



Proper interpretation of soil sampling tests is essential in determining manure spreading rates on different fields as pointed out here by Penn State's Ray Shipp, far right, to some of those attending a manure management workshop held recently in Gettysburg.

Manure management saves dollars and scents

BY GINGER SECRIST MYERS
Staff Correspondent

GETTYSBURG — The manure produced by a 50-cow herd is worth \$40 per acre in available nutrients. This figure and several other economic points were presented by Ray Shipp, Extension agronomist, at a recent manure management workshop held at Gettysburg High School.

Shipp compared the nutrient value of manure while District Conservationist Ray Voyer discussed the Soil Conservation Service's role in manure management systems.

Shipp presented a comparison of the required application rate for poultry manure, sludge, and dairy manure necessary to obtain 160 pounds of nitrogen (N) that would be required to grow 150 bushels of corn per acre. Poultry manure, which contains 5.4 percent N and 15 percent water, requires 3.4 wet tons; sludge, which contains 4.0 percent N and 96 percent water, requires 100 tons or 25,000 gallons per acre; and finally, a dairy manure, which contains 4.1 percent N and is 85 percent water, requires 26 wet tons per acre to produce the desired yield.

This information, as Shipp stressed, reveals the percent solids or the percent water in the manure is very important in determining the required rate of application that will be required to reach specific nutrient levels.

The question was raised about the practicality of applying sludge considering the voluminous amounts required compared to other manures. As Shipp pointed out, these figures show that sludge application could be very useful as a supplement to other fertilizers but probably should not be the total planned source of nitrogen.

Shipp also compared the available nutrients of cattle manure, poultry manure, and swine manure in pounds of per ton. Cattle manure contains 10 of N, 3 of phosphorus, and 5 of potassium. In the same order poultry, manure contains 30, 20 and 5, and swine manure contains 10, 6, and 9. Shipp cautioned that these figures show poultry manure contains more available nutrients than other manures and therefore should not be applied in as great a quantity to avoid burning the crop.

When determining how much manure a dairy herd might produce daily, Shipp said he uses the formula of 85 pounds of manure produced for every 1,000 pounds of live weight. Therefore, a 1,400-pound cow would produce about 120 pounds of manure daily.

This manure can provide great savings on fertilizer costs. According to Shipp's calculations, the manure from a 50 cow herd can provide \$4,500 worth of nutrients to the soil. However, how this manure is managed can also determine its economic value.

"If you spread your manure and just leave it, you're losing much of its value. You must incorporate it as soon as possible to avoid nitrogen loss through escaping ammonia," Shipp explained. His findings reveal that, if manure is incorporated immediately, 50 percent of the nitrogen content is available to the soil. This figure could drop to as low as 20 percent if it is not incorporated into the soil within one week.

Shipp stressed that manures differ greatly from farm to farm and therefore differ in their nutrient contents. He strongly encouraged the use of manure and soil testing as a guideline for manure application. Manure test kits are available from the Extension Service at a cost of \$22. The test provides information on each sample's nutrient value along with spreading information.

District Conservationist Ray Voyer defined ag waste systems, their need, and SCS's role in these systems. According to Voyer, an ag waste management system is "a planned system to contain and manage liquid and solid wastes including runoff from concentrated waste areas." The manure will ultimately be disposed of in a way that won't degrade the soil, water, and related resources, he said.

In a manure management system, according to Voyer, the goals are to limit pollutants, recycle the manure's nutrients in the soil and plants, and also to control odors. He said planned systems conserve nutrients in the manure, are more convenient than daily hauling, and have environmental advantages in controlling pollutants.

If a farmer is interested in a planned management system, Voyer strongly recommended that he work with his local SCS office. SCS will require that the farmer first have test pits dug at the manure storage site. From these test pits, SCS can determine the building materials that will be required and the drainage patterns of the soil.

Voyer stated that SCS also can advise the farmer on how to minimize odor, recommend the type of spreading equipment that will be needed, and what spreading patterns would be most advantageous with crop rotations. Following the test pits, SCS will assemble a design layout for the system and will work with the contractor on specifications until the job is complete.

Another valuable asset of working with SCS on a manure management system, Voyer pointed out, is that its sister agency, the Agricultural Stabilization and Conservation Service, can provide some cost sharing on the project. This can amount to as much as \$3,500 per farm per year and is subject to approval by the county ASCS committee.

USDA establishes canned celery grade standards

WASHINGTON, D.C. — U.S. Department of Agriculture grade standards will be available to aid in marketing canned celery beginning Feb. 9.

According to Charles Brader, a fruit and vegetable marketing official with USDA's Agricultural Marketing Service, the standards establish quality requirements and will provide canners and commercial users with uniform marketing guidelines. Development of the standards was requested by the Florida celery industry.

Two quality grades—U.S. Grade A and U.S. Grade B—are provided.

The standards are based on a numerical score point system of grading. Scoring ranges from zero to 100 and considers such factors as the product's flavor, odor, color texture and freedom from defects. To qualify as U.S. Grade A, canned celery would have to meet specific requirements and score at least 90 points.

Canned celery can be sliced, diced or chopped. The standards also provide for two types of pack—acidified and brine cooked. Acidified celery is used mainly in salads, whole brine cooked is used for soups, vegetable mixes and casseroles.

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