MSU Pork Quarterly

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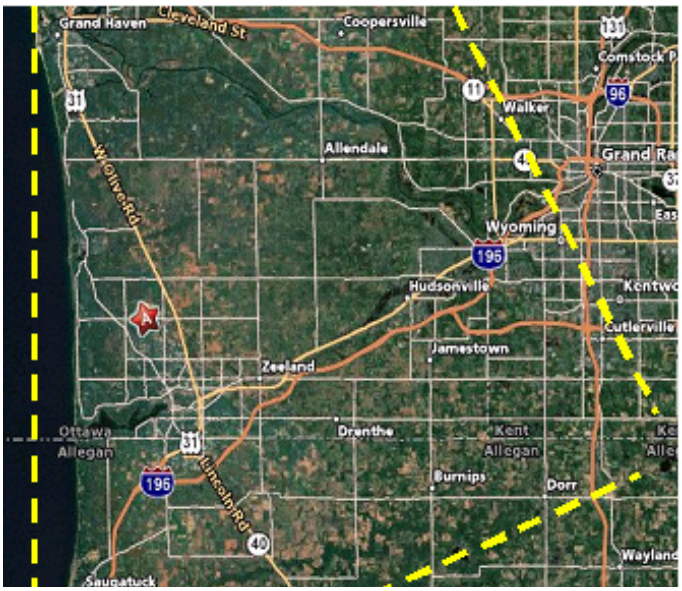
PRRS Regional Elimination Project – Michigan

Dr. Barbara Straw, Extension Swine Veterinarian, Michigan State University

Allegan and Ottawa counties are one of the intensive swine raising areas of Michigan. Given the intense production in a relatively small geographical area, similar to other areas of intensive swine production, these farms have had to deal with recurrent PRRS infections. Yet this area, because of a unique combination of regional barriers (both natural and man made) and a history of producer cooperation holds promise for the elimination of the disease.

MSU Extension and veterinary practitioners in the area have received a USDA PRRS CAP2 grant to undertake a PRRS Regional Elimination Project in this area. This grant will cover testing to determine herd status and also provide support for veterinary assistance in developing herd stabilization and elimination plans.

A unique feature of this area is the existence of substantial natural and man-made barriers. To the west (the direction of the prevailing wind) is Lake Michigan. To the south is the Allegan State Forest and to the east is a large urban area (Grand Rapids). These barriers serve to isolate the area from outside infection.



Also the bulk of the pigs that are finished in this area are derived from nearby sow farms, rather than being shipped in from outside sources.

Goals of the project

- Document the prevalence and severity (reflecting any on-going outbreaks) of PRRS infection in the area
- Compare strains of PRRSV to detail the source of infection for herds – whether from the sow herd supplying pigs or regional spread
- Assist producers to stabilize and then eradicate PRRS from breeding herds.
- Facilitate communications among participants and provide a forum for sharing current program progress.

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What's Inside...

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Funded by Animal Initiative Coalition Grant Program

To be successful in eliminating PRRS from an area requires cooperation of all swine producers in the area. Many producers in this area have already indicated a strong interest in participating in a PRRS regional eradication project.

Any who have not already signed up to participate are encouraged to contact: Barbara Straw, 517-432-5199, straw@cvm.msu.edu; Jerry May, 989-875-5233, mayg@msu.edu; Beth Franz, 269 445-4438, franzeli@msu.edu.

More on Euthanasia

Dale Rozeboom (MSU Animal Science), Michelle Kopcha (MSU College of Veterinary Medicine), and

Jerry May (Educator Pork AoE, Gratiot County)

In the last issue of the MSU Pork Quarterly, Jerry May wrote an excellent article about using carbon dioxide to euthanize pigs. He pointed out that many farms are currently seeking to improve their euthanasia standard operating procedures to insure that animals experience minimal stress and are rendered unconscious very rapidly (less than 1 minute).

Since the article went to print, members of the Pork Area-of-Expertise Team, faculty at the MSU College of Veterinary Medicine, and Michigan pork producers have continued to discuss euthanasia practices. The summary of those conversations is that it may be prudent to share new information in the next couple of MSU Pork Quarterly issues, as it becomes available. So here are a few additional thoughts shared recently.

