

Swine HEALTH REPORT

A National Institute for Animal Agriculture Publication

Summer 2003

Pork Board Coordinating National PRRS Initiative

The National Pork Board is undertaking an initiative to understand, control and potentially eliminate Porcine Reproductive and Respiratory Syndrome (PRRS), considered the most economically significant disease to America's pork producers today.

"Preliminary results from a Pork Checkoff-sponsored study indicate that PRRS is costing the U.S. pork industry over \$600 million each year," said Dave Culbertson, a producer from Geneseo, Ill. and National Pork Board member. "The Pork Checkoff has recognized the need

to gain further understanding of PRRS and develop a coordinated effort to control it."

Porcine Reproductive and Respiratory Syndrome affects the breeding herd, causing reproductive losses and respiratory disease in nursing piglets. Grow-finish

Dr. Steve Henry on PRRS Elimination from Breeding Herds — Page 3

pigs are also affected by PRRS, resulting in poor performance and increased mortality.

The Pork Board is spearheading a national effort targeting the PRRS virus involving collaboration from producers, veterinarians, universities, researchers, government agencies and companies. Although significant efforts in research have taken place in recent years across the industry, the Pork Board hopes that information gained from these efforts will help producers manage the PRRS virus in their herds.

"The goal of the project is to take a short-term and a long-term approach to solving the PRRS puzzle," said Culbertson, who also serves on the Pork Board's Swine Health Committee. "So much information is still needed on this disease that a national,

unified effort is necessary to achieve this."

National PRRS Initiatives Objectives

- Quantify the Cost of PRRS to the U.S. Pork Industry
- Distribute the 2003 PRRS Compendiums
- Cooperate on Vaccine Development
- Take Measures to Understand Persistently Infected Pigs
- Explore Immune Therapy
- Develop a PRRS Virus "Typing" System
- Study PRRS Virus Genomic Sequencing and Create a National PRRS Database
- National Epidemiologic Investigations and Risk Factor Analysis
- Mechanisms of Between-Farm Viral Transmission
- Regional PRRS Elimination Demonstration Projects
- Engagement with the Work of International PRRS Researchers
- Collaboration with Researchers of Related (non-Swine) Viruses
- Development of a Real-Time PRRS Information/Education System

Inside This Issue...

PAGE 2

AASV Publishes Health Guidelines for Boar Studs

PAGE 3

Steve Henry on PRRS Elimination from Breeding Herds

PAGE 4

National System for Animal ID Closer to Reality

PAGE 6

Feral Swine Continue to Pose PRV Threat to U.S. Swine Herds

PAGE 7

National Pork Board Introduces Swine Welfare Assurance Program

AASV Publishes Health Guidelines for Boar Studs

The American Association of Swine Veterinarians (AASV) has published the document *Health, Hygiene, and Sanitation Guidelines for Boar Studs Providing Semen to the Domestic Market*, which recommends minimum standards for boar studs producing semen for the domestic (U.S.) market.

The guidelines address pre-entry and isolation health requirements for incoming semen donor boars,

health requirements for the resident AI stud herd, and hygiene and sani-



tation requirements for semen collection, processing, and storage.

The guidelines appear in the July/August 2003 issue of the

Journal of Swine Health and Production, and may also be accessed by AASV members on the association's website (www.aasv.org).

In addition, the guidelines have been printed as a stand-alone booklet, which is being distributed to U.S. and Canada AASV members. A limited number of additional booklet copies are available to AASV members by contacting the AASV office (515-465-5255).

APHIS Appoints Associate Deputy Administrator for Emergency Management

APHIS Deputy Administrator for Veterinary Services (VS) Dr. Ron DeHaven has announced the selection of Dr. Larry Granger as the new associate deputy administrator for emergency management, a new senior level position with VS.

"Dr. Granger's background and expertise will help VS and APHIS navigate these challenging times of increased national security, END eradication and other issues yet to emerge," said DeHaven. "I know he is up to the challenge and will be a terrific addition to the APHIS team."

Granger most recently served as TB program coordinator for the Michigan Department of Agriculture, Animal Industry Division, where he coordinated statewide TB eradication efforts in livestock. Granger has been

with MDA since 1990.

