

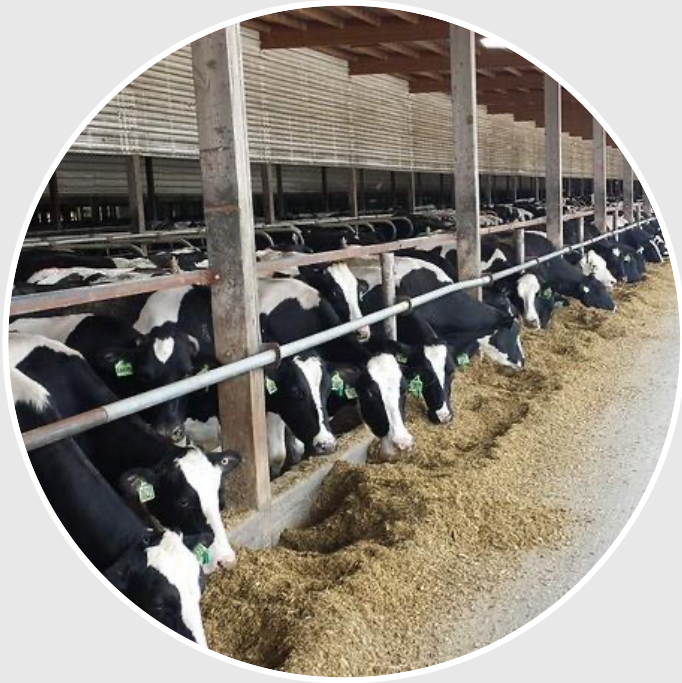


# MPCA's Compost Regulations & Programs

Understanding the Current Compost QA/QC Systems in Minnesota

October 13, 2022

# MPCA programs connected to compost



Feedlots



Stormwater



Solid Waste

# Solid Waste Program Compost Facility Types



Small Compost Site



Yard Waste Site



Source Separated Organic Materials (SSOM) Site

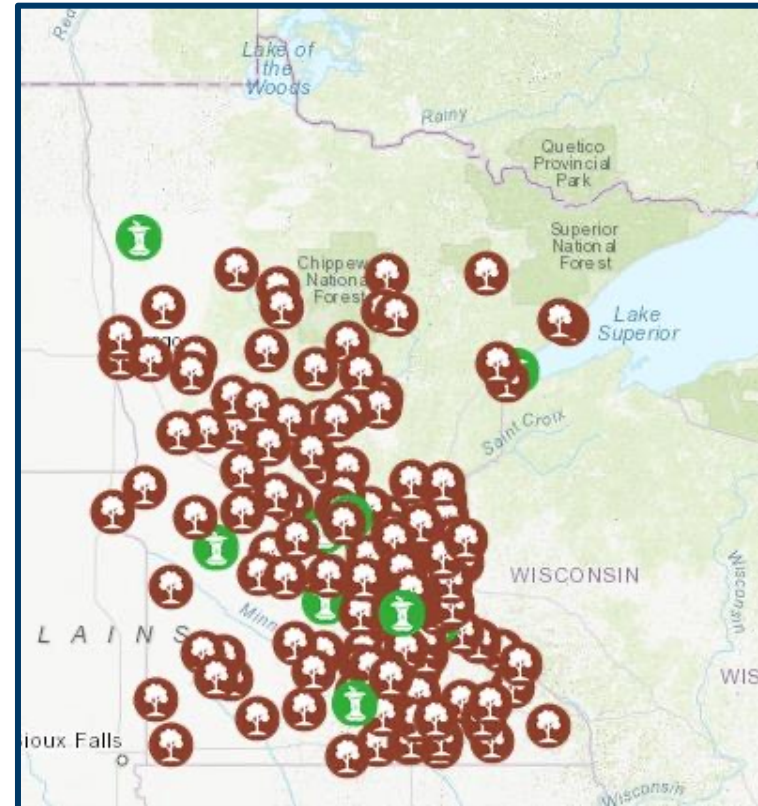


Solid Waste (SW) Site

# Permitted Compost Facilities in Minnesota

Minnesota has:

