

# Swine Health & Management Report

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with funding from the soybean checkoff.

August 2009



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## 6 PRRS Advancements

In the face of an outbreak, Porcine Respiratory and Reproductive Syndrome (PRRS) is estimated to cost producers from \$5 to \$7 per pig. When the cost of PRRS is spread across the industry, the total cost can come to a staggering \$560 million a year.

The encouraging news is that, over the last two to three years, advancements have been made related to new diagnostics, biosecurity measures and area control tactics. And these advancements have Dr. Scott Dee, Swine Disease Eradication Center, University of Minnesota, optimistic about the possibility of eradicating PRRS within 20 years.

Dr. Dee cites six key advancements that are having a positive influence on the PRRS challenge:

1. Oral fluid sampling. . ."an old idea that came from HIV surveillance in humans, and now it's being applied to swine populations."
2. Air filtration systems to control aerosol transmission of the virus.
3. Modified live vaccines used in an infected population to reduce spread of the virus within the herd.
4. On-farm risk assessment tools such as the PADRAP (Production Animal Disease Risk Assessment Program)
5. Geographic information systems that can help producers assess, monitor and manage the PRRS status within a region "with greater accuracy based on pig movement, flows, transportation and delivery networks, biosecurity and other patterns."
6. Area programs where producers work together to control and eventually eradicate PRRS. Area programs include a web site where producers can log in and see their farm and where outbreaks are occurring.

You can listen to an audio of Dr. Dee's discussion at a World Pork Expo press conference on AgWired:

<http://agwired.com/2009/06/04/optimistic-outlook-for-eradicating-prrs/>

### Question: Do All Medications Delivered via Waterlines Reach All Pigs?

Water delivery systems are often used for the mass treatment of entire pig populations. But are medications reaching all pigs? And, more pointedly, does exposure to pH modifiers or pharmaceuticals in water delivery systems contribute to potential pharmaceutical delivery challenges?

A study headed by Paul M. Dorr, DVM, PhD, MACE, with Merial Limited evaluated 15 antimicrobial powders and aspirin for pH and temperature, settling after five days and physical-chemical reactions when pairs of products were mixed. The study found that medicators and waterlines can become clogged when certain water-soluble compounds react with each other and that many antimicrobial products change state or precipitate when mixed with other products or when the pH is altered.

"Results of this study underscore the importance of maintaining clean stock-solution buckets and medicators," the report states. "The addition of critic acid and ammonia for purposes of pH modification caused residue reactions to occur with nine of the 15 therapeutic agents evaluated. For this reason, when lines are flushed with substances such as chlorine (sodium hypochlorite) or sodium thiosulfate for purposes of cleaning, disinfection or chelating, the prudent course of action is to complete a fresh-water flush before administering any water-soluble therapeutic product. Failure to do so potentially could result in formation of residue that could clog medicators, waterlines and nipple drinkers, impeding delivery of therapeutic doses to sick pigs."

A six-page report on this peer reviewed study, which appeared in the July/August issue of *The Journal of the American Association of Swine Veterinarians*, is available in full at <http://aasv.org/shap/issues/v17n4/v17n4p217.pdf>

### Effects of Diet Source, Vaccination Timing on Pig Growth Performance

Because nursery diet sources and vaccination timing may influence postweaning performance, Kansas State University researchers investigated the effects of varying porcine circovirus type 2 (PCV2) and *Mycoplasma hyopneumoniae* (MPP) vaccination timing on growth performance of pigs fed commercial segregated early weaning and transition diets from four different sources.

The 20-day study involved 400 nursery pigs averaging 12.5 pounds divided into pens of five pigs each, with 10 pens per treatment. Treatments included segregated early weaning/transition diet source (A, B, C or D) and vaccination timing (0 to 8 days after weaning). Vaccines were administered according to label instructions. Pigs were weighed on Day 0, 4, 8 and 20, with feeders weighed on Day 4, 8 and 20 to determine feed disappearance.

Data from the study showed that vaccination caused a temporary reduction in the growth performance of both Day 0 and Day 8 vaccinates. Researchers note that this transient decrease in performance is expected due to stresses of vaccination. "However, because previous research has indicated that growth performance in the first week after weaning is a risk factor for subsequent nursery performance, we speculate that the decrease in performance around the time of weaning may have a greater potential for longer term effects than a decrease in performance in subsequent phases of the nursery period," the report states.

The KSU study found that diet source and vaccination timing did not significantly affect the growth performance of nursery pigs. "However, performance was significantly affected by both of these factors throughout the first phase of the trial, indicating that diet source and vaccination do play a role in growth of nursery pigs during certain periods," the research states. "Because pig weight and feed disappearance data were not collected as often during Phase 2 (Day 8-20) as Phase 1, further studies investigating diet source and vaccine timing should be conducted to gain a better understanding of their effects on growth performance. It is evident that these factors do influence nursery pig growth performance to some extent; thus, vaccine timing and diet source should be considered when making

health and management decisions for weaning groups."

