

Pilot Summary



YCUA Biosolids Composting Pilot

A Project of the
Ypsilanti Community
Utilities Authority
(YCUA)

Prepared by
Resource Recycling
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Biosolids composting is undergoing an intensive evaluation as the Ypsilanti Community Utilities Authority (YCUA) approaches completion of an 18-month pilot project. Ultimately the pilot will help YCUA determine the viability of a full-scale composting effort.

YCUA treats 22 million gallons of wastewater per day for eight townships and one municipality, producing some 25 tons of biosolids per day. The composting pilot plant will process some 800 wet tons of biosolids through a series of 10 trials.

The Authority is using an enclosed, agitated-bay system to measure a range of operating parameters. Extensive testing is also measuring air quality at the facility, odor control and product quality. When the pilot trials are completed in late summer 2000, YCUA will have conducted thousands of tests at various stages of the composting process, measuring levels of metals, volatile organic compounds, nutrients, pathogens and other parameters. Operators are experimenting with various mixes of biosolids and amendment such as wood chips and leaves, and carefully monitor turning schedules, pile temperatures, odor generation, aeration, mixing and final screening and curing. Seasonal variations of material flow, operating circumstances and potential markets for the finished compost, are being evaluated. A biofilter that processes air from the compost facility is also being studied for its effectiveness in removing odors.

The biosolids composting pilot project will help YCUA gain direct operational experience before procuring a full-scale system, while establishing composting as a comprehensive means of biosolids management that is both safe and beneficial.

Beneficial Use

Composting is a beneficial use, taking advantage of the nutrient, soil-enhancing and fuel properties of biosolids, which have been demonstrated through years of laboratory analyses, research studies and field tests. The nutrient content of biosolids-derived products compares favorably with chemical fertilizers and is less expensive to produce. Physical characteristics of soils, such as water-holding capacity, improve when composted sludge is added. Potential users of the finished compost product are currently being identified.

Environmental Effects

To ensure that biosolids are treated and appropriately managed, the U.S. Environmental Protection Agency (EPA) has comprehensive national standards to reduce the risks and maximize the benefits of land application of biosolids, 40 CFR Part 503, commonly referred to as "Part 503". YCUA is also working with the Michigan Department of Environmental Quality to determine the best approach for ensuring environmental protection. The YCUA compost facility is the first of its type in Michigan, although more than 250 operate nationwide.

For more information contact RRSI at 734-996-1361