- ~ 125 Yard Waste Permit-By-Rule (PBR) sites
- 9+ Source Separated Organic Material (SSOM) and Solid Waste compost sites
- Find permit requirements and rules at:  
[www.pca.state.mn.us/business-with-us/waste-and-recycling](http://www.pca.state.mn.us/business-with-us/waste-and-recycling)



<https://www.pca.state.mn.us/waste/compost-facility-site-locator>

# 7035.2836 Compost Rule, Yard Waste Sites

7035.2836 Subpart 3 pertains to yard waste sites

Requirements include:

- Reduce Odors
- Turn yard waste on a periodic basis to aerate, maintain temps, and reduce pathogens
- Less than 3% inerts (dry weight)
- Sort by-products in a way that minimizes vectors and aesthetic degradation
- Material not composted should be removed at least weekly
- Surface water drainage controlled to prevent leachate leaving the facility. Surface water drainage run on must be diverted from the compost and storage areas
- Prevent discharge of yard waste, leachate, residuals, and the final product into waters of the state
- Submit annual reports

Many sites voluntarily adopt BMPs above and beyond what regulations require

# 7035.2836 Compost Rule: maturity

## Class 1: Must meet maturity standards

(1) The compost maturity must be determined using testing protocol described in the sampling plan. "Mature" means more than 60 percent decomposition has been achieved as determined by an ignition-loss analysis and one test method approved by the commissioner including, but not limited to, the following:

	<b>Test Method</b>	<b>Maturity Standard</b>
(a)	Carbon/nitrogen ratio - U.S. EPA Method 9060A: Total Organic Carbon and Dumas	In the range of 10:1 to 20:1
(b)	Dewar Self-Heating Method	Temperature rise above ambient in $^{\circ}\text{C}$ , range of $0^{\circ}$ - $20^{\circ}$ Celsius
(c)	Respiration Rate, $\text{CO}_2$ Analysis	$<2\text{-}5$ (mg. $\text{CO}_2\text{-C/g}$ compost carbon-day)
(d)	U of M Z-test - Soil and Crop Research on Municipal Solid Waste Class I Compost Utilization in Minnesota, April 10, 1994	The weight of the worms in the cellulose treatment increases and that of the worms in the noncellulose treatment remains the same
(e)	Cress Seed Germination - Recommended Test Methods, The Composting Council	Germination index in the range of 1.0 - 0.8

# 7035.2836 Compost Rule: additional requirements

Class 1: Must not exceed 3% inerts (dry weight)

Class 2: Must not exceed 4% inerts (dry weight)

Class 1 & 2: Must meet PFRP

- **Windrow method:** A temperature of 55 degrees Celsius maintained in the windrow for at least three weeks; must be turned at least once every 3-5 days.
- **Static pile:** The temperature of the compost pile must be maintained at 55 degrees Celsius for at least 7 days.
- **Enclosed vessel:** The retention time in the vessel must be at least 24 hours with the temperature maintained at 55 degrees Celsius. A stabilization period of at least 7 days must follow the retention period. Temperature in the compost pile must be maintained at least at 55 degrees Celsius for 3 days during the stabilization period.