Employee Considerations

It is important to consider the employees who perform euthanasia and "set the tone" for the procedure. It should be performed in a respectful, calm manner. Personnel training should include an explanation of how carbon dioxide (CO_2) affects the animal and causes death. Carbon dioxide is a gas which, when inhaled at the concentration being delivered into a closed chamber, causes an animal to lose consciousness. Once unconscious, all sensations are lost. An animal cannot see, hear or feel and essentially, is asleep. This first step usually occurs in less than 1 minute. During this time, the operator may hear animal movement for a very brief period. The chamber lid should not be removed since this will cause the concentration of CO_2 to drop and may prolong the time to unconsciousness. Within 5 to 10 minutes, the heart and lungs can no longer function, and the animal dies. Animals are then removed from the chamber by "pouring" them out. It is unsafe for the operator to reach into the chamber because he/she may inhale the CO_2. Once the animal is "poured" out of the chamber, check to determine that the animal is truly dead and not just unconscious. Lightly tap on its eye. If there is no eyelid blink, the animal is dead.

Recognize that performing euthanasia can be distressing for the operator, especially if many animals are euthanized over a short period of time. This can be especially true if there is only one person who is always assigned to this task, or if the person who is responsible for euthanasia is also the caretaker in the farrowing house or nursery area. Animal caretakers who always are assigned the responsibility of euthanasia may experience a sense of failure and may need to be reassured about their skills and expertise.

Equipment Considerations

Chambers can be made from different containers. A picture of a mobile unit is shown below. Don't try to make them bigger for bigger pigs. The CO_2 chamber is the suggested euthanasia method for nursery pigs less than 10 weeks of age and 70 pounds. It is less practical for older and heavier pigs. Do not forget to properly vent the chamber. The "inlet" for the CO_2 hose may be placed near the bottom of the container, since CO_2 is heavier than air. As Jerry May mentioned, be sure to have an "outlet" at the top to allow air to escape and to avoid pressure causing the lid to "blow" off.

As stated in the previous article, use a control valve and the guidelines of its manufacturer to correctly provide the amount of CO_2 flowing into the chamber. Generally, one pound of CO_2 in the cylinder equals 8.7 cubic feet of gas in the chamber. It is best to provide enough CO_2 to completely displace 100% of the chamber space (cubic feet).

Do not use dry ice as a source of CO_2. In a few of the older publications, dry ice is sometimes mentioned as an economical alternative for very small animals. However, it is not an acceptable source of CO_2 for on-farm euthanasia of young swine, as high concentrations of the gas cannot be generated in a short period of time. Euthanasia is best done quickly.

Fine-tuning your euthanasia standard operating procedures is important, as it is crucial that we effectively and humanely euthanize pigs in our care.

Photo: C. Scanlon Daniels DVM MBA, Circle H Animal Health, LLC, Dalhart, Texas.

U.S. Resident Support for Gestation Crate Bans

Dr. Glynn Tonsor, Dept. of Agricultural, Food, and Resource Economics[a]

Consumers are increasingly interested in how animals are handled, transported, and cared for. This was recently reaffirmed by the passing of Proposition 2 in California which prohibits a range of production practices that have traditionally been accepted. Passing of this initiative follows related ballots being passed in Florida (2002) and Arizona (2006), all three of which will prohibit the future use of gestation crates (also known as stalls). Accordingly, this article highlights some recent findings from a national survey (completed in June 2008) Drs. Glynn Tonsor and Christopher Wolf at Michigan State University conducted regarding U.S. resident support for gestation crate bans. In particular, we sought to examine how residents in other U.S. states may respond to similar ballot initiatives and to better understand the characteristics of most supportive residents.

The core question respondents were presented was[1]:
"As of April 29, 2008 three states have passed either ballot initiatives (AZ and FL) or state legislature (OR) that will ban the use of gestation crates by swine operations in their respective states at different points in the future. Residents in California will vote later this year on a similar ballot initiative. Suppose the next time you go to vote, there is a similar referendum on the ballot. If the referendum passes, all pork producers in your state of residence will be prohibited from using gestation crates in their operations. Please answer as if you were actually voting on a real referendum. Would you vote FOR or AGAINST the ban?"

