

# The NEBLINE<sup>®</sup>

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"Helping Nebraskans enhance their lives through research-based education."

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**COMMUNITY CROPS**  
Lincoln's New  
Community-Supported  
Agriculture Project  
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Extension Educator Barb Ogg explains Lincoln's Biosolids to fifth graders attending the annual earth wellness festival.

Barb Ogg  
Extension Educator

Pardon me for being personal, but did you ever wonder what happens after you flush? If you live in the country and have a septic tank, you undoubtedly know the septic tank catches what you flush and it eventually needs to be pumped out. But where does the waste go after the honey wagon cleans out the tank?

Ask most Lincolmites what happens after they flush, and they probably will tell you it ends up in the sewer system. But what really happens to all that stuff in the sewers and septic tanks?

Ask kids who listen to the Scoop on Poop presentation at the earth wellness festival and they will tell you the real story.

These fifth graders learn the wastewater treatment plant converts sewage into cleaned water and carbon dioxide and wastewater solids. Cleaned water meets rigorous Environmental Protection Agency (EPA) standards and is released into Salt Creek. Processed wastewater solids — called biosolids — are recycled by fertilizing crops. Wastewater processing is really a story about recycling.

A wastewater treatment plant is an engineering marvel most of us take for granted. And, contrary to what most people think, chemicals are not the primary method used to clean the water. Instead, wastewater treatment plants use mechanical and biological methods that efficiently and effectively remove pollutants.

Wastewater is first screened to remove large objects like golf balls, car batteries, hub caps, boards and other stuff unenlightened people throw down manholes.

Wastewater is then pumped into a grit basin where sand and gravel and other heavy materials settle to the bottom of the tank. If not removed, grit can damage equipment and pumps at the treatment plant. Grit is



The Theresa Street Wastewater Facility, southwest of 27th and Cornhusker cleans wastewater and produces biosolids 24 hours, 7 days a week and never shuts down for holidays. This facility is currently undergoing major construction to increase capacity to keep pace with Lincoln's increasing population.

pumped out of the tank and taken to the landfill.

Grease and oil float on water and are skimmed from the top of the tank and taken to the landfill.

Primary treatment removes solids through sedimentation, because the solids sink to the bottom of the tank. These solids are pumped into anaerobic digesters, heated and processed to reduce bacteria which eventually become "biosolids."

During secondary treatment, the wastewater is aerated to make it a better place for oxygen-loving bacteria to live. These bacteria eat pollutants in water and release carbon dioxide in the process. Bacteria eventually settle to the bottom of the tank and are pumped into the anaerobic digesters and processed as biosolids.

Septic tank waste produced in Lancaster County is transported to the Theresa Street Wastewater Facility, pumped into the treatment plant and processed so even folks who live in the country contribute to biosolids.

Anaerobic processing is an essential part of making biosolids because time (three-four weeks) and temperature (98° F) inside the egg-shaped digesters significantly reduce bacteria — making wastewater solids suitable for land application. Some wastewater treatment plants use lagoons, but the Theresa Street Wastewater Facility uses anaerobic egg-shaped digesters that are a familiar sight just south of the

Salt Creek Bridge west of 27th and Cornhusker. The City of Lincoln Wastewater and Solid Waste Division maintains the Theresa Street Wastewater Facility.

Biosolids are rich in nutrients that crops need to grow so it would be a waste to discard this resource. Instead, biosolids are used by area farmers to fertilize their crops. Since 1992, University of Nebraska Cooperative Extension in Lancaster County has coordinated distribution and

application of biosolids to agricultural cropland. To date, the Biosolids Land Application Program has worked with 55 crop producers to safely apply more than 300,000 tons of Lincoln's biosolids, while improving soil and increasing crop yields in the process.

Farmers interested in applying biosolids should contact Barb Ogg or Dave Smith of Lancaster County Extension at 441-7180 or attend the upcoming March 3 workshop (see below).

## Fertilizing Cropland With Biosolids

An Educational Workshop about Lincoln's  
Biosolids Land Application Program

All interested persons are invited to attend a free biosolids workshop on March 3 from 3:30 to 8:30 p.m. Preregistration is required — call Karen Wedding at 441-7180 by March 1.

Participants will:

- Tour the Theresa Street Wastewater Facility and learn how wastewater is processed and made safe for application.
- Learn how regulations determine application rates and locations.
- Learn how GPS and GIS technology is used in Lincoln's Biosolids Program.
- Learn how biosolids improves soil tilth, especially on poor or eroded soil.
- Learn how biosolids usually increases crop yields for several years after just one application.

Meet at 3:30 p.m. at the Lancaster Extension Education Center, 444 Cherry Creek Road, Lincoln. The group will then tour the Theresa Street Wastewater Facility and return to extension for dinner and educational program.



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CHANGE SERVICE REQUESTED

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