A Guide to Biosolids Issues

Biosolids are a nutrient-rich end-product of the wastewater treatment process and have gone through a pathogen reduction process, as well as removal of other constituents depending on their chemical make-up. They contain nitrogen, phosphorous and organic matter as well as essential micro-nutrients which are important for plant growth and soil fertility.

Recycling this valuable resource benefits farmers and society. Farmers receive a substantial economic benefit because biosolids provide nitrogen, phosphorous and other micro-nutrients that they would otherwise have to purchase to grow their crops. Society benefits from this practice through reductions in landfill space requirements and greenhouse gas emissions.

Regulatory Framework

The recycling of biosolids or land application is a safe practice when done in accordance with the current regulatory framework. It is governed by provisions set out under the *Ontario Water Resources Act,* the *Environmental Protection Act,* and the *Nutrient Management Act.*

Key requirements under the regulations include:

- Government approval of the treatment process;
- Laboratory analysis of the biosolids and receiving soils to ensure they meet quality standards;
- Government approval of the fields that receive biosolids, the maximum amount that can be applied and the applicable methods;
- Government certification and licensing of persons involved in transport and land application; and
- Detailed recordkeeping, site inspections and reporting to government.

Many decades of experience and research by reputable scientific bodies consisting of world-renowned soil, water and human health scientists at the

United States National Research Council, the U.S. Academy of Sciences, Environment Canada, the University of Guelph and other academic institutions worldwide has been accumulated. That existing body of knowledge is driving the regulatory framework and demonstrates that the beneficial land application of biosolids poses a negligible risk to human health and is becoming consistently safer.

Additional research is necessary and will always be necessary to continue improving the process, just as further study is required on much more widely used fertilizers such as manure and others.

Beyond the Regulatory Requirements

Municipalities and companies involved in the land application of biosolids continue to help make agricultural use a success by taking actions to improve or enhance the benefits and at the same time provide greater protection of public health and the environment. These actions include:

- Implementing municipal sewer-use bylaws and household hazardous waste programs to reduce the amounts of contaminants that enter wastewater treatment plants;
- Using improved biosolids treatment processes;
- Developing new land application technologies;
- Adopting Environmental Management System operating procedures and best management practices; and
- Placing greater emphasis on public communication.

There are other technologies used for managing biosolids but many, including incineration, require considerable budgets to build and maintain. The land application of biosolids is a cost effective practice that has been used all over the world and is the major use chosen for Ontario at this time.

Want More Information?

To learn more about sewage biosolids visit these web sites:

Canadian Biosolids Partnership
http://www.cwwa.ca/cbp-pcb/home/home_e.asp

National Biosolids Partnership
http://www.biosolids.org

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Water Environment Association of Ontario
http://www.weao.org/committees/biosolids/biosolids.html

Water Environment Federation (WEF)
http://www.wef.org

Ministry of Agriculture, Food and Rural Affairs
http://www.omafra.gov.on.ca

Biosolids Utilization Committee
http://www.gov.on.ca/OMAF/english/environment/biosolids/contacts.htm

Ministry of the Environment
http://www.ene.gov.on.ca