



## **Wisconsin Veterinary Diagnostic Laboratory**

**UNIVERSITY OF WISCONSIN-MADISON**

# **Newsletter - Spring 2018**

### **Message from the Interim Director**



Spring seems to have arrived based on what the calendar says but both of our laboratories have fresh snow on the ground in early April. All of our diagnostic testing and professional service staff have been busy with new testing regulations, testing caseload, and projects in the laboratories.

We are due for a software upgrade for our main database that runs the laboratory and are looking for your input. Please see the link below. We are hopeful, with the help of our clients, to enhance the interface and customer experience for WVDL clients. You will also find some helpful tips in all the section specific reports be it EIA testing, salmonellosis, new swine regulations, or restrictions on barbiturate use for euthanasia in large animals that are to be rendered.

Lastly, we would like to highlight our team member, Julie Anderson in this edition of the WVDL Newsletter. Julie has worked in the Client and Business Services Sections at WVDL since 2000 and recently received the prestigious University Staff Recognition Award. We are all very proud of Julie!

Keith Poulsen  
Interim Director

### **Client feedback:**

### **Help us with our database upgrade project**

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We are embarking on an exciting endeavor of upgrading our laboratory information management system (LIMS for short). This is a long awaited process improvement to our current procedures and opportunities to improve our client interactions. As part of this project, we need input from our clients and customers regarding the aspects utilized, or potentially utilized, in your interactions with our laboratory.

Currently some of you may access results via our customer portal. The current portal allows you to view submission status, print or download PDF copies of result reports, and export raw data in an excel (csv) file format. Clients also have the ability to pay statements, via transport to our University of Wisconsin CashNet vendor system.

In order to better serve your needs, one area we are examining is full on-line submission capabilities with our new LIMS system. Our goal is to have a client portal that allows for entry of a client ID, which pre-fills your client/clinic information. In addition, having the ability to add animal information (ID's, species, breed, etc.), specimen details, and testing requests.

WVDL is asking that you participate in a brief, 5 minute, client survey (link is below). Within the survey are questions and feedback related to our current client portal, in addition to questions or input regarding a new client portal. Please be concise and descriptive with written feedback you provide, to ensure we can translate those ideas into potential solutions or features.

Here is the link to the anonymous survey:

[https://uwmadison.co1.qualtrics.com/jfe/form/SV\\_8kyXBtUxiz9DBWd](https://uwmadison.co1.qualtrics.com/jfe/form/SV_8kyXBtUxiz9DBWd)

We thank you for taking the time to help us.

## Barron

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The Wisconsin Veterinary Diagnostic Laboratory, at its Barron location, performs ELISA testing for Equine Infectious Anemia. The lab accepts three types of submission forms for testing. This document provides guidance for submission of each type.

### **APHIS Veterinary Services Process Streaming (VSPS) (electronic)**

*VSPS provides a data repository for laboratory test submissions and results. Results are available via the VSPS portal by the end of testing day. The VSPS repository is free of charge.*

- Veterinarians obtain USDA Level 2 e-authentication by applying for a user ID and password at: <https://vsapps.aphis.usda.gov/vsps/>
- After you have received approval for your user ID and password, then you may submit test requests through the VSPS website.
- Use the website to set up your name/your clinic name and address, animal and animal owner information, and descriptions or digital photos of the animals.
- Choose the Wisconsin Veterinary Diagnostic Lab (Barron) as the testing laboratory.
- The electronic eEIA form is filled out automatically. A copy of this form should accompany your serum samples. This will alert the lab to look for your form on the VSPS website for result entry.
- Log onto the VSPS website to receive results.

### **Global Vet Link (electronic)**

*Global Vet Link provides a data repository for laboratory testing submissions. Results are available by the end of the testing day via the GVL portal. There is a fee for the GVL service.*

- Obtain an account with Global Vet Link by registering at: <https://user.globalvetlink.com/gvl2/register>
- Set up your account information including your name and address, a list of animals with owner addresses, and digital photos of the animals.
- Choose the Wisconsin Veterinary Diagnostic Lab (Barron) as the testing laboratory.
- A copy of the electronic EIA form should accompany your serum samples. This will alert the lab to look for your form on the Global website.
- Results are available electronically through the Global Vet Link website.

