



Meeting Minutes: Quarterly Board Meeting

Date: February 15, 2017
Location: University of Minnesota Diagnostic Laboratory, Room 280

Attendance

Board Members

Dean Compart, Producer
Graham Brayshaw, Veterinarian
Paul Hanowski, Producer
Matt Anderson, Veterinarian
Peter Ripka, Producer

Consultants to the Board

Jerry Torrison, Director, University of Minnesota Veterinary Diagnostic Laboratory
Trevor Ames, Dean, University of Minnesota College of Veterinary Medicine
Joni Scheftel, Minnesota Department of Health (via phone)

Guests

Jim Collins, University of Minnesota Veterinary Diagnostic Laboratory
Tom Haegerty, Former State Veterinarian
Tony Kennedy, Star Tribune
Tom Landwehr, Commissioner, Department of Natural Resources
Michelle Medina, Minnesota Farmers Union
Bob Morrison, University of Minnesota College of Veterinary Medicine
Albert Rovira, University of Minnesota Veterinary Diagnostic Laboratory
Lucas Sjostrom, Minnesota Milk
Julie Wilson, Minnesota Board of Veterinary Medicine

Staff

Beth Thompson, Executive Director
Paul Anderson, Assistant Director
Dale Lauer, Assistant Director
Linda Glaser, Senior Veterinarian
Stacey Schwabenlander, Senior Veterinarian
Shauna Voss, Senior Veterinarian
Morgan Grelson, Business Manager
Susan McClanahan, Veterinarian
Erin Crider, Communications Specialist

Approval of minutes

A motion was made by Paul Hanowski and seconded by Graham Brayshaw, with all present voting aye, to approve the minutes for the Wednesday, December 7, 2016 meeting.

Swine Health Monitoring Project

Dr. Robert Morrison from the University of Minnesota College of Veterinary Medicine gave an overview of the Swine Health Monitoring Project (SHMP). This five-year project is funded by the Swine Health Information Center and is in its second year. SHMP aims to develop the capacity to support industry response to emerging pathogens, and depends on the participation of swine producers. The project offers participants help in monitoring disease incidence and prevalence, developing tools to supplement outbreak investigations, and aiding in the understanding of the implications of pig movement.

Currently, 30 systems are enrolled in the program, which includes about 1,100 sow farms and 2.83 million sows. This is almost 50 percent of the sow population in the U.S. Twenty-seven of the 30 systems (comprised of 21 production companies, five veterinary practices and four regional projects) are willing to share their logo to show others they are project participants.

SHMP produces a weekly report for participants and about 300 non-participants. The report includes a Porcine Reproductive and Respiratory Syndrome (PRRS) summary, a Porcine Epidemic Diarrhea (PED) summary, and a Senecavirus A summary. Most people are interested in reviewing the PRRS and PED summaries because they track the prevalence and incidence of PRRS and PED among the participating farms.

The project also provides important data to each farm. They receive their confidential, site-specific SHMP data to track disease incidence and prevalence on their farm; weekly time-to-stability data of all participants; antimicrobial resistance data from the Veterinary Diagnostic Laboratory; and a heat map with active disease cases over time and space. Participants can also examine disease proximity and sequence similarity over time.

In the future, the SHMP hopes to incorporate more data sources and wants to use it to assist the Board in facilitating a secure pork supply. They are developing apps to capture pig movement data to trace diseases and herd-level information on what occurred daily or weekly with the individual herd. They are also working with a large pork-producing state that has about 90 percent of swine producer sites (about 4,000 sites) participating in SHMP and wants to develop a statewide PED heat map of the sites to plan safe weekly truck routes. The same state is also providing SHMP with all of its PRRS virus sequencing data to detect evolution of the virus.

SHMP is collaborating with other organizations to use their data in ongoing studies. They are sharing their PRRS data for various research studies at Ohio State University, Kuwait Institute for Scientific Research, and Iowa State University.

Dr. Thompson noted, SHMP data could help the Board respond to a disease outbreak. She also stated that it would be good to encourage producers to participate in SHMP. The producers, SHMP and the Board would benefit from having more participation and data. Dr. Morrison mentioned having participants sign an agreement to share their historical movement and Premises Identification Number data with the Board in the event of a large disease outbreak. He felt the participants would be willing to sign such an agreement.

