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.

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.

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Virology Section performs TGEV virus neutralization.

Serology Section tests include Actinobacillus pleuropneumoniae complement fixation screen (serotypes 1, 5, and 7), A. pleuropneumoniae Serotype 3 complement fixation, pseudorabies ELISA, Brucella abortus/suis standard tube test, and TGEV differential ELISA on TGEV VN-positive samples.

Bacteriology Section performs Brachyspira hyodysenteriae culture on all pre-quarantine fecal swabs.

Molecular Section tests the quarantine nasal swabs for IAV; the rectal swabs for PEDV and PDCoV.

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.

Business Office gives each submission the once-over-twe times to assure the correct tests have been resulted out.

Keep in mind, these functions continue while our day-to-day submissions are received, tested, and reported.
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 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 intention turned on a dime with the birth of our first grandchild and his move to North Liberty, IA. Suddenly, Grammar’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-centric 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.

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.

Questions?
Please contact ISU VDL Client Services

515-294-1950           isuvdl@iastate.edu

Upcoming University Holidays:
Independence Day — Sunday, July 4th
Monday, July 5th

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

For more information, please visit the University of Iowa Swine Health Improvement Plan (US SHIP) website: usship.iastate.edu/515-294-8611 or contact the US SHIP staff: usship@iastate.edu or 515-294-8611.