### **Official Federal VS Form 10-11 (paper)**

*Only the USDA/APHIS "Equine Infectious Anemia Laboratory Test" form can be accepted. To request forms contact: USDA-APHIS VS Office at (515) 284-4140 and follow the Form Orders prompt.*

- An individual form with complete animal information and veterinarian's signature must accompany each animal's sample. Failure to submit a completed form will delay results.
- Results are returned to the submitting veterinarian via US Postal Service on the day following testing.

### **Additional Information**

**TESTING:** The EIA Antibody ELISA test is run daily on samples received by noon.

**SAMPLE TYPE:** The sample type required is 1 ml of serum, refrigerated and shipped with cold packs.

**QUESTIONS:** Please contact the Wisconsin Veterinary Diagnostic Laboratory in Barron at (715) 637-3151 or (800) 771-8387.

*Send samples and submission form to:*

WVDL-Barron  
1521 E. Guy Avenue  
P.O. Box 97  
Barron, WI 54812

## Microbiology

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# **Salmonella Heidelberg Infections in Dairy Calves Can Be Deadly**

## **What Producers Need to Know**

APHIS Veterinary Services, Center for Epidemiology and Animal Health (March 2018) Info Sheet  
(Produced by personnel from USDA-APHIS-VS-CEAH; Wisconsin Department of Agriculture, Trade and Consumer Protection; WI Department of Health Services; and the WI Veterinary Diagnostic Laboratory.)

*Salmonella* Heidelberg (*S. Heidelberg*) is a bacteria that can cause severe illness in calves and humans.<sup>1</sup> Calves infected with *S. Heidelberg* may develop diarrhea or die abruptly without any clinical signs.<sup>2</sup> People infected with *S. Heidelberg* can develop diarrhea, fever and abdominal cramps, which typically last from 4 to 7 days.<sup>1</sup>

An outbreak of multi-drug-resistant (MDR) *S. Heidelberg* was recognized in Wisconsin dairy calves in 2016. To date, this MDR *S. Heidelberg* has been isolated from dairy calves in several states, with the majority of calves originating in Wisconsin.<sup>1</sup> The *S. Heidelberg* strains isolated from dairy calves are different from those found in swine and poultry.

Currently, no approved antimicrobial drugs are effective against the *S. Heidelberg* strains isolated from calves.<sup>3</sup> Therefore, affected calves should receive supportive care, including fluid and electrolyte therapy. Calves should continue to be fed milk during the course of the disease, in addition to receiving electrolyte therapies. Withholding milk can lead to death.<sup>4</sup>

## **How to Prevent a Potential Outbreak**

Operations that acquire calves from dealers, sale barns, auctions or markets are more likely to experience an outbreak of *S. Heidelberg*. This is likely because transport stress makes calves more susceptible to infection and more likely to shed *S. Heidelberg*<sup>5</sup> and commingling of calves from multiple sources increases the risk of exposure for naïve animals.

To help prevent an outbreak, producers are advised to maintain a closed herd (i.e., do not bring cattle onto the operation). If that is not possible, however, producers should take the following precautions:

- obtain calves only from trusted sources,
- confirm all purchased calves have adequate passive transfer (IgG >10 g/L),
- minimize transportation distance, and
- confirm that all transport vehicles are washed and disinfected between each calf load.<sup>6–8</sup>

Visitors—for example, calf haulers and rendering personnel/vehicles—also can introduce *S. Heidelberg* to an operation. Producers who have cattle being transported off the operation are advised to move them to a perimeter location. This area should be considered dirty, and all personnel from the operation and all visitors should disinfect boots and change coveralls both when entering and when leaving the area.

## **How to Identify a Potential Outbreak**

*S. Heidelberg* infections typically cause high death rates (25 to 50 percent) in dairy calves, particularly dairy beef calves less than 3 weeks of age. Some calves may show signs, such as diarrhea, and die quickly—within 4 to 8 hours. Other calves might not show any signs and be found dead. *S. Heidelberg* has rarely been associated with disease in adult cattle.

## **How to Maintain Effective Biosecurity**

To help prevent an *S. Heidelberg* outbreak or to minimize transmission of the disease during an outbreak, producers are encouraged to use the following biosecurity practices.

1. Always wear personal protective equipment (PPE) when cleaning animal areas. To avoid potential exposure to pathogens, such as *S. Heidelberg*, wear a mask, gloves and boots when cleaning calf areas.
2. Properly clean calf areas.
  - a. Clean the facility with low-pressure foam that contains an alkaline detergent (pH 11–12) and a proper disinfectant between calves to decrease the likelihood of spreading *S. Heidelberg*.<sup>2</sup>
  - b. When cleaning, avoid high-pressure steam/foam, which can aerosolize and spread the organism.<sup>2, 8</sup> Use low-pressure foam to capture the bacteria and a proper disinfectant to kill them.
  - c. Always clean contaminated equipment. After cleaning the calf-raising area, throw away any disposable PPE such as masks or gloves. Disinfect boots and clothing prior to using them again.

