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Randy Walker, Robert Myer and Joel Brendemuhl²

Preventing Swine Disease Build-Up

Swine disease outbreaks are often related to a high concentration of pigs raised continuously in the same facility or accumulation of disease producing organisms in the environment. These organisms can keep reinfesting the herd. In addition, the movement of hogs from farm to farm can introduce new infectious disease-producing agents into the herd. The possibility of an outbreak can be greatly reduced by these important methods of removing the cause of diseases:

1. Preventing the introduction of new disease.
2. Using all in-all out production scheduling or rotating facilities to break the disease cycle.
3. Cleaning and disinfecting to reduce the number of disease organisms.
4. Practicing good management and using a sound nutrition program to lessen the effect of stress.
5. Eliminating animals that are carriers of disease.

Preventing the Introduction of New Diseases

A farmer may purchase swine, and shortly afterward, experience an outbreak of disease in his herd. Some precautions can be taken in purchasing new animals:

1. Buy healthy animals. Avoid mixing animals from multiple sources.
2. Ensure all required blood tests (i.e. for pseudorabies) are done before purchase. A health certificate showing all tests and vaccinations should be obtained at the time of purchase.
3. Make sure the swine are properly identified and delivered in a clean disinfected truck.
4. Isolate newly purchased swine for 30 to 60 days at least 300 feet from other swine. If not done already, pigs should be vaccinated during this time. Follow-up blood testing should also be done at this time. Never bring newly purchased sows or boars into a farrowing house or expose baby pigs to new animals.

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2. Walker, former Swine Extension Specialist, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville. Present Address: Land O'Lakes, Inc., Fort Dodge, IA. Myer, Professor of Animal Science, North Florida Research and Education Center, Marianna and Brendemuhl, Professor of Animal Science Department; Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.

5. Keep visitors out of hog facilities if possible.
Keep rubber boots and a change of clothing available for those who must enter the herd.

All In-All Out Production

Many of the disease-causing organisms found in a farrowing house or finishing floor cannot live very long outside the body of the swine. By removing the animal, these organisms will be without their source of survival and will rapidly decrease in number. Thus practicing all in-all out production can be an effective method of breaking the disease cycle when combined with a good system of cleaning and disinfecting.

Effective disinfection requires cleanliness first because the disinfectants have little or no action on dirty surfaces. The organic material in manure and dirt inactivates the chemical disinfectant. Also, dirt and manure provide protection for disease organisms and the chemical solution is unable to penetrate and reach them.

Cleaning can be done with a shovel and a brush, or speeded up by use of high pressure washers and detergents, or steam cleaners. When there is an excessive amount of manure or dirt present, sanitation can be made more effective by first using a detergent followed by a disinfectant applied in a high velocity stream of hot water. The detergent hastens the job of removing the dirt by increasing the wetting speed, while a layer of water containing the disinfectant will remain on the surface to destroy the disease germs left after cleaning. Some detergents and disinfectants can be combined for easier on-step cleaning and disinfection. Steam is an effective method of cleaning but the nozzle would need to be held not more than 6 to 8 inches from the surface to have much value in killing organisms.

Several disinfectants have value. For disinfection of buildings and feed floors with a high amount of organic matter, disinfectants such as sodium orthophenylphenates, saponated solution of cresol, and hot lye solution are effective. For more information - see Veterinary Medicine Fact Sheet 3 - *Disinfectants and Disinfection*.

Special Sanitation Problems

Dead Animals

Dead animals can be a source of disease for other swine and should be removed immediately. Disposal of dead animals varies depending upon state and county regulations. For assistance ask your county agent for guidance. Deceased animals can either be removed immediately by a licensed rendering truck, completely burned, or buried at least six feet deep, well away and downgrade from any source of drinking water, and covered with a generous supply of quicklime before fill dirt is added.

Farrowing Time

Sanitation at farrowing time is extremely important. Farrowing pens should be cleaned and disinfected. Before the sow is placed in the farrowing pen, she should be washed with detergent and water. Particular attention should be paid to the udder, but no part of her should be overlooked. The dirt on the sow's body, udder, and feet is likely to contain numerous worm eggs and disease germs, and the newborn pigs would be likely to swallow infective material with the first milk. Farrowing pens should be off limits to visitors.

