



*University of Minnesota*  
**SWINE EXTENSION**  
Update

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**Contents:**

**1. Making energy from swine manure**

Dr. Jun Zhu, researcher at the U of MN Southern Research and Outreach Center, is examining hydrogen production from swine manure as a renewable energy source.

**2. Eradication of PRRS**

Brief summary from the U of MN Swine Disease Eradication Center outlines the four primary methods of eliminating the PRRS virus from infected farms.

**3. Breeding and gestation course coming later this summer**

Intensive workshop addressing conventional production will be held in Waseca while alternative breeding systems workshop will be held in Morris.

**4. Managing people in pork production**

A full day employee management conference for swine managers and owners will be held June 20<sup>th</sup> at the Best Western Garden Inn in North Mankato.

**5. PORK Academy and World Pork Expo coming next month**

Des Moines, IA will again host the World Pork Expo on June 8-10. Come a day early and attend the PORK academy on June 7<sup>th</sup>, also in Des Moines.

**6. Reproduction and advanced ventilation workshops offered at Lemna Conference this fall**

On Saturday, Sept. 23, two pre-conference sessions will be offered at the Lemna Conference in St. Paul. One is a reproduction workshop in collaboration with the University of Alberta and the second is an advanced ventilation workshop.

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**1. Making energy from swine manure**

Energy is vital to global prosperity, yet dependence on fossil fuels as our primary energy source contributes to global climate change, environmental degradation, and health problems. In contrast, hydrogen offers tremendous potential as a clean, renewable energy currency because it has the highest energy density of any known fuel and is compatible with electrochemical and combustion processes for energy conversion without producing carbon-based emissions that contribute to environmental pollution and climate change. In the last decade, hydrogen production through biological processes (e.g., fermentation) is becoming an exciting new area of technology development that attracts increasing interest from researchers around the world. Although many agricultural and industrial waste materials or residues have been studied as feedstock, the topic of using liquid swine manure for microbial production of hydrogen has rarely been touched until most recently when a grant was approved in 2005 by the University of Minnesota Initiative for Renewable Energy and the Environment (IREE) in this area. Currently, lab-scale research is making headway

at the UM Southern Research & Outreach Center (SROC) at Waseca, which sets a stage for launching a new and important endeavor on biohydrogen production from an almost inexhaustible renewable source.

To read the full article, access the UMN Swine Extension website at [www.extension.umn.edu/swine](http://www.extension.umn.edu/swine).

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## 2. Eradication of PRRS

At this time, elimination of PRRS virus from infected farms is possible by 4 primary methods: whole herd depopulation/repopulation, test and removal, herd closure and rollover, and production of negative pigs from positive sows. Conducting a whole herd depopulation/repopulation is highly effective, solving a multitude of disease problems at the same time, and results in genetic improvement also. However, it is very costly, requires multiple sites, and re-infection can occur during the repopulation process. Test and removal is also a highly effective method, providing low risk, but testing costs can be high, it requires the removal of exposed breeding animals, and is only feasible if herds have low (< 10%) seroprevalence. Herd closure and rollover appears to be very effective without requiring excessive testing or removal of breeding animals. The method does require off site breeding facilities, takes a long time to complete, relies on consistent natural exposure of all replacement gilts, and it is unknown whether this can be accomplished in all cases. Producing negative pigs from positive sows preserves genetics, and can significantly improve overall health status of offspring, but transmission of PRRS virus from dam to offspring can result in production of infected batches of weaners.

For more information on PRRS eradication, access the Swine Disease Eradication Center website at <http://www.academic-server.cvm.umn.edu/swine>.

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## 3. Breeding and gestation course coming later this summer

Conventional and alternative breeding and gestation management are the focus Swine Training Programs scheduled for July in Waseca and Morris. Breeding and Gestation Management will be July 27 and 28 at the University of Minnesota Southern Research and Outreach Center, Waseca, and Alternative Breeding and Gestation Management will be July 31 and Aug. 1 at the University of Minnesota West Central Research and Outreach Center, Morris.

At the Waseca workshop, instructors will examine and evaluate indoor confinement housing systems utilizing individual stalls and large group housing. At the Morris workshop, instructors will examine and evaluate alternative housing systems, including large group pens in hoop buildings and the Swedish deep-bedded system, in addition to comparing these systems to conventional confinement. The curriculum for both sessions will be similar in content but will differ slightly to meet enrollees' educational objectives and to address variations between conventional and alternative systems.

These two-day intensive workshops are designed to increase participants understanding of the factors involved to successfully breed females and to care for them during gestation. The course is appropriate for people with a limited knowledge of pork production, veterans wishing to review the basics and stay abreast on recent developments, and producers who seek researched-based information on alternative systems. Topics that will be covered in the workshop include:

- *Rearing Replacement Females:* Nutritional needs, body condition, proper environment, evaluation and selection guidelines, biosecurity, isolation and acclimation, successful gilt introduction
- *Mating Systems:* Pen vs. hand vs. A.I. mating, production schedules, pig flow, balancing culls with replacements, record keeping, vaccination/health management, feeders, lighting, flooring and sanitation
- *Breeding Practices:* Environmental stressors, animal handling, estrus detection, estrus cycles, reproductive physiology, boar management (semen collection, processing, evaluation, handling and storage)
- *Pregnancy Management:* Minimizing environmental stress, handling practices, timing issues, pregnancy detection, proper sow feeding
- *Preparing for Parturition:* Feeding to proper body condition, preparing sows for farrowing, performance targets, record evaluations and monitoring, assessing and troubleshooting reproductive failures

Classroom instruction on the first day of the program is from 11 a.m. to 7 p.m. A hands-on session, conducted at the centers' swine research facilities, are conducted the second day of the program from 8 am to noon. To maximize student learning and understanding, the hands-on session incorporates numerous activities relating to material covered in the classroom portion of the course. Class participants will be automatically certified or recertified under the Pork Quality Assurance (PQA) program by completing the course.

