New York State
Environmental Investment Program
Research Project Summary

Center for Integrated Waste Management
SUNY at Buffalo/Research Foundation

Background

The use of Tire-Derived Aggregate (TDA) in onsite wastewater treatment systems (OWTS) is serving as an important tire recycling option in many states. OWTS are commonly known as a "septic systems." The shredded tires replace natural stone aggregate, which is in short supply in some regions while scrap tires are abundantly available almost everywhere. However, utilization of TDA for this purpose in New York State has required substantial research and demonstration of its effectiveness.

In 2000, the State University of New York at Buffalo's Center for Integrated Waste Management (CIWM-UB) designed and installed the first, full-size septic system using TDA in the State. Located in Niagara County, the demonstration included several controls that allowed for comparison of traditional stone aggregate systems with those using TDA. Despite the positive results of this project marketplace acceptance lagged, primarily due to statewide health regulations that have not allowed the substitution of TDA for stone. Anticipating a change in those regulations, this most recent project investigated how to expand market acceptability and use of TDA in septic systems.

Project Description and Results

Designed to answer key questions about the long-term acceptability of TDA in OWTS in New York, this project led to the following conclusions:

a) Capacity: In-state scrap tire processors are interested in supplying TDA for OWTS and, with some modest modifications to existing operations, could meet proposed Department of Health (DOH) specifications for TDA.

b) Distribution: New York's significant scrap tire processors, located in three regions of the state (western, central and eastern), and several out-of-state processors in close proximity to the New York market, can provide enough TDA to meet the potential, long-term demand that would result from acceptance of this application.

c) Performance: Excavation and sampling of the CIWM-UB demonstration system showed that TDA absorption trenches worked equally as well or superior to stone counterparts, with the possible exception of locations directly below the TDA/soil interface, where higher metal concentrations were observed. These concentrations were not expected to be a health concern.

d) Acceptance: Local environmental health officials indicated substantial interest in the use of TDA in septic systems based on the materials' beneficial physical properties and on the environmental benefit of serving as a viable market for discarded tires. The local officials are awaiting amendments to State DOH regulations to specify TDA in this application before moving forward to permit its use in their jurisdictions. The DOH amendment process is underway.

e) Incentives: The CIWM-UB final report recommends that state funds be made available to help offset upfront production and testing costs for TDA used in the first 10-15 residential septic systems installed in targeted areas.

f) Promotion: A combination of electronic and print media, public presentations, and an instructional display should be employed to educate possible end-users such as homeowners, system designers, and installers about using TDA in OWTS.

Full results of the demonstration projects are available at www.tdanys.buffalo.edu.

Contractor:	Center for Integrated Waste Management Univ. at Buffalo/ Research Foundation	**NYS EIP Investment:**	$200,000
County:	Erie	**Contractor Match:**	$ 97,080
ESD Region:	Western New York	**Total:**	$297,080
ESD Contact:	518/292-5340	**Completion Date:**	March 2007