Minnesota Board of Animal Health

Annual Report
Fiscal Year 2013

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Dear Friends of Minnesota Agriculture,

It has again been a busy year at the Board of Animal Health. We put the finishing touches on a four-year effort to rewrite all the Board of Animal Health rules. This was done so that our rules are up to date, well-organized and easier to understand. I would like to take this opportunity to say thank you to our stakeholders who were an active part in crafting those rules. The rule making process is long and arduous, but it provides extra time for input from those that will be affected.

Nationally, there is a major effort to improve our ability to trace animals when it is necessary to contain disease. Our new rules require that breeding cattle be officially identified upon movement from the herd to another location. Also new is the requirement to keep records of purchase and sale of cattle. These new requirements are a big piece in improving traceability in Minnesota. To help livestock agriculture adjust to this process, we are distributing official ear tags at no cost to producers and veterinarians. We continually work with all stakeholders to help them adapt their businesses to these changes. Thanks to your cooperation, we have made great strides in that process as we continue preparing to respond to any future disease event.

I take great pleasure in sharing with you the 2013 Minnesota Board of Animal Health Annual Report. The information contained within is from July 1, 2012 to June 30, 2013. For more information on our disease programs, I encourage you to explore the Board's website at www.mn.gov/bah.

Sincerely,
Bill Hartmann
Executive Director and State Veterinarian

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Dr. John Whitten, President
• Alexandria

Dr. Holly Neaton, Vice President
• Watertown

Steve Brake, Board Member
• Wilmont

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• Nicollet

Paul Hanowski, Board Member
• Warroad

Board Meetings

September 19, 2012

December 5, 2012

February 20, 2013

April 3, 2013

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Swine

Minnesota continues to be a major producer of hogs, and the states' hog producers remain leaders in the industry. Working together with swine producers and related stakeholder groups is a priority for the Board.

Major diseases such as swine brucellosis and pseudorabies are no longer a concern for the commercial herd, due in large part to the resolve of the producers. In its new rules, the Board deleted references to those diseases. The Board also acknowledged the tremendous effort by producers in officially identifying the swine that move between states, recognizing swine production health plans within its new rules. In the last year, the Board received information on over 735,000 pigs that moved interstate under a production plan.

During the summer of 2012, influenza in swine again made the news as the H3N2v serotype was diagnosed in pigs and people, mainly at fairs in other states. Working together with the swine industry, other state agencies and stakeholders, the Board put swine exhibition recommendations in place and helped to develop consistent messaging.

Porcine reproductive and respiratory syndrome virus (PRRSv) continues to lessen the productivity of herds. Vaccine and/or herd closure continue to be options, and elimination efforts have been instituted in parts of the state. PRRSv is not a regulated disease, but the Board supports efforts to control and eliminate the disease.

A transboundary disease known as porcine epidemic diarrhea virus (PEDv) was diagnosed in the U.S. swine herd in May 2013, with cases in Minnesota. While not a regulatory disease but new to the U.S., the Board worked with producers on education about the disease. Piglets that contract the virus, especially when young, are very likely to die; older pigs will suffer vomiting and diarrhea. Biosecurity and being a good neighbor remain key practices for swine producers.

An important addition to the Board's new rules includes the prohibition for importation of feral swine. Minnesota currenly has no feral swine. Any encroachment into the state could have a devastating impact because feral swine are known to harbor brucellosis and pseudorabies.

Cattle

Testing cattle for bovine tuberculosis continues even though Minnesota regained its state TB Free status in 2011. Accredited veterinarians certified by the Board to TB test cattle have tested 22,500 animals this year for sale or export.

We kept busy this year with traces related to two infected dairy herds found in Michigan and California in early 2013. TB investigations are conducted by our staff members when cattle moved into Minnesota are later linked to TB infected herds found in other states. Individual animal identification from test records and movement or sale records are used to find the animals. Individual animals tracked to a location in Minnesota are tested. If the animals have moved out of the state, the trace information is transferred to the next state's animal health office for follow up. When animals are not individually identified, groups of animals must be traced, quarantined, and tested. Traces following animals without individual identification impacts more animals and producers as the exposed animals are often commingled in larger groups as they move and grow. When an individual exposed animal cannot be distinguished in a group, the whole group is considered exposed.

