



U of MN Swine Extension Update



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Volume 5

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1. What is the Value of Manure from Your Operation?

Prices of commercial fertilizer have increased interest in livestock manure for supplying crop nutrients, significantly increasing the value of manure as a nutrient source. Manure can contribute to cash flow on livestock operations, as more and more crop producers seek manure to fertilize their land. Determining the economic value of nutrients in livestock manure, however, can be tricky. Cost of transport and

application, storage, and ratio of nutrients contained and required all are important factors affecting the value of manure. An article describing the factors involved in determining the economic value for manure, along with a spreadsheet that calculates value based on these factors, is available on the UMN Swine Extension website at www.extension.umn.edu/swine (located under the "What's New" section).

2. Carcass Disposal - Which Method is Best for Your Farm?

There is always mortality in animal production. Proper disposal of carcasses is important to prevent livestock disease transmission and to protect air and water quality. The Minnesota Board of Animal Health has summarized information providing options for disposal and discusses advantages, disadvantages and rule requirements of burial, composting, incineration, rendering, and alternative methods. In general,

- Carcass must be disposed of as soon as possible (within 48 to 72 hours).
- Burying a carcass requires that the carcass be 5 feet above the seasonal high-water table and covered with dirt. Sandy or gravelly areas or areas within 10 feet of bedrock should be avoided.
- Incineration must be in an incinerator that is approved by the MPCA.
- Hauling over the road: Carcasses or discarded animal parts must be in vehicles or containers that are leak-proof and covered. The vehicles also need to be inspected and have a permit, unless the vehicle belongs to the owner of the animal before it died.
- Composting must be done according to the protocol set forth in Board of Animal Health Rule 1719.4000. This is explained in the section on composting.
- Fur farms need a permit and inspected vehicle to haul carcasses or discarded animal parts over the road.
- Each carcass used as pet food must pass an inspection by a veterinarian and must be processed under clean and sanitary conditions.
- Carcasses left at an off-site pickup point must be in an animal-proof enclosed area that is at least 200 yards from a neighbor's buildings. Carcasses must be picked up within 72 hours, except if the enclosed area is refrigerated to less than 45 degrees Fahrenheit, then carcasses must be picked up within 7 days.

For more information on carcass disposal options, access the MN BAH website through the UMN Swine Extension website at www.extension.umn.edu/swine.

3. Nutrition Affects Microbiology of the Gut and Enteric Disease

The gastrointestinal tract serves as a direct path from which pathogens can gain entry into the pig and cause disease. In order to combat potential pathogens, the intestine has a number of mechanisms that provide protection, including secretion of antibodies, maintenance of a healthy natural microflora, production of a mucin barrier, peristalsis or movement of digesta through the system, and inhibition through physiological environment. Nutrition can greatly affect all of these mechanisms, and understanding how diet interacts and affects a healthy gut can be very helpful in

developing nutritional strategies to maintain or improve pig health, and thereby performance. Access the full article on the UMN Swine Extension website at www.extension.umn.edu/swine (located under the "What's New" section).

4. Beat the Heat - Ensure Adequate Cooling for Your Pigs

Summer is already upon us, and temperatures have risen the past couple of weeks. If not done already, a review of your operation's cooling systems and methods should be conducted to ensure animal comfort is maintained at a high level, and that heat stress is minimized. Here is a very brief checklist of items to look at or consider:

- *Ventilation System*

The effective temperature a pig feels is affected by not only temperature, but also air speed, humidity, group size and space allotment. Ventilation systems directly affect air temperature, humidity, and air speed, and therefore play a key role in heat loss in the pig. Ensure fan capacity is adequate to meet hot weather requirements, and that all fans are operating properly. Verify that the controller is properly adjusted - one may consider slightly increasing the summer temperature set point to reduce daily temperature fluctuations during hot weather. Research indicates that pigs are better able to cope with slow increases or decreases in temperature versus rapid temperature changes. Inlets need to be sized and distributed to ensure adequate air distribution. Schedule routine cleaning for fan blades and inlets - an 1/8 inch of dust can reduce fan and shutter air flow by 40%. Ensure correct operation and adjustment of curtains, and consider installing mixing fans to increase air movement within naturally ventilated barns.
- *Supplemental Cooling System*

