



StockQuotes: Animal Health Newsletter

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State Veterinarian Notes

Animal Health spent much of August and early September working on an outbreak of multidrug resistant *salmonella* traced to consumption of roaster pigs. While the affected individuals and the processing plant were located in Washington, the majority of pork supplied to the plant came from Montana producers. More on this in the Salmonella column.

It's also been a busy season for equine vesicular stomatitis (VS) in neighboring states. As of mid-September the national outbreak count is 490 premises in six states including our neighbors Wyoming, Utah, and South Dakota. The current case count already tops the 2014-15 total which finished at 435 cases in four states. That season stood out as one of the highest in years. Fortunately, the USDA has revised procedures for responding to VS and removed mandatory testing by state or federal personnel of all suspect cases. Other changes to the response protocol are in the column on VS.

The Veterinary Diagnostic Laboratory has seen several cases of tularemia in cats and wildlife this summer. Dr. Layton writes about this issue in the next column.

On the administrative side, fall will be busy with rule writing. There are several dozen rules that need to be corrected for clerical errors. More substantively, we will be creating reporting requirements for sightings of feral hogs based on a law passed by this year's legislature. We will also be proposing to bring tuberculosis testing for alpacas in line with small ruminants, adjust tuberculosis testing of rodeo cattle to be more in line with surrounding states, and update semen import rules. ☘ mz

WHAT'S NEW:

1. RECORD COUNT OF VESICULAR STOMATITIS (P2).
2. FOODBORNE ILLNESS OF SALMONELLA IN WASHINGTON STATE (P3).
3. TRICHOMONIASIS TEST TAGS SWITCHED TO **GREEN** ON SEPTEMBER 1ST.

Lab Update - Tularemia

Tularemia is a bacterial, zoonotic disease that can affect most mammals and is most prevalent in wildlife. Recently an increase in reports of the disease has occurred in several Great Plains states and Montana. Since July, 2014, seven cases in cats have been identified at the Montana Veterinary Diagnostic Laboratory (MVDL) whereas, zero to one case is expected annually.

The cats came from southwest Montana and the Billings area and most were in groups of outside cats. Sudden death loss was often the initial report. Exam of live animals revealed depression, anorexia, fever (105 F), lymphadenomegaly and icterus. Tularemia can manifest as a cutaneous, gastrointestinal, respiratory, ocular or systemic disease. Species typically affected are cats, rodents, rabbits, sheep, dogs, pigs and man.

There is a terrestrial and an aquatic form. The terrestrial form often involve vectors such as ticks, biting flies and mosquitoes but direct transmission can occur with ingestion of infected animal tissues, contamination of mucous membranes and percutaneous injections. The rabbit population in these areas of Montana was reported anecdotally to be increased and hunting is a likely route of infection in these cats.

Preliminary diagnosis can be obtained by history, physical examination and post mortem examination. Confirmation requires culture and/or PCR of blood and tissues. IFA serology can be conducted on cats that recovered. Antibiotic therapy can be successful if initiated early in the course of the disease. When contacting suspect cases or dressing any hunter kill, personal protection is imperative (gloves/face) since only 100 organisms can cause disease in man. Also, *F. tularensis* is designated as a select agent that could be used as a potential bioterrorist weapon. Therefore, proper disposal of infected carcasses, tissues, and cultures is required. ☘

By Bill Layton, DVM
Montana Veterinary Diagnostic Laboratory

CALENDAR OF EVENTS:

Board of Livestock:
October 21, Helena

MVMA Winter Meeting:
Jan 22-23, Bozeman

Montana Stockgrowers Association Convention & Trade Show
Dec 3-5, Billings

Equine Vesicular Stomatitis (VS)

The United States is experiencing another active year of vesicular stomatitis (VS) in horses. VS is a regulatory concern (and reportable) because when found in cattle, it is clinically indistinguishable from foot and mouth disease (FMD). While FMD does not affect equines, the presence of VS in horses allows us to avoid panic mode when multiple cattle with vesicles in the same geographical area are detected.

The 2014 season's VS count finished in March 2015 with a near record of 420 affected premises in four states. For the current season, the count already stands at 490 premises in 6 states including Arizona (36), Colorado (251), Nebraska (14), New Mexico (48), South Dakota (42), Texas (3), Utah (24), and Wyoming (72). These counts represent total premises; many of which have since been released from quarantine.