Board of Animal Health Update

Dr. Beth Thompson provided an update on the Board of Animal Health. Dr. Paul Anderson has been guiding the Board's response to Chronic Wasting Disease (CWD) discoveries in wild and farmed deer. Dr. Dale Lauer and Dr.

Shauna Voss hosted a meeting of the Emergency Disease Management Committee (EDMC) on February 3, 2017. The Minnesota Poultry Testing Laboratory (MPTL) is running smoothly since opening in the fall. Dr. Linda Glaser has been to the Pipestone market and is getting ready for the season of exhibition permitting. Dr. Stacey Schwabenlander is busy with traceability and working with a new staff member to explore traceability technologies.

The Board is assisting Dr. Joni Scheftel and the Minnesota Department of Health with an outbreak of Seoul Hanta Virus in Minnesota ratteries.

Dr. Thompson attended the Canada - U.S. Upper Midwest Pork Industry Summit, which included representatives from the pork industry, and provincial and state veterinarians from Canada and the U.S. They discussed trade and ideas for handling foreign animal disease outbreaks in pigs. Dr. Thompson participated in a panel discussion with Dr. Dave Schmidt and Mike Starkey about lessons learned from HPAI. The summit gave representatives an opportunity to share experiences and information with counterparts in neighboring states and Canada.

Dr. Thompson is active in the current legislative session, and this is a budget year for the Board. Board staff have testified to the Senate Agricultural Committee and the House Joint Policy and Finance Agricultural Committees. Dr. Anderson testified about CWD to the Natural Resources Committee. The Board is ready to provide more information if requested by the House or Senate.

The Board's legislative liaison requested Dr. Thompson mention two bills that have been introduced in the Legislature. One is an animal cruelty reporting bill, which would exempt veterinarians from civil liability when acting in good faith in reporting known or suspected inhumane treatment of animals. The other is a change to the definition of a nuisance livestock odor. With the change, livestock odor would not be considered a nuisance unless the facility is in violation of other laws. Dr. Thompson will keep the Board updated on these bills as they move through the legislature.

Budget Update

Morgan Grelson presented an overview of the Governor's recommended budget for FY18 and FY19. The appropriation for FY18 is \$5,443,000.00; the appropriation for FY19 is \$5,491,000.00. Increases are at about 2% per year, mostly to maintain current services and programming.

For FY18, \$675,000.00 of emergency preparedness funds will be forwarded to the FY19 budget, and \$35,000.00 of emergency preparedness funds will go to FY20. Mr. Grelson mentioned that the emergency preparedness dollars were originally appropriated for AI emergency preparedness, and were expanded to include preparations for any animal disease emergency.

Veterinary Diagnostic Laboratory Update

Dr. Jerry Torrison provided an update on the University of Minnesota Veterinary Diagnostic Laboratory (VDL). Dr. Torrison thanked attendees for coming to the VDL for the meeting and invited everyone to tour the VDL after the meeting.

Dr. Torrison said the candidate for the MPTL diagnostician position is still having immigration issues bringing his family into the U.S. The University hopes to have this resolved in the next few weeks. In the meantime, the MPTL has trained technicians who have been doing Polymerase Chain Reaction (PCR) testing for Avian Influenza since September. Dr. Pat Redding, co-founder of the Minnesota Raptor Rehabilitation Center, has been doing some wild duck capturing and surveillance, and the MPTL is testing those birds for AI. Several birds have tested positive for Low-Pathogenic AI, and those tests are being forwarded to the USDA lab for confirmation. This is a

good way to stay in practice for any future HPAI outbreaks. The MPTL is also working on training another technician on PCR testing to increase testing capacity in the event of an AI outbreak.

Dr. Torrison thanked those who helped rewrite the contract for how services are delivered through the MPTL. The writing is done, and business staff at the University and the Board are working through the accounting aspects. The staff have worked well together on this project, and it is nearing completion.

