

Sludge brings farmers, gov't people together

BY SHEILA MILLER
HERSHEY — It looked like a basket stuffed with apples and oranges as close to 100 farmers and government personnel filled a log cabin meeting room to the seams, here at Camp Milton on Wednesday.

It was strictly standing room only as the interested participants in a sewage sludge forum listened intently as local experts told about the how's, why's and wherefore's of using the waste on agricultural land.

Penn State's Raymond F. Shipp, an associate professor of agronomy and co-author of Special Circular 255, Land Application of Sewage Sludge for Crop Production, recommended to farmers interested in applying sludge to their land that they "know what's in the sludge."

He pointed out that "sludge is as effective as livestock manure and chemical fertilizers and should be recognized as an alternative resource for growing crops." However, he stressed the fact that sludge is not a complete fertilizer being low in potassium, with only a somewhat higher analysis for nitrogen and phosphorus.

Another reason farmers should be aware of what is in the sludge is because of potentially harmful heavy metal content. He referred to Special Circular 255 and noted the recommended lifetime application rates for zinc, copper, chromium, lead, nickel, and cadmium.

These rates, he said, comply with the regulations of state and federal environmental agencies. If sludge is found to contain a harmful amount of metals, there is "no refinement procedure to treat sludge that's cost effective to get it to meet the Department of Environmental Resources standards."

Representatives from the

state's environmental agency, DER, were on hand to pass along the bureaucratic reasons for where, when, how much and how long sludge can be used for agricultural purposes.

They pointed out the rules governing land application of sludge are not new. The original regulations were spelled out in Act 241, and were recently incorporated in this year's Act 97. The DER representative clarified the fact that the rules have not changed - and Chapter 75 regulations are still the guidelines for the use of sewage sludge and septic tank waste.

In order for sludge to be applied to farm land, an application must be submitted to DER and a permit must be issued by the department. It was pointed out that usually the application is submitted by the local sewage plant or municipality.

In the several months it takes for a permit to be issued, DER makes sure the application site complies with all the criteria.

Soil profiles are checked to make sure the sludge will be incorporated without contaminating groundwater or flowing off bedrock. The land on which the sludge is to be applied cannot exceed a 12 percent slope unless the cropland is to be no-tilled. The pH of the soil must be 6.5 or higher. And the application of the sludge cannot create vector or insect problems.

When the sludge is being applied, the state governs how close it can be spread to a number of areas. They spell out that no sludge can be applied within 100 feet of streams, 300 feet of wells or water sources, 25 feet of bedrock outcrop, 50 feet of property lines, or 300 feet from an occupied dwelling.

And after the sludge is applied, detailed records must be maintained for at

least two years after the last application. The soils are required to be sampled annually, and the DER representatives recommended more frequent tests.

The DER representatives noted that conservation practices are carefully scrutinized when reviewing sludge applications. "We look at surface water management; and if we see any erosion gullies, we think twice about issuing a permit or put severe restrictions on it."

For farmers interested in spreading sludge on pasture, the DER representatives said it was doubtful. They pointed out present regulations restrict grazing for 2 months after the sludge is applied. And in most cases, pastures are on land that is off-drained so it wouldn't meet the standards anyway.

First hand experience in coordinating a sludge application program with local farmers was presented by William Horst of the City of Lancaster's Sewage Operations.

He told the group the sludge at the Lancaster plant is analyzed every six months. With a limit of 2.06 tons per acre application rate (maximum due to zinc content), the sludge will provide 54 pounds of nitrogen per acre along with 100 pounds of phosphorus per acre, Horst explained.

The Lancaster Plant, he said, produces 100 dry tons of sludge each month. Over the past summer, a pilot program was started with several farmers where sludge application was tested. Now the plant is hoping to cooperate with farmers within an 8 mile radius for the disposal of the waste.

With a truck called the Big A, Horst said the plant has the potential of applying 80 tons of sludge in an hour. The truck, equipped with



Nearly 100 farmers and government personnel looked on as the Big A sliced sludge into a Milton Hershey farm field on Wednesday during a sludge seminar.

flotation tires, injects the sludge at a depth of between 12 inches and 18 inches and handles the sludge as a semi-liquid.

The group of farmers and government officials then went out to a neighboring Milton Hershey farm to watch a sludge injection demonstration. They watched as the largest model injector of its type cut the sludge into the ground with a roar and a belching of diesel smoke.

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