## **What to do for Suspected *S. Heidelberg***

A producer who suspects an *S. Heidelberg* outbreak is occurring should contact a veterinarian. To aid diagnosis, the veterinarian might recommend doing necropsies on calves that have died and submitting tissue samples to a diagnostic laboratory. The veterinarian should request serotyping of any *Salmonella* isolates, as well as antimicrobial susceptibility testing.

The veterinarian and producer should discuss treatment options for sick calves; as noted above, supportive care is critical for affected calves. Also, it would be helpful for the producer and veterinarian to review the calves' vaccination program. Although commercial *Salmonella* vaccines are available, their efficacy against *S. Heidelberg* is unknown. The veterinarian can also help develop effective cleaning protocols that follow the

biosecurity practices above.

After the environment is cleaned, it might be useful to submit samples to ensure that cleaning and disinfection methods eliminated the organism. Special boot covers that collect bacteria from the environment can be worn throughout the calf-raising area after it is cleaned and can then be submitted to the laboratory for culture.

### How to Keep People Safe During an Outbreak

*S. Heidelberg* appears to be easily passed from sick or dead calves to people. The organism can be passed via direct contact with infected calves or via indirect contact, such as through cleaning the calf area.<sup>1</sup> To avoid human infection with *S. Heidelberg*, producers should take the following precautions.

- Wear PPE when handling sick or dead calves, or when cleaning the calf-raising area.
- Always wash hands and clean or change footwear and coveralls after handling calves or working in the calf area.
- Prevent young children, adults over 50, pregnant women, or immunocompromised individuals from having direct contact with sick or dead calves.

For more information on keeping people safe, please view the WI Department of Health Services Web site: <https://www.dhs.wisconsin.gov/publications/p01711.pdf>

### Conclusion

*S. Heidelberg* can cause severe illness in calves and people, and it can be deadly for calves. *S. Heidelberg* is resistant to antimicrobials approved for calves, so supportive care is the recommended treatment.

To minimize potential exposure and help prevent an outbreak, producers are advised to maintain a closed herd or purchase all calves from trusted sources; properly clean and disinfect calving and calf-raising areas; and use PPE.

If an outbreak is suspected, producers should work with their veterinarian to submit samples for diagnosis, treat sick calves, and implement cleaning and biosecurity practices to prevent further spread.

### References

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4. Smith GW. 2009. Treatment of calf diarrhea: oral fluid therapy. *Veterinary Clinics of North America: Food Animal Practice*. 25(1):55–72.
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7. Hinton M, Ali EA, Allen V, Linton AH. 1983. The excretion of *Salmonella typhimurium* in the faeces of calves fed milk substitute. *The Journal of Hygiene*; 90:33–45.
8. Mannion C, Egan J, Lynch BP, Fanning S, Leonard N. 2008. An investigation into the efficacy of washing trucks following the transportation of pigs—a *Salmonella* perspective. *Foodborne Pathogens and Disease* 5(3):261–271.

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### Changes to Sensitivity Testing for Bacterial Isolates

The WVDL is happy to announce changes to sensitivity testing for bovine and porcine bacterial isolates. These changes do not affect bovine mastitis isolates. The company that produces these microtiter plates for minimum inhibitory concentration (MIC) sensitivity testing has updated the antibiotics. These plates now have gamithromycin and tildipirosin along with updated breakpoints for tilmicosin and tulathromycin to meet the latest standards. There will be little change to how these results are reported because the WVDL had already been reporting sensitivity results for gamithromycin and tildipirosin as these were being tested using the Kirby Bauer disk diffusion method. As of March 29, the WVDL will no longer use the Kirby Bauer method to report sensitivity to these drugs, but will use the new microtiter plates. Additionally, in January, the WVDL started using the most up-to-date companion animal microtiter plates for MIC sensitivity testing. There are two plates available for companion animals based on the pathogen. These plates comply with the latest standards and have increased the amount of antimicrobial compounds tested.

### Sample Submission Reminders

The WVDL is asking clients to remember to submit milk for culture either cold or frozen. When milks are not shipped cooled, the bacteria easily overgrow making identification of pathogens difficult. The WVDL will be monitoring milk temperatures upon arrival and will call clients if milk is received above refrigeration temperature.

