Biosolids Facts

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Q. Who regulates the generation and land application of biosolids in Pennsylvania and how can I be sure they protect my health and the environment?

A. The U. S. Environmental Protection Agency and the Pennsylvania Department of Environmental Protection (DEP) enforce clearly defined regulations that ensure the protection of human health and of the environment.

Biosolids are a nutrient rich organic material that results from the removal of solids during the treatment of municipal wastewater and septage from residential septic tanks. To develop national biosolids standards, the EPA conducted the most comprehensive risk assessment ever performed by the agency. The resulting regulations, which can be found in Title 40 of the Code of Federal Regulations [CFR], Part 503, require the protection of public health and the environment from any reasonably anticipated adverse effects of potential pollutants and pathogens in biosolids.

Requirements for Generators

Biosolids are regulated by the Pennsylvania Department of Environmental Protection (DEP). To land apply Class B biosolids in Pennsylvania, the generator of the biosolids (usually a municipal wastewater treatment facility or septage hauler) must obtain a general permit from DEP. Biosolids general permits are issued for a maximum of 5 years, at which time they may be renewed. This permit requires the generator to demonstrate that the biosolids produced at the facility meet all the quality standards for pollutants and for reduction of pathogens and vector attraction.

DEP and the U.S. Environmental Protection Agency have established quality standards for biosolids intended for land application. DEP's regulations include a permitting system that emphasizes biosolids quality standards and best management practices. The quality of the biosolids is assured through product testing and monitoring to verify that the requirements for pathogen reduction, vector (insect) attraction and pollutants are met. Only by meeting the quality requirements can treated wastewater solids be considered a biosolids product that may be safely applied to the land.

The generator also must demonstrate that each application site meets strict standards for application rates, site suitability and management practices and must secure written permission from each landowner where land application is proposed. Permittees must keep detailed records of biosolids quality testing results and land application data, such as agronomic loading rates and cumulative pollutant loading rates at each application site.

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Requirements for Land Application of Class B Biosolids

Significant regulatory requirements are placed on Class B biosolids that are land applied. These fall under the categories of general requirements, management practices and site restrictions.

General Requirements

- Cumulative pollutant loading must be determined for each of the regulated elements. Any prior biosolids applications made to the site must be included in the determination. Once the cumulative loading limit is reached for any of the elements listed, no further biosolids applications may be made to that site.
- Biosolids may only be applied at reclamation sites if the reclamation activity is approved or permitted by DEP.
- Written consent of the landowner must be obtained before biosolids are applied to the land.
- At least seven days before biosolids are applied, the occupant of the land must be provided with written instructions that describe the acceptable uses and limitations of the biosolids.
- At least 30 days prior to the first application of biosolids at a site, written notification that includes a brief description of the operation, site restrictions, and name and permit number of the biosolids applicator must be provided to: (1) adjacent landowners, (2) the County Conservation District, and (3) the Department of Environmental Protection regional office.
- Before any biosolids are applied to a site, a representative soil sample must be obtained. At a minimum, the sample must be analyzed for pH and for the regulated constituents.
- The generator of the biosolids must supply written notification of the material's total nitrogen content (on a dry weight basis).

Management Practices

- Biosolids may not be applied to land if it is likely to adversely affect a threatened or endangered species or its designated habitat.
- Biosolids may not be applied to land that is frozen, snow covered or flooded.
- Biosolids may not be applied to agricultural land that is:
  - within 100 feet of a perennial stream
  - within 100 feet of the edge of a sinkhole
  - within 300 feet of an occupied dwelling unless the current owner provides a written waiver
  - without an implemented erosion and sedimentation control plan or a farm conservation plan
  - within 300 feet of a water source unless current owner provides written waiver
  - within 100 feet of an exceptional value wetland
  - within 11 inches of the seasonal high water table, nor within 3.3 feet of the regional groundwater table.

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- Biosolids may not be applied to agricultural land with slopes greater than 25 percent or to reclamation land with slopes greater than 35 percent.
- Biosolids may not be applied to soil with a pH of less than 6, unless the material will increase the soil pH to 6 or greater within six months following application.
- Biosolids may not be applied at rates greater than the agronomic rate (based on the nitrogen requirement of the crop to be grown).
- Biosolids may not be applied at a farm where resident animals produce sufficient manure to meet the farm's nitrogen needs, unless a management plan that allows for off-farm uses of the manure is implemented.
- When land-applying biosolids, the applicator must display the permit number on the side and rear of each vehicle used.
- Biosolids used for land reclamation must be incorporated within 24 hours of application.

Site Restrictions

- These restrictions are intended to minimize the risk that pathogens will be transferred from biosolids to humans or animals. They apply specifically to Biosolids that is Class B with respect to pathogen reduction, not to all non-EQ biosolids.
- Food crops with harvested parts that touch the biosolids soil mixture and that are totally above the land surface may not be harvested for 14 months after application of biosolids.
- Food crops with harvested parts below the land surface may not be harvested for 20 months if the biosolids was on the soil surface for at least four months prior to incorporation, or for 38 months if the biosolids was incorporated within four months of application.
- Food, feed, and fiber crops may not be harvested for 30 days after application of biosolids.
- Animals may not be allowed to graze on land for 30 days after biosolids are applied.
- Turf grown on land where biosolids has been applied may not be harvested for one year after application of the biosolids if the turf will be placed on land with a high potential for public exposure or on a lawn.
- Public access to land where Biosolids has been applied must be restricted for one year if the site has a high potential for public exposure, and for 30 days if the site has a low potential for public exposure.

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