

My neighbor plans to use biosolids.
What do I need to know?



HRSD

If your neighbors plan to apply biosolids on their farm, you can be sure they have carefully researched the benefits and safety of this organic fertilizer and soil amendment. After all, their family lives and works right where the biosolids will be applied and their livelihood depends on the productivity of their soil and the health of their livestock.



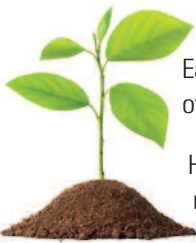
Family farmers in Hampton Roads, Virginia and the nation have been applying biosolids on their farm fields and forests for decades. For them, the agricultural benefits are compelling—they have learned that biosolids are rich in nitrogen and other essential plant nutrients, they improve the quality of soils, they are safe and they are good for the environment.

Biosolids are a by-product of the wastewater treatment process so they have a certain “yuck” factor for some people, especially non-farmers who are not familiar with many agricultural practices. Because of this and occasional temporary odors, some question biosolids’ use on farms and in the production of other soil amendments, such as compost.

As a major protector of the public health and the waters in the Hampton Roads area, HRSD is committed to answering any questions you may have about our biosolids. We believe that once you have the facts—like our farmers—you’ll agree that recycling biosolids is good for our environment, our public health and the future of our family farms.

What are biosolids?

When wastewater is cleaned, what’s left is a nutrient rich organic byproduct, called biosolids. HRSD has been recycling its Nutri-Green® biosolids to family farms in Hampton Roads for more than 30 years.



Each year, Nutri-Green® biosolids are applied to over 2,000 acres of farmland located in the cities of Virginia Beach and Chesapeake.

HRSD safeguards biosolids quality before the wastewater even reaches our treatment plants. We strictly enforce source control regulations to ensure wastewater generated by industry and businesses is compatible with the treatment process and HRSD recycling objectives. We also provide educational programs for businesses and individual households to reduce the input of problem materials and compounds, such as pharmaceuticals, into the waste stream.

Once wastewater arrives at a treatment plant, it goes through extensive physical, chemical and biological processes that clean the wastewater and remove solids. The cleaned water is returned to local receiving waters. The remaining solids are further treated and processed into biosolids. The result is a nutrient rich organic material that can be used to fertilize area farms and as an ingredient in compost.

HRSD chooses to recycle the Nutri-Green® biosolids generated at its Atlantic Treatment Plant because it is the best option for recycling this valuable nutrient, protecting the environment and public health and for providing quality wastewater treatment to the community.

Preserving Family Farms

The agricultural benefits of biosolids have been documented by decades of scientific studies and through the practical experience of thousands of farmers. Crops need a complex mixture of nutrients, fertile soil and water. Biosolids contain many essential plant nutrients, including the primary macronutrients nitrogen, phosphorus and, to a lesser extent, potassium; the secondary macronutrients magnesium, calcium and sulfur; and micronutrients such as copper, zinc, iron, manganese, molybdenum and boron.



Organic matter in biosolids improves soil quality, reduces compaction, increases the water-holding capacity, and provides an energy source for microbial activity. It also reduces the farmers' dependence on chemical fertilizers, reducing water runoff and soil erosion, while increasing the drought resistance in crops.

Farmers who use Nutri-Green® biosolids on their farms have been carefully selected by HRSD for using sound farming practices that protect soil and water resources. They also agree to follow a nutrient management plan, which maximizes a crop's ability to use the nutrients while minimizing loss to the environment. We also believe our farmers should be good responsible neighbors. If farmers near you are using our Nutri-Green® biosolids, or planning to use them, we encourage you to talk to them directly.



Applying Nutri-Green® biosolids produces significant agricultural and economic benefits. A typical application of Nutri-Green® biosolids will provide approximately \$200 per acre in savings to the farmer, compared to purchasing commercial fertilizer. Given today's challenging farming environment, such savings can mean the difference between staying in farming or selling the land for residential or commercial development.

Biosolids do not harm streams and groundwater.

Federal and state regulations, agricultural best management practices and nature provide multiple layers of protection for our streams and groundwater. Studies also show that biosolids can help to reduce runoff into our streams and leaching into groundwater. Virginia regulates how biosolids are applied to prevent impacting streams or groundwater. Studies have demonstrated that biosolids applied according to current EPA and Virginia standards pose no risk to the streams and groundwater.



Biosolids help soils and crops. Biosolids enrich the soil with essential nutrients and add needed organic matter to the soil. Biosolids contain many essential plant nutrients, including the primary macronutrients nitrogen, phosphorus and, to a lesser extent, potassium. Biosolids supply these needed elements to plants more slowly than commercial fertilizers, at the proper time when they are most needed.

Biosolids may smell, but are not harmful. Biosolids may have their own distinctive odors. As with many organic materials, biosolids odor is caused by compounds containing sulfur and nitrogen, which are produced when proteins in biosolids break down. Biosolids odor is only temporary, and the odors are not harmful.



Biosolids do not harm humans, pets or wildlife.

In Hampton Roads, HRSD's Nutri-Green® biosolids are generally immediately incorporated into a farm's soil, thereby reducing possible direct contact. While there is typically an odor associated with the land application of biosolids, the odors are not harmful to humans or animals.



Tracking of dirt or biosolids on roads is not harmful.

Drivers of trucks used to deliver biosolids to farms are expected to clean any dirt or biosolids off tires or mudflaps before they leave the application site. Occasionally, however, some material may be tracked out to the paved road. While this is not harmful, we recognize that such tracking is not attractive and we ask that it be reported to us. Please call 757-460-7056 immediately so the material can be cleaned up promptly.





For more information

HRSD is committed to being a good neighbor and to providing you with the information you want about Nutri-Green® biosolids or any aspect of our operations. We are happy to speak with you individually and can meet with your organization or neighborhood group.

For more information, contact:

The HRSD logo consists of the letters "HRSD" in a bold, blue, sans-serif font. The letters are set against a background of two horizontal lines: a green line on top and a blue line on the bottom. The letters are partially enclosed by these lines.

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Scientific Research and HRSD's Progress Farm

The management of biosolids to minimize environmental and health risks has been the focus of hundreds of university research studies conducted for many years. The results of this extensive research show that biosolids can be safely applied to farmland without harm to the environment or to human and animal health.

HRSD's Progress Farm in Virginia Beach is at the forefront of biosolids research efforts currently underway in Virginia. For more than 30 years, HRSD has been cooperating with Virginia Tech scientists to research the environmental safety of biosolids. Since beginning its research at the Progress Farm, neither HRSD nor Virginia Tech has identified any public health, environmental or safety issues resulting from the application of Nutri-Green® biosolids.

Regulations in Virginia

The Virginia General Assembly has enacted numerous laws to regulate the production and beneficial use of biosolids, based on the EPA's regulations on biosolids use and solids disposal (Part 503 Rule). The Virginia Department of Environmental Quality (DEQ) has the primary responsibility for regulating the beneficial use of biosolids in Virginia. DEQ maintains a professional staff that oversees the operation of wastewater treatment facilities in Virginia and the production of biosolids. DEQ also provides oversight to all land application activities that include the use of mandatory buffers to protect wells, water bodies, streams and environmentally sensitive areas.



- **Providing Essential Plant Nutrients**
- **Protecting the Bay**
- **Preserving Family Farms**



Additional Resources

www.hrsd.com

www.deq.state.va.us

www.virginiabiosolids.com

www.wef.org

www.werf.org