Additionally, please do not submit fecal samples in gloves, plastic bags, baggies, OB sleeves, Whirlpaks, etc. These types of containers have a high potential for contaminating the sample, can easily break or tear and are difficult to retrieve feces from. The WVDL supplies milk culture vials for free that can be used for fecal samples as well. They are sturdy, highly resistant to contamination, have a locking snap shut top, and samples are easily retrieved from them. In addition, fecal PCR assays are not validated for and cannot be run from samples submitted in ParaPaks such as C&S (Culture and Sensitivity) vials. Please, contact the



WVDL supply room to place an order for milk vials by filling out a Veterinary Supply Order Form available at <http://www.wvdl.wisc.edu/index.php/forms/> and emailing or faxing to [supply.room@wvdl.wisc.edu](mailto:supply.room@wvdl.wisc.edu). Please contact the lab prior to submitting large numbers of milk or fecal specimens. We can provide racks and insulated shipping boxes for ease of submission if needed.

### **Salmonella Environmental (Bootie) Testing**

Recently, the WVDL validated the use of sterile pre-moistened (buffered peptone water) fabric sock style boot covers (Solar Biologicals, Inc.) for environmental testing for *Salmonella*. The booties work well for testing large surface areas such as floors, alleyways and maternity pens in livestock operations. Instructions on the proper use of the booties can be found on the WVDL web site under the Diagnostic Aids Tab: *Salmonella*. Please select the WVDL Bovine Environmental Sampling Instructions for *Salmonella* spp. for more information on environmental testing for *Salmonella*.



The sterile booties come in a Twirl-tie bag (Figure #1) and are placed on one's feet after slipping on the large disposable boot covers (see link to instructional video below). After walking around for 1-2 minutes the booties are placed back in the original Twirl-tie bag. The process is repeated (new plastic boots and booties) for each environmental sample. It is very important to wear sterile gloves that are exchanged between each and every bootie sample thus preventing cross contamination of the samples. The samples should be chilled immediately (not frozen) and shipped with a fully completed WVDL General Submission Form to the WVDL overnight with a sufficient number of cold packs to ensure the samples remain cold during transport to the laboratory. Please ask for the *Salmonella* non-biological test. If you are interested in testing for

*Salmonella* Dublin in addition to other environmental *Salmonella*, please ask for the *Salmonella* PCR Panel and the *Salmonella* non-biological test. *S. Dublin* is very fastidious and it is often missed by conventional bacteriological culture particularly for environmental samples even though it is viable and present in relatively large numbers. Hence, the need for the real time PCR assay for *Salmonella* Dublin.

The costs of the *Salmonella* non-biological test (\$16.64) and the *Salmonella* Real time PCR ( \$34.32) are for **each** bootie tested. These prices do not include the \$10.00 Accession Fee or *Salmonella* Serotyping. The cost of *Salmonella* Serotyping (\$26.31) is for **each** *Salmonella* isolate. The booties can be ordered from the WVDL (\$5.00 /pair) which includes the Twirl-Tie bag and a pair of large plastic disposable boot covers.

Instructional video for Environmental Salmonella Sampling:

<http://www.solarbiologicals.com/product/sterile-boot-cover-swab-for-sampling-poultry-housing-btswseries/>

## **Staff Spotlight: Julie Anderson, Financial Specialist**

Julie Anderson, who has been with the WVDL for 18 years as a financial specialist, was recently honored as a recipient of a University Staff Recognition Award. Eight winners were chosen from a nominee list of over 100 UW-Madison staff members, who had been nominated by fellow co-workers and/or peers for this annual award. Associate Vice Chancellor of Human Resources Wayne Guthrie presented the award. "I really love working with our clients," said Julie. "That includes vet clinics and veterinarians (and their support staff), export companies, and other labs & universities throughout the country. I have always thought we work really well at WVDL as a team. That is why I have stayed for 18 years."

All of us at WVDL would like to congratulate Julie on her well-deserved honor.

Julie and her husband Gary, who has worked for ABS Global for 34 years, have been together for over 40 years. They are avid travelers and have been to most of the states West of the Mississippi. Internationally, they have been to England, Scotland, Iceland and France over the last few years. Her favorite parts of these trips include the old churches, cathedrals and castles in England; Edinburgh Castle in Scotland, as well as the Scottish people; the expansive countryside and waterfalls in Iceland; and the city of Paris and the Eiffel Tower. She added that in Iceland the horses and sheep are released in the summer time to go up into the mountains to live free and before winter are rounded up and returned to the barns.

