METRO WASTEWATER RECLAMATION DISTRICT

Facts about biosolids

What are biosolids?

Biosolids are produced from fully treated nutrient-rich organic materials removed during wastewater treatment. Solids settled out by gravity during primary treatment are combined with excess microorganisms that eat waste during secondary treatment (i.e., secondary solids). The combined primary and secondary solids are then sent to the anaerobic digesters for stabilization. The final stabilized biosolids product is METROGRO® Cake, a fertilizer registered with Colorado Department of Agriculture and distributed by the Metro District.

Where are biosolids land applied?

To achieve the goal of recycling 100 percent of the biosolids produced, the Metro District applies nearly 35 percent of the fertilizer at the 52,000-acre METROGRO Farm in Deer Trail, Colorado, which the District owns and operates. The staff manages the entire agricultural cycle, including planting, growing, harvesting, marketing, and crop sales. The other 65 percent of the fertilizer is sold and applied at private agricultural sites in five counties in eastern Colorado.

What are the benefits of biosolids?

- **Improved crop yields** because the fertilizer is naturally rich in nutrients, including plant available phosphorus and nitrogen.
- **Improved crop yields** because the fertilizer contains micronutrients as well, including zinc, iron, magnesium, and copper.
- **Improved soil aeration and tilth**, improving water-holding capacity in sandy soils and reducing compaction in clay soils.
- **Reduced carbon footprint** because application of biosolids helps restore organic carbon content to the soil which is a viable form of CO2 sequestration.
- **Alternative to chemical fertilizers** that require fossil fuel energy to produce and are more likely to impact groundwater and surface runoff than biosolids.

How are biosolids monitored?

- METROGRO® Cake is regularly tested to ensure compliance with all state and federal regulations.
- Extensive research (primarily by land-grant universities) shows that biosolids recycling has overall positive effects on crops and the environment.
- The Metro District partners with the US Geological Survey to measure the effects of biosolids application in soils, groundwater, surface water, and crops.
- The Metro District conducts deep soil monitoring at the METROGRO Farm to develop soil profiles and evaluate the effects of biosolids land application. The current monitoring procedures were initiated following a Deep Soil Monitoring Study conducted in partnership with Colorado State University.

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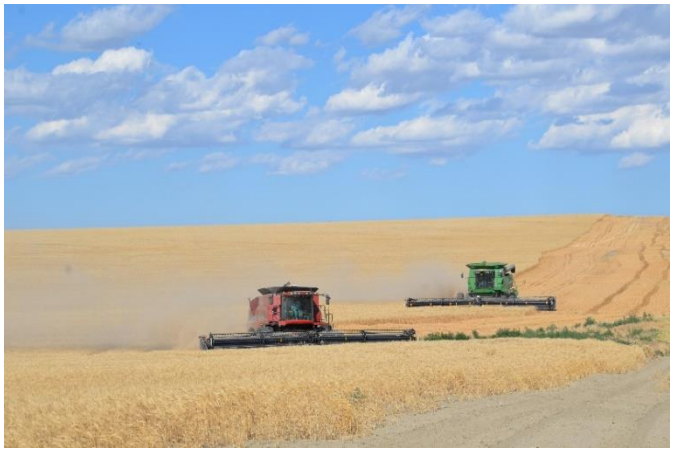
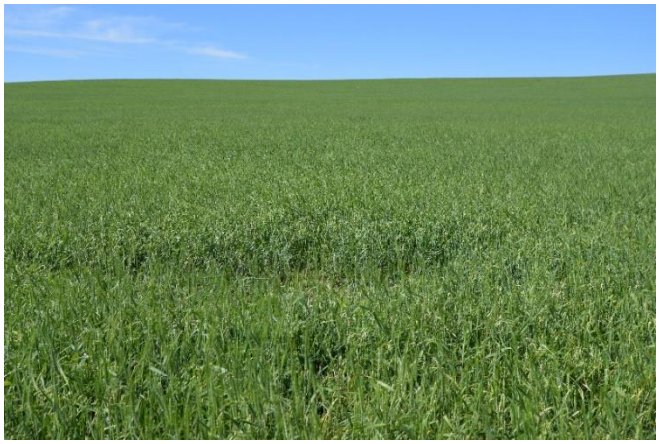
How do PFAS impact biosolids?

One emerging topic relating to biosolids is PFAS. A common term to collectively describe a family of human-made chemicals, PFAS (per- and polyfluoroalkyl substances) are found in numerous products used in everyday life, such as paper food packaging, non-stick coating materials, and stain resistant fabrics. PFAS may be present in the wastewater generated from homes and businesses.

Wastewater utilities do not use PFAS as part of the treatment process, but these compounds may be present in wastewater conveyed to treatment facilities. The Metro District supports a growing body of peer-reviewed scientific research on PFAS and wastewater. As a leader in the clean water industry, we are engaged in stakeholder and other local, state, and national opportunities to develop solutions.





Biosolids Reuse Policy

It is the policy of the Metro District to beneficially reuse biosolids generated from the treatment of wastewater, except when necessary to meet operational or emergency situations. In all cases, the District will take steps necessary to protect public health and the environment and will comply with applicable regulatory requirements. The District will be sensitive and responsive to public concerns and will strive to continually improve the management of its biosolids program.