Before being assigned to his current position in 2000, Granger worked for the MDA Office of Agriculture Development as a veterinary consultant where he was responsible for macroeconomic issues, department policy and legislative initiatives. Prior to that he served the MDA Animal Industry Division as pseudorabies eradication program coordinator and official pseudorabies epidemiologist.

Granger also worked as a veterinary medical officer with USDA, APHIS, VS in southern Ohio for two years, and owned and managed a mixed animal veterinary practice for nine years. He received his Doctor of Veterinary Medicine from Michigan State University in 1979.

USDA Proposes to Amend Inspection Requirements for Swine Finishing Herds

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) has proposed to amend the regulations pertaining to the interstate movement of swine. The proposal would reduce the frequency of veterinary inspections for swine moved interstate within a production system.

Notice of the proposed rule appeared in the May 23 *Federal Register*. A 60-day comment period has already expired. The proposed rule (Docket No. 02-069-1) can be viewed in its entirety on the Internet at www.aphis.usda.gov/ppd/rad/webrepor.html.



Swine Health Report

Summer 2003

Publisher

National Institute for
Animal Agriculture
Glenn N. Slack, President & CEO

Swine Health Report provides the latest information on issues pertinent to swine health initiatives, strategies, research and regulatory action. It is a communications initiative of the NIAA Swine Health Committee and is produced in cooperation with USDA-APHIS. Reprinting is encouraged.

For a free subscription, send your name and mailing address to NIAA at:
1910 Lyda Avenue
Bowling Green, KY 42104-5809
ph.: 270-782-9798 fax: 270-782-0188
e-mail: NIAA@animalagriculture.org
Web site: www.animalagriculture.org

PRRS Elimination from Breeding Herds

Field Observations From Our Practice

by Dr. Steve Henry

Many client herds in our practice participate in a systematic approach that we hope will eliminate Porcine Reproductive and Respiratory Syndrome virus (PRRSv) from their operations. These herds are diverse in size, genetic base, operational type and location but all have experienced clinical PRRSv disease in both adults and in growing animals. Our process in elimination of PRRSv is actually an outgrowth of earlier control methods.

1. PRRSv vaccines are strongly discouraged. No client herds have been exposed to vaccine, live or killed, since October of 1996.

2. Replacement breeding animals, whether reared or purchased, male or female, are entered into the herd at as young an age as possible, preferably as weaned pigs.

3. Operating, where possible, nursery through finishing on sites removed from the breeding herd; in all cases employing conscious segregation.

4. Minimizing unnecessary procedures that might transmit infectious body fluids among pigs, examples being injections, identification and surgery.

Our assessment of these efforts is on several levels. Freedom from clinical signs of PRRSv infection is a primary evaluation, combined with the production record. Secondly, laboratory evidence of infection or lack thereof is considered. While extensive laboratory evaluations on all herds would be desirable, it is not economically feasible. Results are most promising in many herds under a variety

of production methods. Most gratifying of all has been the lack of new cases in sow herds and the great reduction in nursery infection. While progress is slow, it has been steady.

Premise: Immunity to homologous PRRS variants appears to be very strong and effect. Based on work with specific antiserum, protection appears to provide a "sterilizing immunity" of extended duration. The development of this level of protection occurs quite late in comparison to most other immunologic responses with which we are familiar. Thus the goals are that all animals are infected with, and recover from, the specific endemic PRRS variant at any early age. Obviously, multiple variant infections in herds complicate the situation. Yet the process continues to be effective in our practice.

Additionally, some producers are choosing repopulation as a method to eliminate PRRS but it should be noted this is NOT the primary reason behind the decision. Instead, there is a desire to both improve genetics as well as eliminate other diseases, generally App (*Actinobacillus pleuropneumoniae*), from the herds.

Present assessment of the effort: Based on serologic screening of nursery pigs and the testing of sero-negative sentinels, added to the sow herds, we work with 32 herds that have been affected by PRRS and are now negative to the best of our assessment through the nursery phase. Twenty-seven of these herds have become negative through the process of herd roll-over with immune animals and

some have now completed the process of sow herd replacement with negative animals. Five herds are negative due to repopulation.