This past year, the U.S. Department of Agriculture's (USDA) Veterinary Services discontinued funding and staffing for the Johne's Disease Control Program. The Board is continuing the program, focusing our resources on education. Our district veterinarians continue to perform herd risk assessments and work with the producers to develop plans to reduce within-herd Johne's disease transmission. The Board also continues to support producers who are interested in the test-negative component of the program. At the end of this year, 105 Minnesota herds had a test-negative status. Milk testing, offered by the Minnesota Dairy Herd Improvement Association (DHIA), continues to be a convenient tool to monitor herd infection. Minnesota DHIA laboratories test between 2,000 and 3,000 animals each month from clients in Minnesota, Wisconsin and South Dakota.

Other changes to the Johne's program in Minnesota were implemented due to the Board's new rules. A herd TB test and documentation of a test positive Johne's infected animal in the herd are no longer required before starting to vaccinate calves with Johne's vaccine. Additionally, all animals vaccinated for Johne's must be officially identified.

Poultry

Rule Changes
As a result of the Board's new rules, there have been many changes to poultry programs and testing in Minnesota. The changes enhance our ability to safeguard poultry health in the state. Import permits are now required prior to the importation of all hatching eggs, poultry or ratites. All out-of-state poultry and ratites imported into Minnesota must be accompanied by a certificate or test chart to show required disease program compliance. The *Salmonella* Typhimurium import requirement for turkey hatching eggs, poults and turkeys was removed.

Another new requirement focuses on live bird markets. The Board now permits and inspects such markets at least once every 12 months. During inspection, our staff members check crates and equipment for sanitation. Operators of live bird markets must also keep records on birds that enter the facility. Poultry sold undergo surveillance for influenza and the facility must be completely emptied, cleaned and disinfected every 30 days.

Hatcheries and breeding flock facilities must now be permitted by the Board. The permitting process includes filing an application, meeting the necessary test requirements, maintaining adequate records and allowing an inspection by the Board. Our staff members inspect the facilities to make sure the premises are maintained in a reasonably clean and sanitary condition. Permits must be renewed annually and may be revoked or suspended for lack of compliance.

Disease Programs
Mycoplasma introductions have been a concern recently in Minnesota because of the potential to transmit disease to chicks or poults through the hatching process. *Mycoplasma synoviae* (MS) in broiler breeders and *Mycoplasma meleagridis* (MM) in turkey breeders have been the most recent Mycoplasma events in the state. MS was identified during routine monthly testing in a broiler breeder flock. We quarantined the flock and initiated surveillance. A MS epidemiological link was identified and the breeder flock was depopulated. The premises was then cleaned and disinfected before repopulation.

MM was identified in a turkey breeder flock. The hatching eggs from the positive flock were kept separate and treated at the hatchery. Poults were identified when placed in order to control the spread of MM. The flock was marketed and the premises was cleaned and disinfected prior to repopulation. Despite these efforts to prevent egg-transmission, MM-positive commercial turkey flocks have been identified on 44 premises in 19 Minnesota counties.

As in many years past, we continue to conduct surveillance for influenza in Minnesota poultry populations. No H5/H7 subtypes of influenza have been identified in Minnesota since 2011. However, non-H5/H7 influenza introductions continue to be a yearly occurrence. A spring introduction of low pathogenic avian influenza (H8N4) spread throughout several Minnesota counties and went on for a few months. The situation was concerning because of the gradual spread in a poultry-dense area. However, processing plants, independent poultry producers and poultry companies were able to work together with the Board to successfully eradicate the virus. The H8N4 virus spread came to an end in the fall of 2012 with a total of 51 flocks on 26 premises identified.

Training and Testing at the Minnesota Poultry Testing Laboratory

Authorized Poultry Testing Agents	737
Non-Billable Services (Board and National Poultry Improvement Plan testing)	224,190 procedures
Billable Services (U of M Veterinary Diagnostic Laboratory testing)	101,773 procedures

Authorized Poultry Testing Agents: MPTL, Board and USDA staff train, support and supply these individuals with the knowledge to keep their flocks healthy and Minnesota poultry safe.

Non-Billable Services: Testing required to comply with state and federal requirements which help to support disease control, trade and commerce.

Billable Services: Testing for poultry producers and veterinarians to evaluate poultry and flock health programs.

Scrapie

Each year since 2001 the sheep and goat industry has worked together with us and our federal partners to eradicate scrapie. At one time, as many as 40 flocks in Minnesota were quarantined because of this fatal neurological disease.