Nearly 70% (69.2%) of respondents nationally indicated they would vote for a referendum prohibiting use of gestation crates in their state of residence. For sake of comparison, it is instructive to note this support exceeds the 55-45% margin experienced in Florida, November 2002. Perhaps surprisingly, respondent demographics (including age, gender, income, and education) as well as the level of pork production in the state (including indicators of USDA-NASS production and the proportion of state economic activity tied to livestock production) had no significant impact on the probability of a participant responding for or against. However, residents who associate gestation crate use with lower food safety, poorer pork quality, or larger farm size are significantly more likely to indicate support for a gestation crate ban in their state.

(Continued on Page 4)

Finding consumer perceptions to be predominantly more influential than typically evaluated socioeconomic characteristics is important. Consumer perceptions being unobservable, complicates decision making of both industry and consumer groups with vested interests. Both broad entities may struggle to correctly identify specific individuals sympathetic to their cause. Moreover, researchers and policy makers may find it difficult to properly forecast differential impacts of policy (i.e. legislatively implemented bans on production practices) on a set of consumers differentiated primarily by variations in perceptions.

Our finding that consumer perceptions regarding use of gestation crates are particularly influential in supporting bans raises a pragmatic question about how sensitive support is to specifics of the ban, which may influence these perceptions. The bans passed in Florida, Arizona, and California, provided producers with 6-8 years to come into compliance before the legislation became effective. Accordingly, a relevant question is whether referendum support is sensitive to the number of years a producer has to come into compliance? To assess this, we also asked an additional survey question examining if stated voting behavior was sensitive to the number of years producers were allowed to make adjustments and comply with the new legislation. This assessment found respondent support for ballot initiatives impervious to the amount of adjustment time given to producers.

Consumer interest groups and swine industry decision makers both should note that this suggests the first or most heard voice in the gestation crate debate may set the adjustment time table. As such, the costs of not actively participating or sending mixed signals in the debate may be substantial. Moreover, this finding suggests the swine industry may have an opportunity to actively pursue a longer implementation time table. This in turn may provide the industry with both more flexibility in adopting their practices and more time in better identifying the optimal response.

Individuals interested in additional information on these survey findings or related animal welfare and handling issues currently being examined in ongoing research by Drs. Tonsor and Wolf are encouraged to contact Dr. Tonsor (gtonsor@msu.edu).

[a]The author thanks the Michigan Agricultural Experiment Station for their support of this research.

[1]Given the nature of this question and to keep the question relevant for participants, all results reflect only those residing in states with state income taxes (41 of 50) and without current gestation crate bans (FL, AZ, and OR). This restricts our total survey sample of 1,001 U.S. residents to 768 for this analysis.

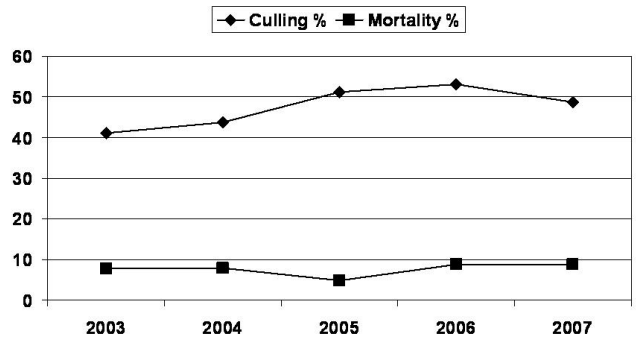
Sow Herd Removals

Ronald O. Bates, State Swine Specialist, Michigan State University

Introduction

The care of the swine breeding herd in the U.S. has come under increased scrutiny as more people question the care and housing practices used to manage these animals. In addition the issue of sow lifetime as both an economical and welfare concern has experienced greater study. From PigCHAMP™ dataSHARE (Figure 1) both U.S. culling and mortality rates have increased since 2003. As breeding herd management and housing practices come under greater scrutiny pork producers will need to evaluate their management protocols and invoke changes to improve the management of the breeding herd.