Dr. Torrison gave an update on grants the VDL received through the Minnesota Department of Agriculture. They have purchased new equipment and are in the process of repurposing VDL space for disease discovery. They are also upgrading their IT system. The Board of Regents recently approved the VDL's request for proposal grantee, which is a St. Cloud-area software company the VDL has worked with in the past. The VDL has rebuilt some of their existing data structures and are now working on the user interface. They are having meetings with the state on how the system could interact with CoreOne to make reporting a more paperless process.

The formation of the new Molecular Development section of the VDL is progressing well. There are two areas of the section: new test development and bioinformatics, which Dr. Albert Rovira can explain. They have a dedicated space for a computation room, or "dry lab," in which technicians can compare notes on genome sequencing, along with the new traditional "wet lab."

As part of the VDL's emphasis on pathogen discovery, their new electron microscope (EM) is installed and functioning. The EM is important in helping the VDL identify disease when there is no established test. Electron microscopy is an expensive service, and because of the importance of new pathogen discovery, the VDL made this investment.

There can be implications for the Board, the state, and the country if a new virus is found. He stated that there is no process for dealing with such a discovery. He stated there was discussion on this topic at the Canada - U.S. Upper Midwest Pork Industry Summit, and the VDL will hold a meeting in the next month to discuss what other states and countries are doing to address this concern.

Pathogen Discovery at the U of M Veterinary Diagnostic Laboratory

Dr. Albert Rovira presented information on the new Pathogen Discovery section at the University of Minnesota Veterinary Diagnostic Laboratory. The VDL has discovered more new pathogens in recent years, perhaps because of the improved testing or perhaps because of an increase in pathogens. VDL tools for pathogen discovery include the pathology team, virology and bacteriology labs, the electron microscopy lab, molecular diagnostics (PCR lab and next generation sequencing), and new animal isolation facilities for experimental inoculations. The VDL also has a large caseload, close relationships with Minnesota veterinarians and producers, and partnerships with national and state industry organizations, as well as other universities and researchers, to create the opportunities for discovery.

Dr. Rovira explained the difference between "traditional" and "next generation" sequencing (NGS). "Traditional" sequencing looks for DNA and RNA, and it uses primers which require knowing the virus (e.g., flu virus). One sample goes into the computer, and one small sequence comes out. NGS does not use primers, and no knowledge of the virus is necessary. One sample will yield millions of DNA sequences, which supercomputers analyze and overlap logically in order to build a long sequence. NGS allows for disease potential to learn everything about a virus.

Dr. Rovira presented examples of VDL disease discovery using NGS. The VDL identified Porcine Circovirus (PCV3) and Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) through NGS. In the PCV3 example, the VDL was able to develop a PCR test, with retrospective testing showing PCV3 in 27 percent of VDL cases. The VDL is still working on isolating the virus in order to try experimental inoculation. In the PRRSV example, PCR testing

detected massive amounts of PRRSV. The VDL isolated the virus in a cell culture. They performed traditional sequencing, and it was 95 percent similar to other U.S. strains. When NGS was done, they found only PRRSV and were able to assemble the whole genome. They inoculated pigs with the regular PRRSV and this strain of PRRSV, and discovered this strain is more virulent. The VDL is still working to discover if areas of the genome are associated with virulence.

Avian Influenza Update

Dr. Dale Lauer offered an update on avian influenza. H5 HPAI is continuing to circulate around Europe, Africa and the Middle East. This virus is concerning because its spread is not slowing down and affects both wild and farmed birds. The H7N9 strain in China has been found in people, and one-third of those diagnosed with the virus have died. Dr. Lauer said the procedures in China are completely different than those in the U.S. However, he is concerned because a person could unknowingly bring it to another country while traveling internationally.

Dr. Lauer commented on the January finding of H5N2 HPAI in a wild mallard duck in Montana. The USDA found the positive during routine surveillance, and the strain appears to be one of the same strains found in 2014 and 2015. This proves HPAI is circulating here, and finding it is very difficult. The Board will continue to share information with partners and move forward with preparations for an AI event.

