

Del. livestock farmers find money in manure

By Doris Crowley
NEWARK, Del. — Last summer four Delaware farmers saved more than \$20,000 growing 350 acres of corn and wheat by using animal manure in their fertilizer programs. One Sussex County grower—Roland Hill of Angola—saved nearly \$2,500 on 65 acres using only broiler manure to grow 110 bushel-an-acre dry land corn. Another saved nearly \$10,000 on 140 acres using cow manure on his corn. Two Kent County dairy farmers experienced similar savings.

They all did it with the help of Ross Harris, an Extension specialist in environmental quality at the University of Delaware. Harris is convinced that farmers can save money without sacrificing yields by using manure along with commercial fertilizer in their production programs. The trick, he says, is to know exactly what nutrients are in the manure. Then include them in calculations for the total nutrient program, calibrating spreaders to apply the manure at the proper rate.

Nearly 826,000 tons of animal waste with a fertilizer value of more than \$14 million are generated annually by poultry, dairy, beef and swine operations in Delaware, Harris says. Until recently most farmers considered this waste a disposal headache rather than a resource. Skyrocketing production costs and depressed grain prices are changing that attitude.

As they struggle to stay in business despite current economic pressures, farmers are looking more closely at all their resources, including manure. Once commonly used in crop production, this material has been overlooked in recent years because of the availability of cheap, convenient commercial fertilizers. Now that these aren't so cheap, manure is starting to look a bit more attractive.

Livestock wastes are rich in crop nutrients, provided they're handled correctly, Harris says. He estimates that the manure produced last year in Delaware contained roughly 7,300 tons of phosphorus worth well over \$7 million; 7,200 tons of potassium worth nearly \$2 1/2 million; and more than 8,600 tons of nitrogen worth well over \$4 million. That's enough N to cover 138,000 acres of cropland at a rate of 125 pounds an acre.

Unfortunately, most growers haven't considered the nutrient content of manure when planning their crop fertility programs, Harris says. If any is used, it usually goes on in addition to an already complete fertilizer package.

He says this happens for several reasons. Nitrogen content varies greatly depending on how manure is stored and applied. Manure

spreaders can't be calibrated as precisely as other fertilizer spreaders. There's also the question of timing—when to apply animal waste for maximum plant benefit.

Manure is generated year-round in most livestock operations. It must be stored so that nutrient loss (especially nitrogen) is minimized when it can't be spread immediately, either because of the weather, time constraints or stage of crop growth. How animal wastes are applied also affects their worth as fertilizer. Much of the nitrogen they contain is lost if they're not promptly incorporated into the soil. Since few farmers test their manure, application rates usually are a matter of guesswork.

Last spring, with the help of Kent and Sussex County agricultural agents, Harris contacted 23 Delaware livestock producers who wanted to learn how to make better use of the manure generated on their farms. After trying his system—test, calculate, calibrate and incorporate—all 23 were so pleased with the results they plan to do the same thing again next year.

Because Harris worked more closely with some producers than others, he doesn't have a handle on all their savings, but where records are available, the benefits are dramatic.

Take Ernest Vogle, for instance. He and his brother milk about 80 cows a day on their farm near Mastons Corner. They store the manure from the herd in a covered shed with a concrete floor. The system has a four-week capacity. The brothers also have access to poultry manure. Counting rented land, they till 200 acres.

Vogle first heard about Harris' manure management program from one of his neighbors, Dave Hrupsha, who's also in the program. But Vogle didn't meet the specialist until he called on county extension agent Dave Woodward one day last March, looking for help in developing a better crop fertility program.

Woodward introduced Vogle to Harris and the three worked out a plan involving soil tests, spreader calibration and manure incorporation which eventually saved the young farmer \$68 an acre on 62 acres of corn for total savings of \$4,216. Needless to say, he was delighted.

Another dairyman who's benefited from Harris' program is Robert Biggs. His farm is located on the Canterbury-Milford Road near Felton. A quiet, gentle-faced man with a greying crewcut, Biggs figures he's saved \$15 to \$17 an acre in fertilizer costs since adopting the specialist's recommendations for using the manure generated by his 175-cow herd.

These savings alone are a strong argument in favor of good manure



Kent County dairy farmer Ernest Vogle chats with Extension specialist Ross Harris, right, during a recent farm visit. Harris helped Vogle save more than \$4,000 last summer fertilizing field corn with cattle manure.

management. But Biggs also has another reason for wanting to keep close track of what he puts on his crops.

During the 1980 drought, his heavily fertilized corn crop was badly zapped. As plants withered, nitrates destined for developing ears were stranded in the rest of the plant. Silage made from this corn contained high levels of these nitrates, but nobody discovered this until after he'd begun feeding it to his cattle. Over a six-month period, one valuable animal after another sickened and died. Eventually Biggs lost 53 cows—a tragedy he wouldn't wish on his worst enemy.