Figure 1. U.S. Sow Culling and Mortality

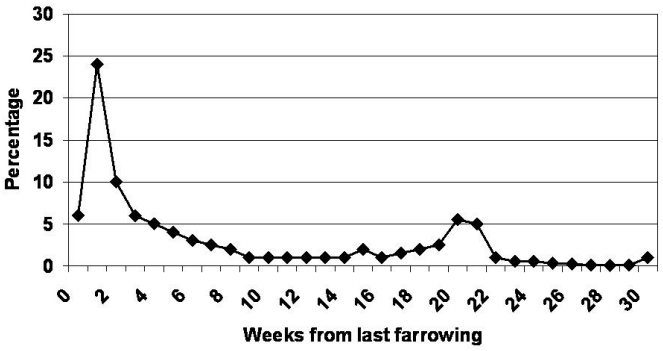


Adapted from PigCHAMP DATASHARE

Culling & Mortality

As both industry personnel and society at large scrutinize animal well-being in pork production systems the issue of sow longevity or sow lifetime has become an important concern. Certainly female culling and mortality rates are of great importance in this discussion. A recent paper from Japan evaluated a large industry database in which it determined the culling and mortality rates of gilts and sows in the breeding herd (Sasaki and Koketsu, 2008). This data set contained 105 herds and records from 65,621 females. Gilts were defined as females which had entered the herd but did not have a farrowing record and sows were females which had at least 1 farrowing record. Annual

Figure 2. Mortality Rate After Last Farrowing



Adapted from Sasaki and Koketsu, 2008

culling and mortality rates were 33.8% and 3.9% respectively.

Gilts

Gilts were culled at an average age of 333.4 days, while those that died were 294.7 days of age and significantly younger than those gilts which were culled. Of those gilts that died there was an increase in death rate at 33 and 50 weeks of age. This corresponds to the time shortly after herd entry and near the time of first farrowing.

Sows

Sows that were culled left the herd 61.3 days after their last farrowing, while for those that died, this event occurred at an average of 55 days after their last farrowing. The average parity at culling was 4.3, while the average parity at death was 3.2. There was an increase in death rates at and during the first two weeks after farrowing (Figure 2). In addition older sows had an increased risk of mortality than younger sows.

Discussion

This study demonstrated that gilts have an increased risk of mortality at the time of movement into the breeding herd as well as near the time of their first farrowing. Sows had an increased mortality incidence at and within the first week or two after farrowing.

This study provides clues as to when females are experiencing increases in mortality risk and signals what portions of the management program should be reviewed for improved animal care. Gilt management at herd entry should be reviewed and the appropriate steps taken to adequately evaluate any health concerns that gilts may have and the appropriate protocols put into practice. Management of gilts that are group housed after herd entry should be assessed. This evaluation should consider appropriate floor space, feeder space or feeding routines and animal mixing strategies. During gestation, gilts should be provided adequate nutrition so they are neither too fat nor thin at farrowing. At the time of their first farrowing, gilts should be routinely evaluated and adequate intervention strategies applied as necessary. However, in some cases gilts can be over managed at farrowing which also can produce negative results.

Sows experience increased mortality risk around the time of farrowing. It is imperative that gestational management be such as to have sows in the optimal body condition at the time of farrowing so that body condition (too much or too little) does not impede her ability to complete parturition. In addition environmental temperature management should be an important consideration. In the summer, sows should be cooled as needed and in the winter farrowing rooms should be maintained at the temperature necessary to maintain sow comfort. In addition farrowing intervention strategies should be reviewed so that sows are appropriately cared for but not ignored nor over managed.

Conclusion

Gilts and sows have certain periods during their lifetime where they have an increased mortality risk. Management protocols should be reviewed so as to provide optimal management and care for both gilts and sows during these critical instances. Providing improved management oversight of females at these critical points in their life can reduce their mortality risk.

Literature Cited

Sasaki, Y. and Y. Koketsu. 2008. Mortality, death interval, survivals, and herd factors for death in gilts and sows in commercial breeding herds. J. Anim. Sci. 86: 3159-3165.

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"The format and time of day is perfect. I noticed a lot of agreeable head nods and the session also stimulated some productive discussions during lunch."

Questions?