Sheep and goats from the U.S. are continually monitored for scrapie, primarily by testing animals at slaughter. During the period of July 1, 2012 through June 30, 2013, 1,468 sheep and 169 goats from Minnesota were tested for scrapie. In addition, two investigations were conducted to assure that animals which had been exposed to scrapie in another state and imported into Minnesota were not infected with the disease. Despite this intense surveillance, no new infected flocks were identified in Minnesota this past year. In fact, scrapie has not been found in Minnesota since January 2011.

Official identification of sheep and goats continues to be an important aspect of the scrapie eradication program. Proper animal identification allows any animal that is found infected with scrapie at slaughter to be traced back to its flock of birth so that scrapie control and eradication methods can be implemented. This year, board staff assisted producers and veterinarians with 757 tag orders. These efforts resulted in 117,376 free tags being distributed for use in sheep and goats.

Horses

Like most livestock, horses move around the state and country constantly, comingling with other animals. This makes disease prevention even more important. Equine infectious anemia (EIA) is a viral disease of horses most frequently transmitted by large biting flies between animals in close proximity. There is no vaccine or treatment for EIA. Once a horse is infected, it remains infected for life and is always a potential reservoir for spread of the disease.

Our rules require horses to be test-negative for EIA prior to importation or attendance at public exhibitions in Minnesota. Infected horses are quarantined and need to be permanently maintained in isolation or be euthanized to prevent the disease from spreading to other horses. During the last 12 months, 30,223 Minnesota horses were tested for EIA. One infected horse was identified on a Wadena County farm through the required pre-exhibition testing. We quarantined the infected horse and required an EIA test on 13 other exposed horses on the farm. Three additional infected horses were identified. All four of the infected horses were euthanized.

Two EIA infected horses that were identified in previous years remain under permanent quarantine and isolation. One is in Wadena County and one is in Clearwater County.

Farmed Cervidae

Minnesota boasts a diverse livestock population. In addition to thousands of cattle, hog and poultry farms, there are 522 producers in Minnesota who raise deer, elk or other species in the cervidae family. The state's current farmed cervidae population is 12,499 animals. This inventory is made up of 6,311 white-tailed deer, 4,942 North American elk, 372 European red deer, 277 fallow deer and 106 reindeer. The remainder is made up of a menagerie of other types of cervidae such as moose, caribou, mule deer, sika deer, muntjacs and pudu.

People who raise farmed cervidae have unique challenges. The industry is strictly regulated, and in Minnesota there are rules pertaining to fencing, identification, movement and surveillance testing for chronic wasting disease (CWD). Each farm must be registered with the Board and inspected at least once every 12 months. While it is our job to make sure regulations are being followed, it is a priority to work with the industry to identify problems and find solutions that work in real life. To engage our stakeholders in such conversations, we hosted a Farmed Cervidae Advisory Committee twice in the last year. This group is made up primarily of deer and elk producers and representatives from the Minnesota Departments of Agriculture and Natural Resources, Deer Hunters Association, University of Minnesota, Minnesota Zoo and USDA.

CWD is a fatal nervous system disease that affects cervidae. The disease is caused by an abnormally shaped protein called a prion. In order to identify CWD-infected herds, producers participate in a mandatory surveillance testing program. Our rule change this year lowered the testing age from 16 months down to 12. Under the new rules, all animals 12 months of age and older that die or are slaughtered must be tested. Testing younger animals will provide us with a more complete picture of CWD in Minnesota. During the previous 12 months, farmed cervidae producers tested 1,954 animals for CWD. All tests were negative. Herds that have been subject to five or more years of CWD surveillance with all negative results are classified as CWD Certified. There are 483 CWD Certified negative herds in Minnesota.

There is currently one CWD-quarantined herd in Minnesota. In May 2012, one animal from a red deer herd located in Ramsey County was determined to be infected with CWD. Over the past 15 months, 350 deer from the herd were sent to slaughter and were tested for CWD. All tests were negative. In light of these findings the owner of the herd has decided to try and eliminate CWD from the herd by test and removal. Each animal in the herd that dies or is slaughtered will be tested for CWD. If a positive animal is found, it will be removed from the herd. If no infected animals are identified during a 60 month period, the quarantine will be released.

