

Summary of Silurian Bedrock Standards

*Effective 9/27/18 for mechanical manure applications in Door County where soil depth is 20 feet or less over Silurian bedrock
See Chapter 23, Door County Agricultural Performance Standards and Animal Waste Storage Ordinance, for complete list of requirements.*

Soil Depth to Bedrock ¹	Solid Manure (12% or greater solid material by volume)	Liquid Manure
< 2 feet	No mechanical application	No mechanical application
2 – 3 feet	<p>No mechanical application of manure unless all of the following are met:</p> <p>A. Incorporate within 72 hours to no more than 4” below ground; and</p> <p>B. Implement at least one of the following:</p> <ol style="list-style-type: none"> 1. Apply at rate no greater than 15 T/acre/year, or the rate that supplies the crop nitrogen recommendation from UW A2809, whichever is less. 2. Apply in compliance with UW A2809 and within 10 days of the planting date or on perennial or established crop. 3. Compost or treat to reduce pathogen levels to a fecal coliform bacteria density of less than 500,000 CFU or MPN per gram total solids on dry weight basis. <p>Note: Incorporation is not required if cropland or pastures meet long term no-till or have a perennial or established crop.</p>	<p>No mechanical application of manure unless all of the following are met:</p> <p>A. Pre-tillage is completed; and</p> <p>B. Inject or incorporate within 24 hours to no more than 4” below ground; and</p> <p>C. Implement at least one of the following:</p> <ol style="list-style-type: none"> 1. Apply in compliance with UW A2809 or Table 1 (see next page), to prevent hydraulic overloading of soil. 2. Apply in compliance with UW A2809 and within 10 days of the planting date or on perennial or established crop. 3. Treat to substantially reduce pathogen levels to a fecal coliform density of less than 500,000 MPN or CFU/100 ml <p>Note: Pre-tillage, incorporation or injection is not required if cropland or pastures meet long term no-till or have a perennial or established crop. Each surface application of liquid manure must not exceed 6,750 gal/acre.</p>
3 – 5 feet	Same as above, except incorporate to no more than 6” below ground.	Same as above, except inject or incorporate to no more than 6” below ground.
5 – 20 feet	No additional conditions.	<p>Same as above, except inject or incorporate to no more than 6” below ground.</p> <p>Note: Pre-tillage, incorporation or injection is not required if cropland or pastures meet long term no-till or have a perennial or established crop. Each surface application of liquid manure must not exceed 10,000 gal/acre.</p>

¹ Manure may not be mechanically applied on croplands or pastures until infield bedrock verification OR Silurian bedrock map information is used to identify areas where soil depth is less than five feet. Silurian bedrock map information available from the University of Wisconsin Department of Soil Science, can be found at <https://snapmaps17.snapplus.wisc.edu/>

Setbacks	<p>Mechanical Manure applications prohibited within:</p> <ol style="list-style-type: none"> 1,000 ft. of community well. 250 ft. of private well. 300 ft. upslope/100 ft. downslope of direct conduit to groundwater. 100 ft. of a concentrated flow channel leading to community well, private well, or direct conduit to groundwater. 100 ft. of closed depression unless manure is injected or incorporated within 24 hours or prior to precipitation capable of producing runoff, whichever comes first. No surface application of manure on slopes greater than 6% that have concentrated flow channels draining to closed depression unless the manure is injected or incorporated within 24 hours or prior to precipitation capable of producing runoff, whichever comes first.
Other Requirements	<ol style="list-style-type: none"> Mechanical manure application may not cause the fecal contamination of water in a well. Manure may not be mechanically applied on areas of cropland or pastures that have 24 inches or less of separation between the ground surface and apparent water table. Manure must be applied in conformance with a nutrient management plan that meets the requirements under all of the following. The plan must: <ul style="list-style-type: none"> Be consistent with s. NR 151.07 and NRCS Technical Standard 590, dated December 2015. Be designed and implemented to manage manure so as to reduce the risk of pathogen delivery to groundwater and prevent exceedances of groundwater water quality standards. Use NRCS soil survey maps/information or other methods as a planning tool to identify Silurian bedrock within or adjacent to cropland and pastures. Manure may not be mechanically applied on croplands or pastures until infield bedrock verification or Silurian bedrock map information is used to identify areas where the Silurian bedrock soil depth is less than 5 feet. If infield bedrock verification uses drill cores or other subsurface investigations, they must be backfilled with the soil within 72 hours of being created. Manure may not be mechanically applied on croplands or pastures where the Silurian bedrock soil depth is less than 5 feet until such fields are evaluated and ranked for risk of pathogen delivery to groundwater. Areas determined to have a high risk for pathogen delivery to groundwater must be avoided or must be lowest priority for manure application. Mechanical application of manure and headland stacking of manure is prohibited on soils with 5 feet or less to Silurian bedrock when soils are frozen or snow covered. Mechanical application of manure is prohibited within Silurian bedrock having soil depths less than 5 feet when rainfall greater than one inch is forecast within 24 hours of planned application.

Soil Texture	2 to 3 Feet Depth (gal/ac/yr)	3 to 5 Feet Depth (gal/ac/wk)	5 to 20 Feet Depth (gal/ac/wk)
Sand	6,750	6,750	13,500
Sandy Loam	13,500	13,500	27,000*
Loam	13,500	13,500	27,000*
Silt Loam	13,500	13,500	27,000*
Clay Loam	13,500	13,500	20,000*
Clay	6,750	6,750	13,500

*It is anticipated that this rate would exceed the UW A2809 annual (crop year) application rate.