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Slaughter Checks—An Aid to Better Herd Health

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Pork producers should have a herd health program to evaluate, on a routine basis, the health and management practices in the production unit. Evaluation is based on preset production goals and available options in health and/or management that might influence the attainment of those goals. The producer, the herd veterinarian and other professional advisors periodically update herd goals and set parameters which will aid in obtaining projected goals.

A good herd-health evaluation program includes on-farm inspections, laboratory diagnosis, necropsy of dead animals, examination of cull breeding stock and market animals at slaughter, evaluation of production records, financial record analysis and personal counseling. Written reports regarding findings and corrective measures to be implemented should be submitted by the veterinarian at frequent intervals to the management team.

Slaughter animals are an important, but often overlooked, source of health information. During a slaughter check, large numbers of animals can be examined in a relatively short period of time for evidence of disease and parasitism. Many of these health problems often cannot be efficiently detected in the live animal.

Purposes

The purpose of a slaughter check is to look for abnormal tissues so that specific problems can be identified and to monitor the effects of drug use, vaccination programs and management changes. With this information, the producer can work toward eliminating or controlling disease problems. A slaughter check reveals information about disease prevalence, severity of lesions and possible causes of disease that may not be apparent during a farm visit or an occasional necropsy. It is important to remember that the incidence and severity of disease, especially subclinical disease, must be evaluated with performance. Alterations in the herd health and management program must be considered carefully and expectations for improved performance must be realistic.

Pneumonia, atrophic rhinitis and parasite migration are the three primary disease problems investigated during a slaughter check. Other diseases such as mange, erysipelas, arthritis, mycobacteriosis and streptococcosis may be detected. Evaluation of the reproductive tract of slaughter sows may reveal evidence of possible causes of reproductive failure. Some veterinarians collect blood samples for serology and tissue or swabs for culture at the slaughter facility.

Pneumonia

Pneumonia in slaughter swine is common (Figure 1). These animals are rarely clinically ill, so it is seldom that carcasses are condemned because of the lesions. Monitoring the lungs of a group of slaughter hogs gives excellent information on the extent of the lung damage and possible causes. *Mycoplasma*, *pasteurella*, *bordetella*, *actinobacillus* (*hemophilus*), *salmonella*, lungworms, *pseudorabies*, influenza and migrating roundworm

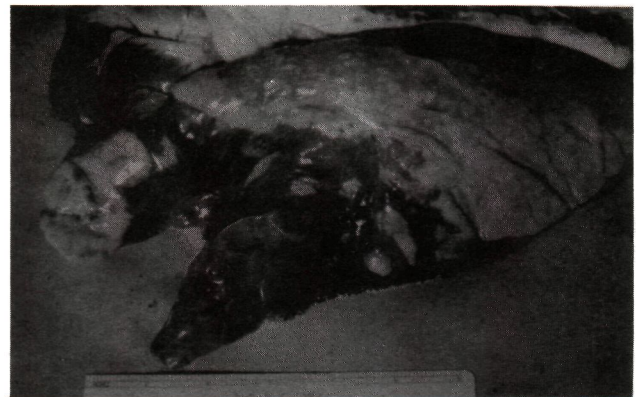


Figure 1. Chronic pneumonia due to mycoplasma. The dark-colored areas in the lung are diseased.

larvae all can cause pneumonic lesions in swine. It is important to relate the probable cause, extent of the lesions, number of pigs affected and percentage of the lung involved, to average daily gain (days to market), feed efficiency and percent mortality when formulating a plan for drug treatment, feed additives, vaccination, or change in environment.

Atrophic Rhinitis

Atrophic rhinitis is associated with bordetella, pasteurella and poor air quality (Figure 2). It is most common in herds where younger pigs are placed in the same air space with older pigs or where ventilation is inadequate. The severity of atrophic rhinitis (AR) is determined by cutting the snout at the level of the second cheek tooth and measuring the turbinate atrophy and the septal deviation. This examination is the most accurate way to determine the presence of AR in a herd. Only a very low percentage of AR can be detected by visual observation of the live animal. By conducting routine slaughter checks, the efficacy of vaccination programs, air quality control and management procedures can be evaluated in conjunction with performance data.

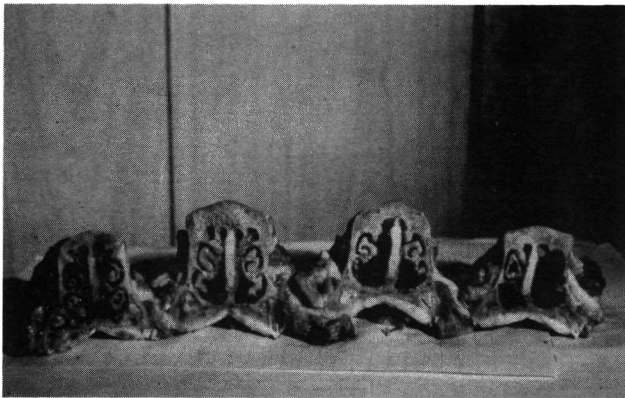


Figure 2. Atrophic rhinitis. The cross section of the nose on the left is normal. The three on the right show various degrees of atrophic rhinitis. Note the condition of the cartilage separating the two sides of each nose, and the amount of destruction of the turbinates.