Farmed cervidae producers also participate in programs for control of tuberculosis and brucellosis. In the last 12 months 1,268 animals were tested for tuberculosis and 1,370 animals were tested for brucellosis. All tests were negative. There are 179 tuberculosis Accredited Free herds and 90 brucellosis Certified Free herds in Minnesota.

Emergency Planning

A Foreign Animal Disease (FAD) Annex was developed by the Board this year for inclusion in the Minnesota Emergency Operations Plan (MEOP). The MEOP provides the basis for a multi-state agency response to a major disaster or emergency within Minnesota. The FAD Annex defines the authorities and responsibilities of the Board as well as other state agencies in a declared foreign animal disease emergency in Minnesota. We would rely on other state agencies to provide the same expertise and support in a foreign animal disease response that they would provide in any state emergency response. Examples of assistance from other state agencies would include coordination of the response effort, traffic control, security, radio communications and assessment of wildlife in disease transmission.

Another focus in emergency planning efforts this year has been developing permitted movement procedures for an animal disease emergency. Although disease control is paramount in an outbreak, keeping the unaffected sectors of animal agriculture in business during a disease outbreak is also critical. Animals and their products must be able to move so food can get to consumers. Allowing disease-free animals and products to move and identifying and stopping the movement of animals or products that could be infected are the goals for permitting movement. Science-based risk assessments and protocols are used for repeated testing and monitoring of animals to detect infected animals as soon as possible. Guidelines are being developed based on those protocols to provide assurance for permitted movement. One Minnesota workshop held this year brought together state agencies to discuss what would be needed to control cross border movement of animal agriculture vehicles coming into the state. Another workshop included participants from three states including Minnesota to discuss permitted movement of egg products out of a 'Control Area'. Each state had a turn practicing as though a poultry disease outbreak was happening within its borders.

Rabies

Taken from the Rabies Annual Report, Livestock Sanitary Board, 1903:

"...the presence of rabies in dogs... these animals hunt and eat rabbits, possibly becoming infected through injury of the buccal mucous membrane. The causative factor of this disease is claimed to be an organism belonging to the protozoa, the lowest form of animal life, and is found exclusively in the nerve cells of rabid animals."

A lot has changed in 110 years. The Livestock Sanitary Board of 1903 has given way to the Minnesota Board of Animal Health and we continue to work diligently to investigate potential and probable rabies exposure to Minnesota's domestic animal population. It is now known that rabies is caused by a virus which is typically transmitted in saliva by the bite of an infected mammal. There were 59 rabid animals from Minnesota diagnosed this past year, including one white-tailed deer. This was the first deer to test positive for rabies in Minnesota's recorded history. Ultimately a fatal disease, our dedicated field and office staff have investigated 268 cases of rabies exposure/potential exposure to domestic animals this past year.

The Board works cooperatively with the Minnesota Department of Health (MDH) and the Minnesota Veterinary Diagnostic Laboratory (VDL) to administer this program. Private practice veterinarians are integral in assisting with routine client education related to rabies and preventative rabies vaccination as well as vaccine administration for exposed or potentially exposed animals. These veterinarians also work to assist their clients in the submission process for testing animals for rabies. This is a great example of multiple facets of public and private individuals and organizations coming together to best implement an important program. In the last year, the MDH has advised 130 individuals within Minnesota to receive post-exposure prophylaxis (PEP) for rabies/potential rabies exposures. Eighty-three of the 120 people advised to receive PEP were advised due to interaction with a bat. The VDL tested over 2,350 Minnesota animals for rabies in the past year.

Species	Positive for Rabies
Bat	28
Bovine	2
Canine	1
Caprine	1
Deer	1
Equine	2
Feline	1
Skunk	23

Traceability

Import and Export Data
Capturing summary data for all domestic animals imported and exported from Minnesota each year shows the significant role the state's livestock industry plays in interstate commerce. In addition to summary data, we also capture individual animal information for all officially identified cattle and bison reported to the Board. The number of records captured in the Board's animal disease database continues to climb. This abundance of animal sighting and movement information directly impacts our ability to effectively and efficiently trace animals when concerns for disease exist. This allows us to better protect Minnesota's livestock industry.

This year, we were able to capture over 376,000 individual animal records, including cattle/bison imported into Minnesota, exported from Minnesota, tested for program diseases or sighted at livestock markets or sales.

