



## Biosolid Facts – Supplement 1

### Class A EQ product vs Class B Regulations

In an effort provide information regarding non-commercial fertilizers, their uses, and regulations, the following document has been developed. This document is an informational reference only and should not be used in place of existing regulation and guidance from regulatory authorities. If a question or concern arises regarding any of these fertilizers and soil conditioners, seek clarification from the proper authorities. The following table compares regulatory authority and framework for Biosolids (Class A Exceptional Quality (EQ) and Class B), Septage, Beneficial Use industrial byproducts, and Manure.

Table 1. General Regulatory Assignments for Non-Commercial Fertilizers.

Type of Material	Source	Primary Regulatory Authority	Secondary Regulatory Authority	Applicable Regulations/ Guidance
Biosolids (Class A EQ or Class B)	WRRF	MDEQ	MDARD (if registered as fertilizer)	Part 24 Biosolids Rules of Part 31, Water Resources Protection, NREPA Generator Specific Residuals Management Program (RMP)
Septage	Private septic systems	MDEQ	Mich. Dept of Health and Human Services	Part 117, Septage Waste Servicers, of NREPA
Industrial By-products for beneficial use	Various	MDARD	MDEQ	324.11551(1)h Beneficial Use 3, An AUA authorized under Part 115
Manure	Farm Animals	MDARD	MDEQ (NREPA for CAFO or facility has NPDES permit)	Michigan Right to Farm Act, P.A. 93 of 1981, As Amended. Federal Water Pollution Control Act (33 U.S.C. 1251 et seq., as amended; the "Federal Act"). Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). Part 41, Sewerage Systems, of NREPA

In general, if the source of the material is from a Water Resource Recovery Facility (WRRF) (formerly WWTP) treating domestic sewage, Michigan Department of Environmental Quality (MDEQ) is the primary regulator. If the source of the material is from an animal or agricultural in origin, Michigan Department of Agriculture and Rural Development (MDARD) is the primary regulator. Additionally MDARD regulates some industrial by-products that can be shown to be beneficially used. This document does not contain further information regarding septage, beneficial reuse of industrial by-products, or manure. Seek additional clarification for the proper regulatory authorities for these materials.

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In Michigan, both Class A EQ and Class B are regulated by Part 24 Biosolids Rules of Part 31, Water Resources Protection, NREPA and a generator specific Residuals Management Program (RMP). Table 2 below outlines the differences between materials classified as Class A EQ and Class B biosolids. Class A EQ materials have been treated for greater removal of pathogens. Only Class A EQ materials meeting specific criteria may be sold in bagged form.

Table 2. General Differences between Class A EQ and Class B biosolids

Parameters	Class A EQ Biosolids –	Class B Biosolids
Treatment Pathways to achieve certification	Process for Further Reducing Pathogens (PFRP) <ul style="list-style-type: none"> <li>• Composting</li> <li>• Heat Drying</li> <li>• Thermophilic Aerobic Digestion</li> <li>• Beta Ray Radiation</li> <li>• Gamma Ray Irradiation</li> <li>• Pasteurization</li> <li>• Lime stabilization</li> </ul>	Process to Significantly Reduce Pathogens (PSRP) <ul style="list-style-type: none"> <li>• Aerobic Digestion</li> <li>• Air Drying</li> <li>• Anaerobic Digestion</li> <li>• Composting</li> <li>• Lime Stabilization</li> </ul>
Pathogen Limits	<1000 MPN/g solids - Fecal Coliform <3 MPN/4 g solids - Salmonella <1 Plaque forming unit/4 g solids Engteric Viruses (if applicable) <1count/4 g solids - Helminth ova (if applicable)	<2,000,000 MPN/g solids – Fecal Coliform <2,000,000 colony-forming units/g solids – Fecal Coliform -or- Material must be treated with sufficient methods as defined in Rule 2414
Vector Attraction Reduction (insects, varmints, etc.)	>38% reduction in Volatile Solids Anaerobic Process, proven Aerobic Process, proven Specific Oxygen Uptake, aerobically digested Aerobic Process plus Raised Temperature Raise pH to 12 and hold at 11.5 >75% solids with no unstabilized solids* >90% solids with unstabilized solids*	>38% reduction in Volatile Solids Anaerobic Process, proven Aerobic Process, proven Specific Oxygen Uptake, aerobically digested Aerobic Process plus Raised Temperature Raise pH to 12 and hold at 11.5 >75% solids with no unstabilized solids* >90% solids with unstabilized solids* Injection Daily Incorporation/covering
Allowable Sites for Land Application	Agricultural Land Forest Public Contact Site Reclamation Site Lawn Home Garden Bagged material for commercial sale	Agricultural Land Forest Public Contact Site Reclamation Site