The World Animal Health Association recently removed VS from the list of immediately reportable diseases. This change at the international level, and the 2014 VS experience allowed the USDA to make some much-needed changes to how states and practitioners respond to suspected cases of VS. I'm copying, (with my comments in *italics*) the key changes from the April 2015 USDA VS Interim Field Guidance document.

- The quarantine period for premises with suspect or confirmed VSV cases will be reduced to 14 days from the onset of lesions in the last affected animal on the

premises (instead of 21 days after lesions have healed). This reduced duration of quarantine more closely correlates with the known time period for viral shed from lesioned animals. (*Lesions in severely affected horses can take months to heal and Canada refers to the affected states' quarantines to determine import restrictions on horses and ruminants moving to Canada. This change results in much shorter restrictions on exports of horses and livestock from affected states to Canada.*)

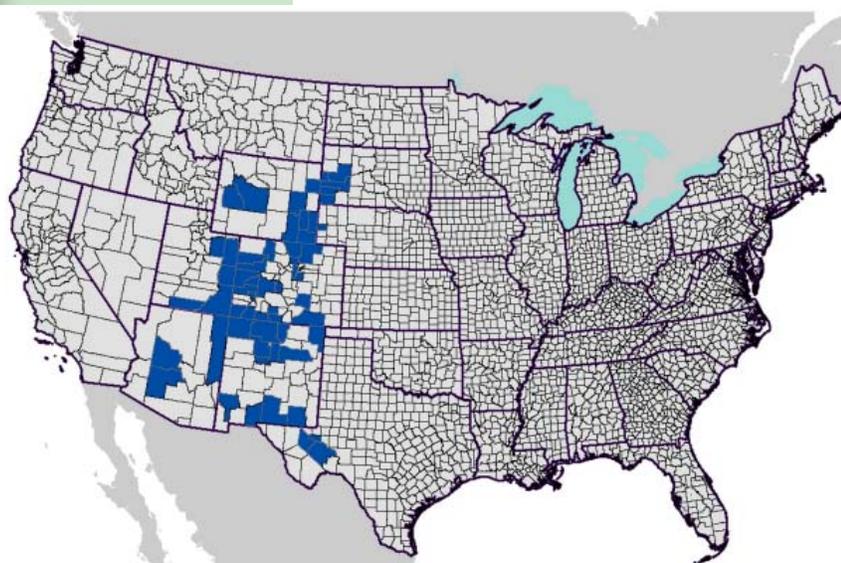
- After confirmation of the first VSV case in a state, equids with suspected lesions on subsequent premises are not required to be tested, but the premises will be quarantined for the time period stated above. (*Suspected premises can choose to be quarantined, rather than undergo testing.*)
- Accredited veterinarians may be used to collect samples and monitor premises with suspected equine VSV cases at the discretion of the state veterinarian. (*Heavily affected states created an overwhelming need for federal and state personnel to collect samples and perform physical exams. Private veterinarians with the technical skills, knowledge of the location, and familiarity with the operation are often a better alternative than government personnel.*)
- Existing VSV-approved NAHLN laboratories may request to be activated after the first case in a state is confirmed. (*The Montana Veterinary Diagnostic Laboratory will be able to test additional submissions for VS after the index case is confirmed by NVSL - this would shorten the turnaround times for results in subsequent suspected cases.*)
- A Foreign Animal Disease Diagnostician (FADD) will still be dispatched on all suspect cases involving cattle with lesions. (*Because of the concern of foot-and-mouth disease, specially trained state or federal veterinarians will continue to be used for ruminants with vesicular lesions.*)

✉ mz

FIGURE 1. All counties with Vesicular Stomatitis virus positive premises April 29, 2015—Present.

Current situation reports available on the USDA web site:
<https://goo.gl/54L1Ch>

Source: USDA-APHIS-VS



Investigation of *Salmonella* Foodborne Illness

Between April and September of this year, over 152 people in Washington state have been sickened by a strain of *Salmonella* that is an emerging pathogen in food related outbreaks. Twenty four (17%) cases were hospitalized. The strain, *Salmonella* I 4,[5],12:i:-, is multidrug resistant to ampicillin, streptomycin, sulfisoxazole, and tetracycline.