Other hobbies of Julie's include sewing, photography and walking through state and national parks. Watching wildlife (from a distance) is wonderful in Yellowstone and Grand Teton National Parks according to Julie. Her bucket list includes learning to be a better photographer and visiting Jasper National Park and Banff National Park in the Canadian Rocky Mountains. She adds that a trip to New Zealand would be perfect if we could take the grandkids.

She and Gary have a cat named Limey, who won Gary over in no time, and now runs the show at the Anderson household. Along with six grandchildren, they also have six grandpets, including four



dogs and two cats. One of those granddogs will be a ring bearer at his Dad Nolan's upcoming wedding – a husky named Anubis.

## Client Services

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Client services has been busy these past few months with a remodeling project to improve the capacity of sample receiving in our Madison Laboratory. Our project is almost completed and will increase our useable space, especially for large accessions.

To assist our clients in complying with new swine testing regulations for movement and show, as of February 1, 2018, we offer oral fluids testing kits. Due to a national shortage of kits from supplier issues in Malaysia and Australia, we have started making our own and offering them at the same price. We have limited capacity to make these kits, so we have to limit availability to Wisconsin Veterinarians only. We apologize for any inconvenience this may cause for out-of-state clients.

In the next few months, we will be upgrading our laboratory information system (LIMS). This software is a database for important information such as results, client information, billing and inventory. Here is the link ([https://uwmadison.co1.qualtrics.com/jfe/form/SV\\_8kyXBtUxiz9DBWd](https://uwmadison.co1.qualtrics.com/jfe/form/SV_8kyXBtUxiz9DBWd)) to a survey that will ask how we can better improve our interface with clients through our LIMS system. We appreciate your input to help us select and implement our new LIMS system.

### WVDL Shipping Program

We have partnered with UPS to provide a discounted shipping option for sending samples to the laboratory. There are many advantages to this program. It is affordable, efficient, and consistent. Shipping labels can be emailed or printed and sent to you. The shipping labels don't expire, but the email links do become inactive after 30 days. The charges will be added to your account and billed on your end-of-the-month invoice.

There are three different options available:

- UPS Ground - \$7.00 each-Any weight or point of entry. This is the best choice for Wisconsin and surrounding clients. It is a very affordable and reliable method. You may also check your zip code for delivery to WVDL at [https://wwwapps.ups.com/ctc/request?loc=en\\_US](https://wwwapps.ups.com/ctc/request?loc=en_US)
  - UPS 2nd day Air- \$10.00 each-Any weight or point of entry.
  - UPS Next Day Air- \$14.00 each-Any weight or point of entry.
- Usually arrives in the morning, time of day guarantee is dependent on package origin location.

Email labels are usually processed and sent within 1 hour. Labels we print are sent out for next day delivery. Shipping labels can be ordered by filling out the [Shipping Label Order Form](#) and emailing or faxing it to our supply department

### Pick Up Information

Once you have a package ready for pick up, there are several ways to get the package to UPS for delivery.

- Call UPS for a pick up at no charge!!

Part of our agreement allows for free parcel pick up. Call 1-800-877-1497 or schedule online at [https://wwwapps.ups.com/pickup/schedule?loc=en\\_US](https://wwwapps.ups.com/pickup/schedule?loc=en_US), provide the tracking number, account #Y5994R, and inform the UPS representative that you need a same-day pick up at an alternate address. If asked for billing zip code, provide UPS with 53706. Same-day pick up is dependent on location and time of day and it is best to plan ahead.

- Give to any UPS driver, either during an already scheduled pick up or during a delivery.
- Drop off at any UPS location or drop box. Search here <http://www.ups.com/dropoff>

### Shipment of Category A Agents

Occasionally, the WVDL receives requests for the shipment of Biological Substance Category A agents for shipment. There is a lot of regulation regarding the shipment of Biological Substance Category A agents including the use of specialized boxes, increased documentation, and shipment using FedEx. When a client requests the shipment of a Biological Substance Category A agent, the WVDL will be charging the client for those additional shipping costs. Please see our website for more information <http://www.wvdl.wisc.edu/index.php/submission-guidelines/> or contact Client Services. Most agents shipped for clients from the WVDL do not qualify as Biological Substance Category A agents and therefore would be shipped using our usual shipping fees.

