



Regulatory **TESTING** of swine DESTINED FOR EXPORT TO CHINA



China requires a significant amount of antibody and nucleic acid testing prior to shipment. In the course of about 45 days, all candidate swine must test negative for select pathogens in order to qualify for entry into a 30-day pre-embarkation quarantine. Pre-quarantine samples include serum and rectal swabs; quarantine samples include serum, nasal swabs, and rectal swabs. Each set of samples requires a small army of farm, National Veterinary Services Laboratory (NVSL), VDL team members, and about \$1,500 per pig for a successful export of 1,500 – 3,200 pigs via Boeing 747 cargo planes.

The antibody tests for pre-quarantine and quarantine samples are the same. NVSL performs PRRSV NA IFA, PRRSV EU IFA, and PRRSV virus isolation on all pre-quarantine and quarantine samples.

All of these samples and their results require ISU VDL sections: receiving/accessioning, serology, bacteriology, molecular, business office, and information technology (IT). Receiving/Accessioning has a separate team that receives and distributes all samples to their respective laboratories.

IOWA STATE UNIVERSITY VETERINARY DIAGNOSTIC LABORATORY ROLES

Virology Section	performs TGEV virus neutralization.	Information Technology	has built a database search tool for our laboratory information management system (LIMS). This allows the ISU VDL to compile China Export results into a single spreadsheet that is used by clients to check animal ID's for accuracy and, in turn, assist Veterinary Services Process Streamlining (VSPS) - USDA in their review of results during the international health certificate endorsement. This list is also used by the USDA export inspectors to confirm animal ID's prior to being loaded onto their plane.
Serology Section	tests include <i>Actinobacillus pleuropneumoniae</i> complement fixation screen (serotypes 1, 5, and 7), <i>A. pleuropneumoniae</i> Serotype 3 complement fixation, pseudorabies ELISA, Brucella abortus/suis standard tube test, and TGEV differential ELISA on TGEV VN-positive samples.	Business Office	gives each submission the once-over-twice to assure the correct tests have been resulted out.
Bacteriology Section	performs <i>Brachyspira hyodysenteriae</i> culture on all pre-quarantine fecal swabs.		
Molecular Section	tests the quarantine nasal swabs for IAV; the rectal swabs for PEDV and PDCoV.		

Keep in mind, these functions continue while our day-to-day submissions are received, tested, and reported.

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NEWSLETTER



David Baum Serology - Section Leader

There are four daily tasks of the Serology Section Leader for the Iowa State University Veterinary Diagnostic Laboratory. Task No. 1 is for me to stay out of the way of the section's team members who know how to do their jobs. Task No. 2 is to give them freedom to perform their duties. Task No. 3 is to listen to their counsel when they think of ways to improve how their procedures are performed. Task No. 4 is to know how and why the Serology Section fits into the day-to-day operations of the VDL that produces results for its clients. This leads to the privilege of helping clients: interpreting test results, advising additional testing, and managing their expectations.

Long ago, in a galaxy far, far away...

Serology Section Leader has never been a job. It is an immensely satisfactory application of all the stuff I have had the privilege to do since I was a wee lad (I never actually met Moses, but I remember hearing a lot about him). "Stuff" is the tools and training acquired since, as an 8 year old, son-of-a-veterinarian in Osage, listening to his poultry pathology lecture for Saturday morning pathology class taught by Dr. Ramsey. Four years later, the "biological sciences" light bulb was flipped on during 6th grade science. In the next seven years, the interest grows through high school and ISU as an undergrad (when the VDL was on Pammel Drive). Then, while working at the National Animal Disease Center, came a master of science degree in immunobiology in 1978, followed by a DVM in 1983.

STAFF HIGHLIGHT

This led to private veterinary practice in Postville, IA, with a case load designed to fuel deeper interest in diagnostic medicine. In 1994, I returned to grad school for a PhD under Dr. Hank Harris; afterwards working for NOBL Labs/Boehringer as a tech services veterinarian and received training for 3 certificates of SPC from a statistician who consulted for W. Edwards Deming. An attempt was made to build a veterinary diagnostic division inside a human diagnostics company until 4 planes fell out of the sky on September 11, 2001.