Parasite Control

The most common parasite of swine is the large roundworm (ascaris). The kidneyworm (stephanurus) is common in the southeastern United States. The success of a deworming program can best be monitored by slaughter examination. Because of the nature of the life cycle of these two parasites, fecal examinations may not be an efficient means of determining a herd problem. Part of the life cycle of the roundworm and kidneyworm involves migration through the liver. As this migration occurs, a white spot will form in the liver tissue when the body defenses react to the foreign invader. White spots in the liver may indicate a roundworm or kidneyworm problem in the herd. The white spots gradually heal and disappear if migration occurs early in life. Liver condemnations due to severe larvae-migration scars indicate that the deworming program needs to be evaluated.

Hogs kept in environmentally controlled units, though less likely to be infected than outside units, should still be monitored for parasites and producers should not be misled into thinking that their operations will be parasite-free.

Reproductive Examinations

Examinations of the reproductive tract of slaughtered animals can be useful in determining the status of ovarian function and infectious reproductive disease in cull sows. Cases of aberrant reproductive performance such as anestrus, irregular estrous cycles, vaginal discharges, decreased conception rates and decreased farrowing rates would be indications for examination and collection of tissues during a slaughter exam. The findings should be related to the clinical picture for an accurate diagnosis. Some producers find that evaluation of underline quality (number and placement of teats) at slaughter is indicative of whether progress is being accomplished in the herd.

Other Disease Problems

Other diseases may be found on a slaughter check. Occasionally, carcasses exhibit lymph nodes with abscesses caused by streptococcus or mycobacteria (TB). Mange and the mild skin form of erysipelas can be easily observed in dehaired hogs. Carcass trim due to arthritis can also be noted.

Slaughter Check Procedures

Once the decision has been made to conduct a slaughter check, the producer or veterinarian should contact the packing plant so appropriate arrangements can be made for a delivery time and date. The plant inspector should also be notified.

To maintain identification of the pigs, the animals will need to be delivered to the plant as a group or slap-tattooed at the first point of concentration. The buyer will need to be notified when the animals are delivered for a slaughter check so the animals can be grouped properly. Some slaughter plants charge a small fee per hog for the privilege of doing examinations in the plant, primarily because of the delay in the speed of the line. An alternative to the expense of conducting a check in a packing plant is slaughter at a local plant with the intention of home use. Even though sufficient numbers may not always be accommodated, often valuable information can be obtained from the two or three pigs that may be slaughtered at a local plant.

A commercial producer should have at least two slaughter exams per year, one in the fall-winter and the other in the spring-summer. A seedstock producer should have slaughter checks made on a more frequent schedule, such as every quarter.

The number of animals examined depends upon the size of the herd and the incidence of the specific disease in the herd. Generally, at least 30 pigs representative of the herd should be used. Obviously, the more pigs examined the more reliable the data generated. In some large plants with fast-moving lines, it may be necessary to submit several extra pigs in order to get a representative sampling.

Additional slaughter information can be obtained from the federal or state meat inspector's reports. These reports contain information about the condemnation of parts of the carcass, such as abscesses, enlarged joints, or adhesions found in the lungs or abdominal cavity.

It is important to check fast-growing pigs as well as those doing poorly. Fast-growing pigs may show more pneumonia at slaughter because they either have developed pneumonia later in life or grown so rapidly that they have not had an opportunity to heal. Pigs with poorer performance may have contracted pneumonia earlier in life or grown so slowly that their lungs may have healed prior to slaughter. If a choice has to be made between the two, the slow-growing pigs usually reveal more evidence of chronic disease problems. Ear notching at birth, to indicate the week of birth, will identify slow-growing pigs.

Table 1. Example of a slaughter test report.

Date		
Farm		
Address		
Phone no.		
No. examined		
Market hogs		
Breeding stock		
	Number	Number
Nose, turbinate	normal _____	abnormal _____
Nose, septum	normal _____	abnormal _____
Lungs	normal _____	abnormal _____
Heart	normal _____	abnormal _____
Liver	normal _____	abnormal _____
Intestines	normal _____	abnormal _____
Reproductive tract	normal _____	abnormal _____
Other conditions observed:		
Abscesses	yes _____	no _____
Mycobacteria	yes _____	no _____
Mange	yes _____	no _____
Arthritis	yes _____	no _____
List others:		
Comments/Recommendations		
Examining Veterinarian		

The cost of slaughter exams can be reduced if two or more producers arrange for a slaughter check on the same day. If a suitable packing facility is not located nearby, veterinarians may refer a client to another veterinarian who is closer to a plant. The veterinarian's fee usually will be either on an hourly or on a per-head basis, and should be agreed upon before the slaughter check is conducted. The producer should insist on a written report (Table 1) from the veterinarian documenting the findings.

Most veterinarians grade the severity of the lesions found in each tissue or organ examined and report the results as both individual and average scores. Once the slaughter check information is obtained, the producer and the veterinarian can evaluate the data collected and begin to implement a sound health program for the herd.

Contact your state veterinarian, university Extension veterinarian or county extension agent for information on slaughter plants and veterinarians who cooperate in providing this service.



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Issued in furtherance of Cooperative Extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Michael J. Tate, Interim Director, Cooperative Extension Service, Michigan State University, East Lansing, MI 48824.

Maj. Rev. 10:90 1.5M-KDP-PP, 20¢, single copy free to Michigan residents (destroy previous editions).