Once the temperature approaches or exceeds 80 °F, the grow/finish pig or sow begins feeling heat stress, and supplemental cooling is required. Directly cooling animals, by applying water to the skin surface, is more effective than indirectly cooling animals by cooling the air. Intermittent sprinkling is recommended for grow-finish pigs, while drip cooling is preferred for sows. Sprinklers should run on a timer (i.e. 1 minute on, 14 minutes off), allowing pigs to become wetted, then evaporating the moisture completely prior to being wetted again. Excess moisture increases humidity levels in the barn, reducing the overall cooling effect of evaporation. Other cooling options, particularly for sows, include Kool cells and snout coolers. Kool cells will generally reduce temperature by 7 - 10 °F in southern MN and northern IA.
- *Nutrition*

Pigs attempt to compensate for heat stress by initially reducing feed consumption. Digestion and metabolism of feed results in the generation of additional heat the animal must get rid of. In order to ensure nutrient intake is adequate, nutrient density, or concentration, or the diet should be increased to adjust for lower intake levels. One of the most common ways to accomplish this is to increase energy level of the diet with fat supplementation. Not only does fat contain approximately 2.25 x more energy than carbohydrate, but the energy is more efficiently utilized for tissue accretion, resulting in a reduction in heat liberated during digestion and metabolism. Ensure that protein and other nutrient levels are also increased appropriately.

5. Input Requested for National Animal Identification System

On May 5th, Agriculture Secretary Mike Johanns unveiled a thinking paper and timeline on the National Animal Identification System (NAIS). Calling on agricultural producers, leaders and industry partners to provide feedback on the draft plan, Agriculture Secretary Mike Johanns is encouraging feedback. These documents lay out in more detail projected timelines and potential avenues to achieve system milestones. For example, these documents propose requiring stakeholders to identify premises and animals according to NAIS standards by January 2008. Requiring the full recording of defined animal movements proposed for January 2009. In the event of a disease outbreak, the goal of the NAIS is to be able to trace potentially exposed livestock within 48 hours. The need for this system is especially urgent when you consider the dual risks of livestock disease outbreaks and agro-terrorism. Each poses a serious threat to America's agriculture economy, and without a sound animal identification system, it will be very difficult for us to define and contain the damage.

Consideration will be given to comments received on or before July 6, 2005 - a one month extension from the original comment period deadline. Guidelines for commenting or emailing comments are posted on the USDA NAIS Homepage at: <http://www.usda.gov/nais>. Once USDA receives feedback on the documents, it will follow the normal rulemaking process before any aspects of the NAIS become mandatory. The public will have the opportunity to submit additional comments on any proposed regulations. More information and links are provided under the Current Topics section of the UMN Swine Extension website at www.extension.umn.edu/swine.

6. Deadline for EPA Air Compliance Agreement Near

The deadline for animal producers to sign up for the Air Quality Compliance Agreement is July 1, 2005. The U.S. Environmental Protection Agency (EPA) reached the agreement to study air emissions from livestock and poultry operations. It allows livestock and poultry producers protection from EPA enforcement of air emission violations from animal production units that occurred prior to and during the agreement period. The agreement also calls for a two-year national monitoring study for measuring air emissions from representative Animal Feeding Operations. Access the UMN Swine Extension website at www.extension.umn.edu/swine for more information on the study and key links for the issue.

7. Upcoming Educational Events

SWAP (Swine Welfare Assurance Program) Instructor Training

Swine welfare assurance program (SWAP) educator training workshops will be held on June 17 in Worthington, MN and June 24 in Waseca, MN. The first will be held at the former Prairie Expo building at the corner of highways 90 and 59 in Worthington. The second will be at the office of the Southern Research and Outreach Center of the University of Minnesota. The class will last from 8:30 a.m. until approximately 3:30 p.m. Lunch will be provided and the cost will be \$40 per applicant, which can be submitted at the class. In order to be a SWAP educator, an individual must be a veterinarian, extension specialist, or agricultural educator. Once certified, a SWAP educator can conduct SWAP assessments of individual farms. The SWAP program measures the welfare of swine on the farm through an educational assessment, allowing producers to evaluate and benchmark the care and welfare of their animals and address any welfare concerns in a scientifically sound manner. To register, contact Dr. John Deen, University of Minnesota, at (612) 625-7784 or email at deenx003@umn.edu.

