



Early Detection of At-Risk Pigs in the Finisher: Four Circles Approach

Becca Walthart, Iowa State University College of Veterinary Medicine, Swine Medicine Education Center

TAKE HOME MESSAGES:

1. Visiting the barn at least twice per day is best practice for the greatest health management.
2. Under normal health circumstances, it should only take the caretaker ONE hour to individually inspect each pig in a 1,000-head barn.
3. Detect the problem, identify the cause, solve the problem!

Importance of the Early Detection of Sick Finisher Pigs

A pig leaves the nursery phase around 50 - 60 pounds. From 60-280 lbs., the pig is in the finisher phase. During this time, the job of the pig is to eat, drink, grow and be the healthiest it can be. The caretaker visits the barn at least once per day to make sure animals have feed, water, a good barn environment and to check on their health status. Although disease status can be difficult to measure, the general health of the pig can be observed with a quick evaluation. Pigs that are sick or have disease will have decreased water intake, reduced body condition, and abnormal body language when compared to pigs that are healthy. (van Heugten 2010) One way that is used to assess all of the pigs in the barn is the four circles evaluation method. This method uses a systematic approach to evaluate each pig individually, along with understanding what their environmental needs are.

Circle One: Outside Facility Evaluation

Circle one of the four circles approach is an external evaluation of the facility illustrated in Figure 1.

During this circle, the barn is evaluated for:

- Biosecurity risks
- Status of barn maintenance
- Ventilation design

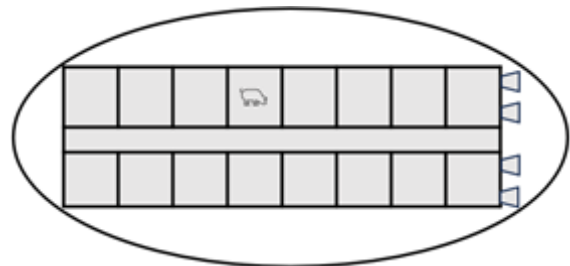
Facility biosecurity is assessed based on the presence of:

- Proximity to other animals/farms
- Perimeter fences
- Security of facility entrances
- Signage indicating biosecurity policies
- Parking designation
- Entrance protocols for employees and visitors
- Visitor log

It is also important to assess:

- Rodent/Wildlife prevention and control methods
- Cleanliness (weeds/debris)
- Equipment management
- Feed spills

Figure 1: Circle One: Outside Facility Evaluation
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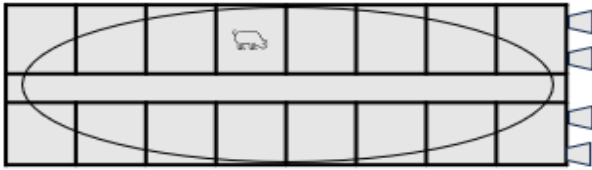
Circle Two: Inside Facility Evaluation

Circle two is the beginning of the evaluation within the farm, including inside the office and an overview of all pens as a population, illustrated in Figure 2. During this evaluation, the caretaker should listen to sounds, smell odors, feel the room temperature, and feel the relative humidity to understand the pig's environment.

Starting in the office, evaluate the records and medication usage. Make sure records are correct and up to date, as well as checking that all medications and vaccines are being used according to veterinary guidance, are not expired, and are properly stored according to label instructions.

After the office, the assessment of the barn occurs, including evaluation of the pig population. In this circle, animal activity is evaluated, such as clinical signs of disease or environmental concerns, and evaluation of ventilation and temperature conditions.

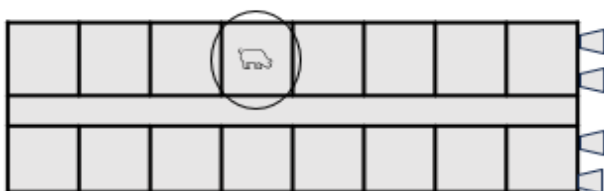
Figure 2: Circle Two: Inside Facility Evaluation
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Circle Three: Individual Pen Evaluation

Circle three focuses on the individual pen illustrated in Figure 3. The caretaker walks each pen individually, looking at the feeders, waterers, flooring, walls, and specific ventilation, such as drafts or warm spots within the pen. There needs to be adequate availability of feed and water, along with evaluating the quality of feed and the maintenance of the delivery equipment used. When observing the flooring and walls, looking for the presence of blood, scours, or any other clinical signs or disease within the pen. Ventilation should also be evaluated. Within the pen, the pigs need an appropriate amount of high-quality air, meaning there is not excessive odor, ammonia, stuffiness, or any noticeable air drafts at the pig level. While assessing the environment of the pen, confirm the pigs have an appropriate stocking density, allowing adequate amount of space for each animal. This decreases the number of vices such as, tail and vulva biting.

Figure 3 :Circle Three: Individual Pen Evaluation
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Circle Four: Individual Pig Evaluation

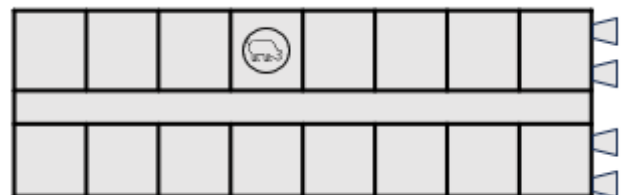
Circle four focuses on the evaluation of the individual pig within the pen of pigs, as demonstrated in Figure 4. When approaching the pigs, begin at the front of the pig, follow the pig over the back to the rear, and then back up to the front. The assessment of each pig individually should take approximately 4 seconds. This time is sufficient enough to identify any injured or sick pigs, along with any non-competitive or fall-behind pigs (Levis 2014). During this assessment, it is important to mark, treat, or move any of the pigs that are different from the population or warrant further attention.

The inspection of each pig should include the following:

- Body condition
- Bodily injuries
- Skin and hair
- Tail & ear injuries
- Swollen joints
- Ability to walk normally
- Signs of diarrhea
- Signs of cough or respiratory distress

Using this four circles evaluation technique ensures a robust and consistent evaluation of the facility and animals within the facility to quickly identify problems and determine intervention steps. Quickly identifying and addressing issues results in the greatest success of management and health interventions.

Figure 4: Circle Four: Individual Pig Evaluation
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REVIEWER: Dr. Jason Ross

REFERENCES:

Karriker, L. A. ISU Swine Disease Conference for Swine Practitioners. In Clinical Assessment Tools for Practitioners (pp. 104–107). Ames, IA.

Levis, D. (2014, November 12). Daily Walking Swine Nursery-Growing-Finishing Barns. Pork Information Gateway. <https://porkgateway.org/resource/daily-walking-swine-nursery-growing-finishing-barns/>

van Heugten, E. (2010, March 25). Growing-finishing swine nutrient recommendations and feeding management. Pork Information Gateway. <https://porkgateway.org/resource/growing-finishing-swine-nutrient-recommendations-and-feeding-management/>

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