After being jettisoned from that enterprise, I became a veterinary medical officer for FSIS-USDA at a pork harvest plant. This, with its line-speed lymph node slicing and knife sharpening prepared me to become a senior veterinarian at Smithfield Foods Utah's live hog operations. Sandi and I were sitting quite nicely in the high desert of southern Utah and purchased a house with every intention of staying. That intent turned on a dime with the birth of our first grandchild and his move to North Liberty, IA. Suddenly, Gramma's attitude and preference for where she lived became our new intent. We promptly returned to Iowa, where I served as vice president of health and technical services for a swine genetics company before joining Harrisvaccines as VP of technical services. All this fostered the desire to learn about and develop a sense of how stuff gets done with an internal and external customer/client focus, notions of process improvement, a bend for diagnostic medicine, and the use of production and diagnostic data to understand potential production impacts associated with infectious disease. I repeat, "Serology Section Leader has never been a job for me. It is the immensely satisfactory application of all the stuff I have had the privilege to do since I was a wee lad."

At present, I am sitting fat and happy in life's centerfield bleachers as I watch our three children continue to grow up and rear their own. Nine years ago, had someone asked me to describe what I knew of those three, I'd still be talking. Since Sandi's diagnosis and passing 8 years ago, I continue to see depth and breadth in their lives I could not otherwise have begun to have imagined. Non-working hours are spent on hobbies (fly fishing, woodworking, music, and cooking), enjoying and taking stock of my family, and worshipping the LORD God Almighty. Truth be told, they also cross my mind during working hours and find them to be foundational to the stuff of the previous paragraph.

Truly, it is a tremendous privilege to be part of the ISU VDL team.

Epizootic Hemorrhagic Disease (EHD)



Epizootic Hemorrhagic Disease (EHD) affects wild and domestic ruminants particularly in the northern United States and is caused by an orbivirus. It is transmitted via the bite of a female midge. The midge will bite an infected (viremic) animal and then move on to bite a susceptible animal transmitting the virus with each bite.

Clinical signs typically begin 7 days after infection. Animals may be weak, lethargic, or disoriented. Ulcers in the mouth or on the tongue may also be present along with swollen face, neck, or eyelids. Deer typically die within 8 to 36 hours. Deer will be febrile and are often found dead in or near water.

EHD is closely related to Bluetongue disease. The disease usually peaks in late summer and early fall. However, once the first kill frost hits, these biting flies die off and thus, the disease dies out for the winter months. **EHD is not a human health concern.**

Currently, there is no treatment for EHD in domestic or wildlife populations. However, because outbreaks tend to be patchy and sporadic, even heavily impacted populations should rebound between years.

Whole blood or spleen samples can be collected for PCR testing at that National Veterinary Services Laboratory (NVSL). Sera can be collected from hoofed animals for serology testing at the ISU VDL. Please contact Dr. Rachel Ruden for questions related to EHD.

ANNOUNCEMENTS:

Upcoming University Holidays:

Independence Day — Sunday, July 4th
Monday, July 5th

HATS will be receiving drop-offs as normal on Monday, July 5th.



US Swine Health Improvement Plan

The US Swine Health Improvement Plan (US SHIP) is a USDA sponsored pilot project that is modelled after the National Poultry Improvement Plan (NPIP). The primary objective is to develop and implement an African Swine Fever (ASF)-Classical Swine Fever (CSF) Monitored Certification Program. Upon the conclusion of this two-year pilot project (should there be interest), the experiences gained and operations established through the pilot could be transitioned into a more formal and ongoing platform for safeguarding, certifying, and bettering the health of US swine.

Draft technical standards for Biosecurity, Traceability, and Sampling and Testing are being put together by technical committees which are composed of industry, state, and federal partners. The draft standards will then be discussed and voted upon by participating state delegates at the House of Delegate Meeting. **The inaugural US SHIP House of Delegate Meeting will take place in Des Moines, IA on August 23-24, 2021.**

If you are interested in learning more about and/or participating in this pilot program, please visit the US SHIP website (usswinehealthimprovementplan.com) or contact the US SHIP staff (usship@iastate.edu / 515-294-8611) for more information.

Questions?

Please contact ISU VDL Client Services
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