The rest of his cows have since recovered and he's building his herd back up. But it hasn't been easy.

"Things got so tight I knew I had to be conscious of the things I had," he says. So last April he went to Woodward who encouraged him to ask Harris for help in putting his manure to better use.

"Last year I put manure anywhere I could," Biggs says.

"But this past summer I've been very conscious of it. We feel real dependent on you," he told Harris during a recent farm visit, as the two men talked about what could be done with the 215-ton mountain of high-nitrate silage still sitting in a bunker silo.

"I look on that as 215 tons of heartache," he said. "I don't mind talking about what happened to me if it will help other farmers avoid the problem on their farms."

Biggs is a much more cautious manager, as a result of his experience. "I think we need more soil tests," he says. "Then we need to work the manure in with them." Pointing to his good silage he says, "I have this feed tested every 30 days. It costs me \$11. That's cheaper than a cow."

He stores the manure from his herd in a semiliquid state in a sealed underground tank. Right now he only has a 30-day storage capacity. In time, he hopes to expand that to seven months.

Harris helped him get the manure tested for nutrient content,

showed him how to calibrate his spreader, and with Woodward, helped Biggs work the manure into his cropping programs for wheat and corn. Last summer Biggs got 44 bushels of wheat an acre on a 9-acre test plot. He also used some manure on part of his corn acreage, chiseling it in immediately to prevent nitrogen loss. He plans to treat more acreage this way next year.

Woodward and Harris also showed him how to salvage his high-nitrate silage by using it as fertilizer. At 2,000 parts per million it contained 5 pounds of nitrate nitrogen per ton, plus phosphorus and potassium, giving it a fertilizer value of \$57 an acre. Applied at a 4-ton rate this fall on 54 acres of rye, Biggs saved himself more than \$3,000.

As word gets around, Harris expects to hear from more farmers anxious to cut production costs by putting their manure to better use. He can be reached through the county Extension agents in all three Delaware counties.

Egg producers stage protest rally in Washington

WASHINGTON, D.C. — Egg producers from Pennsylvania and the rest of the Northeast joined their counterparts from across the U.S. in a rally on the west steps of the nation's Capitol last Friday. Almost three dozen strong, the egg producers were in Washington to "dramatize export problems confronting American egg producers," reports Charles O'Reilly of the Northeast Egg Producers' Association.

The producers were reacting to the strong support they have received from North Carolina senator, Jesse Helms, chairman of the Senate Agriculture Committee. Helms has called for agricultural export aid for the egg producers who are facing a crippling 50 percent drop in egg exports since last year.

The national egg producers' organization dispatched its producer representatives to call on each member of the Senate and House agriculture committees last Friday. Their mission was to ask that U.S. Secretary of Agriculture John Block be pressed for a share of federal funds available under

Public Law 97-253. Sen. Helms has taken a firm stand urging Block to take action immediately, reports O'Reilly.

This financial support would help American eggs compete in export markets now dominated by government subsidized eggs offered from the Common Market countries — some of which are receiving government assistance at levels as high as 11 1/2 cents a dozen, O'Reilly adds.

The egg producers left the legislators with their own unique "calling cards" — two dozen fresh large Pennsylvania eggs were given to each one, along with a press kit. These eggs, provided by Dutchland-Weaver Organization of Lancaster, also were distributed to appreciative onlookers at the Capitol steps as the egg producers spoke of the difficulties of selling eggs in the export market.

Al Pope, president of United Egg Producers, in a statement to the rally, pointed out that the sharp drop in egg exports continues to cause troublesome backup of products in this country. He said

his organization feels compelled to press for a share of assistance for eggs through implementation of the UEP plan that Sen. Helms has endorsed. Helms has called for the use of some \$13 million out of \$75 million still available in the assistance fund.

Pope said his producers are convinced that timely use of this modest amount could present a stern example to the world that we are willing to "fight fire with fire on the ag export scene now that the GATT talks have fallen flat. UEP is convinced that if Secretary Block moves in timely fashion much can be accomplished."

Included in the groups making the trip to Washington last Friday were members of the regional cooperatives of UEP-NEMA, National Egg Company, Midwest Egg Producers, and West Coast Egg Producers. Also members of New York's SPICE organization, the Pennsylvania Poultry Federation, and the Pennsylvania Farmers' Association joined in the rally, reports John Ricca, president of NEMA.



Felton dairyman Robert Biggs and Extension specialist Ross Harris, right, calculate application rates for farm wastes to be used as fertilizer. Last summer Biggs saved \$15-\$17 applying calibrated rates of lab-tested manure on corn.