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Making manure pay

Family offers professional manure handling services with environmentally sound practices

Tyler Kramer lives where dairy cows outnumber county residents. This is a good thing because he and his father, Brian, run a manure application business that handles a lot of the manure generated by those dairy cows.

Their business, Metro-Ag, Inc., is located in Breese, Illinois, about an hour east of St. Louis. Kramer says they handle roughly 100 million gallons of manure each year. About 80 million gallons come from dairy and hog operations, and the rest from municipal waste systems.

The manure business has been in the Kramer family for decades. Dad Brian started handling manure in 1976 when he took over his dad's farm operation. In 1982, he and his wife, Mary Jo, founded Metro-Ag on the day Tyler was born. At first, Brian concentrated on the efficient and environmentally correct application of manure from local livestock units. He gradually added municipalities to his client list. Later,

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Above: Tyler Kramer joined his father's manure handling business called Metro-Ag. Below: New Holland 4WD tractors are used to pull a dragline hose system and 10-shank injector toolbar that applies manure 6 to 12 inches below the soil surface.

Metro-Ag branched out to handle clients beyond the local area, including clients as far away as Arizona and Florida.

Later, the Kramers started other family-owned businesses. Kramer Trucking hauls agricultural equipment and supplies, including oversized hauling, for customers. Kramer Septic provides septic services for residential and commercial clients.

Utilizing manure's value

Today, the manure application business is at the heart of Metro-Ag. Demand for the company's services is strong because manure is no longer considered a "waste" product.

"It's a byproduct and we are recycling it," Kramer says. "And when the cost of commercial fertilizer goes up, manure becomes more valuable. Plus there are some things in manure like organic matter that you can't buy over-the-counter in fertilizer."

Manure's rich trove of essential nutrients like N, P, K and micronutrients are well known. But its organic carbon content is what really helps build productive soil. Long-term manure application studies at several universities show manure can slow or reverse declining soil organic levels of cropland.

To make sure their clients receive the most nutrient value possible from their manure, Kramer says they follow proper handling and application techniques. They also follow each farm's manure management plans for application on each field.

Handling dairy manure

Most dairy clients store manure in lagoons or in above-ground slurry tanks. In both, the manure is agitated with Metro-Ag pumps. "We agitate to mix the solids and liquids," Kramer says. "The more we agitate, the more consistent the manure will be when it is applied across the field.

"Dairy manure comes in a lot of different forms, from flush water manure systems to dry stack pads," he adds. "And it can have a lot of sand in it that is hard on equipment."

Metro-Ag builds all their own pumps needed to move the manure from storage through a dragline hose system into the field. A New Holland 4wd tractor pulls the dragline hose and a 25-foot, 10-shank injector toolbar that applies the manure deep into the ground. Kramer says they made the toolbar, too. For customers who want very little ground disturbance, they use a minimum-till-type tool bar. They use four miles of dragline hose.

A typical application rate for dairy manure is 17,000 gallons/acre and it is injected between 6 to 12 inches below the surface of the soil. "With a dragline, manure is incorporated so there is very little on the ground and therefore very little smell," adds Kramer.

Handling hog manure is similar to dairy, but with a couple key differences. "Hog manure is usually stored in deep pits under the buildings," Kramer says. "So it is some very potent manure. We agitate it and then apply between 5,000 to 6,000 gallons/acre. Because it is applied at a lighter rate, we inject it 5 to 6 inches below the ground."

This application method vastly reduces the offensive odor of hog manure that used to cause problems with neighbors.

Tyler starts the pump to agitate manure in a dairy lagoon and then move the manure through a dragline hose out to the field for application.

New Holland equipment

Metro-Ag's New Holland tractors are equipped with Precision Land Management™ (PLM™) systems. The Kramers use customer field maps in their PLM system to precisely apply the desired rate of manure at the desired depth on the field. The PLM system produces a record of where the manure was applied, the rate and date. This record is given to the customer to show that the manure management plan was correctly followed.

Variable rate application of manure is not used much today. "Some people are trying to do variable rate application, but it is hard to do with a dragline," Kramer says. "When you apply with a dragline, you go diagonal across the field, which makes variable rate more difficult."

The Kramers currently use two New Holland T9.450 tractors and one T9020 tractor for the manure hauling business. They need the weight of the large tractors to pull the injector and dragline through a field.

Kramer says they have leased New Holland tractors since the mid-1990s. "Most of the time we are on one- to three-year leases," he says. "These (current models) are on three-year leases and the tractor models we just rolled out of were one-year leases. We sign whatever lease we can get the best rate on.

"We've always had a great relationship with the local New Holland dealer," Kramer adds. "They have always been there for us."

The future

In early spring, Metro-Ag starts emptying pits and slurry stores for customers and applying manure to the ground ahead of fieldwork. Kramer says they usually run from February to June when planting is finished. As harvest starts, manure application also starts, typically in August and finishes up in December.

Metro-Ag has six or seven fulltime employees. During busy application times, the workforce increases to 10 or 15 employees. After all, it takes a lot of work to move 100 million gallons of manure from storage tanks to fields.

As long as there are dairies and hog units in Clinton County, the Kramers plan to continue taking care of their clients' manure. They also are committed to being good handlers of the manure, which is a valuable commodity for farming.

Kramer also has his own family to consider for the future. He and his wife, Carrie, have twin sons, Wade and Briggs, 4 years old, and have just welcomed another son, Harlin. Who knows? Maybe they will follow in their father and grandfather's steps of seeing an opportunity to help neighbors handle a byproduct in an environmentally sound way.

Tyler and his wife, Carrie, have three sons, including twins Wade and Briggs, age 4, and a new baby, Harlin.

The Kramers put together the 25-foot, 10-shank injector toolbar that injects manure up to 12 inches in the ground for optimum fertilizer use and minimal odor.

Brian Kramer, shown with his twin grandsons, Wade and Briggs, started Metro-Ag in 1982 with his wife, Mary Jo. They also own two other companies including Kramer Trucking.