Animal	Imported	Exported
Cattle	427,774	186,272
Swine	5,569,596	1,932,259
Sheep	18,401	11,368
Goats	1,948	2,622
Farmed Cervidae	138	1,336
Poultry	31,661,222	43,793,479
Horses	18,498	10,981
Companion Animals	1,302	3,458

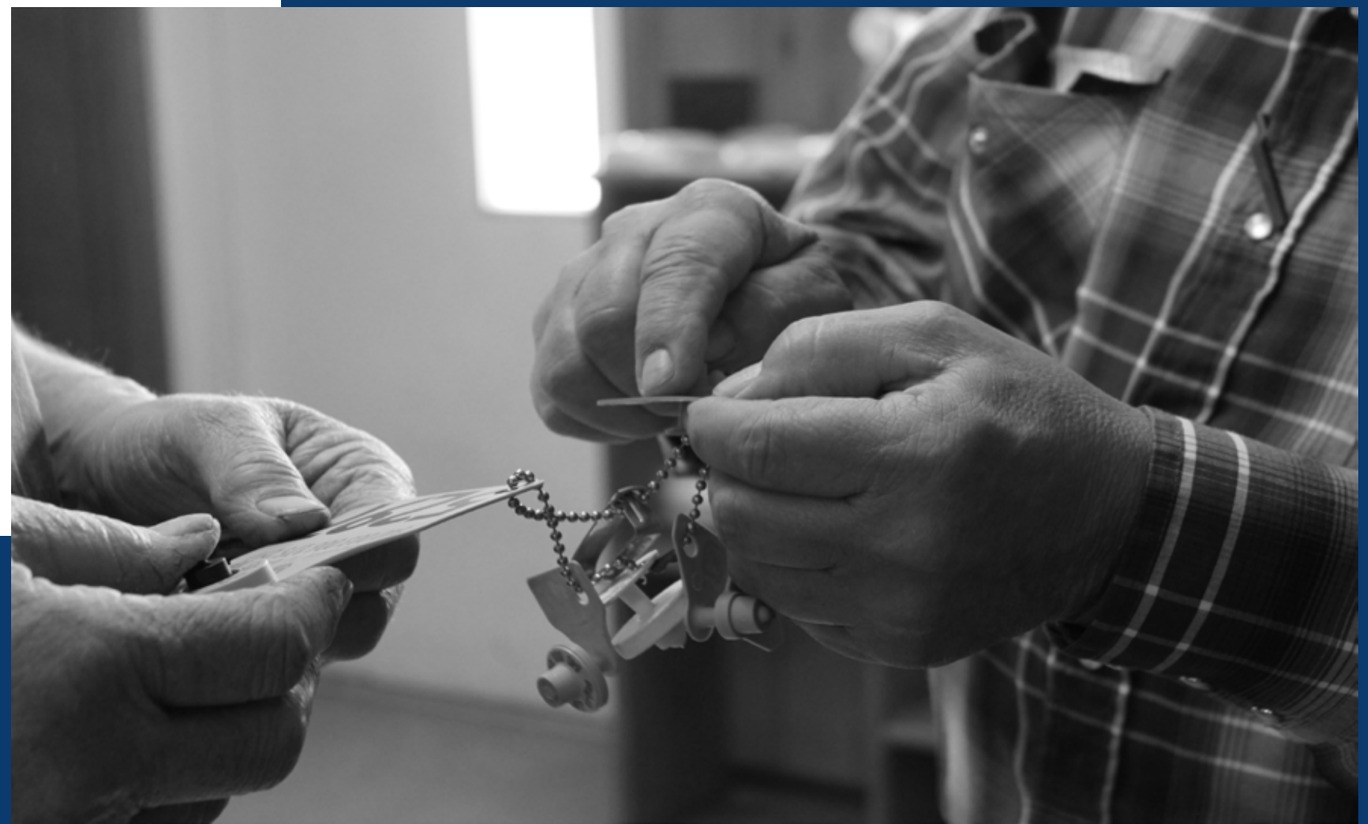
Farm Visits
In order to keep records on Minnesota livestock operations current and accurate, our staff members visit farms throughout the state. They update information on the livestock kept on each farm and on the producers who own and care for the animals. The accuracy of this information is critical to the Board's ability to respond quickly and efficiently to animal disease events.

During the previous 12 months, Board staff members visited and updated the information on 7,498 Minnesota farms. The data gathered during these visits is protected under Minnesota Statutes.

