



Proper Cleaning and Set Up for Wean to Finish Sites

Author: Peytin Hereth, Iowa State University

TAKE HOME MESSAGES:

1. Proper cleaning enhances biosecurity and helps prevent disease outbreaks.
2. Proper room set up ensure pigs are moving into a safe environment that meets their needs to promote growth.

Why is proper cleaning and set up so important?

Proper cleaning and the set-up of rooms help ensure the pigs are going into a safe and clean environment. Biosecurity is one of the swine industry's top priorities and using proper cleaning methods can prevent diseases. Inspecting equipment and performing necessary maintenance when the barn is empty not only improves efficiency, but also helps maintain biosecurity. Using this approach of thorough sanitation, effective facility and equipment maintenance, and ensuring the barn settings are proper for pigs at the time of placement ensures that the pigs are going into an environment that meets all of their needs.

Proper Cleaning and Disinfecting Checklist:

1. *Remove all pigs and equipment:* Removing all animals and any movable equipment (boards, paddles, etc.) ensures that the cleaning and disinfecting process is effective as possible. Remember the equipment that is removed needs to be cleaned and disinfected as well, so boards, paddles and even boots need to be washed with a disinfectant. You don't want to clean a room and then have the equipment that the animals have direct contact with to be contaminated.
2. *Check pit levels:* There should be adequate space under the slats for wastewater when washing. If not make sure the pit is drained before starting to avoid spray back when washing between the slats.
3. *Dry cleaning:* Using brooms and scrapers to dispose of any loose organic material, dirt, or leftover feed. This preps the surface for better cleaning.
4. *Soak and apply detergent:* Spray down the room and soak surfaces in a detergent solution. This step helps soften organic contaminants like manure and makes washing more efficient and less time consuming as

seen in table 1. It also helps remove the biofilm build up that can hold bacteria, mold, and viruses. Detergent should be applied with a foaming applicator moving in a Z shaped pattern going from bottom to top.

5. *Pressure wash and let dry:* Use a pressure washer to remove the cleaning agent and any other contaminants that have been dislodged. Pressure washing is a critical step to remove organic matter from all surfaces. Pressure washing with hot water can help increase the speed of washing, but cold water is also acceptable seen in table 1. Proper drying is important as any excess water or pollutants could cause the disinfectant to not work properly.

Table 1. The effectiveness of presoaking as well as the use of hot vs cold water. (Dan Hunik, 2003)

Wash Procedure	Time to Wash Pen (minutes)	Difference (minutes)	Time Savings (%)
Cold Water No Soap No Presoak	68.03	0	0
Cold Water Soap	59.80	-8.23	12.1
Cold Water Presoak	41.39	-26.64	39.1
Cold Water Presoak Soap	36.38	-31.65	46.52
Hot Water No Soap No Presoak	52.61	-15.42	22.6
Hot Water Soap	46.24	-21.79	32.0
Hot Water Presoak	41.88	-26.15	38.43
Hot Water Presoak Soap	36.81	-31.22	45.9

6. *Disinfect pen:* Inspect the area to ensure it is clean and dry before disinfecting. Apply disinfectant according to the label instructions and let it sit for the recommended time. Cover floors, feeders, walls, and water nipples/bowls thoroughly. It is critical to make sure the areas of direct contact (feeders and waterers) are properly disinfected. There are a wide variety of commercially available disinfectants refer to Effective selection of disinfectants in Swine Barns: Biosecurity Best Practices on the pig livability website to decide what disinfectant is the best fit. A variety of these products can successfully accomplish high sanitation efficacy if used according to their label instructions.
7. *Pressure wash and dry:* Rinse the disinfectant thoroughly with a pressure washer. Let the room completely dry to prevent the growth of pathogens.
8. *Inspection:* Perform a thorough inspection of the room to identify any spots that have been missed and need extra attention. Check the direct contact areas (feeders/waterers) for any contaminants that might have been missed.

The study finds that presoaking and using soap significantly decrease wash time. The use of hot water compared to cold doesn't have much of a difference as long as presoaking and the use of soap are implemented in the cleaning process.

Proper Room Set Up Checklist:

