Legislative Fiscal Division, and then subjected to additional scrutiny by the Interim Legislative Finance Committee. These are operational adjustments that are done with greater ease within rather than between divisions.

Likewise, all federal grants utilized by MDOL will now be under DAHFS which will make accountability and accounting less complicated. Animal Health Division (Animal Health Bureau after July 1) and the Meat Inspection Bureau are by far the greatest recipients of federal grants at MDOL and these funds will be managed in a single division.

Finally, the reorganization also consolidates all the units with a public health mission at MDOL into one division. Regulatory diseases managed by the Animal Health Bureau such as tuberculosis and brucellosis have gained that status because of their zoonotic potential. Likewise, the core mission of the Meat Inspection and the Milk and Egg bureaus is to ensure a safe and wholesome food supply. The veterinary diagnostic laboratory provides timely and accurate information to enable sound decision making in these sectors. The new structure allows us to re-affirm the core public health mission to all our efforts.

Assistant State Veterinarian Tahnee Szymanski will head up the Animal Health Bureau. Dan Turcotte leads the Milk & Egg Bureau, and Gary Hamel heads up the Meat Inspection Bureau. Bill Layton directs the Veterinary Diagnostic Laboratory (Bureau after July 1).

MEXICAN ORIGIN CATTLE: Numerous tuberculosis (TB) infections in the U.S. have origins in Mexico. Indeed, both the Canadian outbreak in 2016 and the 2017 South Dakota TB strains were genetically linked to central Mexico. Members of the 65th Legislature requested a review of import requirements for Mexican origin cattle. While further restricting the importation of Mexican cattle will reduce risk to Montana, we also recognize that transmission of TB is far more complicated than just restricting Mexican origin imports. We look forward to hearing your comments on this rule proposal. More information on TB is available on p2.

This *StockQuotes* issue also contains information on Equine Herpes Virus management, and a letter from Dr. Steve Smith from the Veterinary Diagnostic Laboratory about Clin Path services. The One-Health issue provides information on salmonella in poultry which follows an outbreak of salmonellosis in Montana residents involving several strains of salmonella linked to this spring's chick sales.¤ mz

WHAT'S NEW:

1. Tuberculosis update and rule change (p2).
2. National Academies of Science Report Released (p3).
3. Johne's Disease (p5).

Tuberculosis

The Montana Department of Livestock (MDOL) is winding down our epidemiological investigation associated with the tuberculosis positive herds detected in South Dakota (SD) this spring. In addition to the index herd in SD with 43 lesioned animals in a herd of approximately 650 head, two additional herds were identified in that state. Both of these herds received animals from the index herd.

Montana has tested approximately 1800 cattle from four herds that either ran adjacent to an affected premises or were in a herd that received animals from the affected premises. Twenty animals have been slaughtered for post-mortem inspection. These animals either originated from the affected premises or had suspect test results. A single herd remains under quarantine pending the retest of a single cow in lieu of slaughter for post-mortem inspection.

As previously reported, the genotyping of the SD isolate is most consistent with a strain from dairy cattle in Southern Mexico and has not previously been seen in the United States. The strain in the recent Canadian outbreak was also similar to a separate strain isolated in Southern Mexico. Neither the affected SD herd, nor the affected Canadian herd, had any contact with M-branded cattle. While there were sporting (non-beef) type animals on the affected SD premises, all of these animals were found to be TB negative. It is also noteworthy that cattle from the area of Mexico to which the associated strains trace back are not eligible for export to the United States, and Canada prohibits the importation of all M-branded cattle. At this time, it is unlikely that the source of introduction will be determined in the SD cases.

FIGURE 1: Caudal fold testing for tuberculosis.

According to the USDA, there are between 20-30 cases of bovine tuberculosis diagnosed in the US on an annual basis. Of these, about 15 cases are attributable to Mexican strains based on genotyping. The balance are associated with exposure to infected wildlife (Michigan) or are untraceable in origin. Cases with Mexican origin strains can be in Mexican origin animals, in animals with contact with Mexican origin animals, or in animals that have been exposed to humans infected with a Mexican origin strain of *Mycobacterium bovis*. There are approximately 250 cases of *M. bovis* diagnosed in humans on an annual basis.

Currently, M-branded cattle that are originating directly from Mexico require a negative cross over test to enter the United States and a second negative test 60 days later (by a USDA accredited veterinarian) prior to importation into Montana. M-branded cattle originating from another state, or cattle that have comingled with M-branded cattle, require a single negative test.