Epidemiologic and laboratory findings point to consumption of roaster pigs processed by one processing plant in the State of Washington. Roaster pigs are typically slow-cooked whole for group functions and typically weigh 150 pounds, though the weight may vary significantly based on the event. The major suppliers of pork to this plant include one Washington operation, five Montana commercial facilities, and a variety of small consignors such as 4H projects.

The Department of Health in Washington, requested that on farm sampling be conducted on the hog farms to match isolates obtained from cases and collected at the processing plant. We want to assist the public health agencies in finding the cause and prevent future incidents. Unfortunately, sampling farms for *Salmonella* is unlikely to accomplish this goal. As it is well-established that animals presented for slaughter can carry bacteria harmful to people, it's a given the *salmonella* in this outbreak is of animal origin. Therefore, sampling farms is of limited value to confirm what we already know.

A safe food supply is preserved not through eliminating all bacteria from animals presented at slaughter (an impossible and futile endeavor), but rather through sanitary meat processing and cooking. And indeed, there is mounting evidence to suggest that a breakdown in these firewalls contributed to this outbreak. The Centers for Disease Control (CDC) website states that "Sampling revealed positive results for *Salmonella* I 4, [5],12:i:- on whole pigs for barbeque, associated pork products, and throughout the establishment." The processing plant has voluntarily suspended operations, and issued a recall of meat processed at the facility.

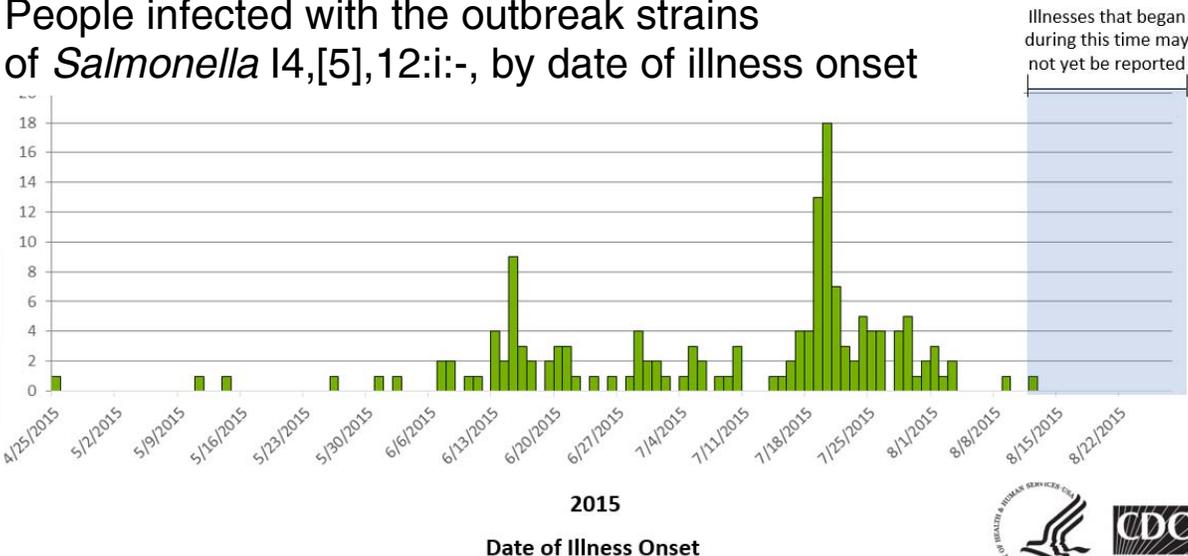
Navigating the patchwork of jurisdictions and priorities of various agencies including the CDC, Washington State Department of Health, Montana Department of Public Health and Human Services (DPHHS), Washington Department of Agriculture, the Department of Livestock, and pork industry groups (state and national) has presented one of the greater challenges in recent memory. Specifically, a strong interest by the Washington Department of Health to collect samples from hog farms, even in light of significant lapses in sanitary procedures at the Washington processing plant was a topic of many discussions.

✉ mz

FIGURE 2: Epi curve of foodborne outbreak of salmonella.

