

FARM & COUNTRY

Selling manure's allure

Farmers explore a resource right under their noses

By JERRY PERKINS
REGISTER FARM EDITOR

"... (T)here is no doubt about it, the basic satisfaction in farming is manure, which always suggests that life can be cyclic and chemically perfect and aromatic and continuous."

— E.B. White, "One Man's Meat"

Manure happens.

In Iowa, it happens a lot.

No one knows how much manure is produced each year by the state's cattle, hogs and other livestock, but Randy Killorn, Iowa State University Extension agronomist, has calculated that the state's hogs collectively excrete more than 400 million pounds of nitrogen in their manure in a year.

Half of that nitrogen, Killorn says, can be used to grow crops.

"We need to quit talking about animal waste," said Killorn. "It's a resource. Let's stop thinking about it as a waste product."

The challenge facing Iowa's livestock producers is to keep the fertilizer produced by the state's livestock on the land, where it can help plants, and out of the state's drinking water, where it can harm people.

Killorn estimates that livestock in Iowa produce enough nitrogen, phosphorus and potassium through their excretions to supply 13 pounds of nitrogen, 13 pounds of phosphorus and 21 pounds of potassium for every one of the 12.6 million acres that are usually planted with corn in Iowa, he said.

Could Be Managed Better

Using this manure as fertilizer means farmers who have access to it can significantly cut costs of crop production, Killorn said.

"We have an incredible amount of nitrogen, potassium and phosphorus for plant production, but we're not managing it as well as we could," he said.

Most of Iowa's livestock producers manage their manure by spreading it on their farm fields, and the buildup of the manure over the years has led to a radical change in the makeup of the state's most precious resource, its soil.

In 1950, Killorn said, 90 percent of the state's soil samples were low in potassium and phosphorus. In 1990, more than 60 percent of the state's soil samples were showing high levels of these two necessary plant nutrients.

"We have changed the composition of the top six inches of the soil in Iowa in our lifetime," Killorn said.

The nutrients from livestock manure are perfectly usable by crops, especially corn, which has a large appetite for nitrogen, potassium and phosphorus to grow tall stalks, long leaves and husky ears full of grain.

By feeding the corn to hogs and returning the hogs' manure to the ground, Iowa's farmers help turn the wheel of nature that provides for the state's crops, livestock and people.

Injected Below Ground

"Corn and hogs can be complementary," Oskaloosa hog producer Ken Van Gilst said of the process. "A



Clayton County farmer Albert Hanson spreads manure on his field as manure management specialist Gina Hanson follows to check the application rate.



Gina Hanson of the Northeast Iowa Demonstration Project helps calibrate a manure spreader.

rough rule of thumb that I use is that one sow and the 15 to 20 pigs she raises in a year produce enough fertilizer for one acre of corn a year."

It takes 4,500 gallons of hog manure to fertilize one acre of corn a year, he said.

Van Gilst pumps manure from storage pits beneath his hog buildings into a 4,000-gallon tank that he pulls to the field. The liquid manure is injected below the ground through specially-built "knives" to minimize odor problems and prevent nitrogen escaping into the air.

He also has a lagoon that holds hog manure that he uses for fertilizer when the manure pits below his hog buildings are dry.

Last spring, Van Gilst spread 300 loads of hog manure over his emerging corn plants in June, because he thought that heavy spring rains had leached his soil of nitrogen.

Van Gilst doesn't test his hog manure to gauge its composition, a practice that is recommended by Kil-

lorn. He does test soil composition, also recommended by Killorn.

"I figure if you put on enough manure to meet the nitrogen requirements, the potassium and phosphorus content will take care of themselves," Van Gilst said.

Ground Water Concerns

Killorn said that is usually true, and excess potassium and phosphorus won't cause a pollution problem as long as farmers keep their topsoil from moving off the farm and into water. Potassium and phosphorus are immobile; that is, they don't move through the soil profile on their own like nitrogen, which can percolate through the soil and end up in ground water.

At the Northeast Iowa Demonstration Project, based in Postville, tests have been conducted for seven years on demonstration plots on the Clayton County farms of Gary Burrack and John and Steven Kregel to test rates of manure application and the impact of the differing rates on corn production.



A bumper sticker encourages farmers to take credit for the fertilizer value of their manure.

In 1993, those tests showed that a medium application of manure, defined as 3,500 gallons per acre, produced the highest corn yields.

The lowest yields came from the high application rate of 7,000 gallons per acre, proof that in the application of manure, more is really less, or was in 1993.

Five-year average yields show that the lowest tested level of manure application, 1,750 gallons an acre, produced the lowest corn yield in the demonstration plot, with 142 bushels an acre. The high application rate of manure was second, with 150 bushels, and the medium rate was slightly higher, with 151 bushels.

Move Toward Conservation

John Rodecap, coordinator of the demonstration project, said the project is in the second year of its five-year life.