U of M faculty and swine industry experts provide instruction for the course. Cost of the program is \$100 per person and includes learning materials, meals, breaks, instructor fees and biosecurity clothing for hands-on training sessions. Additional participants from the same production system may register for \$50 each. Individuals wishing to participate in multiple courses should call Minnesota Pork Board for a reduced fee schedule. Overnight lodging is the student's responsibility. For more information, contact U of M Swine Extension Educator Dr. Mark Whitney at (507) 389-5541 or Minnesota Pork Board Education Director Trudy Wastweet at (507) 345-8814. A registration form is available at [www.mnpork.com](http://www.mnpork.com).

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#### 4. Managing people in pork production

*Managing People in Pork Production: An Employee Management Conference for Swine Managers and Owners* will be June 20 at the Best Western Garden Inn, North Mankato, MN. Registration begins at 8 a.m. with program speakers from 8:30 a.m. to 5 p.m. This high energy conference will provide insightful and highly practical information that can be taken back to the farm for implementation the very next day. The workshop is a very unique opportunity to hear from top speakers on motivating,

rewarding, and training a swine production workforce. Confirmed speakers and their topics will be:

- Sarah Fogleman, Kansas State University, Extension Agricultural Economist, "Breaking the Turnover Cycle" and "Incentives, Rewards and Compensation."
- Bob Milligan, senior consultant with Dairy Strategies and former Cornell University professor in the Department of Applied Economics and Management, "Managing Conflict, Coworkers, and Difficult People" and "Being a Boss to Family, Friends and Other Folks."
- Kit Welchlin, Welchlin Communication Strategies, "Managing the Generations at Work: Managing the Clash of Veterans, Boomers, Xers and Nexters" and "Communication between Men and Women: Men are from Fleet Farm - Women are from Nordstrom's."

Additional speakers will address becoming a better trainer and executing performance reviews that motivate employees. Workshop pre-registration is requested by June 13. Advance registration fee is \$20; register at the door for \$40. The fee includes speakers, materials, lunch and breaks. Pre-registration is strongly encouraged—space may be limited. Questions on this Pork Checkoff-supported workshop can be directed to Trudy Wastweet, Minnesota Pork Board Education Director, at 1-800-537-7675 or [trudy@mnpork.com](mailto:trudy@mnpork.com).

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## 5. PORK Academy and World Pork Expo coming next month

The National Pork Producers Council (NPPC) presents the 2006 World Pork Expo June 8-10 at the Iowa State Fairgrounds, Des Moines, Iowa, USA. Now in its 18<sup>th</sup> year, the World Pork Expo will feature some 500 swine industry exhibitors, Educational Seminars and Marketing Information Center as well as a new Environmental Center and Job Fair/Career Center. Friday night entertainment will feature the country band, Exile, followed by classic rock favorites, the Grass Roots. Show details are being updated regularly so check lease them often at <http://www.worldpork.org/index.asp>.

Producers may also wish to attend the PORK (Producer Opportunities for Revenue and Knowledge) academy conference on June 7<sup>th</sup> while in Des Moines. The program includes national experts speaking on a variety of topics addressing all areas of swine production. For more information, or to register, contact the National Pork Board at 1-800-456-PORK.

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## 6. Reproduction and advanced ventilation workshops offered at Leman

On Saturday, Sept. 23, two pre-conference sessions will be offered at the Leman Conference in St. Paul. One is a reproduction workshop in collaboration with the University of Alberta and the second is an advanced ventilation workshop.

The first of a series of four Swine Reproduction Workshops planned as a collaboration between the University of Minnesota and the Swine Research & Technology Centre at the University of Alberta was presented in 2005 with the theme of "Effective

Management of Replacement Gilts". This highly rated Workshop considered the basic principles and practicalities of improved gilt pool management, as the essential driver of good breeding herd performance. George Foxcroft (Leader of the Swine Reproduction-Development Program at the U of A) will again act as facilitator for the 2006 Swine Reproduction Workshop. The theme of the 2006 Workshop will be "Achieving and Exceeding Sow Production Targets" and will consider all aspects of good sow management. The Workshop is directed at consultant veterinarians, breeding stock suppliers, and breeding herd managers and will set the benchmarks for sustaining and improving profitability per sow place per year.

The advanced ventilation workshop will address troubleshooting curtain sided barns and variable speed fan ventilation systems. It will include 6 problem sets from on-farm situations involving curtain sided facilities and facilities with variable speed fans. It will also include a discussion of motor curves and a hands-on session on matching controllers to variable speed fans. Presenters are from the University of Minnesota, University of Nebraska, and South Dakota State University. The workshop will be held Saturday afternoon from 1-5 pm, and attendance is limited to a max of 20 people.

For more information or to register, call 1-800-380-8636.

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## 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](http://www.extension.umn.edu)) for upcoming workshops and seminars. Please email or call me if I can be of assistance:

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