Breeding and Gestation Management Course

The Minnesota Pork Board, the University of Minnesota Extension Service and the University of Minnesota Swine Center are offering another class in our Swine Training Program series - Breeding and Gestation Management. Swine Training Program courses are designed to provide current and timely information to help meet production challenges, and are instructed by experienced U of M educators. The Breeding and Gestation Management course will be held at the Southern Research and Outreach Center, Waseca. A classroom session will be held from noon to 9 p.m. on July 14th, with a hands-on session the following morning, July 15th, from 8:00 a.m. to noon. The cost for the course is \$100 per individual, and includes lunch and dinner on the 10th, lunch on the 11th, and breaks in between. Novice to experienced swine producers, farm animal attendants, and breeding technicians have found the class to be very helpful, introducing and reinforcing various reproductive techniques and new technologies. To enroll, contact Dr. Mark Whitney, UMN Swine Extension Specialist, at 507-389-5541, or contact the Minnesota Pork Board office at 1-800-537-7675.

Protecting Our Food System from International Attack

In June and July, a series of four regional workshops titled "Protecting Our Food System from Intentional Attack" will be held throughout the state. These all-day events will feature speakers from the U of MN, and several state agencies including Agriculture, Health, Public Safety, and the Board of Animal Health. The program has been developed for:

- Dairy, meat, grain, and feed producers
- Input suppliers for agribusinesses
- Food transportation, storage and processing personnel
- Cooperative extension educators and advisors
- Public health and health care professionals
- Local emergency response and management personnel

Even though the focus will be on "intentional" threats to agriculture and our food supply, the information on planning and preparedness will have direct implications for

unintentional threats including soybean rust (and other crop disease emergencies); animal disease outbreaks; and natural disasters like floods, tornadoes, and power outages. For more information or registration to the Marshall, Brainerd, Thief River Falls, or West St. Paul workshops, access the web page at <http://safety.coafes.umn.edu/AgPHP/index.html>.

Upper Midwest Manure Handling Expo

The 2005 Upper Midwest Manure Handling Expo will be held August 11th at the Southern Research and Outreach Center in Waseca, MN. "Manure Application for the 21st Century" is the theme of this year's program. Held bi-annually, the expo will include field demonstrations of manure handling equipment, a trade show with over 50 vendors, and various educational breakout sessions. Further information and details are available at <http://www.manure.umn.edu/fieldday05>. If you are a producer that hauls manure, or a commercial manure applicator, you won't want to miss this opportunity to learn more on new technologies, methods, and equipment.

9. Interested in Swine Training Program Workshops or Specialized Training Courses?

Dates and locations for upcoming Swine Training Program workshops have tentatively been set for the upcoming 2005-2006 year. The 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. Educators from the U of MN, along with experts from the swine industry, provide program content and delivery, allowing for both classroom and hands-on learning experiences, while encouraging extensive discussion of timely subjects or issues. More detailed information on individual courses are available at www.mnpork.org and www.extension.umn.edu/swine.

<u>Date</u>	<u>Workshop</u>	<u>Location</u>
July 14-15, 2005	Breeding & Gestation Mgmt	Waseca
Sept 8-9, 2005	Nursery Management	Morris
Dec 1-2, 2005	Artificial Insemination	Waseca
Feb 9-10, 2006	Wean to Finish Management	Morris
Feb 16-17, 2006	Wean to Finish Management	Waseca
April 13-14, 2006	Farrowing Management	Waseca

The U of MN Swine Team is also available to provide assistance or instruction for your next training session. Whether you desire certification in National Pork Board programs such as Swine Welfare Assurance Program (SWAP), Trucker Quality Assurance (TQA), Pork Quality Assurance (PQA), or would like instruction in a specialized phase of production, timely topic, or information on new technology and research results, the Swine Team may be able to help. 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, or contact Dr. Mark Whitney, Swine Extension Specialist, to arrange for a specific or specialized program at (507) 389-5541.

For more information:

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