The project is the successor to the Big Spring Basin Demonstration Project, which pioneered water-quality studies and the relation between farming practices and water quality.

Rodecap said the current project, which covers 6,800 acres in parts of four counties in northeast Iowa, tries to determine whether farmers will adapt voluntarily to conservation practices that improve water quality.

One way of doing that is demonstrating that the proper handling and disposal of manure can cut commercial fertilizer application and help boost yields.

Gina Hanson, manure management specialist for the project, said usually that means persuading farmers to go back to the old-timers' view that manure is good.

A manure-management specialist, Hanson shows

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'NOT OFF THE HOOK'

Soil conservation deadlines firm

The SCS offers tips on how farmers can comply despite flooding complications.

By DIRCK STEIMEL
REGISTER AGRIBUSINESS WRITER

Iowa farmers whose soil conservation efforts were thwarted last year by floods and excessive rainfall will have to hustle to get their soil-saving plans back on track in 1994 or risk losing all federal farm program benefits, said the head of Iowa Soil Conservation Service.

"We are expecting people to be back on schedule," said Jeffrey Vonk, state conservationist for the Iowa SCS, the conservation agency of the U.S. Department of Agriculture. "Not in any sense are you off the hook" because of the poor weather in 1993, he said.

The Iowa SCS, working with other government agencies, farm organizations and environmental groups, has developed a set of guidelines designed to help farmers get their five-year conservation plans back on schedule after last year's excessive rainfall.

The guidelines, available at county SCS offices, recommend that farmers make conservation repair work a top priority in 1994, making early plans to secure contractors to repair terraces and other structures

damaged by heavy rains. The guidelines also recommend that farmers seed waterways, field borders and grass buffer strips early in the spring.

Revised Schedule

Iowa farmers will be expected to complete as much of their conservation plans as the weather permits in 1994, the SCS guidelines say. If that's not possible, the agency will require that farmers establish a revised schedule so that all conservation practices are in place by the end

of 1995, they say.

Government conservation officials, Vonk said, will try to be flexible with Iowa farmers affected by the excessive rains in 1993. Still, Vonk said, farmers — even those hit hard by the floods — will be expected to make reasonable efforts to get all the practices in place by the end of 1994.

"Our hope is that if farmers follow these guidelines, we won't have 70,000 farmers coming into our offices trying to revise plans, or trying to work variances up front," Vonk said. "If they follow this stuff, they're going to be in OK shape with regard to conservation compliance."

However, Vonk said, there's always the chance that another year of an excessive rainfall could make repairs and improvements impossible in 1994. "All the stuff we are talking about is all out the window if we get the same kind of weather again in 1994."

Grassed Waterways

The soil conservation plans were required of farmers with highly erodible fields beginning in 1990. The conservation practices in the plan, such as building terraces, seeding grass waterways or adopting no-till farming methods, must be implemented for farmers to remain eligible for government agriculture



Jeffrey Vonk
State conservationist

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Wanted: Farmers to drive trucks

A Fort Dodge company recruits farmers, who are attracted by the extra income, to work during the winter and summer.

By JAY P. WAGNER
REGISTER RURAL AFFAIRS WRITER

Creston, Ia. — By the time the 7 p.m. meeting began at the Barning Activity Center here, most of the 50-plus farmers in the audience were sporting bright blue hats bearing the logo of Smithway Motor Xpress.

The company had hired no one. None of the members of the audience had agreed to go to work. But both knew that they had something the other wants.

The company needs more drivers to fill holes in its work force. After 10 years of financial stress, more farmers are looking for part-time jobs to help meet the costs of living.

Fred Nesheim, personnel director at the Fort Dodge-based trucking company, decided to target farmers as likely recruits because of his own experience in agriculture. A farmer for 20 years, Nesheim got out of the ag business in the mid-1980s and went to work as a truck driver.

Winter, Summer Work

Nesheim said spending summer and winter months behind the steering wheel of a truck is a natural extension for a grain farmer whose busiest months are during spring and fall months.

"We can keep you boys real busy when you have the time to work for us," Nesheim told the group. "And when you need to get into the fields, all you have to do is say, 'Fred, I'm ready to shut her down' and take the truck back to Fort Dodge."

Nesheim said part-time drivers can make \$12,000 to \$15,000 annually.

That's important during a year when heavy rains and widespread flooding devastated crops. But even before wet 1993, more farmers were looking for off-



Fred Nesheim makes a pitch to farmers about job opportunities as SMX truck drivers.

farm jobs to support their primary vocation.

Experts say as many as 10 percent of the state farmers will look for other careers or part-time jobs this year to supplement their incomes. An Iowa State University poll said 98 percent of the state's farm households will earn part of their total income in off-farm jobs.

"After 10 years of financial stress, more farmers are asking themselves, 'What can I do to increase my family's income?'" said Paul Lasley, a rural sociologist at Iowa State University.

Ron Glass, a Bedford farmer who attended the Creston meeting, said a job as a truck driver will provide

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