
BIOSOLIDS: QUESTIONS & ANSWERS

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Q. How do biosolids benefit Virginia's forests?

A. The application of biosolids enhances tree health, promotes growth and can improve wildlife habitat and protect water quality.

Virginia's forests are a resource that enhances the quality of life for all our citizens, both for our economy and our environment. Nearly two-thirds of the Commonwealth's 15.7 million acres of forestland are privately owned. This natural resource represent a significant source of income from the annual harvesting of timber for construction, furniture and flooring and a wide array of forest-related products, including packaging, paper and chemicals. In Virginia, forest products contribute more than \$50 billion each year to our economy and provide employment for an estimated 250,000 people. In addition, forests protect our soils and streams from runoff and help clean our air.

But as our population grows and forestlands are lost to suburbanization and development, our forests are under increasing pressure sustain multiple uses, including wildlife habitat, recreation, environmental protection and timber production. To accomplish these tasks, today's forestland owners are increasingly employing modern forest management practices, which include the application of biosolids.

Application of biosolids to forestland is recognized as an effective method of fertilization and soil conditioning. Biosolids enhance tree health, promote growth and can improve wildlife habitat. When best management practices (BMP) are used, research shows that biosolids can help protect water quality.

Pine forests in the Piedmont and upper Coastal Plains areas of Virginia are well suited to land application of biosolids, since most of these forests are located in nutrient deficient soils.

How they work

- Biosolids provide nutrients (especially nitrogen and phosphorus). Forest soils have relatively small quantities of nutrients, which can inhibit tree productivity. The fine particles and organic matter found in biosolids can enhance soil moisture and nutrient-holding characteristics.
- Research shows that most tree species grow faster when applied with biosolids. While some respond dramatically, others may show only a slight response.
- Within six months of a biosolids application, understory plants are usually growing much more vigorously and displaying a deeper green color than before the application. Increased understory vegetation due to biosolids fertilization is also typically higher.

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- Biosolids forest research conducted through Virginia Tech's School of Forestry on application techniques, growth response and environmental effects has provided Virginia forestland owners with the technical information required to embark on operational programs. Current research topics include stability of dewatered biosolids on new and established forests, improvement of water quality, soil quality improvement and erosion impacts in forested watersheds.

Applying biosolids to forests involves following proper best management practices (BMPs). These practices include carefully selecting and designing sites, maintaining buffers from waterways and developing and implementing a nutrient management plan.



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