

**FARM
INDUSTRY
NEWS**

WASTE NOT

HIGH FERTILIZER prices have created demand for a product that used to be called a “waste.” Livestock manure today commands top prices as a fertilizer, up to \$85/acre in some corn and soybean areas. Growers even sell cropland for hog building sites in order to secure the rights to the manure.

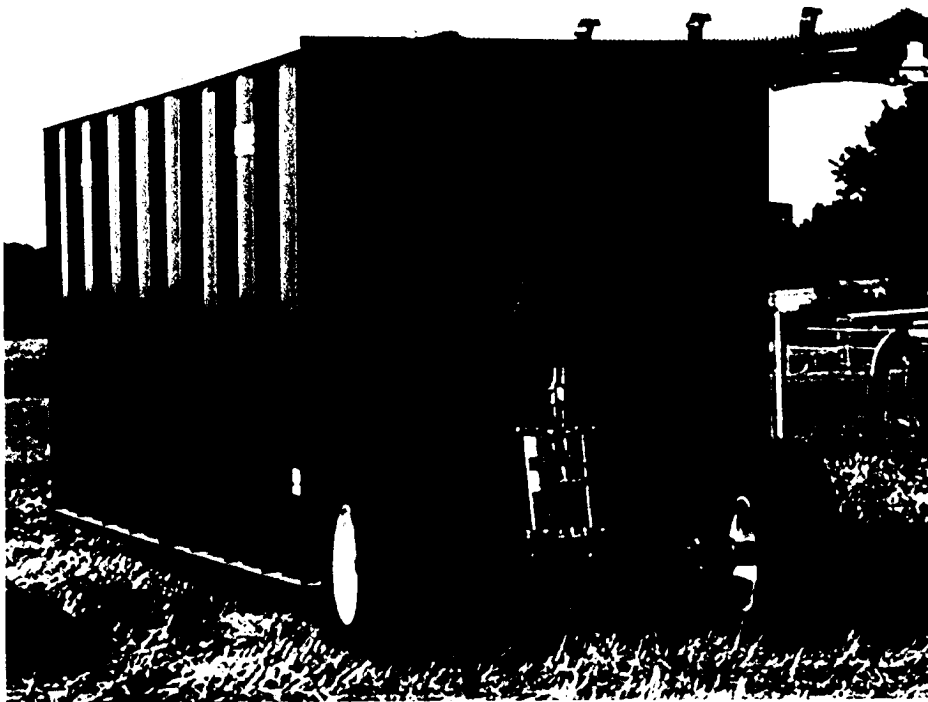
“We used to work hard to find a guy to put the manure on the ground,” recalls Michael McNeil, Ag Advisory, Algona, IA. “Now there are waiting lists for manure and some are three years long. It’s been quite a dramatic change from not that many years ago.”

There is not a waiting list for all manure and not all manure retails for its full fertilizer value, however. Some hog manure costs only the price of hauling and application, which ranges from \$30 to \$40/acre. Other hog manure is priced at a flat rate with hauling and application included. McNeil says an average flat rate runs about \$50/acre.

Although hog manure is most abundant, poultry manure is even more in demand. “Chicken manure is being sold by the ton with prices in the \$23/ton range,” McNeil says. “The manure is dry and therefore treated like commercial fertilizer.” Several co-ops have created fertilizer businesses from the poultry manure by pricing it according to its fertilizer value and adding on the cost of hauling and application.

Because it is dry, poultry manure isn’t regulated by the Department of Natural Resources like liquid hog manure is. McNeil says the stricter regulations on liquid manure seem to detract from its high fertilizer value. But he sees this attitude changing. He has two clients who run large crop operations, and they are arranging to have hog buildings put on every farm so they can use the manure. “That says they are starting to put more value on manure,” he says.

The greater demand for poultry manure over hog manure is



somewhat misplaced. “I think you get a little better yield response from hog manure than poultry,” McNeil continues. “I’m seeing a 10 to 12 bu./acre increase in soybean yields and 15 to 20 bu./acre increase in corn yields.” To obtain these boosts, McNeil recommends applying hog manure every two years. After a couple of applications, the soil gradually changes from the organic matter in the manure and becomes more fertile.

Demand for hog manure has increased in southern Minnesota. “Ten years ago when you put up a barn and you needed more crop acres, it was challenging to get people to take the manure,” reports Bob Koehler, extension livestock specialist, Lamberton, MN. “But out here, fertilizer prices are up and the stuff is pretty good. Farmers use it so the demand has built up.”

Koehler agrees that manure will improve crop yields. He says some university research plots show a 7- to 10-bu./acre increase from hog manure.

In Minnesota, the market for hog and dairy manure is “chaotic,” Koehler states. Prices range from \$0 to \$85/acre. “There are all

Manure is applied to more ground as growers seek an alternative to high-priced commercial fertilizer

By Karen McMahon



COMMERCIAL MANURE application businesses have grown with the demand for manure. A frac tank (above left), which holds three semi loads of manure, is used for in-field storage of manure.

kinds of prices, but they are moving upward and towards the cost of commercial fertilizer per acre," he says.

Pricing manure

Koehler helps growers and livestock producers determine prices for manure. He says pricing depends on many variables and can be complicated. But basically there are three steps to setting a value for manure.

