



## WHAT ARE BIOSOLIDS?

Biosolids are the final product created through multiple, scientifically -proven sewage sludge treatment processes. Generated by thousands of publicly owned municipal wastewater treatment facilities all across the country, biosolids are safe to recycle and are rich in plant-available nutrients.

Since every community must process the wastewater generated by its population, recycling biosolids for added benefit to agriculture and horticulture makes sense. Biosolids can be safely applied to soil as a fertilizer or soil conditioner to improve and maintain agricultural and forest lands as well as to restore damaged acreage.

Biosolids processing has resulted in the rapid and remarkable cleansing and restoration of America's rivers and streams.

## IS BIOSOLIDS RECYCLING SAFE? HOW DO WE KNOW?

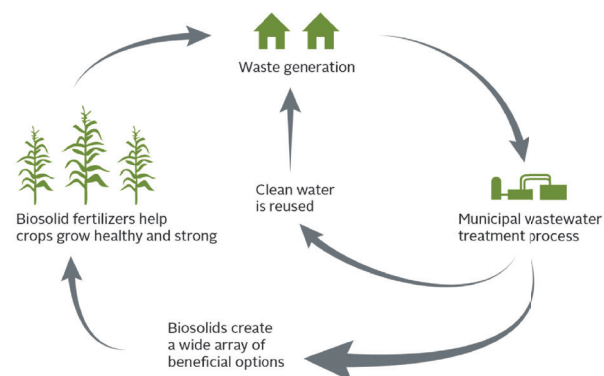
Yes! Federal and state standards and management practices for biosolids recycling were developed from a detailed, scientific risk assessment completed by the U.S. Environmental Protection Agency (U.S. EPA). Input included research and expertise from the U.S. Department of Agriculture and premier universities including the Universities of Arizona, California, Colorado, Florida, Maine, Michigan, Massachusetts, Minnesota, New Hampshire, Oregon, Vermont and Washington; Colorado State, Cornell and Pennsylvania State Universities and The Ohio State University. The safe use of biosolids has been confirmed by studies performed by the National Academy of Sciences.

## WHAT DO "CLASS A" AND "CLASS B" MEAN?

The federal Clean Water Act Part 503 regulations identify two classes of pathogen reduction.

**Class A:** Class A biosolids undergo a "Process to Further Reduce Pathogens (PFRP)." Many Class A biosolids products are available in local home and garden stores and can be used on home lawns and gardens, parks and golf courses and other places where public contact is likely. Class A biosolids products include composted biosolids, lime-pasteurized biosolids and fertilizer pellets. Class A biosolids products are sometimes ingredients in soil amendments, potting soils and slow-release fertilizers.

**Class B:** Class B biosolids undergo a "Process to Significantly Reduce Pathogens (PSRP)." This means that while pathogens are significantly reduced to levels which are often below those found in animal manures, additional Best Management Practices (BMPs) are required at the site where they are used. Class B biosolids are used in bulk as fertilizers in agriculture and forestry and to reclaim land. Site permits are often required for Class B biosolids use.





#### **SYNAGRO**

When you are looking for the best biosolids and residuals solutions to serve your business and community, Synagro has the solutions to help you succeed. Municipalities and industrial organizations like yours that want to make the best use of organic waste turn to Synagro.

Across the U.S., Synagro applies expertise and innovative technology to provide resource recovery solutions that meet the unique needs of customers and communities.

#### **WHO WE ARE**

Synagro is the country's preeminent provider of biosolids and residuals solutions services since 1986.

Headquartered in Baltimore, Maryland, we employ over 800 people in 34 states and service more than 600 municipal and industrial water and wastewater facilities.

#### **HOW WE CAN HELP**

Synagro provides a comprehensive scope of customer-focused solutions. Our experienced staff members provide solutions for all aspects of biosolids and residuals management needs, from land permitting and soil analysis by our nationwide technical services team to facilities development by our in-house engineering staff.



## **YOUR PARTNER FOR A CLEANER, GREENER WORLD**

#### **WHAT ABOUT PATHOGENS IN CLASS B BIOSOLIDS?**

Exposure to environmental conditions such as heat, sunlight, desiccation and native soil organisms destroy pathogens that may be present in biosolids. As noted by the National Research Council of the National Academy of Sciences, there have been no reported outbreaks of infectious disease associated with exposure to properly treated and utilized biosolids.

#### **WILL THE USE OF BIOSOLIDS ADVERSELY IMPACT NEARBY SURFACE WATERS AND/OR GROUNDWATER?**

No. Properly treated and managed biosolids products do not have a negative impact on surface water or groundwater quality. As with fertilizers, soil amendments and manures, Best Management Practices (BMPs) must be followed to prevent impacts through surface water runoff or leaching to groundwater. By law, biosolids recycling programs must follow such BMPs. Numerous biosolids recycling programs have caused documented improvements in the quality of surrounding water bodies by enriching soils and helping vegetation grow more vigorously. This results in reduced soil erosion and stabilization of on-site contaminants that had previously contributed to stream and groundwater pollution.

#### **ARE THERE RULES ABOUT WHERE BIOSOLIDS CAN BE APPLIED?**

There are different rules for different classes of biosolids. Class A biosolids are highly processed and contain significantly reduced levels of pathogens. Once processed, Class A biosolids that meet strict stabilization requirements and low-levels metals content may be sold as a fertilizer or soil conditioner. For Class B biosolids, a combination of treatment and site restrictions are designed to protect public health and the environment. There are buffer requirements, public access restrictions and crop harvesting restrictions for virtually all forms of Class B biosolids.

#### **WILL THE VALUE OF MY PROPERTY BE ADVERSELY IMPACTED IF BIOSOLIDS ARE USED IN MY NEIGHBORHOOD?**

No. Studies have shown that biosolids are beneficial. By using biosolids, farmers and other landowners are managing the nutrients and processes on their properties more carefully and responsibly than the average landowner. In addition, those who use biosolids may be benefiting from a more efficient fertilizer option and helping their farm fields or other open land to be more profitable. The more profitable their operations are, the more likely it is that farmers and other landowners will keep their properties green.

#### **WHAT ABOUT ODORS?**

Properly treated biosolids have a temporary, earthy smell. Most Class A biosolids products, e.g., compost, fertilizer pellets, are basically odor-free or have a slight earthy smell. Some bulk Class B biosolids products have odors similar to animal manures used to fertilize farm fields. As with manures, when bulk Class B biosolids are land-applied, some odors are possible, but they are temporary.

#### **HOW CAN I KNOW THAT BIOSOLIDS ARE BEING PROPERLY MANAGED?**

Most wastewater treatment facilities are public and share their testing and process information willingly. You can learn more about biosolids recycling by contacting your local wastewater or biosolids treatment facility or the U.S. EPA website at [www.epa.gov](http://www.epa.gov).



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