Discharges of Sick Animals

Discharges of sick animals that accumulate on bedding and floors are a potential source of infection. To destroy the disease germs, all bedding, manure, and other waste materials should be burned or spread thinly on ground not used for animals. Buildings should be thoroughly cleaned and disinfected.

Wet Places

Mud wallows, shallow ponds, slow moving streams, and other wet places breed disease. Drain or keep swine away from such areas. The development of wallows can be avoided by frequently moving the troughs and waterers, and by providing temporary shade.

Maintaining Good Management Practices

Depending on drugs to control swine diseases is a poor substitute for balanced rations, sanitation, and sound management aimed at disease prevention. Good husbandry and management also eliminate many contributing stress factors. Good management practices include:

1. Protecting feed and water from being contaminated with manure and urine from other swine and from the droppings of bird and rodents.
2. Regular deworming of the swine herd.
3. Controlling lice and mange.
4. Segregating young pigs from older pigs.
5. Observing animals daily for signs of diseases.
6. Isolating and treating sick animals.
7. Keeping animals comfortable.
8. Providing iron for baby pigs (See Fact Sheet AS 17).
9. Vaccinating for diseases as recommended by a veterinarian.
10. Preventing the introduction of disease as mentioned above.

Immunization Programs

The prevalence of specific diseases in a given area and the availability of effective vaccines will dictate an immunization program. Consult your veterinarian and (or) county livestock extension specialists about a specific vaccination program for your herd. In Florida, the sow or gilt should be immunized against leptospirosis and parvovirus preferably 2 weeks or more prior to breeding. Erysipelas vaccination may also be needed.

A vaccine is also available for atrophic rhinitis. Pigs can be vaccinated at 7 and 28 days of age and sows and gilts at 4 and 2 weeks before farrowing. If the sow is maintained in the herd, it is necessary to

revaccinate approximately 2 weeks before each subsequent farrowing. New boars can also be vaccinated. Vaccines are also available for transmissible gastroenteritis (TGE) and other diseases.

Control of Reproductive Diseases

Brucellosis, pseudorabies, and leptospirosis are diseases that cause abortions and birth of dead or weak pigs. Brucellosis and pseudorabies are best controlled by blood testing to insure these diseases do not enter the herd. In addition, there are several viral diseases (i.e. parvovirus) that cause stillbirths, mummified fetuses, embryo deaths and infertility if sows or gilts are exposed at breeding or during gestation. Therefore, it is best to pre-expose sows, gilts and boars to all viruses present before breeding and gestation. Sows and gilts should be co-mingled 30 to 60 days prior to breeding or allowed fence-line contact. Fence-line contact of newly purchased boars (after isolation) with other animals on the farm should also be accomplished. Feces from boars can be placed directly in sow or gilt feed to ensure exposure. Another method is to switch pens several times so breeding animals (females and boars) are exposed to each others manure. Manure could also be transferred from one pen to another. In this 30 to 60 day period before breeding, the animals are exposed to the viral agents which are relatively harmless to open mature swine and they will develop good immunity against the organisms by the time of breeding. New boars will also become adjusted to their new environment during this period and will perform better.

Porcine Reproductive and Respiratory Syndrome (PRRS)

This viral disease has received a lot of attention lately. PRRS can cause reproductive problems such as abortions, increased stillborns, etc. as well as respiratory problems in young, growing pigs. The best advice for prevention and treatment is not to introduce this disease onto farm in the first place. To minimize its transmission, it is best to isolate newly purchased pigs from other pigs for at least 60 days. More information about PRRS can be obtained from the website: www.vetsci.sdstate.edu/prrs/Prrs.htm.

Parasite Control

Internal and external parasites are an economic problem in most swine herds. Deworming agents should be used routinely. Pigs heavily parasitized are more susceptible to diseases such as scours and pneumonia. The resulting diseases and unthriftiness are a major cause of economic loss. The swine producer should be aware of the common internal parasites of swine and methods of prevention and control. More information is contained in fact sheets AS-50, *Controlling Parasites of Swine* and ENT-30, *External Parasites of Swine*.

Further Information

Further information on swine herd health can be found in *The Pork Industry Handbook*. Most livestock extension agents have copies. Order forms for copies can be obtained from The Cooperative Extension Service, Purdue University, West Lafayette, IN (1-888-EXT INFO; www.agcom.purdue.edu/AgCom/Pubs/menu.htm). The National Pork Producers Council also has information on herd health that can be accessed through its website: www.nppc.org.