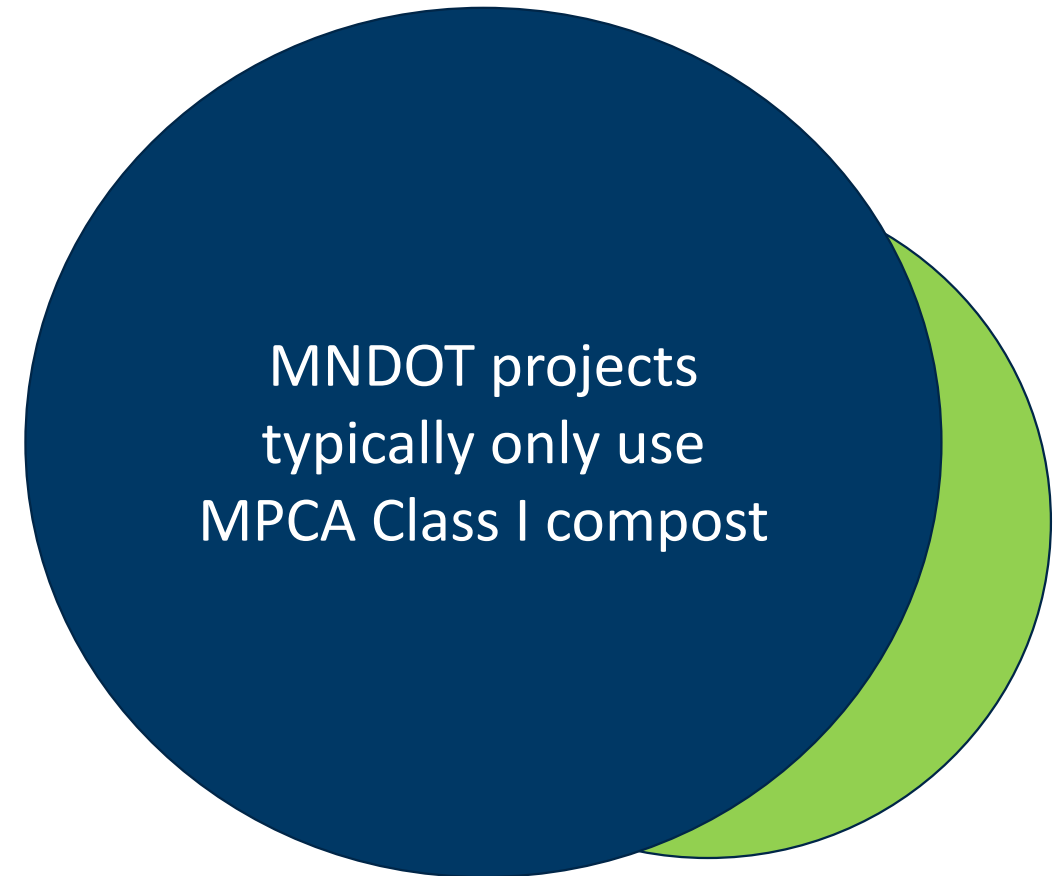
# 7035.2836 Compost Rule: compost classification

- Class 1: Cannot exceed contaminants

<b>Contaminant</b>	<b>Concentration (mg/kg)</b>
Arsenic (As)	41
Cadmium (Cd)	39
Copper (Cu)	1,500
Lead (Pb)	300
Mercury (Hg)	5
Molybdenum (Mo)	18
Nickel (Ni)	420
Selenium (Se)	100
PCB	6
Zinc (Zn)	2,800

# Class II compost

- Class II is compost that doesn't meet class 1 standards.
- Class II requires a detailed plan for its use
- Class II use must be approved by the commissioner of the MPCA
- Class II use requires detailed reporting in the annual report
- It's very rare for SSOM composters to produce class II compost



MNDOT Grade I and Grade 2  $\neq$  MPCA class 1 and class 2

# MnDOT 3890 Compost Specification

- Grade 1: use for turf establishment; manures
- Grade 2: landscape planting medium; yard waste (SSOM needs STA testing)
- Grade 3: mix of Grade 1 & Grade 2



MnDOT uses compost-amended soil



Less than 3 weeks later

# Annual Compost Facility Reporting Requirements

- Record of the quantity of material delivered to facility
- Quantity of material breakdown and rejects
- Sources and quantities of nutrients or bulking agents
- Summary of temperature and retention times for all compost produced (verify PFRP)
- Quantity of all compost produced
- Summary of all lab analysis according to sampling plan
- Record of Class II distributions
  - Notifications, USGS survey map of application site, quantity applied, site description, etc.

# State contract to purchase compost

- Vendors sought to provide food derived compost
- Purchasers could include state agencies and Cooperative Purchasing Venture (CVP) members
- Request for Proposals issued soon
- Contracts in place in early 2023



# Thank you!

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