



University of Minnesota
SWINE EXTENSION
Update

April 10, 2006

Volume 13

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1. Swine training program dates announced for upcoming year

Dates for upcoming Swine Training Program workshops have tentatively been set for the upcoming 2006-2007 year. The Swine Training Program, sponsored by the MN Pork Board and U of MN Extension Service, involves 2-day intensive training workshops throughout the year on various phases and aspects of modern pork production.

Date	Workshop	Location
July 27-28, 2006	Breeding & Gestation Mgmt	Waseca
July 31 - Aug 1, 2006	Alternative Breed & Gestation	Morris
Nov 16-17, 2006	Nursery Management	Morris
Dec 14-15, 2006	Artificial Insemination	Waseca
Feb 8-9, 2007	Wean to Finish Management	Morris
Feb 15-16, 2007	Wean to Finish Management	Waseca
April 19-20, 2007	Farrowing Management	Waseca
July 26-27, 2007	Breeding & Gestation Mgmt	Waseca
Dec 6-7, 2007	Artificial Insemination	Waseca

Swine Training Program workshops are designed to provide current and timely information to help swine producers meet production challenges. For more information on individual courses and registration information, access the UMN Swine Extension website at www.extension.umn.edu/swine.

2. North American PRRS eradication efforts

PRRS eradication based working groups have been formed throughout North America in an effort to assess the feasibility of eliminating the virus and eradicating the disease from a region, or a group of farms. The first group to organize such a collaborative effort was located in Ontario, Canada and is known as the Ontario Swine Health Advisory Board or OSHAB. The members of OSHAB include the Ontario Association of Swine Veterinarians, the Ontario Pork Industry Council, along with the various sectors of the Ontario swine industry. This group is working closely with the Ontario Veterinary College at the University of Guelph and has raised a significant amount of funding that will be dedicated to PRRS research.

Following the lead of OSHAB, the AASV is currently in process of organizing a North American PRRS Eradication Task Force. Individuals serving on the Task Force will represent stakeholders from across North America including practitioners, researchers and producers. The goal of this task force will be to serve as a steering committee to provide direction, knowledge, resources and coordination for national and regional PRRS virus elimination efforts. The Task Force will also facilitate the dissemination of information regarding the progress of these efforts as well as any other information pertinent to achieving the AASV's long-term goal of eradicating the disease from the North American swine herd. It is hoped that such efforts will enhance communication and collaboration across groups and stimulate the initiation of regional PRRS eradication pilot projects in order to demonstrate that sustainable eradication is possible within a group of farms.

To view the entire article by Dr. Scott Dee, access the UMN Swine Extension website at www.extension.umn.edu/swine.

3. Incidence of PSE pork down considerably

PSE pork is pale, soft and exudative pork that is of low quality and of significantly less value to the industry than normal pork. PSE pork becomes very dry and tough, with little flavor, and is unsuitable for many pork products. A National Pork Quality Audit in 2002 determined that the cost of PSE meat to the industry was up to \$0.90 per head. The same audit found that PSE was present, on average, on 15.5 percent of the meat produced in U.S. packing plants. Some plants reported an incidence of up to 40 percent of PSE pork.

In 2005, the Pork Quality Solutions Advisory Group, a subcommittee of the Pork Checkoff's Animal Science Committee, agreed to conduct a survey to determine the incidence of PSE pork. The study was concluded in late 2005.

The Pork Quality Solutions Advisory Group started out with the hypothesis that the 2002 audit may have overestimated the incidence of classical PSE by reporting individual quality traits such as pale color and softness as PSE. In the 2005 survey, the researcher set out to find "classic PSE" meat, that is, pork that was pale, soft and watery.

The 2005 survey included packers harvesting 82 percent of the hogs marketed in the U.S. annually. The result was a 3.34 percent incidence, significantly less than the level reported in 2002.

4. Cloned pigs that produce healthy fat

Researchers report they have created pigs that produce omega-3 fatty acids, which are known to improve heart function and help reduce the risks for heart disease, representing the first cloned transgenic livestock in the world that can make the beneficial compound. The research could be a boost to both farmers and health-conscious consumers seeking an alternative and safer source of omega-3 fatty acids. Currently, the only way for humans to realize the benefits of omega-3 fatty acids is by taking dietary supplements or by eating certain types of fish that may also contain high levels of mercury.