Contact one of the following Extension staff:

Mark Whitney *University of Minnesota*	(507) 389-5541
Ken Stalder *Iowa State University*	(515) 294-4683
Duane Reese *University of Nebraska*	(402) 472-6425
Bob Thaler *South Dakota State University*	(605) 688-5011
Dale Ricker *Ohio State University*	(419) 523-6294
Brian Richert *Purdue University*	(765) 494-4837
Robert Knox *University of Illinois*	(217) 244-5177
Joel DeRouchey *Kansas State University*	(785) 532-2280
Ronald Bates *Michigan State University*	(517) 432-1387
Marcia Shannon *University of Missouri*	(573) 882-7859
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Winter Transportation of Market Hogs

Tom Guthrie, Extension Educator, Pork AoE, Jackson, MI

Introduction

As the seasons change, market hog handling practices during loading and transport must also change. Estimates show that meat quality defects can cost the U.S. pork industry more than $213 million per year (National Pork Board 2004). Additionally, transport losses of market hogs create challenges for the U.S. food chain. Transport losses causes reduced returns to pork producers and pork processors, while compliance with changing rules and regulations regarding market hog transport along with increased animal welfare scrutiny indirectly impact financial returns to all segments of the pork chain. Pork producers should critically evaluate transportation management practices before each season to reduce transport losses.

Research Findings

Research documentation demonstrates that the percentage of dead pigs at packing plants is the highest during the summer season (Ellis and Ritter, 2006). However, research findings conclude that the rate of non-ambulatory pigs numerically increases and is actually the highest during the late fall and early winter months (Ellis and Ritter, 2006 and Rademacher et al., 2005). Additionally, Fitzgerald et al., 2008 recently reported an experiment evaluating 12,333 loads of market hogs (2,053,945 market pigs) that were transported (May 2005 to April 2006) from 9 different farms to a single processing facility. Conclusions of this experiment supported previous research findings. Fitzgerald et al., 2008 reported that the second and last week of December incurred the highest percentage of losses per trailer. In comparison, pigs transported to the processing facility in June and July experienced fewer losses than those that were transported during the months of November and December.

Potential Unknowns and Explanations

The reasons the rate of non-ambulatory pigs peaks in the late fall and early winter are unknown. However, Ritter (2007) offers some potential explanations. 1. Variable temperature stress – there can be large fluctuations in temperature during these periods. If barn temperatures are maintained at 60 - 65^{o} F and the outside temperature is 0^{o} F, the pigs are now dealing with a 65^{o} difference in temperature which may cause them to shiver. Shivering breaks down muscle stores to generate body heat which may lead to fatigue during the unloading process. 2. Heavier pigs – growth rates and feed intakes of pigs are typically lower in the summer due to heat compared to cooler temperatures in the late fall and early winter and/or the addition of new corn crop to the ration. 3. Increased number of pigs transported – historical data shows that more pigs are harvested in the fall creating logistical challenges for the marketing process. 4. Health status - once again the large day to day variation in temperature may cause some respiratory challenges. 5. Hot weather is gone – many times personnel involved in the loading and transport process take more precautions to minimize pigs from becoming heat stressed during summer months. In this fall, personnel may forget about re-evaluating their transportation management practices when temperatures become “more comfortable”. In Table 1 are guidelines for transport vehicle setup as the temperature changes.

Recommendations for cool/cold weather transport

1. Insert grain slats in farm trucks

2. Close nose vents in trailers

3. Use panels to protect pigs from crosswinds

4. Block or plug a portion of the ventilation holes/slots in trailers

5. Keep pigs dry

6. Load fewer pigs per load

7. Provide extra bedding (wood shavings, wheat straw, corn stover, etc.)

8. Use covered loading chutes that minimize the amount of cold air blowing on pigs

9. Move pigs in small groups (4 – 6 pigs)

10. Use an absorbent material in the load out area to prevent pigs from slipping and injuring themselves.

11. Walk pens to identify sick/injured pigs before loading.

Table 1. Truck Setup Procedures During Temperature Extremes

Air Temp	Bedding	Side	Slats
(degrees F)			
< 10	Heavy	90 percent closed	10 percent Open
10 - 19	Medium	75 percent closed	25 percent Open
20 - 39	Medium	50 percent closed	50 percent Open
40 - 49	Light	25 percent closed	75 percent Open
> 50	Light	0 percent closed	100 percent Open

Source: Transport Quality Assurance Handbook 2008

Take Home Message

Continued research regarding transportation management of market hogs is needed to identify the factors associated with transportation losses. Furthermore, educational programs such as the National Pork Board's Transport Quality Assurance program are also available to help pork producers to improve their knowledge about the handling and management of loading and transporting market hogs. Lastly, it is absolutely imperative that animal handlers evaluate/re-evaluate transportation management practices for every season of the year.