Source: Centers for Disease Control

People infected with the outbreak strains of *Salmonella* I4,[5],12:i:-, by date of illness onset



USDA-APHIS-Montana: Contacting Us, Comings & Goings

CONTACTING US: It has come to our attention that our new telephone system's automated menu may not be as "user friendly" as anticipated, especially in getting through to a "live person". The VS-Montana phone number is still (406) 449-2220; however, you will then hear a menu of options. To visit with the appropriate VS representative, press:

- #1 Import / Export
- #2 Ordering Official Eartags - Scrapie, Brucellosis Vaccination (OCV), or "Silver" (Brite) eartags;
- #3 For all other issues, including Animal Health; Veterinary Accreditation; and reporting suspected Foreign Animal Diseases (this options rings on all of the office phones – typically the best option to visit with a "live person");
- #4 Directory of all VS-MT personnel in the Helena office; 0 or # repeats the greeting (**does not** go to a "live person").

We strive to answer all phone calls during regular office hours (8AM-4:30PM, M-F), however there may be occasions when we have limited available office personnel or we are assisting other customers and cannot immediately answer your call. In these instances, please leave a voice mail message, as we will return your call as soon as we can!

EXPORT CERTIFICATES: Export clients and accredited veterinarians pursuing international exports in the State of Montana are now serviced by NIES personnel across the Service Center. The main points of contact for Montana exports are Dr. Brian Noland and Jennifer Hall at the Boise, Idaho office. They can be reached at (208) 373-1620 or by e-mail at servicecenter5@aphis.usda.gov. Alternative contacts are:

- **Kansas Service Center:** (785) 228-6565
E-mail: servicecenter5@aphis.usda.gov
- **Idaho Office:** (208) 373-1620
E-mail: servicecenter5@aphis.usda.gov
- **Nebraska Office:** (402) 434-2300

Inquiries regarding interstate movement of animals should continue to be posed through the MDOL import office permit line at (406) 444-2976.

NEW STAFF: Kristen Golder joined VS-MT on December 15, 2014, as a Program Assistant.

Kristen "wears a couple of hats" – she is the National Veterinary Accreditation Program coordinator for Montana and she manages disease program data entry. Kristen graduated from the University of Great Falls: moved to Helena and worked for the State of Montana and DOD for 10 years. She was an active member of the Montana Air National Guard for over 20 years and was activated for Operation Enduring Freedom, Operation Iraqi Freedom, and Operation Afghani Freedom.

Eric Patt joined VS-MT in May 2015, replacing Ralph Peck as the Administrative Officer in the Montana office. His primary duties include Human Resource management; Cooperative Agreements (for MT, ND, SD); and Procurement for all of Veterinary Services - District 5. Previously, he served 23 years with the US Army in positions that included recruiting, retention, operations & training, supply & inventory and human resources.

STAFF DEPARTURES: Dr. Kammy Johnson recently accepted a position with USDA-APHIS-VS, National Preparedness and Incident Coordination, as an EMRS Staff Specialist. EMRS is a USDA database that houses emergency response and epidemiologic investigation data. Prior to accepting the EMRS Staff Specialist position, Dr. Johnson served as the VS-MT Area Epidemiology Officer since 2009. We are all wishing Dr. Johnson the very best in her new role; we know that Dr. Johnson will be a great asset to the EMRS team.

Michelle Peterson recently left the agency to pursue new endeavors. Michelle had been the Export Document Examiner and the National Veterinary Accreditation Program coordinator in the Montana USDA-APHIS-Veterinary Services office since October 2003. We are all wishing Michelle the best of luck in the future. ☘

By Thomas Linfield, DVM
USDA-APHIS-VS

VS-MONTANA CONTACT INFORMATION

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Traceability and Brands in Action

MINNESOTA BRUCELLOSIS SLAUGHTER TRACE:

An example of leveraging brand information to assist in disease tracing involves an investigation of an animal that tested positive on a slaughter brucellosis test in Minnesota.

The only form of identification that was collected at slaughter was a yellow management ear tag (see Figure 3). Based on information from the plant's kill sheet, it was determined that the animal originated from a Montana feedlot that buys animals at Montana livestock markets and feeds them for 2-4 weeks before shipping to slaughter.

We were able to search the brands system for all animals purchased by the feedlot for the four week window prior to slaughter. This provided us with 311 animals from 134 sellers.