These recent cases of tuberculosis close to our borders have prompted questions about ways MDOL addresses potential risk of introduction of TB into Montana. Specifically, the Chairmen of the Agriculture Committees of the most recent legislative session, have requested that MDOL consider changing the import requirements for M-branded cattle entering Montana.

The request made by the Chairmen was to include language in our import requirements similar to the State of North Dakota. These requirements would include a requirement that owners of M-branded cattle provide documentation of a negative whole herd TB test on the birth herd of origin. Mexican sporting animals are managed in such a way that this would effectively make importation of M-branded cattle into Montana impossible. According to ND animal health officials, no importers have been able to meet this standard for importation of M-branded cattle.

This proposed change will be published with the Montana Secretary of State and the public comment period will be open through August 4, 2017. The proposed rule change can be found here: http://liv.mt.gov/public/arm.mcpx. We hope you will take some time to review the proposed changes and consider submitting a comment. If you would like more information on the proposed rule, please contact Dr. Szymanski at (406) 444-5214 or tszymanski@mt.gov. ¤

By Tahnee Szymanski

Brucellosis Updates

REPORT ON BRUCELLOSIS RELEASED: The National Academies of Sciences (NAS) is a nongovernmental, independently funded institution created by congress in 1863 to advise the nation on science and technology related issues. In 2016 USDA-APHIS requested that NAS review brucellosis related research and information published since the last report in 1998. USDA asked that the committee summarize its findings and conclusions. The committee was made up of brucellosis experts from across the country including: a State Veterinarian, researchers, and academicians. The committee recently published its report, "Revisiting Brucellosis in the Greater Yellowstone Area" (GYA). A few of the committee's conclusions include:

- Elk (vs. bison in the 1998 report) should be the focus to reduce transmission risk and disease spread.
- A reduction of elk numbers and group densities may decrease risk of transmission both intraspecies and interspecies.
- The risk of brucellosis spread beyond the GYA has increased.
- Calfhood and adult vaccination of high risk livestock should continue.
- To reduce brucellosis prevalence in Yellowstone National Park bison, positive animals should be removed.
- Elk feedgrounds are detrimental and should be phased out.
- The Interagency Bison Management Plan (IBMP) has been successful.

To address the conclusions, some of the committee's recommendations include:

- More research is needed to understand the disease in elk.
- To address the increased risk of spread: an elk wildlife surveillance program should be established; a standard for expanding Designated Surveillance Area (DSA) boundaries should be developed, and; livestock surveillance should focus on slaughter and market channels for GYA cattle.
- A coordinated effort across many political jurisdictions is needed to manage the disease recognizing that infected wildlife move without regard to political boundaries. The current spread, if left unchecked, will have serious implications in the future.

BRUCELLOSIS PROGRAM REVIEW: Montana's brucellosis program is no stranger to review. Due to the state, national, and international trade implications, the involvement of GYA wildlife, and the current status of B. abortus on the select agent (bioterrorism) list, the DSA is under a great deal of scrutiny. Some of the past federal and state reviews include:

- In 2012 the USDA reviewed our DSA program to confirm our compliance with a brucellosis management plan (BMP). Per the USDA's 2010 interim rule, a BMP is required to maintain class free status the in states that have a wildlife vector.
- A 2013 review was a risk assessment performed by the USDA Center for Epidemiology and Animal Health. It was an in-depth statistical analysis that determined a positive breeding animal could be sold out of Montana's DSA once in 111 years.
- The most recent USDA-APHIS review was conducted in 2015 subsequent to a large epidemiologic investigation and was geared toward investigation procedures.
- In 2016 the legislative audit division completed a performance audit of brucellosis management in the State of Montana. This report and its findings were discussed in the March 2017 newsletter.
- Each year, the Animal Health Division conducts a DSA compliance evaluation. Over the years, this review has been used to evaluate the effectiveness of the DSA. Testing compliance has historically been good and the findings utilized to support trading partner confidence in our program. In addition to testing compliance, the data gathered for this evaluation help us determine where to focus enforcement and education to continue to minimize risk.

The scrutiny will continue with our next USDA-APHIS review most likely to occur in 2019. Wyoming's program review was completed this month and Idaho's program will probably take place in 2018. USDA-APHIS plans to review each program no less than every three years. ¤

By Eric Liska

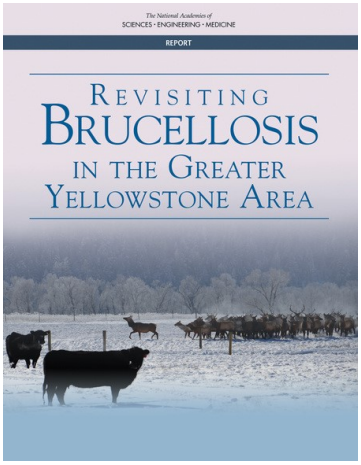

FIGURE 2: New NAS report on brucellosis.