The H5N7 LPAI Emergency Disease Management Committee met in Willmar on February 3, 2017. This advisory group is required by the USDA to put together a state emergency response plan. The group is made up of 28 industry representatives, 15 state and federal representatives and University of Minnesota researchers, and two first responders. They made plans to delegate resources and people in the event of a LPAI emergency response. Dr. Lauer also noted there is a smaller Emergency Response Committee of 12 people who revise the Minnesota Plan every five years, and 2017 is a revision year. This group also serves as contacts for HPAI issues.

The EDMC worked on the emergency response organization chart. People from Minnesota lead the response effort so the organization can maintain stable leadership. Dr. Thompson noted that in the event of an emergency, the USDA would be called immediately for backup assistance. She said it would be easier to send people home than to be shorthanded.

The EDMC also discussed Avian Influenza Disease Alerts. These alerts update Minnesota producers, processors and hatcheries about circulating poultry diseases. The main goal is producer awareness of the geographic location of the incident so they can take proper precautions with their own facilities. The EDMC, Minnesota poultry veterinarians, and the Board and USDA field staff also receive the alerts.

The MPTL will hold Commercial Authorized Poultry Testing Agent (APTA) Courses at its facility on February 28, 2017. These individuals will be authorized to collect AI samples from hatcheries and poultry flocks. Samples can be brought to and tested at either the VDL or the MPTL.

Dr. Lauer said the 14 National Poultry Improvement Plan (NPIP) biosecurity principles are moving through the rule-making process. The principles are written by producers, for producers, and designed so everyone can comply. The NPIP wants to ensure each site names a Biosecurity Coordinator, who is responsible for reading the USDA training document and making sure their site has a line of separation and perimeter buffer area in place to keep disease out. This person is also to review their site-specific plan at least once per year. Some sites are exempted from the principles based on the number of birds they raise. The Official State Agency (The Board) must audit these sites every two years, so Dr. Lauer and Dr. Shauna Voss will be working on how to train field staff on the auditing process.

University of Minnesota College of Veterinary Medicine Update

Dr. Trevor Ames gave an update on the University of Minnesota College of Veterinary Medicine (CVM). He also mentioned he was absent from the morning portion of the Board Meeting due to presenting the CVM's yearly administrative cuts to University President Kahler. Every college within the University presents funds that could be reallocated. Sometimes the CVM will get to keep those funds, and sometimes they are reallocated elsewhere in the University.

Dr. Ames commented on the new facilities at the CVM, including a larger veterinary isolation facility. One older building is still being used for infectious disease research during construction and will be demolished once the new facility opens in late 2017. It will be a certified Biosecurity Level 2 (BSL-2) and Biosecurity Level 3 (BSL-3) facility. Testing standards for BSL-3 certification may not be met until several months after the building opens. The CVM is also constructing a new demonstration area, incorporating current technology, so students can observe the necropsy floor.

Dr. Ames also mentioned the six new faculty positions coming to the CVM through funds from the Minnesota Department of Agriculture, which are being filled. The CVM is still searching for a candidate to fill the layman chair position. There is an active search for a dairy faculty member, and another person on the dairy faculty left the CVM recently. One position is a dairy reproductive position; the other is a dairy infection disease position. Both positions will be filled in the coming months.

The CVM is working through the process of admitting next year's class. They reviewed more than 800 applications for 100 slots and completed 340 interviews. They are making calls to the accepted students this afternoon. The makeup of the class is 55 percent in-state students (including those from South Dakota, North Dakota, and Nebraska) and the rest are from out of state.

Dr. Ames gave an overview of CVM issues at the legislature:

- The Minnesota Veterinary Medical Association (MVMA) is leading the initiative for renewed funding of the Food and Animal Loan Forgiveness Program. Three graduates were funded in the last cycle, and they hope to help more in the future.
- The University is asking legislators to support an increase in base funding to help lower tuition increases.
- A bill was introduced for health care providers that have physician, pharmacy and dental students in their practices to claim expenses and get a tax credit for having students in their practices. The MVMA has met with the bill's author and asked that veterinarians be added to the bill.

Seoul Hanta Virus

Dr. Joni Scheftel gave an overview of the current Seoul Hanta Virus outbreak in ratteries in the Midwest, including in Minnesota. This Seoul Hanta Virus is related to the Hanta Virus Pulmonary Syndrome from the Southwest U.S., and is not as fatal, nor does it cause respiratory symptoms. It affects the kidneys and the blood, and most people display mild or no symptoms. It is extremely rare in the U.S.