Official Ear Tag Distribution
During an animal disease event, animal health officials need the ability to trace animals quickly. Our new rules contain official identification requirements for cattle, bison, pigs, deer and elk. With certain exceptions, the new rules require that breeding cattle, rodeo cattle and all cattle for exhibition be officially identified prior to movement from the herd to another location. Breeding and feeding swine must also be officially identified prior to movement from the herd to another location. All farmed deer and elk must be identified with an official ear tag.

To help livestock producers meet these requirements, we started a program to distribute official ear tags to producers and veterinarians free of charge. The official ear tags we distribute adhere to one of two numbering systems, the animal identification number (AIN) system or the national uniform ear tagging system (NUES). The AIN number system consists of 15 digits, with the first three being the country code (840 for the United States). AIN numbers are usually used on radio frequency identification devices (RFID). The NUES system combines a two digit number for each state (41 is for Minnesota) or the state's two letter postal abbreviation with two or three letters followed by four numbers (e.g. "41ABC1234" or "MNABC1234). NUES numbers are used on silver metal ear tags, orange metal brucellosis vaccination ear tags and most recently on a variety of plastic ear tags. All official ear tags must be approved by the USDA and contain the U.S. shield.

Since the program began less than a year ago, the Board has distributed 43,718 RFID ear tags, 33,981 plastic NUES ear tags, 116,246 silver metal ear tags and 23,500 orange brucellosis vaccination ear tags.



Livestock Markets And Dealers

With increased traceability at the forefront of the Board's tasks, we began contacting and working with the states' 300 livestock dealers. Working with the Minnesota Department of Agriculture group that licenses all dealers, we were able to reach out to all dealers to discuss the importance of official identification and record keeping.

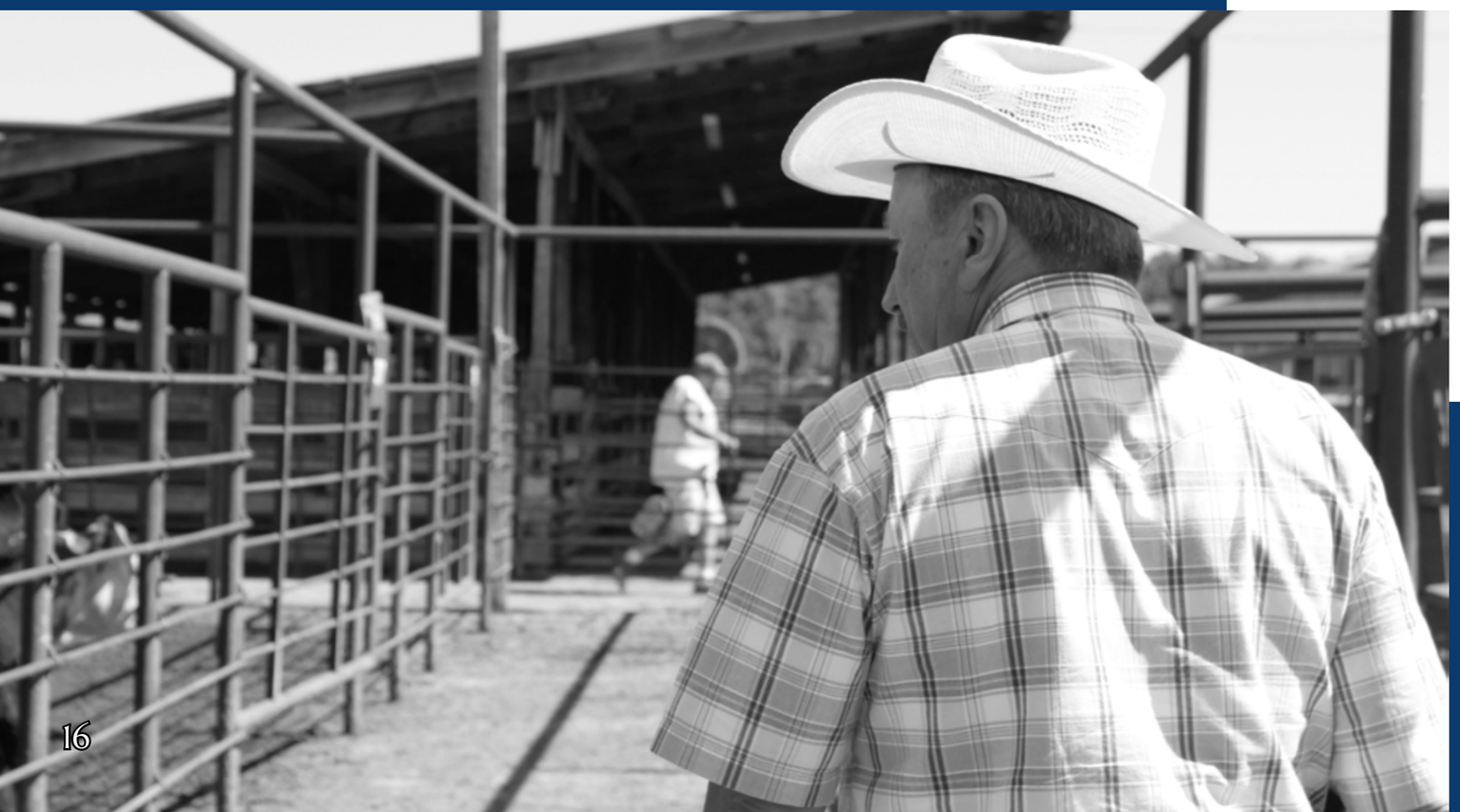
A significant aspect of Minnesota's livestock markets is the close proximity of the markets to neighboring states. Many of the 32 markets in Minnesota receive livestock from other states. Weekly contact with market managers, veterinarians and other staff allows the Board to maintain record integrity and observe the health of livestock moving into Minnesota. We also have good working relationships with the neighboring states which allows for expedient tracking of animals if needed.

