

What are Biosolids?

Biosolids are nutrient-rich organic material produced from the stabilization of municipal sewage sludge that meet the United States Environmental Protection Agency's (USEPA) most stringent quality standards for land application.

What do biosolids look like?



Air-dried biosolids look and feel like dark, fine-textured topsoil or "black dirt."

What is the difference between "sludge" and biosolids?

The term "sludge" is generally applied to all solids that settle out of a mostly-liquid substance such as municipal wastewater. The term biosolids refers to a product that is generated by further processing municipal sewage sludge to meet USEPA's most stringent quality standards that allow it to be land applied for beneficial uses. Biosolids are extensively treated, strictly monitored, and must be used in compliance with the stringent federal and state regulatory requirements. Sludge is a solid waste. Biosolids are a value-added beneficial by-product generated from the municipal wastewater treatment process.



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For more information about MWRD biosolids, contact the Monitoring and Research Department at (708) 588-4063 or the Maintenance and Operations Department at (708) 588-4300

Biosolids

Frequently Asked Questions

**Metropolitan Water Reclamation
District *of* Greater Chicago**

Are there any restrictions on public access to sites amended with biosolids?

The aged, air-dried biosolids produced at the Metropolitan Water Reclamation District of Greater Chicago (MWRD) meet the USEPA's exceptional quality (EQ) criteria, which means that the biosolids contain extremely low levels of metals, virtually no pathogens, and do not attract vectors. Therefore, sites amended with biosolids meeting EQ criteria have no site access restrictions.

Where can biosolids be used?

Biosolids can be used almost anywhere to support vegetation. They can be used in a variety of settings, including golf courses, athletic fields, parks and recreational facilities, agricultural fields, forests, and for land reclamation of strip mines and other drastically disturbed lands.

Are biosolids safe for land application?

Yes. Based on many years of research, biosolids are proven to be safe for land application as a fertilizer for plants. Land application of biosolids is regulated by USEPA and the Illinois Environmental Protection Agency (IEPA) to protect human health and the environment. The National Academy of Sciences has recently reviewed current regulations, practices, and public health concerns, and concluded that the use of biosolids in production of crops for human consumption when practiced in accordance with existing federal guidelines and regulations is safe to the consumer, to crops, and to the environment. Therefore, land application continues to be the best and most popular choice for management of biosolids across the United States.

Are there restrictions to biosolids land application?

Yes. There are restrictions on uses of biosolids. Biosolids are regulated at both the federal and state level. Biosolids must first meet several quality standards and regulations in order for them to be land applied. These standards contain limits for levels of metals in biosol-

ids, site restrictions, pathogen standards, and record keeping and soil monitoring requirements. There are specific guidelines for land application of biosolids, just as there are guidelines for use of common chemical fertilizers. Contact the MWRD staff at (708) 588-4063 for detailed information.

Do biosolids smell?

Fresh, moist biosolids may have an odor, usually described as "earthy" or "organic," similar in some respects to bone meal or manure. Some biosolids may have a slight musty or ammonia odor. The odor is caused by sulfur and ammonia containing compounds, both of which are plant nutrients. The odor dissipates within a short time after land application. The MWRD's biosolids that are used in urban settings are aged, air-dried, and are less odorous than the fresh centrifuge cake biosolids that are applied to agricultural fields.

Why are biosolids used in agriculture?

Biosolids are rich source of plant nutrients and organic matter, which makes them an excellent soil amendment and fertilizer. In addition to supplying the needed plant nutrients, application of biosolids improves soil tilth, water retention and physical properties of soil that make it a desirable growth medium. Nutrients found in biosolids, such as nitrogen, phosphorus, potassium, calcium, and trace elements such as copper, iron, magnesium, manganese, sulfur and zinc, are necessary for crop production and growth. Thus, biosolids are used for fertilizing agricultural fields for raising crops.

Who regulates land application of biosolids?

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Do I need a permit to use biosolids?

No, the MWRD permits cover the users of MWRD biosolids.

Do biosolids affect water quality?

About 95 percent of the nitrogen in biosolids exists in organic forms. Thus, the biosolids' nitrogen is released at a much slower rate as compared to the chemical fertilizer nitrogen, which makes it less likely to leach into groundwater or runoff into streams. In addition, regulations require buffers between the biosolids application sites and wells, rivers, streams, and lakes to protect water quality.

How much biosolids should I apply?

On agricultural fields, biosolids are applied at "agronomic" rates (carefully controlled to match plant needs), slowly providing the nutrients to the growing plants, and ensuring that surface runoff and deeper groundwater are unaffected by the application. On recreational areas, rates are tailored to meet specific nutrient or soil improvement needs. Contact MWRD staff at (708) 588-4300 for detailed information.

Could I use biosolids in my yard?

Currently, certain restrictions apply to biosolids use in residential areas in Illinois. Contact the MWRD staff at (708) 588-4063 for additional details.

Where can I get biosolids?

Biosolids can be obtained from the MWRD at no cost to the users. Call the MWRD staff at (708) 588-4063 for details.

Can I haul biosolids in my own truck?

There are two options for hauling biosolids to project sites:

1. Biosolids can be delivered by the MWRD at no cost to the user - Biosolids are typically delivered by 24-cubic yard semitrucks (this is equivalent to about 23 tons of air-dried biosolids that have been dried to approximately 65 percent solids content). The delivery of biosolids should be scheduled so that the biosolids are spread as they are delivered to minimize the duration of stockpiling.
2. Biosolids can be picked up by the user - A minimum truck size of four cubic yards will be allowed on the MWRD facilities to pick up biosolids.