Manure systems have to be built properly

Special Correspondent

CHAMBERSBURG "Whatever you build, do a quality job," says William J. Bowers.

An agricultural engineer from the Soil Conservation Service, Bowers was addressing a capacity audience attending the Regional Manure Conference on February 4 in Chambersburg. He spoke or sizing, site selection, construction and maintenance techniques for storing manure.

The Chambersburg conference was the first of four given in a "traveling road show" format in Pennsylvania. Conferences on subsequent days were scheduled for East Brandywine, Bethlehem and Lewisburg in a collaboration between the Soil Conservation Service and Penn State University.

If you had previously thought of manure management in terms of a pitchfork and shovel, one of these conferences was the place to be. Agricultural engineers and agronomists discussed storage and handling systems, compared costs and nutrient retention of manure systems and use of manure for crop production.

Bowers says good manure management is important for a number of reasons. "Manure storage helps to make maximum use of nutrients. The big item is nitrogen. If you put it out in the fields in January, very little nitrogen will be left by June."

system and if it is not properly utilized, farmers may unwittingly Environmental Resources.

first is the convenience of reinforced concrete spreading manure when weather storage." and scheduling allows. Then, with increasing fertilizer prices, "We type and location are suitability of have a real resource here and we soil, is the possible site on a flood pollutant.'

storage and a manure lagoon. A is something we have overlooked lagoon may be four to ten times larger than storage and is designed to break down solids and nutrients. But storage systems are designed to conserve nutrients and ultimately to be emptied.

Factors to be considered are the type, size and number of animals, type of bedding used, amount of wash water entering the system and the length of storage time Bowers noted the Soil Conservation Service considers six months the minimum time of storage. Barnyard runoff and storm rainfall amounts also need to be considered in sizing storage.

Site selection should be close to the source of manure. As much

clean runoff should be excluded as He adds manure handling is a possible while polluted runoff should be collected. Method of loading and unloading and existing cause pollution and incur possible handling equipment must be involvement by the Department of considered as well as personal preference of the farm operator Bowers enumerated the reasons As Bowers stated, "If you like for wanting to store manure. The reinforced concrete, build a manure

Other factors in deciding storage need to take advantage of it." plain, space available, distance to Thirdly, he says, "A nutrient not in a well or the nearest dwelling, the right place can become a direction of the prevailing wind and local regulations. One thing One area he discussed was the Bowers views as important is difference between manure vegetative screening. "I think this in the past. Remember, out of sight, out of mind."

Critical aspects in considering the use of holding ponds as temporary storage are the impermeability of the soil, depth to bedrock, type of bedrock and level of the water table. Bowers advocates the use of test pits to check the water table.

If you are using a gravity flow system to load a manure storage, Bowers says you must use little or no bedding. There must be six feet of elevation from the hopper to the full level in storage. Pipe size for a dairy operation is 24 inches or more and for a swine operation, six inches or more, with a minimum four feet of cover over the pipe.

Bowers also says manure must cover the pipe outlet before freezing weather.

If topography is right, you can use a gravity unloading system to get the manure to the spreader from the storage tank. You must slope the bottom of the storage to the outlet channel and use two gates, one as an emergency shutdown to avoid accidental unloading of the entire storage system.

"If you have a choice and can only go either loading or unloading with gravity, look at your system very carefully before you make the decision.'

In making decisions regarding storage, Bowers urged farmers to take stock of their operation.

"Build what you design," Bowers urged, "and operate it according to plan We want to see manure get to the crops '



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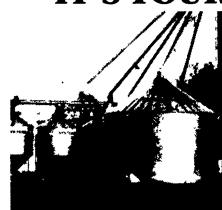
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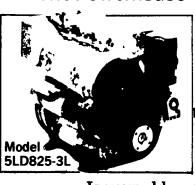
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