Garbage and Exempt Feeding

Livestock producers continue to utilize unused food products and meat to feed animals. Thorough cooking of food waste eliminates potential tranmission of diseases like foot-and-mouth and hog cholera. Therefore, food products that contain meat are allowed to be fed to animals if the producer cooks the product as required by the Board's rules.

Our staff members inspect garbage feeding facilities on a monthly basis. If the unused food product does not contain meat, inspections are conducted on a quarterly basis. Producers who wish to feed unused food to livestock and poultry must first obtain a Board-issued permit.

There are seven properties that cook unused food products in Minnesota; there are approximately 30 producers that use products that do not contain meat.



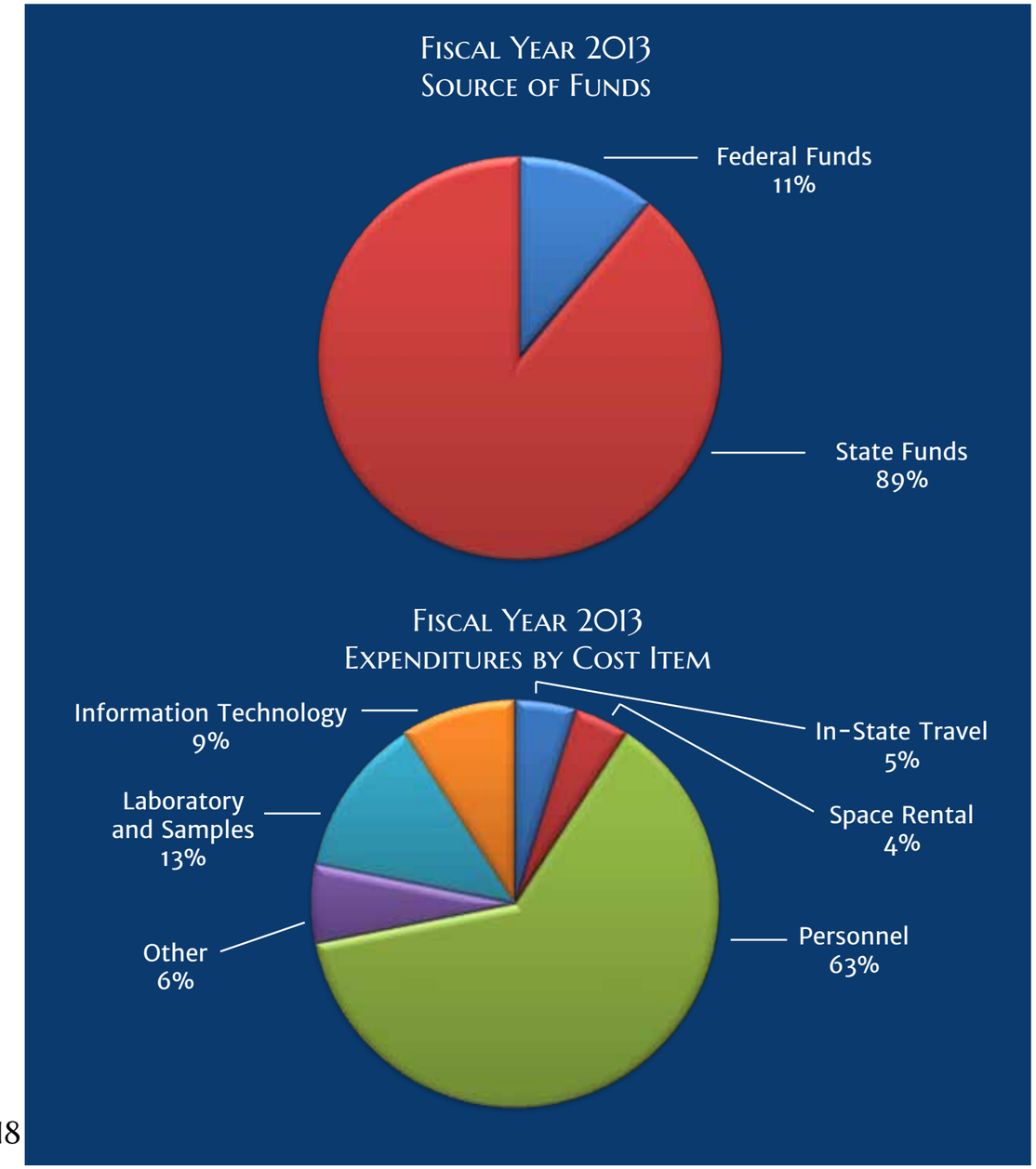
Carcass Disposal

Weather, disease and other disasters can cause livestock carcass disposal issues. During a recent legislative session, the Board's authority to regulate and oversee mortality disposal was clarified. The legislature directed that the executive director of the Board is responsible for management of livestock mortalities due to disease and non-disease reasons. If there is reason to believe surface or ground water may be affected in non-disease related mortalities, the director will seek the input of the Minnesota Pollution Control Agency.

The Board is a constant companion to the livestock industry when help is needed. The Board staff are trained in assisting with setting up compost sites, and identifying other possible methods of disposal. In addition to ongoing one-on-one visits with producers, during the summer of 2012 and 2013, field staff presented information to various local livestock groups on disposal methods.

Budget

