

Livestock and Poultry Buildings: After the Flood

If your livestock or poultry farm has suffered animal losses and production building damage due to a hurricane or flooding, you may be facing questions and decisions regarding getting these facilities back into production. Are your facilities worth salvaging and remodeling, or do you build new facilities? Each farm is different, but the following checklist should help you. Remember that it is most important to ensure that the building is safe for humans to enter. Then the welfare of the surviving animals that may still be in the building must be considered (feed, water, ventilation, etc). Finally, look at what is needed to repopulate the buildings. Stop and think about what you are assessing before taking action. In many cases, a trained professional must be contacted to ensure the safety and restorability of flood damaged facilities.

Personal Safety Before Entering Any Flooded Building/Facility

- If you still have electrical power at the farm, shut it off before entering or working around a damaged building.
- Shut off valves to all petroleum tanks.



- Until all power sources have been shut off or stabilized and buildings have been well ventilated, do not smoke or have open flames near buildings or fuel sources.
- LP gas or above-ground gasoline or diesel storage tanks may have floated from their foundations. If so, they should be secured and any damage to valves, fittings, lines or meters should be repaired by a qualified professional.
- If hydrogen sulfide gas is smelled (rotten egg odor), leave the area immediately. Return only with appropriate respiration apparatus.
- Lower all side or endwall curtains, or use a generator and portable fan to ventilate the building before entering or working in it.

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- Check for obvious structural damage; e.g., building shift from foundation, eroded or damaged earthen floors or foundation walls.

Inspect Structural Integrity of Building

- Check for racking or stresses in structural members, exposed ends of structural members, loosened trusses or roof members, large cracks in masonry walls. Specifically, examine nailed joints for signs of movement. Assessment of questionable damage and repairs should be made by a qualified professional.
- The foundation of upright silos may have been weakened and should be assessed by a qualified structural professional.
- When working in the buildings, wear protective clothing, boots, a face mask, protection for open wounds, eyes, nose, and mouth. After working in buildings that have been flooded, immediately bathe and wash thoroughly with an antibacterial soap.

Manure and Mortality Inside Buildings

- Contact the NC State Veterinarian's Office at (919) 733-7601 before handling, removing, and disposing of dead animals and birds. Rendering, incineration, composting, or

burial may be appropriate disposal methods but each method has its limitations and should be approved first by the state veterinarian.

- Remove wet litter from poultry buildings. Let soil in earthen floors dry before putting in new litter, otherwise the new litter may become saturated. New soil may need to be added to replace removed saturated soil.
- Pump or drain floodwaters and manure from collection pits underneath hog houses into lagoons or land spread. Be aware that gases may have built up to unsafe levels inside houses with manure pits. Also, agitation or disturbance of concentrated manure in storage will release high concentrations of hydrogen sulfide, which will make it unsafe for workers and animals inside buildings lacking adequate ventilation.

Building Preparations

- Remove loose wall sheeting and fiberglass insulation that has been under water.
- Stud wall cavities that have been under water may still have water in them, which will decay the wood if the water is not drained and the walls allowed to dry out.
- To remove as much organic material as possible, wash flooded walls and floors the way they would be washed

between groups of animals or birds. Consider using a pressure washer in well-ventilated areas.

- Disinfect areas that animals will contact by spraying with standard disinfectants. Phenolic disinfectants are good in the presence of organic compounds.

Equipment Inside Building

- All flooded electric motors should be checked even after thorough cleaning. They may start up and run for a short period but then quit because of bearing failures, burned-out windings, or organic matter buildup within the motor. Many may need to be replaced.
- Flooded electrical switches, convenience outlets, light fixtures, circuit breakers, and fuses should be replaced.
- Flooded environmental controllers will probably need to be replaced.
- Ventilation fans can probably be salvaged except for motors and bearings.
- Heaters and brooders should be checked and serviced by a qualified professional.
- Flooded evaporative cooling pads will need to be replaced to avoid the risk of disease.
- Dairymen who have flooded milking parlors will need to work closely with their health inspectors and

the milking equipment representatives during cleanup.

Watering System

- Have drinking water sources tested for at least bacterial indicators, petroleum products, and any pesticides or chemicals that are known to have been stored on or near the farm. Ask the county health department if chlorination is required. Remember that the water may not be suitable for animals either.
- After water sources have been determined to be safe, check and flush drinking water lines and waterers to buildings.

Feeding Systems

- Empty flooded feed tanks and properly discard any molded or waterlogged feed.
- Remove molded feed from feed delivery lines. If lines are bent or the augurs are binding, consult the equipment manufacturer.
- Consult nutritionists regarding feeding water-damaged feed and the quality of feed in silos that have been flooded.

Lagoons

- Lagoon liquid level management is a year-round prior-

ity. Its importance is especially magnified prior to and during extended rainy and wet periods.

- When floodwaters recede, visually check dam or embankment inside and outside for obvious signs of seepage, erosion, or other damage. If there is any question about the integrity of the dam, seek assistance from the Natural Resources Conservation Service or their qualified soils engineer immediately.
- Notify NC Division of Water Quality Regional Office for your area if your lagoon is above or into the 25-year, 24-hour storm storage capacity and needs pumping. Get their approval before irrigating.
- Irrigate from the lagoon until water levels are back down to below the free-board and 25-year, 24-hour storm storage levels (normal lagoon liquid operating levels).
- Irrigate on highest and driest fields farthest from streams or other environmentally sensitive or flooded areas.
- One would think that all the extra water would dilute nutritional levels. However, we know that the wind action in an unusual storm mixes the contents of any impoundment. In lagoons,

the disturbance of the bottom sludges releases nutrients back into the liquids. Therefore, liquid nutrient levels may not be any less concentrated but volume may increase because of the extra rainfall. You may end up with more total nutrients to irrigate and land apply. If the extra nutrients would exceed your annual farm nutrient plan, contact the Division of Water Quality.

- Repair damaged drainpipes, recycle lines, pumps, and electrical connections.

Irrigation and Land Application Equipment

- Check irrigation lines, hydrants, and risers for ruptures or damage that could cause leaks.
- Inspect, clean, and service flooded irrigation equipment, such as travelers and center pivots systems, before using it. Clean gear boxes and engine drives, and replace lubricants. Even sealed bearings and gear boxes are vulnerable to moisture contamination when flooded for prolonged periods. Carburetors on most engine drives will need to be replaced if the engine was under water.



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