At this point, there are only two herds, in addition to these 32, which failed in the process and experienced reoccurring PRRS infections, in both cases herds with known multiple variant infections. These herds had achieved negative nursery flow before reoccurrence of clinical disease.

Conclusions: While the process still lacks sophistication, it appears the simple steps outlined above are consistently leading to PRRSv negative flow and, by attrition, negative sow herds. A great deal of caution is warranted as the experience of many producers and veterinarians demonstrates. Avoiding the cost and pathology associated with vaccine, reduction in medication use and improved performance have all been most appreciated by producers. We believe this is a disease to eliminate and not just to manage. These are the early days and additional tools will be most welcome when they are developed. Nonetheless, we are encouraged by the success.

Publisher's Note: Steve Henry, DVM, Dipl ABVP, is a senior partner with Abilene Animal Hospital, P.A., in Abilene, Kansas. He shared his experiences in eliminating PRRS from swine operations with the National Institute for Animal Agriculture's Swine Health Committee during the 2003 NIAA Annual Meeting, held recently in Cincinnati, Ohio. The manuscript of his complete presentation of the subject is available on the Internet at www.animalagriculture.org.

National System for Animal ID Closer to Reality

A national animal identification plan is being developed to help protect American animal agriculture. State animal health officials, livestock industry groups and the federal government are working together to finalize the plan. They hope to have Phase One of the plan, Premises ID, in place by July 2004. This phase would require that standardized premises identification numbers be established for all production operations, markets, assembly points, exhibitions and processing plants.

Once the Premises ID systems are in place, the plan will proceed to Phase Two, which calls for individual identification for cattle in commerce. Other food animal and livestock species would require all animals that enter commerce to be identified through individual or group/lot identification.

Phase Two would be in place by the beginning of 2006. The goal is to develop a national standardized program that has the capability to identify all premises and animals that had direct contact with a foreign animal disease within 48 hours of its discovery. This goal may require that certain data be housed in a central database.

States, industry and the USDA have been working in partnership on the plan through the National Animal Identification Development Team. The team, which includes a steering committee and five working groups, has produced a draft plan with the working name of the U.S. Animal Identification Plan (USAIP). It carries the tagline "Protecting American Animal Agriculture."

"The development of a national identification plan has been worked on for several years, but the recent BSE experience in Canada has reinforced the need for the U.S. to introduce a national plan as soon as practicably possible," said Neil Hammerschmidt, Chief



Operating Officer of the Wisconsin Livestock Identification Consortium and co-chair of the development team's steering committee.

"A national plan which IDs all food animals and livestock will allow the U.S. to identify any animals exposed to disease and will facilitate stopping the spread of that disease," said Glenn Slack, president and CEO of the National Institute for Animal Agriculture (NIAA). "This will help protect American animal agriculture from the devastating effects that might occur in the event of a case of BSE, foot and mouth disease or other deleterious diseases ever being discovered in the U.S."

The draft plan draws on existing voluntary and compulsory animal identification programs currently in place in the U.S. and coordinates these into a truly national program for the first time. Details are still to be finalized, but

the development team expects to complete its work within the next 60 days. It is expected that the plan will then be open to review and comment by industry stakeholders.

"Maintaining the health of the U.S. animal herd is the most urgent issue for the industry and is the focus of the draft plan," said Hammerschmidt. "The benefits of a national animal health identification system include enhanced disease control and eradication capabilities, rapid containment of foreign animal disease outbreaks and enhanced ability to respond to threats to biosecurity."

"A national system would also provide benefits to industry in terms of market access and consumer demands," said Slack. "Source and process verification are gaining consumer momentum, providing producers with an added value opportunity. Also, livestock and animal products from the U.S. are highly marketable worldwide. Assuring animal traceability through animal identification adds value to the product."

"Furthermore, as more retailers and consumers demand source-verified systems, the ability of producers to sell their products to these markets might depend on the ability to trace animals to the farm of origin," said Slack. "Other countries have already developed systems that are being used as technical barriers to trade. These systems are rapidly becoming the world standard. The U.S. needs to be consistent with the animal tracking systems of its international trading partners to avoid the loss of international markets."