A more detailed seven-page report can be viewed at <http://www.oznet.ksu.edu/library/lvstk2/srp1001.pdf>

### Evaluating, Correcting Lameness in Sows

Work by Dr. John Deen, University of Minnesota, underscores the importance of sow foot and claw health. Dr. Deen notes that with today's females bred to produce and support large litters comes increased pressure and drain of nutrients from their bodies, resulting in increased sow lameness and ultimately sows often culled due to locomotion problems.

To identify foot and claw health, Dr. Deen urges producers to inspect the feet of sows while they are in the farrowing crate. The ideal time is at night when sows are resting.

Using a flashlight, Dr. Deen says the first step is to examine the claws and the area of tissue around them, identifying the presence of cracks and lesions and whether these are small or more significant. Because cracked claws mend very slowly, Dr. Deen points out that culling or euthanization may be needed.

Dr. Mark Whitney, associate extension professor, University of Minnesota, suggests evaluating flooring since "a high level of cracks and lesions may indicate poor flooring." Dr. Whitney advises paying additional attention to mineral nutrition since European research indicates that mineral nutrition may play a part in improving foot soundness. Danish data shows that feeding organic minerals--including copper, zinc and manganese--really reduces foot issues compared to providing inorganic sources of the same minerals.

"Over a two-year period, heel erosion was reduced from 80 percent to 30 percent by switching to organic mineral supplementation," Dr. Whitney states. "A follow-up study indicated that sow deaths dropped 50 percent in two months after beginning the organic mineral treatment."

Dr. Whitney adds, "By evaluating crack and lesion prevalence in lactating sows, one can determine if management changes should be considered, and, if so, continual monitoring and recording of foot health data will allow producers to determine if management changes are providing beneficial results. Perhaps the best practice that can currently be implemented if foot health problems are identified is use of organic mineral sources in diets, along with evaluation and maintenance of flooring."

### Variety of Topics Covered at 2009 London Swine Conference

Proceedings from the 2009 London Swine Conference, "Tools of the Trade," are available online, and you never know what you might learn from reading one or more of the presentations. Among the presentations for your perusal are:

- Managing Highly Prolific Sows
- Fine Tuning Nursery Management to Optimize Production Costs
- Pork Production Versus Consumer Demands
- Lowering Feed Costs
- Benchmarking and Tools to Maximize Profit
- Sow Feeding Management during Lactation
- Nursery Improvement
- Benchmarking and Feed Budgeting
- Effective Ventilation
- Hormonal Control of Pig Reproduction

- Practical Management of the Transition to Batch Farrowing
- Improving Energy Use Efficiency - Reducing and Refining the Use of Energy Inputs on Farm
- Reducing Feed Costs in Grower-Finisher Barns
- Designing Field Trials to Compare Vaccines or Antibiotics
- Cost Benefit of Vaccines and Medication - Nickels and Dimes?

You can check out the various reports presented at the 2009 "Tools of the Trade" London Swine Conference by visiting <http://www.londonswineconference.ca/proceedings.htm>.

### Soybean Meal Remains a High-Quality Protein Solution for Feed Industry

Critics claim that the use of crops to make fuel, like soybeans into biodiesel, has a negative effect on the feed and food industries. But research shows that soy biodiesel demand will lead to more feed and food being produced, not less. After all, the soybean consists of about 80 percent protein, which is crushed into soybean meal, not used to make soy biodiesel.

"Since a soybean consists mostly of protein-rich meal, and 98 percent of that meal is used to feed poultry and livestock, demand for soy biodiesel increases the supply of soybean meal, leading to more feed for the livestock, poultry and aquaculture industry, not less," says Chuck Myers, United Soybean Board (USB) chairman and a soybean farmer from Lyons, Neb.

To make sure soybean meal remained a consistent and valuable feedstock, the soybean checkoff enlisted 14 animal nutritionists through the Animal Nutrition Working Group to improve the components of soybean meal and meet the needs of livestock and poultry industries now and in the future. Research continues to improve the energy available from soybean meal for livestock diets and to reduce the phytate-bound phosphorus, which reduces the impact of nutrients from animal waste.

According to the USDA, U.S. soybean farmers responded to the need for more soy by harvesting nearly 3 billion bushels of soybeans in 2008. That is the fourth largest soybean crop in U.S. history, and an increase of 16 percent more acres than 2007. All this means that U.S. soybeans can help provide a renewable fuel in soy biodiesel while still providing the premiere protein source to the livestock and poultry industries in soybean meal.

