Department of the Environment

Facts About...

Sewage Sludge

Sewage Sludge Utilization in Maryland

WHAT IS SEWAGE SLUDGE?

Sewage sludge (also known as biosolids) is not sewage. It is one of the final products of the treatment of sewage at a sewage (wastewater) treatment plant. After treatment breaks down the organic matter and kills disease-causing organisms, the remaining fine particles ultimately become sewage sludge. Although much of the water has been removed, sewage sludge for farmland application is still mostly water and resembles mud.

HOW IS SEWAGE SLUDGE USED?

Each year about 650,000 wet tons of sewage sludge is generated in Maryland. There are five major ways that sewage sludge is utilized in Maryland. An estimated 23% of the sewage sludge generated in the State is applied to agricultural land, 10% is composted or pelletized and made into a commercial soil supplement, 2% is used for land reclamation such as restoring surface mines, and 53% is transported out-of-State. The remaining 12% is stored, incinerated, disposed in permitted landfills, or innovatively utilized.

WHY APPLY SEWAGE SLUDGE ON FARMLAND?

By applying sewage sludge on farmland, nutrients are being recycled, saving landfill space and disposal costs, and reducing reliance on chemical fertilizers. Sewage sludge, which may be available to farmers free of charge, is an excellent fertilizer because it contains nutrients such as nitrogen, phosphorus, magnesium, zinc, copper, iron, calcium, and sulfur that are beneficial to crops.

WHAT IS THE ROLE OF STATE GOVERNMENT?

The Maryland Department of the Environment (MDE) is the primary agency regulating the utilization of sewage sludge. Maryland Sewage Sludge Utilization (SSU) Permits are issued in accordance with State law and regulations. A sewage sludge utilizer submits an application for a SSU Permit to MDE. The application includes the results of soil and sewage sludge tests and other information used to ensure that all regulatory requirements are met. The utilization site is also inspected to ensure that the permit application is accurate. Provided that the SSU Permit Application meets the minimum requirements under the Code of Maryland Regulations (COMAR) 26.04.06, MDE must issue the SSU Permit with the applicable control measures. To support the administration of the sewage sludge program, sewage treatment plants are charged fees based on the amount of sewage sludge they generate and how it is utilized.

WHAT IS THE ROLE OF LOCAL GOVERNMENTS?

The issuance of a SSU Permit for agricultural land application is not dependent upon the applicant's compliance with local ordinances. MDE recognizes county rules, and any SSU Permit issued under State law would not prevent a county from enforcing local laws. County governments, who receive copies of every permit application, can review and comment on each application, request a public meeting, participate in site assessment visits, and inspect and monitor each site in their county.

WHAT IS THE ROLE OF THE PUBLIC?

Residents near a proposed sewage sludge application site or facility can attend a public meeting scheduled at the request of a local government. This is an opportunity to learn about the proposed project, to learn about MDE's permit application review process, and address any issues that residents may have about the project.

SEWAGE SLUDGE STATISTICS

Although MDE has issued about 5,000 sewage sludge permits since 1974, there have been no documented cases of ill health effects or water pollution from sewage sludge utilization on farms in Maryland. About 43,000 acres on about 300 farms throughout Maryland are currently permitted to receive sewage sludge.

HOW CAN YOU BE SURE SEWAGE SLUDGE APPLICATION IS SAFE?

MDE has set up the following requirements to ensure that use of sewage sludge on land is safe for both public health and the environment:

- **Pathogen Control** - Regulations require that sewage sludge is treated to reduce disease-causing organisms to safe levels.
- **Heavy Metals** - Regulations set maximum allowable heavy metal concentrations in sewage sludge and the maximum amounts that can be applied to land.
- **Pretreatment** - Industrial waste is treated to remove contaminants before being released to the sewer system.
- **Buffer Zones** - setbacks from 10 to 1,000 feet from various site features identified in the regulations may be required.
- **Slope Requirements** - Sewage sludge may not be applied on slopes greater than 15% unless approved by MDE.
- **Application Rates** - Application rates are calculated to ensure that crops use all sewage sludge nitrogen without excess runoff or leaching to the groundwater.
- **Nutrient Management Plans** - These required plans show the amount and kind of nutrients needed on each farm field and set a nutrient budget to ensure no excess nutrients are applied. This protects water quality by minimizing runoff.
- **Frozen Ground Restrictions** – Sewage sludge may not be applied to frozen ground.
- **Time Restrictions** - No grazing by animals for 30 days, no crops to be eaten raw by people for 3 years, and controlled public access for 12 months.
- **Monitoring Records** - Sewage sludge analyses are submitted by treatment plants, and records from applicators, site inspections, and treatment plants are reviewed by MDE.
- **Site Inspection** - Site inspections are conducted by MDE as part of the permit application review process, and local health department representatives are invited. MDE's goal is to routinely inspect all sites during and after the land application of sewage sludge to ensure compliance with permits conditions.

NEED MORE INFORMATION?

Please contact MDE's Sewage Sludge Utilization Section at (410) 537-3314 with questions regarding sewage sludge utilization in Maryland.