

INSIDE THIS ISSUE

"Advancements in Diagnostics—Are You Keeping Up?"

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&

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"Pulmotil®"

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INDUSTRY DATES

Iowa Pork Congress  
January 26-27, 2011  
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Illinois Pork Expo  
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Peoria, IL

Ohio Pork Congress  
February 8-9, 2011  
Columbus, OH

Missouri Pork Expo  
February 9-10, 2011  
Columbia, MO

21st Annual CVS Swine  
Conference  
September 1, 2011

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## Advancements in Diagnostics – Are You Keeping Up?

Diagnostics are an excellent tool that has been extensively utilized in pork production systems to determine which disease agents are present in a herd and how they are affecting health and performance of your pigs. This article focuses on some new techniques and tools available to improve the quality and accuracy of diagnostics and opportunities to use them to prospectively analyze pathogens in a herd. Typically, most diagnostics are done after a disease has entered the herd in an effort to determine the pathogen. As we continue to improve health and production in a herd, it is vital that we continue to strive for real time data to make decisions on the current group versus lagging data that result in more pigs being affected before an intervention can be applied.

### Use Pictures/Video to Tell Your Story

I can assume that almost everyone has in their pocket right now a mobile phone that can take pictures or video. Now, this simple technology has become a cornerstone of communication between myself, as the herd veterinarian, and the caregivers in the barn. I receive numerous text messages or emails with the subject, "what is this?" Additionally, digital cameras and video cameras have become very economical and a handy tool to have on a farm to communicate with others as well as document clinical presentations of disease. Far too often, verbal descriptions over the phone conjure up a misrepresentation of what has truly been observed in the barns. As systems continue to increase in geographic size and with biosecurity downtimes, this limits the ability of the veterinarian to visit the site promptly. Use digital media to communicate with your veterinarian.

### Oral Fluids

By now you have probably heard or read about the use of cotton ropes to collect oral fluids for diagnostic testing. This technology allows us to sample large populations of animals at a relatively cheap cost. Oral fluid collection is simple and anyone can be trained to obtain the samples. Note that we are not necessarily collecting saliva, but the gingival crepuscular fluid that is secreted between your gums and teeth contains antibodies and viruses similar to that of your blood serum; however, in lower

concentrations. This new technology has been validated for PRRS diagnostics. We have also had success isolating Swine Influenza Virus, Porcine Circovirus Type 2, and *Mycoplasma hyopneumoniae* through collection of oral fluids, however this testing has not been validated by the laboratories and is strictly experimental at this time. This novel collection method is a way to prospectively sample a population to determine the agents infecting the pig population and timing of infection. Clients are using this technology to sample grow/finish populations during a turn. They will hang ropes in a barn and collect oral fluids every three weeks. There are multiple uses for this:

1. You can analyze oral fluids pathogens and compare this to your weekly mortality totals to determine when timing of infection is taking place and effect on subsequent mortality.
2. You can save and freeze the samples and have these banked to run diagnostics if there are differences between groups in which one group performed very well and the other group fell apart. You have the oral fluids banked to be able to analyze if an infectious agent caused the difference in performance.
3. If you have a PRRS positive population, serial collections of oral fluids will allow you to determine when seroconversion is taking place and if you are being successful in pushing PRRS out of the site.

### PorkDex

Diagnostic labs do an excellent job of generating lots of information about pathogens isolated from tissues. However, most of this information is hard copy which is a poor way to accumulate and analyze the data. We have recently developed a tool called PorkDex which electronically collects information from three of the main swine diagnostic labs (Iowa State, Minnesota, Illinois). This electronic data allows us to search and analyze diagnostic information from all clients, specific flows of pigs, specific sites, etc. This tool is a powerful way for us to analyze diagnostic information for clients and conduct epidemiologic investigations.



# CARTHAGE CORNER

## Advancements in Diagnostics—Are You Keeping Up?

Sensitivity patterns of bacteria isolated from the herd.

Antimicrobial	Susceptibility Intermediate	Resistant	Susceptible	Total
<b>Haemophilus parasuis</b>				
Amoxicillin	0	0	11	11
Ceftriaxone	0	0	12	12
Cephalexin	0	0	12	12
Chlorotetracycline	0	0	11	11
Clindamycin	0	1	8	12
Danofloxacin	0	0	0	0
Enrofloxacin	0	0	0	0
Erythromycin	0	0	12	12
Florfenicol	0	0	12	12
Gentamicin	0	0	12	12
Neomycin	0	0	0	0
Oxytetracycline	0	0	0	0
Penicillin	0	0	12	12
Positive Growth Control	0	0	0	0
Spectinomycin	0	0	12	12
Sulfamethoxazole	0	0	0	0
Sulfamethoxazole	0	12	0	12
Tetracycline	0	0	12	12
Tiamulin	0	1	11	12
Trimethoprim	0	0	12	12
Trimethoprim/Sulfamethoxazole	0	0	12	12
Vancomycin	0	0	0	0
Tylosin (Tartrate:Base)	0	0	0	0

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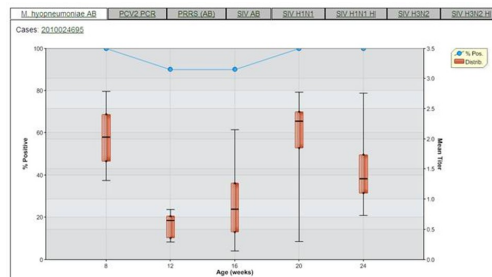
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## Cross sectional diagnostic projects.



## Summary

As we, as an industry, work on PRRS eradication and continue to fight our battles with influenza it will be more important for us to share diagnostic information with each other. Tools such as oral fluids and PorkDex will be a resource to compare PRRS and flu strains in relationship to geographic areas and allow us to share information together. This is a shift from the old paradigm of the swine industry that must be necessary for us to improve health and production of our herds. Diagnostics will continue to be an important asset of the pork production industry and it is valuable to incorporate these new technologies into your system. We must strive to be more real time and have the ability to make decisions that affect current pigs in process versus retrospective diagnostics. Quick action and being proactive will improve your herd's health and profitability.