During Fiscal Year 2013 the Board expended $5,506,975 to carry out our many animal health and disease programs. Of this amount, $4,898,741 came from state general fund dollars appropriated during the FY2012-2013 biennium. Another $643,826 was obtained from federal cooperative agreement awards which supported specific state-federal disease programs such as animal disease traceability, avian influenza surveillance and bovine tuberculosis eradication.



Veterinary Diagnostic Laboratory

The University of Minnesota's Veterinary Diagnostic Laboratory (VDL) is the official laboratory of the Minnesota Board of Animal Health. The VDL is a national leader in providing rapid diagnosis of animal diseases, identifying emerging diseases and developing new diagnostic methods as well as training diagnosticians and veterinarians.

The VDL is dedicated to protecting and promoting animal and human health through early detection and monitoring of animal diseases. A unit of the College of Veterinary Medicine, the VDL is the only full-service public laboratory processing up to 70,000 cases from livestock, poultry, wildlife, fish and companion animals annually.

This past summer, the VDL was successful in developing a rapid, reliable and inexpensive test for porcine epidemic diarrhea virus (PEDv) when called upon by the Board of Animal Health.

PEDv was threatening piglets in 17 U.S. states including Minnesota. Characterized by acute diarrhea and vomiting, a PEDv outbreak wipes out an average of 50 percent of young swine at newly affected farms.

In just 12 weeks, the VDL unveiled the nation's first detection device for farmers and pork producers.

Thanks to the new test, samples from animals suspected of carrying PEDv can be submitted to the VDL for testing. Test results are known within 24 hours, allowing for swine producers and farmers to take necessary precautions to prevent further spread.

The Veterinary Diagnostic Laboratory is pleased to play a vital role in not only preparing for infectious disease but in protecting such a great Minnesota resource as agriculture.

MINNESOTA BOARD of ANIMAL HEALTH

MINNESOTA BOARD OF ANIMAL HEALTH
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