## Manure management advantages stressed in seminar, tours

**BY DICK ANGLESTEIN** LANCASTER - Manure

given manv was designations, such as homegrown resource, valuable farm product, important plant nutrient and alternate source of energy, at the Lancaster Dairy Manure Management Seminar at the Farm and Home Center on Monday.

Avoiding the once common-place term as an agricultural waste, a succession of speakers stressed the values to be gained from manure modern management - both efficient on-farm handling and effective utilization.

The role of manure as a plant nutrient was covered by David Matthews, Agway agronomist, who outlined research conducted at the Agway Farm Research Center at Fabius, N.Y.

"Manure is not a waste. but a resource containing useable plant nutrients,' Matthews said.

The research primarily showed, according to Matthews, that manure will increase crop yields and spring application and incorporation is better than use in the fall.

In the corn silage research project, three manure management systems were compared, including daily spread, stored liquid and stored semisolid.

The daily spread was simulated by spreading one load every two weeks from October to April. The spring applications of stored manure were plowed immediately upon application. The daily spread was plowed in at the same time, too.

All research plots received 3,100 pounds of manure dry matter per acre. Yields of 32 percení dry matter corn silage for the three manure systems showed 14.3 tons per acre for daily spread, 16.1 tons for the liquid manure and 18.5 tons for the semisolid.

The Agway study also measured the amount of fuel

required for the three systems.

The fuel required per cow per year to move manure from the barn to field, a round trip of one and onehalf miles, included 5.5 gallons for daily spread, 4.6 gallons for liquid storage and handling and 2.3 gallons for semisolid storage and handling.

The semisolid system used significantly less fuel, Matthews explained, because of the higher amounts of water being hauled in the other systems.

"Where it fits into a farm operation," Matthews concluded, "the semisolid system has advantages over the other systems in terms of crop production and energy expended."

Scott Eberly, Soil Conservationist, discussed the construction of earthen holding ponds.

He emphasized that a major problem in the Lancaster County area is the small, congested farmsteads, resulting in location near silos or houses.

Soils should be checked prior to construction, he explained. After construction, the pond should be properly fenced for safety purposes.

"If well designed and properly constructed in favorable soils," Eberly said, "these ponds do seal and provide adequate manure storage for periods of four to six months."

Suggestions on the application of manure were given by Ed Petrus, Soil Conservationist. He urged the formulation of a conservation plan to list the types of soils to determine which fields can accept the proper amounts of manure to avoid runoff pollution problems.

"The longer you wait to incorporate manure into the ground, the less value it will have," Petrus said.

Don't overlook pastures, he urged, giving them the same consideration as cropland in terms of needing the nutrients in manure.

Ray Brubaker, of the ASCS Office, discussed the availability of cost-sharing funds for the construction of manure management systems.

been expended, he said, but tilation in barns to remove it appears that cost-share money may be available for 1981.

Farmers planning a system for 1981 should contact the ASCS Office late this year to see if funds are available. The cost-share assistance can cover 40 percent of the cost, with a \$2,500 maximum grant.

The state guidelines of Manure Management for Environmental Protection were explained by Roger Grout, Penn State agricultural engineer.

He warned that too many misuses, such as spreading manure on snow or frozen ground, could result in the guidelines being taken away and replaced by stricter regulations.

A brief review of some manure management systems in Lancaster County was given by Glenn Shirk, Extension dairy agent.

Covering a number of component parts of various systems, Shirk outlined some important factors to be considered.

When building a ramp into a holding pond, make certain it is wide enough to handle a front-end loader and permits parking the spreader sideways.

He stressed the im-All current funds have portance of proper venthe gases from underground manure pits.

> He also cited the tremendous pressures that can build up in underground storage tank systems.

> In addition to the speakers, the day-long seminar featured various exhibits of manure handling equipment and facilities.



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