BACKGROUND

Reducing the impact of disease has long been an issue on pig farms of all sizes. Whether you have just a few pigs or thousands, it is important for the health and safety of those pigs, as well as for your pocketbook, to do everything possible to minimize their exposure to disease. We know that even on large farms, with a well-established biosecurity protocol, disease outbreaks occur. How then, can a farmer who is using an alternative system of production, which may include open-air facilities such as hoop structures or pasture farrowing, develop an effective biosecurity system? Complete biosecurity is difficult to achieve in any system, but a lot can be done on alternative pig farm to reduce disease risk.

First of all, what does biosecurity really mean? It is defined as a set of preventative measures taken to reduce the risk of disease introduction or transmission.

At the University of Minnesota West Central Research and Outreach Center (WCROC), pigs are raised in both conventional confinement and in alternative production systems. Specifically, there is an environmentally controlled, slatted floor nursery barn and farrowing facility with farrowing crates. There is also a deep bedded group farrowing barn and hoop structures for gestating sows and for finishing pigs. Consequently, with this blend of housing facilities, pig production at the WCROC is in many ways similar to an alternative pig farm.

Several years ago, the WCROC Swine Scientists established a biosecurity protocol, which has worked very well, given they are in an area surrounded by larger conventional pig facilities that have gone through a series of disease outbreaks, including multiple rounds of PRRS (Porcine Reproductive and Respiratory Syndrome) virus and most recently PED (Porcine Epidemic Diarrhea) virus.

THE MAIN COMPONENTS OF THE WCROC BIOSECURITY PLAN ARE AS follows:

- guidelines for the farm crew
- visitor policy
- procedures when selling pigs
guidelines for going off farm to buy supplies
replacement breeding stock are raised on site
guidelines for introduction of new animals
following the All-in-all-out management practice as much as possible
control of rodents, birds, wildlife and other pests

GUIDELINES FOR THE FARM CREW:

- Arrive with clean clothes that have not been exposed to pigs or that have been laundered after pig exposure.
- When they arrive they change out of their “street” clothes into farm specific clothes.
- They shower when leaving at the end of the day and change back into their “street” clothes.

VISITORS:

- Local or domestic visitors to the farm must avoid exposure with other pigs for 48 hours prior to the visit.
- Visitors who have traveled internationally (including farm workers, faculty and students) must have a one week downtime upon arrival into the U.S prior to visiting.
- All visitors must sign the Visitor Log, confirming they adhered to the downtime policy for all visitors.
- Arrive with clean clothes that have not been exposed to pigs or that have been laundered after pig exposure.
- Visitors to the facilities will need to wear coveralls and boots provided by the farm. They can be disposable, or washable, but must be clean prior to use.

PROCEDURES WHEN SELLING PIGS:

- No commercial haulers are allowed onto the farm. Pigs are transported from the farm facility to the road where the commercial trailer is parked. Pigs cannot re-enter the farm trailer after crossing into the commercial truck.
- If delivering pigs to the hog buying station, the delivery person must wear double plastic boots and clean coveralls at hog buying station.
- Plastic boots must be covering shoes prior to shoes touching station ground and removed prior to touching floor of cab when returning to vehicle.
- Coveralls must be removed prior to getting into vehicle. If coveralls are disposable they need to be contained for disposal. If washable they need to be contained for transport to be laundered.
• At the station keep in mind the line of separation is at the unloading area of the trailer. The individual unloading pigs from the trailer cannot cross the line of separation into the buying station. Once pigs leave the trailer they cannot return. It is the buying station’s responsibility to move the pigs to their designated holding area.

• After leaving the buying station the truck and trailer must be washed and disinfected and parked off site.

• Ideally when farm worker returns to the farm they should not have contact with pigs for the rest of the day. If they are needed to work with pigs, they must shower and change clothes upon return to the farm and prior to working with pigs.

**GUIDELINES FOR GOING OFF FARM TO BUY SUPPLIES:**

• Designated vehicles should be used and NOT the vehicles designated for daily farm work activities.

• Clean/non-farm footwear should be used.

• Prior to entering the vehicle to return to the farm, the bottom of footwear should be sprayed with disinfectant to kill any pathogens that could have been picked up at off-farm locations.

• Floor mats and foot pedals of vehicle should also be sprayed with disinfectant. Especially when there is threat of swine diseases such as PRRS and PED viruses.

• Workers should not have contact with pigs for the rest of the day if possible. If they must have contact with pigs, then they must change clothes and footwear

**BREEDING STOCK REPLACEMENT:**

• It is best for a farm to raise own replacement breeding stock. New genetics should be brought into the herd by using artificial insemination with semen that has been tested to be free of disease pathogens

• If replacement breeding stock is purchased from another farm, make certain that the herd is free of disease.

• Any new or returning pigs to the farm should be quarantined for a minimum of 30 days, to ensure their clean health status. They should be housed in an area away from the rest of the current herd and that can be sanitized between uses.

• A veterinarian should be consulted to determine what vaccinations are needed for the incoming pigs.

**ALL-IN-ALL-OUT METHOD:**

• Sows should be batched farrowed so all sows in a group farrow within a 1 week time period.
- Farrowing groups should be large enough so when weaned on the same day the weaned piglets will fill the nursery and finishing facility. This allows pigs of similar ages to be housed together and advance through the nursery through finisher production phases without other pigs of different sources or ages introduced. This prevents pigs of different health status from being commingled and reduces disease introduction.

- When a group of pigs is marketed, the facility must be cleaned prior to the next group of pigs being moved in.

- If feeder pigs are purchased to feed out, all pigs should be bought from one source and be of similar ages. The group should not be mixed with farm-born pigs.

- Farrowing, nursery, and finishing barns should be cleaned and disinfected between groups.

**PEST CONTROL:**

- Keep feed covered and clean up spills in a timely manner.

- Keep the area around your buildings free of weeds, tall grass and other debris, making the area less desirable for unwanted pests.

- Use fencing, bird netting or other materials to keep pests out of the barn or away from the building.

- Use rodent bait stations according to label directions and keep bait stations out of reach of your pigs. Rodent bait stations should be checked regularly.

- If mortality occurs, dispose of pigs properly and in a timely manner.

**ADDITIONAL RESOURCES**

Videos on Biosecurity for Alternative Swine Production Systems can be found at the UMN Small Farms YouTube channel, at: [http://z.umn.edu/alternativeswinevideos](http://z.umn.edu/alternativeswinevideos)

There are four videos, titled as follows:

- Alternative Swine Biosecurity: Basics from the West Central Research & Outreach Center
- Alternative Swine Biosecurity: Keep Clothing & Footwear from Contaminating Pig Areas
- Alternative Swine Biosecurity: All-In-All-Out Management Practice
- Alternative Swine Biosecurity: Tips for Hoop Barns and Open Areas