

## **Closing Swine Facilities for an Extended Period of Time**

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Swine facilities require special care if they are being removed from production for a prolonged period of time. The ability of the facility to remain empty safely and be brought back into productive service economically in the future depends on the steps taken immediately after the barn is emptied.

The main concern with empty barns is the manure remaining in the under barn storage. Even in cold temperatures this manure continues to produce manure gases and humidity. Methane, Hydrogen Sulfide, Carbon Dioxide and Ammonia are all produced from the decomposition of manure. If the manure is not removed and the ventilation system is closed, Methane can build up to explosive levels. Explosions can be triggered by a pilot light on a heater or a light switch being turned on by someone entering the barn. The resulting explosion and fire can destroy the barn and cause death or injury. Do not turn off the ventilation system until all the manure has been removed from the pits and the pits have been washed out to remove any accumulated solids. Always leave minimum ventilation fans running to discharge accumulating gas.

All the feed lines should be cleaned out and the feeders emptied. It would also be a good idea to run some whole grain such as corn or barley to flush the lines of the prepared feed particles as much as possible. These particles contain salts and other products which when combined with condensation can cause corrosion of the feed system. Removing all feed will also reduce the attraction of the barn to rodents. The water lines should be flushed, drained and blown out with air to remove all the water. The main water line coming into the barn should be shut off. Motors and drive chains should be greased so as to inhibit moisture penetrating the moving parts and causing the parts seize in the future.

The barn, penning and equipment should be washed down and dried out to remove as much of the moisture as possible. Dust on the surfaces is a combination of animal dander feces and feed dust which contains salt, the manure gases and dust often dissolve in the condensation that forms on colder exterior surfaces and electrical fixtures located on exterior surfaces. Any unprotected metallic surfaces with the exception of stainless steel will degrade rapidly.

Minimum heat should be maintained so as to prevent the barn floor and foundation from freezing. Of particular concern is empty manure pits. Given the right soil type and conditions, the frost may crack the exterior walls so as to

cause leaks if the pit was to be filled at some time in the future. In a worst case situation cracked foundation walls could cause a major structural failure.

If unvented heaters are to be used, they must be supplied with fresh air and also have the minimum ventilation functioning to remove the moisture and gasses produced by combustion. Failure to do this will result in heater failure or severe injury or death by carbon monoxide poisoning to anyone entering the airspace.

The barn should be inspected on a weekly basis during the heating season in particular to ensure that both the heaters and the ventilation are functioning properly. Bait stations should be maintained as well to eliminate rodents. A thorough yearly inspection should be done on the electrical and heating system by qualified personnel.

Preparing a swine barn for a prolonged period of down time is not just turning off the lights on the way out the door. There are real safety and durability concerns that must be addressed if the facility is to be left empty and have any hope of being used again in the future without a major renovation. By removing the sources of corrosion such as manure, dust and feed, protecting vulnerable equipment, controlling rodents, providing minimum heat and ventilation and doing regular inspections, the facility can be brought back into service at a future date with minimum cost.