### Today's Labor Situation Requires HR Adjustments

Because today's labor situation differs significantly from just two years ago, Dr. Bernie Erven, Erven HR Services and professor emeritus, The Ohio State University, advises companies to adjust their hiring and firing strategies. If adjustments are ignored, Dr. Erven contends that companies could suffer consequences such as "lost opportunities, lost applicants, costly turnover and preventable litigation."

In a presentation at the 2009 Pork Management Conference, Dr. Erven said smart hiring starts with building a pool of applicants. In addition to taking advantage of your good reputation, walk-ins, the Internet, referrals and creative help wanted ads in the right places, he suggested companies consider offering incentives to current employees. He said incentives offered employees might be \$200 for being the first to recommend a person who is hired, \$200 more if the person stays at least six months and \$100 more if the person stays a full year.

The HR specialist suggested that interviewers focus on three types of questions: 1) Past behavior. Question example: "How did you resolve conflicts between co-workers when you were a barn manager?" 2) Job knowledge. Question example: "How do you know when hot weather is affecting production?" and 3) What if? Question example: "What would you do if we asked you to do something you don't know how to do?"

Dr. Erven's 31-slide "Hiring and Firing of Employees" presentation can be viewed--and heard--at <http://www.pork.org/documents/News/Hiring%20&%20Firing%20-%20Bernie%20Erven.pdf>

Other presentations at the 2009 Pork Management Conference are available as slide presentations and audio at <http://www.pork.org/NewsAndInformation/Conferences.aspx?id=579>

### Risk Awareness Checklists

To help you determine areas of risk on your hog farm, Purdue University offers an interactive checklist. As you respond "Yes" or "No" to each of the questions, a pop-up window containing feedback based on your answer appears.

The Production Risk section has 28 questions related to breeding, animal health and nutrition while the Marketing Risk involves just 13 questions, Financial Risk, 12 questions; Human Resources Risk, 14 questions; and Legal Risk, 11 environmental questions and four "other" questions.

These risk awareness checklists are available at <http://www.ces.purdue.edu/pork/econ/RiskAware/index.htm>

### 12 Tips to Improve Negotiation Skills

You can negotiate and compromise with skill and confidence when these 12 tips are followed:

1. Have a positive attitude, as your attitude is essential to the outcome.
2. Meet on mutual ground and avoid negotiating via email as lack of facial expressions, vocal intonation and other cues can result in a negotiation breakdown.
3. Clearly define and agree on the issue.
4. Do your homework, taking into consideration any history or past situation that might affect the negotiations.
5. Take an honest inventory of yourself, being conscious of aspects of your personality that can help or hinder the process.
6. Look for shared interests and common goals so the problem can be tackled jointly.
7. Deal with facts, not emotions by addressing problems and not personalities.
8. Be honest and clear about what is important to you and communicate why your goals, issues and objectives are important to you.
9. Present alternatives that demonstrate willingness to compromise and frame options in terms of the other person's interests.
10. Be an expert communicator by asking questions, listening, rephrasing what you heard to check for understanding and take a genuine interest in the other side's concerns.
11. End on a good note. This could be agreeing on the action steps--who is responsible for each step, how success will be measured and how and when the decision will be evaluated--or being open to accepting an impasse for non-critical issues or even agreeing to disagree.
12. Enjoy the process and reflect and learn from each negotiation.

### Mark Your Calendars

#### **ID INFO EXPO 2009, Aug. 25-27**

#### **"The ID Mandate: Meeting Consumer and Government Demands"**

Westin Crown Plaza in Kansas City, Mo.

Sponsored by the National Institute for Animal Agriculture, the event's opening session kicks off at 1 p.m. Tuesday, Aug. 25, with the last session wrapping up at 1 p.m. Thursday, Aug. 27. In-depth presentations and discussions will cover the current state of animal ID in the United States, obstacles to ID adoption, opportunities to enhance ID and traceability, and next steps in implementing a functional animal ID program in the United States. New identification and information technologies will

be on display at the EXPO Trade Show, with booth sponsors prepared to address questions. Complete conference details are available online at [www.animalagriculture.org](http://www.animalagriculture.org) or call NIAA at 719.538.8843.

**SowBridge Breeding Herd Education Series, Sept. 2**

"Sow Watch and Piglet Care the First 24 Hours"

Presented on your computer and your phone

Register by calling 515.294.4496

**PorkBridge Grow-Finish Educational Series, Sept. 3**

"Manure Value and Alteration of Composition"

Presented on your computer and your phone

Register by calling 515.294.4496

**Allen D. Leman Swine Conference, Sept. 19-22**

RiverCentre Conference Center

St. Paul, Minn.

**Swine Artificial Insemination Training Course, Sept. 28-29**

West Central Research and Outreach Center

Morris, Minn.

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