

Biosolids

LAND APPLICATION



Trinity River Authority of Texas
Enriching the Trinity basin as a resource for Texans

www.trinityra.org

QUESTIONS & ANSWERS ABOUT BIOSOLIDS

Q: *What are biosolids?*

A: Biosolids are created through the transformation of liquid and solid matter in wastewater. The transformation of what goes down the shower and sink drains, the disposal and toilets in private homes, businesses and restaurants involves physical, chemical and biological processes designed to remove conventional pollutants. TRA produces a nutrient-rich biosolids product that exceeds Texas Commission on Environmental Quality (TCEQ) regulations, production and testing and monitoring standards.

Q: *Why do we have biosolids?*

A: We have biosolids because of the wastewater treatment process. Wastewater treatment plants are our nation's first line of defense against dangerous diseases such as cholera, while also protecting the environment.

Q: *What do biosolids look like?*

A: Biosolids produced at TRA's CRWS plant look a lot like dirt in color, consisting of small, crumbly particles of a dry material.

Q: *Do biosolids smell?*

A: Biosolids typically produce less odor than commonly used animal fertilizers such as dairy manure. The biosolids produced at CRWS have an earthy odor. However, once properly applied to soil, any odor will usually dissipate within a few days. Biosolids also may have an ammonia odor, which can be intensified if the product gets wet from rain before it is land applied.

Q: *How are TRA's biosolids used?*

A: The biosolids produced by TRA's CRWS plant are land applied with specially designed spreading equipment [no dumping occurs] for local farmers as fertilizer. Agricultural uses of biosolids must meet strict quality criteria and application rates and have been shown to produce significant improvements in crop growth and yield. Land application of biosolids serves as an environmentally responsible alternative or substitute for more expensive chemical fertilizers. In addition, land application of biosolids improves soil quality, and returns nutrients back to the soil in an endlessly renewable cycle that dramatically reduces our carbon footprint while reducing our need for additional landfills.

Q: *Is it safe to use biosolids on land?*

A: The biosolids produced by TRA's CRWS plant have been approved by the TCEQ for use as fertilizer. Studies show that neither contact with biosolids nor foods grown with the organic fertilizer pose a risk to human health.

The nutrients in biosolids offer several advantages over chemical fertilizers because they are organic and are released slowly.



Q: *Will it harm my water?*

A: Site management practices for biosolids (such as buffer zones and restrictions on application timing) are part of the land application best management practices that TRA adheres to in safeguarding watersheds.

Q: *How long has Trinity River Authority had a biosolids program?*

A: TRA started its program in 1996.

Q: *Do biosolids contain pharmaceuticals, medical waste?*

A: Multiple studies have shown that it would take many lifetimes of working or playing around biosolids to equal a person's everyday exposure to many common products. For instance:

- For over-the-counter pain relievers such as Tylenol – a child would have to play around biosolids for 43,298 years to receive the equivalent of one dose; an adult gardener, 77,266 years of exposure; a hiker, 454,112 years and an agricultural worker, 24,507 years.
- With prescription antibiotics, it would take a child 541,224 years of playing around biosolids to equal one dose; an adult gardener, 965,819 years of exposure; a hiker, 431,900 years and an agricultural worker, 23,309 years.
- For antimicrobial agents used in antibacterial soaps, toothpaste and deodorant, a child at play would have to experience 5,478 years to equal one dose; an adult gardener, 9,775 years of exposure; a hiker, 4,008 years and an agricultural worker, 216 years.

Q: *What is the difference between biosolids and sludge?*

A: Biosolids are treated sewage sludge. Biosolids are carefully treated and monitored and must be used in accordance with regulatory requirements. The biosolid's production method at TRA reduces the 10 Environmental Protection Agency-regulated metals by more than 90 percent. The reduction of the metals is achieved through an aggressive regulatory pretreatment program that controls and monitors industry discharges into the wastewater system.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) BIOSOLIDS TESTING REQUIREMENTS

Minimum of monthly testing required for:

✓ Vector and Attraction Reduction (pH)	TRA tests weekly
✓ Fecal Coliforms	TRA tests trimonthly
✓ Viable Helminth Ova	TRA tests bi-monthly
✓ Enteric Virus	TRA tests bi-monthly
✓ Pollutant Metals	TRA tests monthly

Minimum of annual testing required for:

✓ Toxicology Characteristics Leaching Procedure (TCLP)	TRA tests bi-annually
✓ Polychlorinated Biphenyls (PCBs)	TRA tests bi-annually

TRA's testing standard surpasses the minimum sampling requirements.

Source: Trinity River Authority, Water Environment Federation, U.S. Environmental Protection Agency, TCEQ

For more information or questions about TRA's biosolids program, visit our website at www.trinityra.org, or call 817-467-4343.

Biosolids production