This investigation began in December 2016, when two people in Wisconsin were diagnosed with Seoul Virus and reported operating a home-based rattery. This led to tracebacks to two Illinois ratteries and six additional people who tested positive for Seoul Virus. Since then, Illinois, Wisconsin, Minnesota, Colorado and Tennessee have confirmed cases of Seoul Virus in people and/or rats. Minnesota has no confirmed human cases. There have been 11 lab-confirmed cases in humans in Illinois, Indiana and Wisconsin, and all have recovered. Ten states are investigating possible cases of the virus in people and/or rats.

On January 18, 2017, the Minnesota Department of Health Zoonotic Disease Unit (ZDU) was notified of three Minnesota ratteries in Dakota, Ramsey and Wright Counties that received rats from the implicated Wisconsin and Illinois ratteries. On January 24, 2017, ZDU staff drew blood from the outbreak-associated rats at each facility, and samples were sent to the Centers for Disease Control and Prevention (CDC) Laboratory. The ZDU recommended each member of the owners' households be tested for Seoul Virus. The Dakota and Ramsey County owners and families were tested, and the Wright County owner declined testing. On February 5, 2017, the CDC confirmed all humans and rats at the two tested facilities were negative. Two of four rats at the Wright County facility tested positive for Seoul Virus.

On February 9, 2017, a Board veterinarian and a ZDU veterinarian quarantined the rats at the Wright County rattery and discussed the components of the quarantine with the owner. They inventoried all 77 rats and planned for testing and removal of positive rats. On February 16, 2017, ZDU vets and a private-practice lab animal veterinarian will draw blood samples and send them to the CDC for Seoul Virus serology and PCR testing. All positive rats will be euthanized, and this process will be repeated until all rats test negative on a single test. While depopulation was the MDH's preference, the chosen process is what is being used in other states and is sanctioned by the CDC.

Dr. Scheftel said it's difficult to get rattery owners to understand the importance of protecting themselves from this disease. The ZDU veterinarians wore protective suits, eyewear, and filtered masks while working with the rats, and owners continued to handle them with no protection and keep cages in living areas. While this virus is not usually serious for people, the potential for serious illness is there, and much information about the virus is unknown. The owners and their families are exposing themselves and anyone entering their homes to the virus.

Dr. Schwabenlander asked if the rats had identification. Dr. Scheftel said the rats are identified by their distinctive colors and patterns. The ZDU is depending on rattery owners to help identify each rat, because they have named individuals and are very knowledgeable about the animals.

Dr. Glaser asked if the owner at the Wright County facility is more likely to be tested after learning their rats tested positive for the virus. Dr. Scheftel thought they might be more likely to agree to testing, though none were tested to date.

Dean Compart asked if the Seoul Virus could be passed from person-to-person. Dr. Scheftel said it cannot be passed person-to-person; it is only transmitted animal-to-person.

Dr. Brayshaw asked if there is any concern about tracing rats purchased from these facilities. Dr. Scheftel said individuals have purchased rats in other affected states, and some of those rats have been positive. The ZDU asked the Minnesota ratteries about who purchased rats from them, and they all stated they have only sold to the other infected ratteries. As a precaution, the ZDU has sent out an alert to veterinarians to contact them if anyone requests their pet rat be tested for Seoul Virus.

Chronic Wasting Disease Update

Dr. Paul Anderson offered an update on CWD in farmed cervidae. After the Department of Natural Resources (DNR) found two cases of CWD in wild deer near Preston, the Board placed movement restrictions on the five cervidae farms within a 10-mile radius of the positive cases, meaning no deer could move in or out. The Board will lift the restrictions if the farms construct exclusionary fencing (double fencing or solid fencing). One farm has been double fenced since 2013, another farm has put up double fences, and the others are still single-fenced. These farms have 180 days to construct Board-approved exclusionary fencing. If they finish their fencing after this deadline, they would be under movement restrictions for three years.