Resources:

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Fitzgerald, R. F., K. J. Stalder, J. O. Matthews, C. M. Schultz Kaster and A. K. Johnson. 2008. Factors associated with fatigued, injured, and dead pig frequency during transport and lairage at a commercial abbatoir. J. Anim. Sci. online publication Nov. 21, 2008.
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Effective Communication

Beth Franz. AoE Pork Educator, Cassopolis County, Cassopolis.

In this day and age, the swine industry is seeing its fair share of challenges and has continually worked to address these issues. Through these difficult times, Michigan's pork producers must also continue to focus on maintaining high levels and standards of production. In order to keep meeting production standards we must refine our basic levels of management and not forget to work on the "people" side of pork production.

New and exciting technological advances are being made daily in the swine industry. Improvements in nutritional programs, genetics, reproduction and swine care have been introduced and are making their way to the farm. The fact remains that it is still the farm employee that is responsible for implementing those production changes and are accountable for the success of these changes. The first step to insure that your farm is moving in the right direction is to continually work on the communication methods that take place on and around your farm business. Whether it is issues such as discipline, training or motivating a work force, communication is still a key factor to a successful farming operation.

There are several important factors that come together to make effective communication on the farm possible. One such factor is to remove all communication barriers. A primary example of this is the farm manager who tries to give directions via a cell phone with bad service. Not only is this a frustrating experience for the employee and manager, the chance of the complete and correct information being passed from one person to another is slim. Another form of a communication barrier is misconception. Many times what is said can be misconstrued by another employee if both people are not on the same page. This leads to employees that may be frustrated

or discouraged because they cannot understand or correctly follow the directions they have been given.

When communicating with others, it is important to maintain composure at all times. This is especially hard when stressful situations arise on the farm. Most often, when tempers flare, miscommunication happens and it takes longer to rectify a situation or complete a task. The example set by those in leadership positions when faced with a difficult situation will transcend to employees and make for a calmer, more organized method of solving problems.

Once you have established the importance of effective communication on your farm, you can start to find a common language, utilizing verbal and nonverbal methods and develop effective communication tools. Language barriers do occur on farms because of people's different native languages; however there are also language barriers that are a result of the industry, business, state, town, farm and department. At each facility "swine shorthand" or farm lingo occurs and can be very confusing for an outsider looking in. When bringing in an expert, visiting veterinarian or new employee, it may be necessary to explain some of your farm's particular lingo.

In order to establish or improve effective communication skills, you also need to understand what makes good verbal and nonverbal communication. Verbal communication involves sending and receiving messages. Good verbal communication simply means that the receiver and sender give the same meaning to the message. In order to ensure you are effectively communicating verbally there are some simple recommendations to follow: deliver a clear message that has a purpose, realize you can learn something from listening too, do not be afraid to share information or ideas with others, be aware of the nonverbal messages you are sending and have a specific goal in mind before you communicate. Employees will respond better to a well thought-out and clear direction from a superior than a confusing, hard to understand command.

Effective verbal communication is not only about what is said but how it is said. The tone of your voice, highness or lowness, how fast or slow you speak and the pitch of your voice can all help a person better understand the message you are trying to send, or cause them to completely ignore the message. When you communicate it is important to use a calm controlled voice, avoid talking loud or whispering around others and speak slowly to hold the listener's attention. These good verbal skills must be combined with your nonverbal skills in order to be an effective communicator.

Communicating nonverbally is a much harder technique to master, simply because you use your nonverbal skills most of time and don't often realize that you are doing this. Nonverbal communication happens through facial expressions, eye contact, posture and body language. Studies done of the University of Alabama estimates that 50 to 90 percent of communication is done nonverbally. Simple things such as: head tilts, slumping in a chair, raised eyebrows or not giving eye contact can be interpreted by people differently than the manner in which the message was meant. Although it is hard, everyone, especially a person with leadership responsibilities, must try to be aware of the nonverbal messages they are sending at all times.