"As recently as 1995, nearly nine million calves were identified with orange brucellosis vaccination ear tags," said Hammerschmidt. "That number represented slightly less than one fourth of all the newborn calves or about 45 percent of all female calves (only females are vaccinated). Today, fewer than four million calves are vaccinated (10 percent of total calves, 20 percent of females). The U.S. is very close to declaring itself free from brucellosis. The level of vaccination will continue to decrease, if not cease entirely. The identification of calves to the farm of origin will be minimal in two to three years."

"Without identification, our livestock industries would be vulnerable to any disease situation that required rapid tracking of animal

movement," said Hammerschmidt.

The draft plan follows 18 months of intensive work by states, industry and USDA. In early 2002, NIAA's Animal Identification and Information System Committee organized an NIAA task force comprised of approximately 100 representatives of more than 30 stakeholder groups. After months of work, the task force produced the National Identification Work Plan (NIWP). That plan was presented at the NIAA ID/INFO EXPO in Chicago in July 2002. The final draft of the NIWP was then presented to the U.S. Animal Health Association (USAHA) at its annual meeting in October 2002.

The USAHA accepted the plan with a resolution calling for USDA, APHIS, VS, to establish a

National Animal Identification Team composed of state, industry and federal partners to further develop a national plan, using the NIWP as a guide." With this charge, APHIS, VS identified key industry leaders to serve as the team's Steering Committee. These steering committee members then selected members of five working groups, including Communication, Transition, Standards, Governance and Information Technology.

An official Website containing details of the draft plan, background information, Frequently Asked Questions and Answers about the proposed plan and provision for comments about the plan is currently under construction. An announcement as to the Website address will be made shortly.

NPPC Supports Enhanced National Animal Identification System to Protect Health of U.S. Livestock Herds

The recent diagnosis of bovine spongiform encephalopathy (BSE) in Canada has heightened awareness of potential animal health risks facing livestock producers. The National Pork Producers Council (NPPC) is urging the U.S. Department of Agriculture (USDA) to accelerate the implementation of an enhanced national animal identification system to ensure all preventive measures are taken and a rapid response would be mounted in the event of an occurrence of a foreign animal disease.

"It is critical that a uniform national premises and animal identification system evolves and moves forward rapidly to protect swine health and the financial viability of the U.S. pork indus-

try," said NPPC President Jon Caspers, a pork producer from Swaledale, Iowa. "The swine industry has had mandatory identification requirements since 1988. Not having a coordinated across-species mandatory identification system has the potential to devastate the U.S. swine herd and cause incalculable costs. An enhanced system is needed to maintain and strengthen the health and biosecurity of the U.S. livestock herd by providing timely and effective tracing in case of a disease event."

Caspers, a member of a national identification development team coordinated by USDA, said the system that is developed should be accurate, effective and affordable for pork producers. "We

have met with Agriculture Secretary Ann Veneman and informed her that we are ready to work closely with USDA's Animal and Plant Health Inspection Service (APHIS) to further develop and refine the systems currently in place to enhance animal disease monitoring, surveillance and control and eradication in the U.S.," he said. "Without an enhanced system in place, we remain vulnerable to disease and the threat of targeted bioterrorism aimed at harming U.S. livestock and reducing confidence in our food supply."

For more information, go to www.animalagriculture.org to review the work plan for the national animal identification system.

National Pork Board Introduces Swine Welfare Assurance Program



The Pork Checkoff's Swine Welfare Assurance Program (SWAPsm) is

now available to all U.S. pork producers as the first objective and voluntary program to measure welfare of swine on the farm. This educational assessment will allow producers to evaluate and benchmark the care and welfare of their animals, and address any welfare concerns in a scientifically sound manner.

"Animal welfare is a priority for pork producers," said Kathy Chinn, a producer from Clarence, Mo. and chairman of the Pork Checkoff Animal Welfare Committee. "This voluntary program is a very important tool in helping producers evaluate their production. It also shows

customers and retailers we take our tradition of responsible animal care through scientifically sound animal care practices very seriously."

Because markets eventually may require producers to follow welfare guidelines, SWAP is intended to give producers the ability to show they are practicing science-based production practices, in a practical, producer-developed and producer-implementable way.

