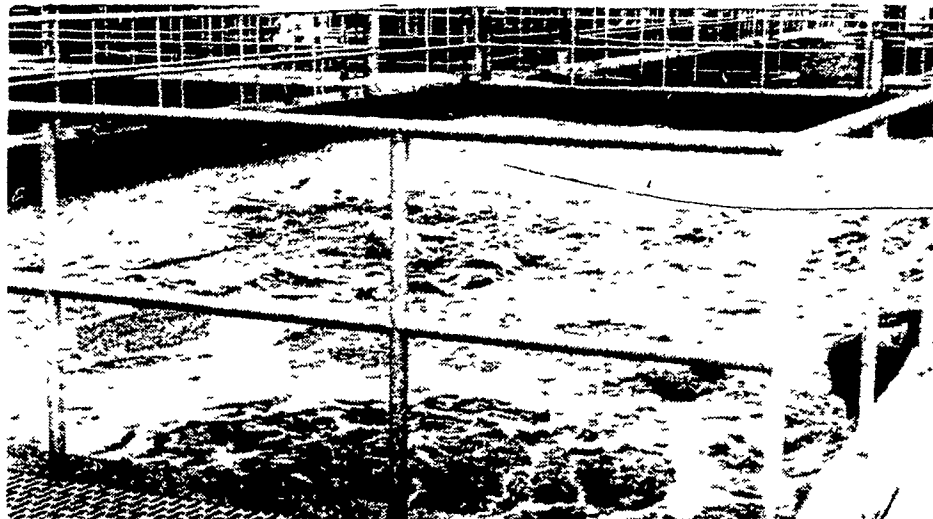


## Middletown sludge program survives ups and down



Sewage from the Borough of Middletown goes through a complex process of clarifying, disinfecting, and separating solids from water. It is mixed and digested until the end result in clean water and sludge.

MIDDLETOWN The sewage sludge program at the Middletown Treatment Plant (Dauphin County) has had its ups and downs in recent months. Early this year, it received some "bad press", according to Paul McCurdy, superintendent.

He explained the sludge had been stockpiled on one of the recipient farms and neighboring residents began complaining about an odor.

McCurdy said he drove by the stockpiles at various times and never noticed any odor.

But, the problem was soon alleviated as the sludge was applied to the cropland and incorporated. McCurdy admitted they've had their share of growing pains — there's a lot to learn about public relations and recycling sludge.

"The sewage that comes into our plant needs to be cleaned up before the water can be discharged into the Susquehanna River," he said. "Cleaning up the water is the easy part — getting rid of the sludge is the difficult part."

Somewhat frustratingly, McCurdy explained "sludge is considered guilty until it's proven innocent through extraction procedure toxicity tests done by consulting engineers."

He noted the sludge coming into the Middletown plant is from over 90 percent domestic sources with only a small contribution from industry. Concerning the possibility of hazardous metals in the sludge, McCurdy stated, "We're way below the allowable limit — it's a remarkably clean sludge."

In Penn State analyses done on the sludge, only two trace elements, zinc and copper, are nearing the maximum level for cropland use. McCurdy said he thinks these two metals are coming from household plumbing. But, he noted, other people have different ideas.

The Middletown Plant, like the Lancaster Plant, runs extensive soil tests on the 1000 acres of cropland where they spread the sludge. After the land receives the lifetime limit of 33 dry tons of sludge (limited by the concentration of copper), the soils are retested to determine the degree of fertility and evidence of any heavy metal buildup.

Distributing sludge to farmers in the area is a relatively new venture for the treatment plant.

"We started this program in 1978," McCurdy said, and we're making the transition slowly, doing a lot of studying and monitoring. We're protecting ourselves,

the farmers, the soils and the environment.

"Recycling the sludge this way costs the plant more dollars, but it's a more positive way of handling the waste."

Farmers receiving the sludge are getting a soil conditioner, McCurdy said. It can't be marked a fertilizer because a fertilizer's contents must be guaranteed. "Our sludge has nitrogen and phosphorus and virtually no potassium," he said.

According to the Penn State computer print out on the sludge, it will take 1.1 dry tons of it to supply 100 pounds of phosphorus, and 1.8 tons to supply 100 pounds of nitrogen.

McCurdy pointed out there are a variety of application methods used in spreading the sludge on farmland. "It can be injected or subsoiled in, or it can be spread on the surface and disked in by the farmer within 24 hours."

Since the sludge cannot be spread on frozen ground, the plant has to stockpile it in a place where there is no runoff and where it can't leach into the soil or create an odor. McCurdy said they have made arrangements with Lancaster County dairyman, Christian Becker, to store some of the sludge in his manure holding pond.

McCurdy said he is looking into the possibility of cost-sharing with another farmer to construct an adequate storage facility for sludge and manure over the winter months. One farmer, Clair Nissly, of Londonderry Township, Dauphin County, has expressed an interest in such a plan, he said.

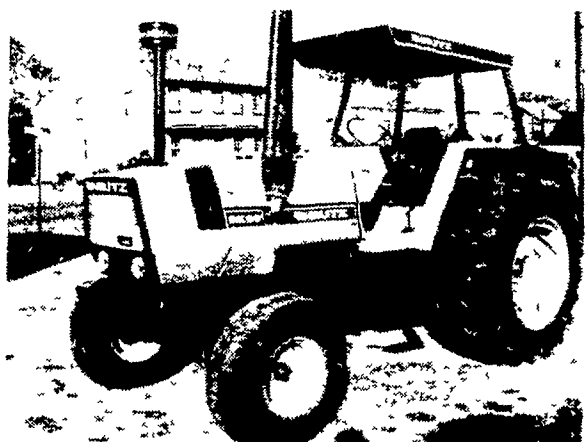
Nissly, who joined the sludge program this past summer, said "It's a little too early to tell if the sludge is beneficial, but the fertilizer potential is there."

During the summer months, the Middletown Plant has made arrangements to spread the sludge on a cooperating farmer's land. "This farmer only plants half his acreage so that we can spread on the other half," he said. "He is a part-time farmer who raises strictly cash crops."

McCurdy concluded by saying land application of (Turn to Page A30)

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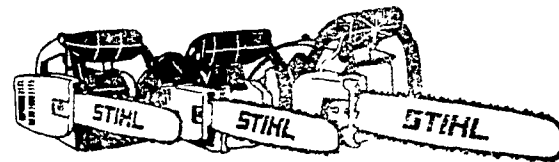
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