We have already learned that communication does not need to be spoken and many operations have employees that communicate with each other without saying a word. Charts, records, employee handbooks and message boards are all communication instruments that can be utilized on your farm. Not every method will work for every farm or department and everyone needs to evaluate what tools work best for them. Many times using these communication instruments can cut down on the "waste time" or time spent trying to figure out at what stage people are in, in the completion of their daily tasks. Staff meetings are also another tool that can be utilized to enhance communication. These meetings can be as frequent or infrequent and as long or short as needed. This method serves as a time for everyone to present and have face-to- face communication about the happenings on the farm. Many issues or complications can be avoided by holding these meetings prior to potential problems or concerns that can happen on the farm.

The importance of communication needs to be viewed as a core value on your farm. In every successful business, communication is something that is expected, routine and rewarded. Owners, managers and employees need to commit to making effective communication a priority at their workplace and one of the core components of their job. Once an effective communication system is established, other areas of human resource management, such as worker safety, managing cultures and creating job satisfaction will readily fall into place. Becoming an effective communicator takes effort and by developing these skills you will be working to develop healthy work relationships and increase your on-job performance.

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Announcing MSUE Pork Team
State Wide Winter and Spring Programs!

The Pork Industry is ever changing! Can you maintain your current level of production and efficiency without challenging yourself to learn and know more about the industry your work in?
Join the MSUE Pork Team to learn further how to improve your performance, your business and ultimately your bottom line. Contact the persons indicated for each program or check on-line at http://web1.msue.msu.edu/msue/aoe/pork/.

Management and Care of Females After Weaning or Introduction into the Herd.

Co-Sponsors: Birchwood Genetics Inc. and Whitshire-Hamroc, Inc. Meeting Dates;
Jan. 14 – Dowagiac, MI
Jan. 15 –Zeeland, MI
Jan. 21 – Mount Pleasant, MI
Jan. 22 – Coldwater, MI

Topics to include;

- Gilt Introduction and Management
- Improving AI Techniques
- Treating Lame Sows
- Better Nutrition for Better Reproduction
- Your Role in Public Perception of the Pork Industry
- Improving On-farm Communication
- Managing AI Matings for Internal Multiplication
- Managing Sows in Groups

Meetings will start at 5 pm and adjourn at 8 pm. Prior to each meeting, a PQA^{PLUS} Certification Training will be held at each location. Contact Tom Guthrie (517-788-4292) or Ron Bates (517-432-1387) for more information.

2009 Green and White Education Fair and Show (www.canr.msu.edu/anscikids) January 31, 2009
Pavilion for Livestock and Agriculture Education, MSU, East Lansing, MI. Contact Carla McLachlan for more information (517-432-5402).

This day long event for Youth will feature;

- Swine Quiz Bowl
- Swine Skillathon
- Powerpoint Presentation Contest
- Essay Contest
- Scholarship Contest
- Market Hog Show

2009 Professional Pork Producers Symposium

Co-Sponsors: Michigan Pork Producers Association and Elanco Animal Health

Thursday, February 19, 2009
The Lansing Center, Lansing, MI

Topics to Include;

- Industry Outlook
- Production in Northwest Iowa
- Finishing Pig Feed Management
- Transportation Welfare
- Siting New Facilities
- Conducting On-Farm Research

Contact Dale Rozeboom (517-355-8398) or the Michigan Pork Producers Assocation for more information.

2009 Michigan Pork Producers Association State Informational Meetings

This program is presented at four different locations across Michigan in late March. Watch for further details regarding topics, locations and dates in the next issue of the *Pork Quarterly*, and the *Michigan Pork* magazine, and on-line at Michigan Pork Producers Association website, www.mipork.org, or the MSUE Pork TEAM website, http://web1.msue.msu.edu/msue/aoe/pork/.

MICHIGAN STATE UNIVERSITY EXTENSION

Bringing Knowledge to Life!

