

## Coal Byproducts Promising As Lining In Livestock Waste Lagoons

LONDON, Ohio — A byproduct from coal-burning power plants may soon replace clay as a liner for livestock waste lagoons, said Tarunjit S. Butalia, research associate at Ohio State University's department of civil and environmental engineering and geodetic science.

Laboratory tests have shown the coal byproduct — called flue gas desulfurization or FGD — resists the flow of water. Researchers finishing up the first year of a three-year project are optimistic that FGD could be used in place of clay to line livestock waste lagoons.

"There are spots in Ohio where good clay is not abundant to use as a liner, and it can be expensive to buy and transport clay to these areas," Butalia said. "FGD could be used instead."

The expectation is that FGD will be made available to farmers for free at source plants.

Butalia and Ohio State civil engineering professor William E. Wolfe will discuss the use of FGD

as an impervious liner for swine and other livestock waste lagoons at the Farm Science Review on Thursday, Sept. 18, at 11:30 a.m. in the Bailey Building.

A full-scale demonstration lagoon being built at Ohio State's Ohio Agricultural Research and Development Center's Western Branch in South Charleston will test the effectiveness of a field-compacted FGD liner, Butalia said. Water will be added to the lagoon during the first year, and the permeability of the FGS liner will be measured.

Livestock waste will be added and monitored in the second year. Then, the lagoon will serve as a storage facility for livestock waste at the branch, Butalia said.

"The lagoon will be completed by the start of the Review, so if there is enough interest from people during our presentation, we will arrange a tour," he said.

The OARDC Western Branch is only about 20 miles from the Farm Science Review.

"Hopefully, if everything goes

well, the Environmental Protection Agency will approve FGD as a lagoon liner soon," Butalia said. "FGD has already been approved by the Ohio EPA for use in constructing cattle feedlots and hay storage pads."

Large scrubbers at some Ohio plants can produce about 22 tons of the byproduct per hour. Annually, 3 to 4 million tons of the material are created statewide.

The byproduct has generally been landfilled. But increasing landfill costs and limited landfill space prompted utility companies and Ohio State researchers to begin searching for ways to effectively reuse the material, Butalia said. FGD also is being considered as a liner for recreational ponds, constructed wetlands, and landfills.

FGD research at Ohio State is being done in collaboration with Hocking Technical College in Nelsonville. The project is sponsored by the Ohio Coal Development Office, American Electric Power, Dravo Lime Company,

Ohio Farm Bureau Federation, Ohio Pork Producers Council, Ohio Cattlemen's Association, Ohio Poultry Association and several other agricultural and industrial organizations.

For more information about the use of FGD as impervious liners, interested people can view its website (<http://www-ltap.eng.ohio-state.edu/liner/>).

The Farm Science Review is sponsored by Ohio State's College

of Food, Agricultural, and Environmental Sciences and takes place at the Molly Caren Agricultural Center near London, Ohio. Tickets are \$4 in advance and \$6 at the gate and can be purchased from agribusinesses and county offices of OSU Extension. Children 12 and younger get free admission. Hours are 8 a.m. to 5 p.m., Sept. 16-17 and 8 a.m. to 4 p.m., Sept. 18.

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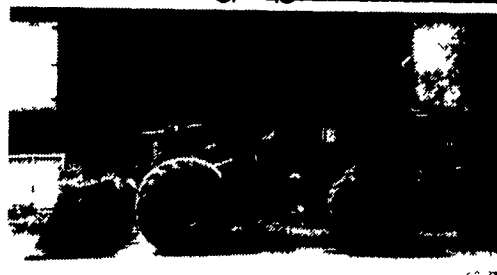
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