

# Safety Issues and Manure Handling

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## Drowning

A liquid manure or wastewater storage presents the hazard of drowning. Some liquid manure storages will develop floating crusts that can become dry on the surface. An individual who ventures out on this crust thinking it is a hard surface can easily break through and drown.

All manure storages require child tight fences, covers, grates and warning signs. Operators of tractors that go through unprotected openings into liquid manure storages often become drowning victims.

## Electric Hazardous

Electric motors powering manure handling equipment and portable power tools, lights, and cords are all potential sources of life threatening electric shock. The corrosive atmosphere around manure handling equipment and storages will quickly deteriorate improperly installed or maintained electric distribution systems. All electrical installations should be done according to applicable local and NEC Codes.

When working on electric powered machinery, be sure to use proper lock out and tag out procedures to prevent injury from machine startup while someone is exposed to moving parts or in the machine.

## Machinery Entanglement and Entrapment

Manure handling machinery, such as pumps, conveyors, manure spreaders, and tractors all contain various moving parts that can inflict injury or death.

Rotating shafts, belts and pulleys, chains and sprockets, and intermeshing gears can all cause injuries. Possible

injury points should have guards in place and appropriate warning labels in readable condition.

## Mobile Accidents

Operating manure spreading trucks, tractors, and loaders requires proper care and attention to standard safe farm machinery operating procedures.

A particular hazard is pulling heavy manure spreaders with tractors that are too small and inadequate trailer brakes to allow safe stopping and downhill travel.

Because sand-laden dairy manure is about 25% denser than traditional liquid dairy manure, the same volume of sand laden manure in a spreader will place considerably more stress on frames and drawbars and requires better braking capacity.

Be alert to how easy it is to overturn a loader tractor in areas with slippery and uneven surfaces.

Everyone has an obligation to design, supply, buy, operate, and maintain manure storage and handling systems that are safe for workers and visitors. Work closely with your designer and manure system suppliers to assure a safe and effective manure handling system.

Take time today to evaluate your existing manure handling system for safety. Review with all workers, including family members, good safety procedures before they head out to scrape, pump, or spread manure.

The Agricultural and Biological Engineering Department has a series of fact sheets concerning safety. You may find them on our Web site, [www.age.psu.edu](http://www.age.psu.edu), by calling 814 865 7685 or contacting your county Penn State Cooperative Extension Office.

## Consider These Points When Selecting A Site

Proper siting needs to take into consideration all of the planning and operational issues associated with these facilities such as water quality, air quality and odor concerns, transportation, and accessibility to alternative manure markets.

These considerations need to be viewed in relation to the appropriateness of the individual farm site to accommodate the proposed operation, as well as the affect that the farm may have on the neighboring community.

The evaluation of available sites for a new or expanding animal production facility should be done in advance of the final purchase of the site. This evaluation can be done by the proposed owner or operator, or in cooperation with a professional consultant.

### Local zoning requirements

The authority for determining the siting of particular land uses in Pennsylvania, including the siting of animal production facilities, lies with local government. This

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