Source: http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=24750

MVDL Update

As many of you may already be aware, the diagnostic laboratory and Department of Livestock recently renewed their commitment to provide continued clinical pathology testing for our customers. We are also currently developing completely new services, including a web portal that will allow you to access your laboratory results via the internet.

The potential closure of our clinical pathology section was due to numerous factors, including recruitment/retention difficulties and caseload, with the most pressing issue being the impending lack of qualified staff to perform testing. We were rapidly approaching the last day of the one remaining staff member, and were forced to notify clients of our upcoming inability to perform testing. Thankfully, we have now hired a highly qualified employee, and are continuing clinical pathology testing without interruption. In addition to the staffing situation, we have a renewed commitment to this section of the laboratory by the Board of Livestock, and it is our hope that we can serve you in this area better than ever before. One goal for the future is to actively work towards adding new testing options, and we would certainly welcome any input or recommendations that you may have in regard to useful tests that you would like to see performed here.

We continue development and testing of our web portal, and look forward to announcing that it is live before long. Soon, all of your results will be available on-demand via our website! This feature will be extremely useful, so keep an eye on our website and this newsletter to be one of the first to know when we unveil it.

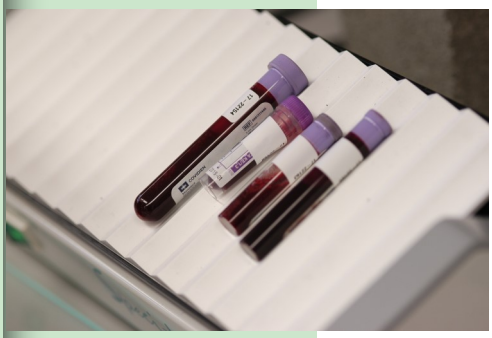

FIGURE 3: Samples in the clinical pathology section of the lab.

Finally, we'd like to take this opportunity to thank you all for the support that you provide to this laboratory. We look forward to continuing to work with you in the future, and hope that the Montana Veterinary Diagnostic Laboratory can meet all of your diagnostic needs for many years to come. ¤

By Steve Smith

USDA Billings ADT Meeting Update

Approximately 60 stakeholders, primarily beef producers from Montana and surrounding states, attended the USDA public meeting in Billings on May 24th to discuss the Animal Disease Traceability (ADT) framework and collaborate on future ADT options. Several common themes that emerged at the meeting were:

- Expansion of ADT to include feeder cattle should not be considered at this time. Gaps in the current framework should be addressed first, and improvements in technology are needed to match the speed of commerce for feeder animals. Also, requiring ID on beef feeders would diminish the market advantages and premiums for producers that voluntarily ID these animals.
- There is a need for standardization of ADT requirements. Between exemptions in the ADT rule and individual state requirements, it can be difficult to determine what/when ID is required.
- RFID technology has been successfully deployed in many cases and can have a significant management benefit. However, barriers to universal implementation such as cost and infrastructure are still significant.
- Traceability should focus on disease management. International beef exports are a separate issue that is best solved by market forces.
- Brands provide a valuable and permanent form of identification and the use of brands for ADT should be maintained.
- The burden and cost of ADT is not distributed evenly across the cattle industry. A change to require tagging on the birth premises would be borne by cow-calf operators while an implementation of more expensive ID technology would most significantly impact markets.
- Accurate and complete collection of ID at slaughter remains inadequate.

Anyone who missed the meeting and would like to leave comments can do so at: www.regulations.gov until July 31, 2017.¤

By Emily Kaleczyc

Johne's Disease

Over the past year the Montana Department of Livestock (MDOL) has received an increasing number of phone calls from veterinarians to report cases of Johne's disease, a progressive and fatal diarrheal disease of ruminants. In May, Drs. Zaluski and Szymanski held an informational meeting in Roy, MT at the invitation of local producers who had concerns about the disease. Because of this increasing interest, MDOL is taking a more proactive approach to addressing this disease.

