



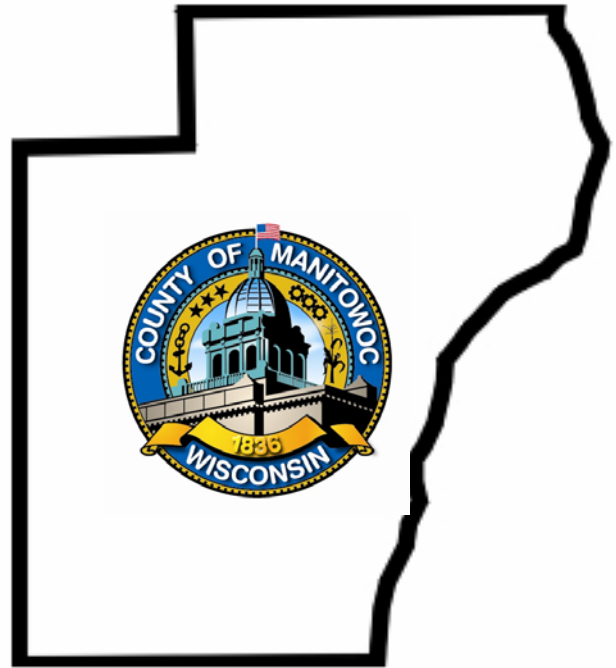
Incorporate manure right away



Watch out for critical sites, including surface water and high bedrock



Manitowoc County PREVENTING MANURE SPILLS and RUN-OFF



Developed by:
Manitowoc County University of Wisconsin-Extension
Manitowoc County Soil & Water Conservation Dept.

Developed: October, 2003
Updated: September, 2009

**Use Caution
When Applying Manure
Near Critical Sites**

Which Include:

- ◆ wells
- ◆ channels
- ◆ ditches
- ◆ waterways
- ◆ streams
- ◆ rivers
- ◆ lakes
- ◆ ponds
- ◆ tile inlets
- ◆ broken tile lines
- ◆ sinkholes
- ◆ bedrock near surface

**Immediate
Incorporation...**

can decrease odors by 90%
as well as reduce
the risk of run-off from fields.

Think Ahead...

If it looks bad, don't do it!



Be Aware of Field Conditions, Including:

- ◆ High bedrock
- ◆ High water table
- ◆ Leachable soils (sand)
- ◆ Slope
- ◆ Wet soils
- ◆ Compacted soil, including hay ground
- ◆ Frozen ground

Preventing Manure Spills from Storage Facilities

- Monitor manure level in the facility.
- Keep manure level at least one and one-half (1½) feet from the top of the storage facility.
- A contingency plan shall be implemented when the manure level reaches 1½ feet from the top of the manure storage facility. The plan should include how to handle unexpected volumes of animal waste that could cause the system to overflow before scheduled emptying can occur.

Consider the following:

- Available neighboring manure storage facilities with storage space available.
- Land that is flat and far away from streams, ditches, lakes, bedrock, tile inlets and sinkholes and that complies with your Nutrient Management Plan.
- Neighboring farm fields.
- Emergency application shall meet local and state regulations.

- Routinely inspect storage facilities for leaks.
- Maintain pumps and check valves regularly.
- Remove enough manure (between emptying cycles) to avoid overflows.
- Call the Manitowoc County Soil and Water Conservation Department (920-683-4183) for technical advice.

Preventing Manure Run-off During and After Application

- Identify and inform applicators and employees of critical sites including: wells, channels, ditches, waterways, streams, rivers, lakes, ponds, tile inlets, broken tile lines, sinkholes, and bedrock near surface.
- Watch the weather forecast prior to, during, and after application.
- Till the soil around the entire field a distance of fifty feet from the edge of the field
- Loosen the soil across the entire field prior to application if soil is compacted (e.g. extended dry periods, headlands, and corn that was harvested for silage).
- Check equipment prior to and during use.
- Properly train and inform all individuals involved in manure application and incorporation.
- Hire a reputable contractor if you do not apply the manure yourself.
- Monitor application equipment constantly.
- Apply manure based on crop need.
- Incorporate manure near critical sites immediately (i.e. directly behind the applicator)
- Incorporate manure near non-critical sites as soon as possible to decrease odors (by up to 90%), decrease the possibility of runoff and increase the nitrogen credits from manure.
- Think ahead---if it looks bad, don't do it!
- Follow requirements indicated on spreading maps provided by the Manitowoc County Soil and Water Conservation Department at <http://webmap.manitowoc-county.com/website/hazard%202008/home.html> or call 920-683-4183 for assistance.

Spreading Requirements Based on Season of the Year, Consistency of the Manure and Slope of the Field

Season	Consistency of Manure to be Spread	Field Slope	Action Needed	Exceptions
Winter	Liquid	6% +	Incorporate within 48 hours	None
Winter	Solid	6 to 12%	Incorporate within 48 hours	Contour strips, hay, or 40% crop residue
Winter	Solid	12% +	Incorporate within 48 hours	None
Spring, Summer and Fall	Both Liquid and Solid	6 to 12%	Incorporate within 48 hours	Contour strips, hay or 40% crop residue
Spring, Summer and Fall	Both Liquid and Solid	12% +	Incorporate within 48 hours	None

Developed by Manitowoc County UW-Extension and Manitowoc County Soil and Water Conservation Department. May, 2006. Updated October, 2008.

Manure Application Restrictions Based on Various Environmental Hazards

Hazard	Prohibition	Exception
Channels that flow to an intermittent or perennial stream, lake, pond or sinkhole	Do not apply within 50 feet of channel	Unless incorporated within 48 hours
Exposed bedrock and wells	Do not apply within 100 feet of exposed bedrock and wells	None
Exposed bedrock and wells	Do not apply within 100 to 300 feet of exposed bedrock and wells	* Unless incorporated within 48 hours * Land does not drain to hazard
Sinkhole	Do not apply within 100 feet of a sinkhole	None
Sinkhole	Do not apply within 100 to 300 feet of a sinkhole or within its drainage area	Unless incorporated within 48 hours
Drainage tile, surface inlet, intermittent / perennial streams or pond	Do not apply within 300 feet of hazard	* Unless incorporated within 48 hours * Land does not drain to hazard
Lake	Do not apply within 1000 feet of a lake	* Unless incorporated within 48 hours * Land does not drain to hazard

It is unlawful for any person to permit runoff of mechanically applied manure to enter land within 20' of a sinkhole, within 20' from the centerline of an intermittent stream, within 20' from the bank of a perennial stream or river, or the ordinary high-water mark of any pond or lake.

Actions to Prevent Tile Line Discharge

- Keep a map of tile outlet locations so they can be found as needed
- Observe and monitor tile outlets
- Use surface tillage to disrupt the continuity of worm holes, root channels and cracks in the soil
- Make more frequent, lower rate applications rather than a single heavy application
- Avoid spreading in the rain or when rain is in the forecast

Please Note: Information in this guide is recommended by the Manitowoc County UW-Extension Office and the Soil and Water Conservation Department. Farmers and manure applicators must follow all Manitowoc County ordinances regarding animal waste and are responsible for manure spills and run-off events.