We next refined the search based upon the following parameters:

- Black hide: BT Direction is a popular purebred Black Angus bull. It was assumed that the BT Dir on the management tag was a reference to this lineage of breeding.
- Weight: Based on hot carcass weight, we were able to assume the live weight of the animal. Bulls that were too heavy at the time of sale were excluded.

This effort took the search from 134 consignors to 19. Unfortunately, the results were still not narrow enough to point to any one herd to test, but helped us to narrow the scope of interest to fewer herds. The research took approximately an hour, while historically it would have taken several weeks to review paper inspections to arrive at the same endpoint.

TEXAS BRUCELLOSIS SLAUGHTER TRACE:

Recently, we received a request for information on a cow that triggered a brucellosis slaughter test in Texas.

The information we were provided was that the reactor was an 8-10 year old cow with brucellosis vaccination tag of 81LUU7676, or 81TAU7676, or 81TUU7676. Texas traced the animal to Oklahoma which traced her through three sale barns where the above tag numbers were recorded on movement documentation. From there the trail went cold.

Under current traceability rules, we need to determine when and from where the animal

left Montana. For an older animal, this task creates a challenge because:

- MDOL's retention schedule for health certificates is five years.
- Private veterinarians are only required to maintain records on cattle for five years.
- At the time this animal likely shipped from Montana, official ID was not regularly included on health certificates.

To fill in the missing information, we first reviewed the tag numbers and compared them to tag distribution records.

- 81LUU- has not been used in Montana.
- 81TAU7676 has been distributed twice, once in 1995 and once in 2005. Neither of these dates fit the age of the animal.
- 81TUU7676 was distributed in the fall of 2005 and, therefore, is the most likely tag for the animal. Using this bangs tag, we identified the name of the veterinarian, date and location where this heifer was vaccinated (December 2006).

Knowing the challenges of finding a health certificate from 2005, we contacted the veterinarian to inquire about the historical shipping practices of the ranch, and we learned that the heifer would have likely shipped as a coming one year old to Texas or Oklahoma.

MDOL pulled all of the brand inspections for 2007 from this ranch to OK or TX and provided them to Texas. Also, accolades to the veterinarian who placed that 81TUU tag. Not only did the tag he applied stay put for nine years, but he also provided us with historical movement of animals from this ranch and the likely brands those animals would have carried. And he was able to find the health certificate for the group of heifers he felt most likely to contain that tag based on the date of the calfhood vaccination.

(continued on p. 6)



FIGURE 3: The only ID collected at slaughter for the Montana bull tested as a reactor in Minnesota.

Buyer City	Buyer State	Buyer #	Species	Sex	Prefix	Backtag	Ringtag	Ticket#	Brand	Location	# Scans	Scans	Color	Cour
GLENDIVE	MT	18-9	Bovine	bull		14169			X-	LR		No Brand	Black	
LONG PRAIRIE	MN	10-30	Bovine	Bull		14171			NV	RR		No Brand	Black	
LONG PRAIRIE	MN	10-10	Bovine	Bull		14161			FW	RSh		No Brand	Black	

FIGURE 4: Output from the Montana brands system showing buyer location, animal information, and brand.

Traceability in Action (cont'd)

(Continued from page 5)

Additional interviews with the Montana owner of the cattle suggested that the movement containing the animal in question shipped on a single unique brand which makes brand inspection documentation that much more useful.

So, with some records searches at our office and meticulous record keeping on the part of the veterinarian, we were able to identify:

- The ID of the brucellosis reactor,
- The source ranch of origin,
- Likely location and date of sale, and
- Most likely destination.

While we could not identify the exact shipment this animal moved on, brands information was able to fill in the gaps where CVI's may no longer be available.

BRAND INSPECTION REQUIREMENT: In Montana, brand inspections are required on cattle:

- Before removal from a County
- Before removal from the State
- Before a change of ownership (selling one head or more cattle or horses)
- Before cattle (or horses) are sold at a live-stock auction
- Before slaughter at a licensed establishment.

None of these points, except removal from a state for older animals, require identification. Brands requirements, while not individual, can help us fill in the gaps for disease work. ☒

By Tahnee Szymanski, DVM

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Evaleen Starkel
Alternative Livestock
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Import Permit Office
(406) 444-2976

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



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Helena, MT, 59620-2001
Return Service Requested
Phone: 406-444-2043
Import line: 406-444-2976
Fax: 406-444-1929

**Montana Department
of Livestock**