The results, which are being published by Nature Biotechnology, are the work of a team assembled by Yifan Dai, M.D., Ph.D., of the University of Pittsburgh School of Medicine that includes researchers from Randy Prather, Ph.D.'s group at the University of Missouri-Columbia (MU) National Swine Resource and Research Center, the laboratory of Jing X. Kang, M.D., Ph.D., at Massachusetts General Hospital (MGH), and the laboratories of Dr. Dai and Rhobert Evans, Ph.D., at the University of Pittsburgh.

To stimulate production of omega-3 fatty acids in pigs, a team led by Dr. Dai transferred a gene known as fat-1 to pig primary fetal fibroblasts, the cells that give rise to connective tissue. Dr. Prather's group then created the transgenic pigs from these cells using a method called nuclear transfer cloning. The transgenic pig tissues were then analyzed for omega-3 fatty acids in Dr. Kang's lab at MGH and by Drs. Dai and Evans at Pitt. The fat-1 gene is responsible for creating an enzyme that converts less desirable, but more abundant, omega-6 fatty acids in the animals to omega-3 fatty acids. The results could lead to a better understanding of cardiovascular function not only in pigs, but in humans as well.

"Pigs and humans have a similar physiology," said Dr. Prather, distinguished professor of reproductive biology in MU's College of Agriculture, Food and Natural Resources and a corresponding author with Dr. Dai. "We could use these animals as a model to see what happens to heart health if we increase the omega-3 levels in the body. It could allow us to see how that helps cardiovascular function. If these animals are put into the food chain, there could be other potential benefits. First, the pigs could have better cardiovascular function and therefore live longer, which would limit livestock loss for farmers. Second, they could be healthier animals for human consumption."

"While fish, especially salmon and tuna, is one of the best food sources of omega-3

fatty acids, we have been warned to limit consumption because of high mercury levels. These animals could represent an alternative source as well as be an ideal model for studying cardiovascular disease and autoimmune disorders," said Dr. Dai, an associate professor of surgery at the University of Pittsburgh School of Medicine's Thomas E. Starzl Transplantation Institute.

"Livestock with a health ratio of omega-3 to omega-6 fatty acids may be a promising way to re-balance the modern diet without relying solely on diminishing fish supplies or supplements," Dr. Kang said.

Source: *Medical News Today*

5. Minnesota hog numbers down 3 percent from December

Minnesota hog producers had an inventory of 6.4 million hogs and pigs on March 1, 2006, up 2 percent from last year but down 3 percent from the December 1, 2005 figure, according to the USDA, NASS, Minnesota Field Office. Breeding hogs totaled 580 thousand, down 2 percent from a year earlier and market hogs and pigs at 5.82 million, were up 2 percent from a year ago.

Market hogs in the under 60 pound weight group were up slightly from last year. The 60-119 pound weight group was down 1 percent. Hog numbers in the 120-179 pound group were up 5 percent from last year, while the 180+ pound group was up 7 percent from a year ago.

View the full report at: <http://www.nass.usda.gov/mn/>

6. National Animal Identification System update

Agriculture Secretary Mike Johanns announced the release of an implementation plan that outlines timelines and benchmarks for the establishment of the National Animal Identification System (NAIS), along with a plan for the initial integration of private and state animal tracking databases with NAIS.

"Developing an effective animal identification system has been a high priority for USDA and we've made significant strides toward achieving a comprehensive U.S. system," said Johanns. "We recognize that this represents one of the largest systematic changes ever faced by the livestock industry and we have welcomed suggestions from stakeholders to ensure that we continue to gain momentum. The plan we are releasing today will guide our efforts as we continue to work with our State and industry partners to implement a nationwide system."

The implementation plan continues to set an aggressive timeline for ensuring full implementation of the NAIS by 2009. It establishes benchmarks for incrementally accomplishing the remaining implementation goals to enable the NAIS to be operational by 2007, and to achieve full producer participation by 2009. Several important components have already been accomplished. These include the development of premises registration systems in each State and the issuance of guidelines for the manufacture and distribution of animal identification numbers. More

than 235,000 premises are currently registered. To view the entire announcement or other information regarding the National Animal Identification System, access the MN Board of Animal Health site at www.bah.state.mn.us or the USDA NAIS site at www.usda.gov/nais.

Questions?

It is our goal to bring University research to the Minnesota Pork Industry, ensuring the continued sustainability and competitiveness of producers and allied industry. Periodically check our events calendar on the U of MN Swine Extension website (www.extension.umn.edu) for upcoming workshops and seminars. Please email or call me if I can be of assistance:

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