1. *Check pit levels:* This step should be done again after washing and disinfecting, to ensure there is still enough space under the slats for the incoming group of pigs.
2. *Conduct barn maintenance:* Make sure all facilities and equipment are working properly. Check feeders, waterers, gating, flooring, lights, inlets and curtains to ensure animals are going into a safe and clean environment that promotes health, productivity and welfare.
3. *Check heating, cooling and ventilation systems:* Fan blades should be cleaned and heating/cooling systems should be tested. Maintaining optimal barn conditions is essential to growth and development. Barn humidity should always be less than 65%. Table 2 provides PIC recommended set points for pigs based on days weaned and average body weight. Barn temperature should start at 85°F (29.4°C) this can vary if brooders and mats are used refer to table 2 for adjustments. Allow for the room to get up to the ideal temperature before moving the pigs in, this helps prevent cold stress from occurring.
4. *Checking air flow:* Air flow also needed to be checked before moving in. Optimal air speed at inlet is 800 FPM for elevated fan stages while 400 FPM is more practical in minimum ventilation stages. In tunnel-ventilated barns standard air exchange is 35-40 seconds with standard velocity of 300-400 FPM. Controlled ventilated barns without tunnel could consider a standard 120-150 CFM per finishing pig.
5. *Brooder and rubber mats:* If receiving weaned pigs, make sure brooders and rubber mats are clean, working, and placed in the right position. The mats should be directly under the brooders for optimal heat transference to occur. Using mats and brooders can allow producers to decrease room temperature without compromising the pigs comfort. Ideal mat temperature is 95°F (35°C) for 7-21 days, directly beneath the brooder. Make sure they are set up properly if used.
6. *Feed:* Feed bins should be emptied before new feed is delivered for next group of pigs. Feeders should be adjusted to release the appropriate amount of feed, around 40-50% of the pan covered for nursery pigs and 35-50% of the pan covered for grow-finish. Feeders should be checked regularly to ensure proper coverage.
7. *Water:* Check that drinkers are working and are set at the proper flow rates, and that they are not clogged with debris that could prevent/reduce water flow. Ensure waterers are at an appropriate height. PIC recommends nipples at 90° angle should be at shoulder level, 60° angle, 2-3 inches above shoulder level, and bowl lip height should be 40% of shoulder level. It is also recommended to have 10-12 pigs per water source for optimal health and growth. Waterer height should be checked periodically and adjusted as the pigs grow. Water pressure for grow-finish should be 15-40 PSI and weaned should be less than 20 PSI. When newly weaned pigs are moved in its beneficial to have a slight trickling of water out of the nipples or cups to encourage early water intake.
8. *Rodent control:* Checking bait stations between groups is an important step to take before moving a new group in. Stations should be refilled and put in the proper areas of the barn. Make sure the bait stations are out of the pigs reach and out of the way when moving the group in.
9. *Order supplies:* There are many supplies needed during the grow finish stage and inventory of injectable medication, water medication, syringes and needles should be checked. Along with marking chalk

or spay, gloves, fly and rodent bait. Inventory checks should be done regularly but making sure that there are enough supplies before a new group moves in is important.

10. *Record keeping:* Put barn sheets in each room according to company SOP. These typically include daily room temperatures with high/low, water meter log, time of observation, treatments, inventory and mortality/removals.

Implications

Disease outbreaks can be devastating to swine production. While not completely eliminating the risk of disease introduction, proper barn sanitation and setup can help ensure pigs get off to a good start after weaning. The checklists above are not fully comprehensive as your company SOPs should still be adhered to as designated by your herd veterinarian. However, implementing the specific practices outlined above will help avoid further losses. Ensuring your weaned pigs are placed in a properly set up barn increases your potential for production efficiency and biosecurity success.

Table 2. Recommended Barn Temperatures based on days weaned and average weight. (PIC Wean to Finish Guidelines)

Days Weaned	Average Barn Weight lbs. (kg)	Desired Room Temp. °F (°C)	Winter Setpoint °F (°C)	Summer Setpoint °F (°C)
1 without brooder or mats	12 (5.4)	85 (29.4)	87 (30.6)	85 (29.4)
1 with brooder and mats	12 (5.4)	74 (23.3)	76 (24.4)	74 (23.3)
14 without brooder or mats	18 (8.2)	81 (27.2)	82 (27.8)	81 (27.2)
14 with brooder and mats	18 (8.2)	70 (21.1)	71 (21.7)	70 (21.1)
30*	32 (14.5)	75 (23.9)	73 (22.8)	73 (22.8)
44	53 (24.0)	70 (21.1)	70 (21.1)	68 (20.0)
58	75 (34.0)	67 (19.4)	66 (18.9)	64 (17.8)
72	102 (46.0)	64 (17.8)	63 (17.2)	61 (16.1)
86	129 (58.0)	62 (16.7)	61 (16.1)	59 (15.0)
100	158 (72.0)	61 (16.1)	60 (15.6)	59 (15.0)
114	188 (85.0)	59 (15.0)	59 (15.0)	58 (14.4)
128	217 (98.0)	58 (14.4)	58 (14.4)	57 (13.9)
142	245 (111.0)	58 (14.4)	58 (14.4)	57 (13.9)
156	274 (124.0)	58 (14.4)	58 (14.4)	57 (13.9)
170	299 (135.0)	58 (14.4)	58 (14.4)	57 (13.9)
184	324 (147.0)	58 (14.4)	58 (14.4)	57 (13.9)

(*) brooders and mat have been removed, desired room temperatures should be adjusted according to pig weight.

REVIEWERS: Edison Magalhaes, Iowa State University and Jordan Gebhardt, Kansas State University

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