"SWAP was over three years in the making," said Chinn. "The reality of the program is that it incorporates the latest scientific production principles into a program that is practical and user-friendly to any producer. SWAP can be applied to any production system, regardless of size, type or geographical location. So now, all producers have a tool to assist in measuring and tracking welfare on the farm and to use that to help them produce pork

humanely and efficiently."

SWAP, which was developed by a panel that included international welfare experts, veterinarians and pork producers, has the look of the Pork Quality Assurance[™] Program in its use of nine Care and Well-being Principles for all pork production. Those principles give guidelines for evaluating on-farm welfare in two phases: 1) gilts, sows, boars, and neonatal pigs and 2) nursery and finisher pigs.

The on-farm voluntary assessments will be performed by Certified SWAP Educators (CSE), who have been trained and tested on evaluating animal welfare to assure they are familiar with the program and how it applies to pork producers. To locate a CSE, contact state Swine Extension, the state pork producer office, or the Pork Checkoff Service Center at 800-456-PORK or www.porkboard.org.

The Nine Care and Well-Being Principles in SWAP are:

- 1. Herd Health and Nutrition.** Covers six areas of record-keeping, including records that document: veterinarian-client-patient relationship; the herd health program; medication and treatment records; mortality; pigs euthanized; and nutrition.
- 2. Caretaker Training.** Focuses on the husbandry skills training of all caretakers. This section evaluates the operation's training programs in euthanasia, handling and husbandry, as well as what career development opportunities are taken by the producer and employees.
- 3. Animal Observation.** Helps to verify that other aspects of the welfare program are successfully extended to the animals. This includes daily observations, animal evaluation, swine behavior and pig social contact.
- 4. Body Condition Score.** Crucial to evaluating the adequacy of the nutrition program.
- 5. Euthanasia.** Evaluates the operation's euthanasia action plan. These factors include timeliness, methods and the use of functional equipment.
- 6. Handling and Movement.** Evaluates proper handling, facility considerations and equipment used to move the animals.
- 7. Facilities.** Helps to evaluate facilities for: ventilation, heating and cooling, physical space to accommodate the body, pen maintenance, feeder space, water availability and the availability of a hospital pen.
- 8. Emergency Support.** Uses a working emergency support system and a written action plan to provide direction in case of an emergency.
- 9. Continuing Assessment and Education.** Helps improve management skills. Producers are encouraged to access the latest Checkoff information about practices related to animal care, husbandry and welfare.

Composting Manure for the Right Amount of Time and at the Proper Temperature is the Key to Controlling Pathogens

Composting continues to have a place in farm animal operations, according to Agricultural Research Service scientists who are finding ways to make composting even more feasible for animal producers.

In field experiments by microbiologist Patricia Millner at the ARS Environmental Microbial Safety Laboratory in Beltsville, Md., 99.99 percent of the pathogens *Escherichia coli* and *Salmonella* were eliminated from manure after composting. But the scientists stressed that composting for the right amount of time, and at the proper temperature, is the key to controlling pathogens in compost.

Composting is one of several

methods farmers can use to treat animal manure, sewage sludge and other organic residuals that contain pathogens or parasites of public health concern. The temperature of an aerated compost pile—one that's turned frequently to allow air to penetrate—must be at least 131 degrees Fahrenheit for three consecutive days to reduce pathogens to safe levels. For unaerated compost piles—those that are turned only five times—the temperature must reach 131 degrees Fahrenheit for two weeks.

In many states, untreated manure can be applied to farm fields. However, this can introduce pathogens and parasites into soils,

and even into runoff or irrigation water. As organic vegetables and fruits gain popularity, the demand for animal manure is expected to increase.

Millner is conducting research on what she calls hybrid composting systems. Not only do these systems reduce numbers of pathogens like *E. coli* and *Salmonella*, they also reduce excess available phosphorus and keep the ratio of nitrogen to phosphorus within a range acceptable for use in areas that have nutrient-management plans. This approach means that composting can address nutrient, pathogen and odor concerns all at the same time.

Non-Profit Organization
U.S. POSTAGE
PAID
Permit No. 82
Bowling Green, KY
42104

Swine
Health Report
National Institute for Animal Agriculture
1910 Lyda Avenue
Bowling Green, KY 42104