As a reminder, Johne's disease is caused by *Mycobacterium paratuberculosis* subsp *avium* (MAP). The bacteria can infect all ruminant species and invades the small intestine causing chronic diarrhea and weight loss due to malabsorption. Bacteria are shed in the manure of infected animals, and young animals (less than 6 months of age) are most susceptible to infection. There is no treatment or commercially available vaccine available. Johne's is reportable to MDOL within 30 days of diagnosis, however, it is not a quarantinable disease, and currently, other than to track positive cases MDOL does not take any official action. Federal law (9 CFR 80.3) prohibits the interstate movement of animals with a positive organism detection test (PCR or culture) across state lines other than directly to slaughter.

As part of an educational effort MDOL has developed two draft documents that discuss testing and management strategies. The first is a basic fact sheet on Johne's disease that covers the organism, transmission, clinical signs, diagnosis, and prevention; it provides a good introduction or a quick review for those who already have some familiarity with the disease. The second handout covers steps to address Johne's disease in a positive herd. The three areas to consider in any control program are: removing infected animals, avoiding new infections, and managing the environment. There are a range of options from very minimal management changes designed to limit the impact of disease on production to an intensive program focused on elimination of the disease from a herd. The documents are available on our website: http://www.liv.mt.gov/ah/diseases/johnes/default.mcpx.

Both handouts also include information on the tests available for Johne's disease, which are: a) fecal PCR (replaces fecal culture), b) serology (ELISA), and c) post-mortem histology or PCR. PCR is specific and sensitive, and it is an official organism detection test for definitive diagnosis of Johne's. PCR is therefore the preferred test for confirmation of Johne's in clinical animals. PCR is expensive ($31.50) as an individual animal test, but fecal samples can be combined in pools of up to 5 animals bringing the cost to $7.35 per animal. Once a herd is diagnosed with Johne's, serology is a useful tool for making decisions about culling and tracking the progress of mitigation actions. Serology is most accurate in animals over 2 years of age.

FIGURE 4: Beef cow with Johne's disease.

Source: http://www.nadis.org.uk/bulletins/biosecurity-in-dairy-and-beef-cattle.aspx

In general, Johne's is a management disease rather than a regulatory concern. The exact economic impact of Johne's in a herd is hard to determine. Impacts to milk production in dairy herds are relatively easy to measure, but impacts to commercial beef herds are more likely in unrealized gains. For example, animals with Johne's disease likely achieve lower prices when culled due to poor body condition, are culled at a younger age leading to increased replacement rates, and wean smaller calves. Herds selling bulls or replacement animals should be especially cognizant of selling Johne's positive animals that may go on to infect new herds.

An important component of risk management is understanding the Johne's status of the source herd for purchased animals. Currently this is difficult because there are no standards for Johne's control. We are considering the creation of a state-run, voluntary, Johne's certification program that would define a series of management levels through which producers could progress.

We are interested in your feedback. Do you have clients who would want to participate in a certification program? What would you and your clients want to see out of this type of program? Are there other Johne's disease resources you would like to see us develop? Please contact Dr. Szymanski at (406) 444-5214 or tszymanski@mt.gov with any comments or questions. ¤

By Emily Kaleczyc

Equine Herpes Virus-1

Montana has been fortunate to so far avoid a large scale equine herpes virus (EHV-1) outbreak like those reported in other areas of the country. Cases in Montana have generally been isolated and mild, however, the endemic nature of the disease means it could crop up at any time. At a recent meeting of animal health officials from western states, a panel discussion produced some excellent points on diagnosis and management of EHV-1 cases:

- Both the neuropathogenic and the non-neuropathogenic (wild type) strain of EHV-1 are capable of causing neurologic disease. However, the neuropathogenic strain is associated with higher morbidity, more severe clinical disease, and a higher mortality rate.
- Animals tested early in the course of disease may test negative. If you have a high index of suspicion, despite negative test results, consider resampling.
- Submit BOTH blood and a nasal swab for the best chance of a diagnosis.
- Human movement plays a significant role in spreading disease within infected facilities. Several large racetracks reported that only when they limited people traffic, were they able to slow the spread of disease between animals.
- When managing affected animals, the level of stress that isolation causes, is a significant contributor to the duration of shedding in these animals. If an animal is not tolerant of isolation, consider housing within site of other horses or providing a companion animal of a different species!

Only the neurologic form of EHV-1 is reportable in Montana, but we are happy to hear about confirmed respiratory cases as well. Please remember if you are using a lab other than the Montana Veterinary Diagnostic Lab, results are not reported directly to our office, and you are responsible for reporting positive cases to our office within 24 hours of diagnosis. ¤

By Tahnee Szymanski

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