Around Christmas time, a farm in Crow Wing County found two positive deer during required routine testing. They were two-year-old does, and the Board traced their origins. One was born on a former farm in Lac Qui Parle County, which moved its animals to the Crow Wing County farm after closing. The other deer was born on the Crow Wing County farm and was penned with the other positive deer. There were no out-of-state traces.

The Board traced animals sold by the Crow Wing County farm to other Minnesota farms:

- One two-year-old doe born on the Crow Wing County farm was sold to a farm in Dassel (Meeker County), and that deer was found dead. The farm was quarantined, and tests showed the dead deer was positive for CWD. This deer was brought up in the same pen with the other positive deer.
- A second two-year-old doe was sold to a farm in Mountain Iron (St. Louis County). This deer also grew up in the same pen with the other positive deer.
- Four, two-year-old does, were sold to a farm south of Brainerd (Crow Wing County). They also grew up with the other positive deer.
- Two mule deer were sold to a farm in Freeport (Stearns County). They were not housed in the same pen with the other positive animals.

All of the farms have been quarantined. The USDA is buying these animals, Board field staff will euthanize them on the farms, and they will collect samples and take them to the VDL tomorrow.

Dr. Michelle Carstensen inquired about the next steps for the farms who decide not to euthanize their herds. Dr. Anderson said the Crow Wing County farm owner does not want to depopulate his herd, so he needs to develop a herd plan and have it approved by the Board. The Stearns County farm owner has not decided whether or not to euthanize his mule deer. If he opts not to euthanize them, the farm will be quarantined for five years.

Dr. Carstensen gave an overview of CWD in Minnesota's wild deer. During surveillance in southeast Minnesota, the DNR found two CWD-positive deer near Preston. A third positive case was found in a deer sent to a taxidermist about five miles north of the others. The DNR scheduled a CWD management zone, set up a special hunt, established a recreational deer feeding ban, conducted an aerial survey, issued landowner shooting permits, set up mandatory CWD testing and carcass export restrictions, and issued a USDA sharpshooting contract focused on the core areas.

The mid-December aerial survey showed more deer than expected, especially in the areas where the positive cases were found. The DNR estimated these areas had around 35 deer per square mile. The special hunt ran from December 31, 2016 to January 15, 2017, and they collected 637 samples from adult deer. They found three new positive cases, and all of them were female deer. Does travel only about 1 to 2 square miles on average, so this centers the outbreak in the immediate area where the positives were found. The DNR is starting to collect muscle and teeth samples to see if the positive deer are all from the same family group and if they match other deer in the area.

The landowner shooting permits were active between January 16, 2017 and February 12, 2017. The DNR issued 411 permits, and 270 samples were collected. Over the weekend, two more deer tested positive, and 65 cases are still pending.

Dr. Carstensen estimated the overall disease prevalence in the area is 0.6 percent because of the testing the DNR has done in the fall and winter. She said this does not appear to be a large outbreak, and they are aiming to eliminate CWD in the area. The USDA sharpshooting contracts will begin February 20, 2017. Eighteen private landowners are in cooperation with the contracts. Landowners can set limits on how many deer are removed from their property; the USDA does not dictate this.

In response to the positive CWD cases on a deer farm in Crow Wing County, the DNR did an aerial survey of the area's wild deer. While they were looking more for overall deer distribution, they counted about 1,000 deer in the peripheral area and about 500 inside the core area. This information will be used to make preparations for testing this fall. They were not able to do the same survey in Meeker County due to lack of snow cover.

Dr. Carstensen also commented on the cost of the DNR's CWD testing. In the fall, they will be testing in at least three infected areas, which will cost around \$800,000.00, and they will continue to do surveillance in these areas for three years. There may be more areas to test if any of the traceouts from Crow Wing County are CWD positive. The Wild Cervid/Deer Feeding account cannot fund this work, nor can the Game and Fish fund. The DNR will seek additional funding for this project.

Next Meeting & Adjourn

The Board will hold its next quarterly meeting at 12:30 p.m. on Wednesday, April 19, 2017. A motion was made to adjourn, with all voting aye.

Respectfully Submitted,

Dr. Beth Thompson
State Veterinarian
Executive Director