First, farmers need to determine the crop nutrients that the manure will replace on a per-acre basis, which typically include nitrogen (N), phosphorus (P) and potassium (K). For corn ground, the fertilizer program is usually 140 lbs. N, 40 lbs. P and 40 lbs. K, all costing about \$65/acre. Manure from hog-finisher units injected at 3,000 to 3,500 gal./acre can meet those fertilizer goals depending on nutrient concentration.

Second, growers should consider residual credits left over for the next year "but only if you are really replacing something you would buy," Koehler says.

The third part of the equation is increased yields. Growers need to add the value of a yield boost, especially if they haven't used manure in the past. Other considerations for some growers might include a cost savings from a reduction in tillage due to the application of the manure, saving the cost of micronutrients that the growers might have purchased but that the manure replaces, and possibly an increase in weed control costs because of the manure.

For more information about determining manure value, visit Koehler's Web site at swroc.coafes.umn.edu/Bob/Koehler_main_page.html or call Koehler at 507/752-5065.

Finding manure

Growers who want to buy manure need to approach a livestock producer. If the livestock producer has manure available, then the grower needs to calculate if he can afford to transport it to his farm. The cost to haul manure more than several miles can override its nutrient value. A surcharge of \$.001/gal./mile is typically



DALE WILLS, left, and Larry Krohn operate a manure application business with a drag hose system.

A hard day's night

NEIGHBORS DALE Wills and Larry Krohn started commercially applying manure from their Nicollett, MN, farms 10 years ago. Today, their manure application business includes five people working around the clock from late September until late November and for a few weeks before planting.

Their business, D & L Pumping, pumps manure for 38 different clients to hundreds of different fields. Some of the clients sell manure to other farm-

ers, adding to an endless array of corn and soybean stubble. Last year, they pumped manure onto 7,000 acres.

"This is not a job you can start at 20 years old and go until you're 60," Wills reports. "It is a physically tough business."

Krohn recalls one especially strenuous week "when I didn't get into a bed for eight days. We slept for two to three hours at a time in either a recliner or pickup."

It takes time and hard work

to apply the 50 million gallons of manure that D & L Pumping injected last year. They could take on even more acreage, but time has limited their business for three years. A heavy demand for commercial application created the growth in their venture from 10 million gallons the first year to the current level in just eight years.

It also takes experience and good records to keep mistakes at a minimum, especially when moving hose in the middle of the night. But Wills and Krohn say the application is well documented with location, acres covered, gallons applied, climate conditions and date.

For application, they use a pump and hose drag system to move manure out to the fields from a manure pit or lagoon. The crew rolls out 6-in. hose up to three miles long across fields, ditches and farms. A tractor and a 34-ft. injector unit with 16-in. sweeps set on 2-ft. spacing are hooked to the hose to apply the manure 4 to 6 in. deep into the ground.

The fee is determined according to a price per gallon applied. Additional fees are charged when the application is more than one mile away and if the rate is less than 4,000 gal./acre. For example, the rate for applying hog manure from a grower unit at 3,000 gal./acre is about \$35/acre, Wills says. Dairy manure that requires 10,000 gal./acre will cost between \$60 and \$80/acre.

During pumping, the Wills and Krohn crew take frequent samples of the manure, which they give to the owner for nutrient testing. Wills says test results from most labs are returned in a few days. Although the results come after the application, growers later can make nutrient adjustments with commercial fertilizer if needed. Generally, manure test results are similar to the previous year's results, which are the basis for the current application rates.

Wills and Krohn are certified manure applicators in Minnesota, which requires attendance at workshops and passing an exam.

added for extra miles, totaling between \$3 to \$6/acre for one mile, according to a report by Kelvin Leibold and Tom Olsen, Iowa State University (ISU) Extension.

Farmers interested in securing manure long term may consider another option. McNeil says, "Farmers can contact companies looking for more hog grower space and sell five acres of land for a building. Then they will have an option for the manure. There will be a lot of hog buildings built this year. I haven't seen much tapering back."

Using manure

Once a grower finds manure to buy, he must correctly apply it to extract the most crop benefit. This takes testing. The grower should take soil tests to see what nutrients are needed for top yields, and the manure should be analyzed. According to reports from ISU, manure from one facility can vary from year to year if animal diets change — if dried distiller's grains are added, for example.

Manure from different production units varies, too. Swine grower units with deep pits will contain the richest manure and

offer the highest nutrient value per gallon. Lagoons contain the lowest value manure with few nutrients per gallon.

Nearly all liquid manure today is injected into the soil. This practice eliminates odor problems, reduces residue disturbance, and puts the manure nutrients where they will do the most good. Manure works into conservation tillage practices, too.

Soil compaction can be a problem with manure application. ISU recommends applying manure when soil moisture is below field capacity to reduce the compaction. Other practices to cut compaction are to reduce weight on each axle, use correct tire inflation rates and control traffic patterns.

Supplies tighten

Because the popularity of manure is expected to remain strong, growers interested in using manure, especially hog manure, should locate a source and lock in their orders now. Although more hog buildings will be built this summer, high grain prices may slow expansion and the manure market will tighten. Add to this situation high fertilizer prices, and manure's value will rise a long way from its former "waste" status.

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