### Staffing Changes

Dan Christensen has been named interim section head for Client Services. Dan has worked at the lab for 10 years and has served as supervisor for the last 4 years. He is dedicated to providing exceptional customer service to WVDL clients and has been involved with many process improvements throughout the years.



## Virology

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WVDL began offering additional swine testing beginning Feb. 1, 2018. Tests include PRRS ELISA, PRRS PCR and SECD PCRs testing on oral fluids. SECD PCR tests include porcine epidemic diarrhea virus (PEDV), transmissible gastroenteritis virus (TGEV) and swine delta corona virus (SDCoV). Only rope extracted oral fluids will be accepted as an appropriate sample type for these tests. This is what you need to know:

- The WVDL requests that veterinarians send in oral fluids samples (min. of 5 ml) from rope testing kits.
- These rope-testing kits are currently available via email to [supplyroom@wvdl.wisc.edu](mailto:supplyroom@wvdl.wisc.edu)
- Testing will be done on Tuesdays (PCR) and Wednesdays (ELISA) with 24-hour turnaround. Samples need to be at WVDL by noon on the day prior to testing day. The 24-hour turnaround time may be extended if samples require repeat testing.

Test	Sample Type	Cost (in state)	Test set up day	Result Available
PRRS Ab ELISA*	Oral Fluid	\$8	Wednesday	Within 24 hrs.
PRRS PCR (NA and EU strains)	Oral Fluid	\$45	Tuesday	Within 24 hrs
SECD PCR Panel**	Oral Fluid	\$65	Tuesday	Within 24 hrs.
Porcine Oral Fluid Panel***	Oral Fluid	\$80	Tuesday	Within 24 hrs.

\*Keep in mind that the antibody PRRS ELISA test will likely be POSITIVE for vaccinated animals. It is also possible that oral fluids from pigs feeding on diets supplemented with spray-dried plasma of porcine origin may test POSITIVE on the PRRS ELISA due to the presence of PRRS virus antibodies in the porcine plasma supplement.

\*\* (SECD- Swine Enteric Corona Disease PCR's consisting of PEDV PCR, TGEV PCR, SDCOV PCR on oral fluids)

\*\*\* (Porcine oral fluid panel = panel that includes all PCR tests in SECD PCR Panel and PRRS PCR assays)

### Sample Collection

**A minimum of 5 ml of fluid is required!!** Samples of oral fluids can be collected from individual pigs or collectively from pens by hanging ropes. An oral fluid sample is derived from a pen of pigs where the pigs are allowed to chew on a length of undyed, unbleached cotton rope specifically made for oral fluid collection. The composite oral fluids sample from the rope should represent the majority of animals in a pen. See DATCP's information website at <https://www.aasv.org/shap/issues/v22n3/v22n3p138.pdf>

Once the oral fluids are extracted from the rope, oral fluid samples should be immediately refrigerated and shipped to the laboratory for testing in a 50 ml conical tube. Samples should be sent chilled on ice packs, not frozen. WVDL will offer swine oral fluids collection kits at \$5.25/kit, which contain all items required to collect samples and prepare them for refrigerated packing and transportation. Click on this link to fill out and submit your order for these kits: [The Swine Oral Fluid Collection Kit Order Form](#).

If you have any questions, please don't hesitate to call us (608) 262-5432 or (800) 608-8387 or e-mail at [info@wvdl.wisc.edu](mailto:info@wvdl.wisc.edu).

## Pathology Sciences

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### FDA Ruling on Pentobarbital

The FDA has determined that it is not acceptable to use animals euthanized with pentobarbital in animal food. Chemical drugs, such as pentobarbital, that may be used to euthanize large animals

may survive the rendering process and be present in finished rendering proteins and fats. Recent recalls of canned pet food suggest that the presence of barbiturates in animal food may be a hazard for some animals.



To avoid food safety risks due to residual barbiturates, the rendering company that is subcontracted by WVDL will NOT accept any large animal mortalities (including horses) that have been euthanized with chemical drugs such as pentobarbital. Alternative euthanasia processes are acceptable, such as:

- Intravenous administration of Potassium chloride (KCL) following anesthesia (Ketamine/Xylazine)
- Penetrating captive bolt or use of a firearm to the head

Animals that have been euthanized with chemical drugs including barbiturates will be landfilled or digested.

WVDL will use a subcontractor to haul animal remains, following necropsy, for a charge of \$250 per animal. Alternatively, WVDL can digest the animal on-site for \$0.50 per pound.

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