1. **Jerry May, North Central Pork Educator**
Farm Records, Productions Systems
(989) 875-5233

2. **Ron Bates, State Swine Specialist**
Michigan State University
(517) 432-1387

3. **Dale Rozeboom, Pork Extension Specialist**
Michigan State University
(517) 355-8398

4. **Barbara Straw, Extension Swine Veterinarian**
Michigan State University
(517) 432-5199

5. **Glynn Tonser, Livestock Extension Economist**
Michigan State University
(517) 353-9848

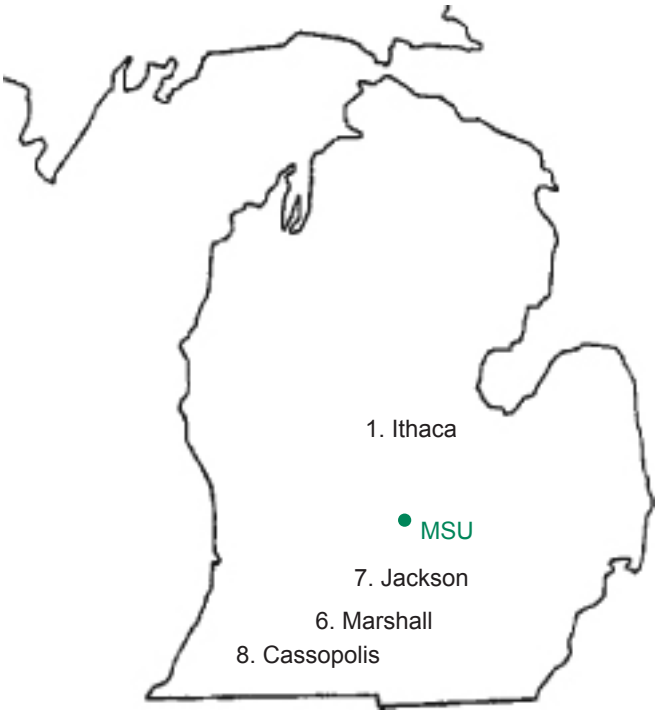
6. **Roger Betz, Southwest District Farm Mgt.**
Finance, Cash Flow, Business Analysis
(269) 781-0784

7. **Tom Guthrie, Southwest Pork Educator**
Nutrition and Management
(517) 788-4292

8. **Beth Franz, Southwest Pork Eduator**
Value Added Production; Youth Programs
(269) 445-4438

All comments and suggestions should be directed to:

MICHIGAN STATE UNIVERSITY EXTENSION



One-day seminar teaches farmers how to make the most of their manure

Skyrocketing energy costs and increasing fertilizer prices have farmers looking for ways to minimize their time and input costs. "Manure $ense: Making the Most with your Manure" will discuss how farmers can find multiple ways to get more value from manure. The meeting, to be held in three locations around the state, will feature educational information from Michigan State University (MSU) experts. Topics include composting, making energy on the farm, future opportunities in the carbon market, conserving nutrients in livestock diets, conserving manure nutrients during storage, and optimizing fertilizer and manure applications.

Natalie Rector, MSU Extension nutrient management educator, says the information that will be shared during the one-day seminar isn't just for livestock producers. The seminar will also show how crop farmers and livestock producers can work together to make the most of the nutrient resources from animal manure. "These topics aren't limited to people who have animals," she says. Rector anticipates that farmers will be especially interested in ways they can decrease their feed and fertility costs. "Bringing down the cost of fertilizer is a big consideration for farmers. There are valid ways to do that, and several of them will be discussed during this seminar."

The meeting will run from 10 a.m. to 3:30 p.m. at each location. The registration fee is just $40 for the first person from a farm, with a discounted $20 registration for each additional person from the same farm or business. Lunch is free with registration. Learn more, including how to register, at www.animalagteam.msu.edu, or call Faye Watson at (517) 353-3174. Attendees can earn Phase I credits from the Michigan Agricultural Environmental Assurance Program (MAEAP).

Manure $ense will be presented in three locations:

- Feb. 3 at the RESA Center in St. Johns.
- Feb. 17 at the Farm Bureau Building in Bad Axe.
- Feb. 25 at the Howard Miller Library in Zeeland.

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