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Parameters	Class A EQ Biosolids	Class B Biosolids
Restricted times after application to harvest certain crops	None	Minimum 14 months for food crops totally above soil
		Minimum 20 months for food crops that have harvestable parts below soil if biosolids persist on soil >4 months before incorporation
		Minimum 38 months for food crops that have harvestable parts below soil if biosolids persist on soil <4 months before incorporation
		Minimum 30 days for any crops after application
		Minimum 1 year for turf if harvested turf destination has high potential for public exposure
Restricted Public Access to site after land application	None	Minimum 1 year after application if site has high potential for public exposure
		Minimum 30 days after application if site has low potential for public exposure

\*Only approved methods for bagged biosolids (commercial sale)

The allowable pathogens present in Class B compared to Class A EQ biosolids require differing levels of application site management. The site management practices are shown in Table 3 below. These practices may be adjusted as necessary by MDEQ on a site-specific basis.

*Table 3. Site Management Practices for Land Application.*

Parameters	Class A EQ Biosolids	Class B Biosolids
Adversely affect threatened or endangered species	DO NOT Apply Biosolids	
Potential for migration of biosolids due to frozen, flooded, water saturated, or snow covered land	DO NOT Apply Biosolids	
Wintertime Application (December 21 to March 21)	Surface application acceptable for EQ biosolids with reasonable management practices, including: <ul style="list-style-type: none"> <li>• No covering on fields with runoff concerns</li> <li>• No application prior to significant rainfall</li> <li>• No highly sloped ground (&gt;6% slope)</li> </ul>	Subsurface injection only for frozen or snow-covered ground
Field Storage	21 Days Uncovered 90 Days Covered	Not allowed, except within incorporation window

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Parameters	Class A EQ Biosolids	Class B Biosolids
Slope (must be less than)	N/A	6% for Surface Application 12% for Subsurface Injection
Incorporation Requirements	None	Incorporate, unless otherwise specified.
Agronomic Rate, as determined by expected crop and soil conditions	Apply up to agronomic Rate	
Label or Information Sheet	Not Required, unless registered as Fertilizer or bagged (<2000 lbs.)	Required
Soil Fertility Tests	Every 2 Years	
Soil Phosphorus Test,	DO NOT Apply Biosolids if: Bray 1 Soil Test >300 lbs. (P)/acre Mehlich 3 >340 lbs. (P)/acre	
Silviculture	DO NOT Apply Biosolids if: Bray 1 Soil Test >200 lbs. (P)/acre Mehlich 3 >220 lbs. (P)/acre	
	PAN additions up to 5 year threshold/max.	

In addition to the pathogen reduction and vector attraction reduction requirements, Class A EQ and Class B have specific limitations on the metals present in the biosolids. Tables 4 outlines metals concentrations for ALL biosolids to be used in land application. These concentration limits are multiple levels of safety above what is harmful to humans.

*Table 4. Ceiling Pollutant Concentrations in Biosolids.*

Pollutant	Class A EQ Ceiling Concentration – Bulk Application (mg/kg*)	Biosolids Ceiling Concentration (mg/kg*)
Arsenic	41	75
Cadmium	39	85
Copper	1500	4300
Lead	300	840
Mercury	17	57
Molybdenum	75	75
Nickel	420	420
Selenium	100	100
Zinc	2800	7500

\*mg/kg is equivalent to parts per million (ppm)

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Biosolids must be applied using defined setback distance. This is to protect public health and water quality. Table 5 below shows the setback requirements depending on the method used for application. Class A EQ solids are typically applied using the surface application without incorporation requirements, where Class B biosolids generally do require incorporation. If the biosolids were to be incorporated within 48 hours of application, then the requirement involving incorporation could apply.

Table 5. Isolation (Setback) distances between land application and existing structures.

Isolation from existing:	Isolation Distance Requirements	
	Distance (feet)	
	Surface application without incorporation (Typical of Class A EQ)	Injection or surface application with incorporation (Typical of Class B)
Municipal well (type I or type IIA)	2000	2000
Non-community public Water supply (type IIB or type III)	800	800
Domestic well	150	100
Homes	150	100
Commercial Buildings	150	100
Surface waters**	150	50

\*\*Surface waters generally include means of conveyance for water. Grassed waterways are not considered surface waters.