

Mason Dixon manure digester changing way of farming

BY DICK ANGLESTEIN
HARRISBURG — The cow manure digester which produces bio-gas for electrical generation is literally changing the way of farming at Mason Dixon Farms in Adams County and, what's more, even around the world.

Farming changes prompted by the operation of the digester, as outlined by Richard Waybright, of Mason Dixon, at a farm energy seminar Wednesday night include:

—An expected saving of some \$60,000 in nitrogen fertilizer costs through utilization of irrigated liquid wastes squeezed from the digester.

—Reduced soil compaction from the center pivot irrigation units as compared to the damage previously done by constant traffic of heavy spreader equipment.

—Better utilization of the Adams County clay soils by gradual conversion from predominant corn production to more irrigated alfalfa, which yields four or five cuttings a year.

And based on what they observed at Mason Dixon, many foreign agricultural interests, principally the Israelis, are carrying the technology to even greater lengths. These include:

—Liquid from digesters is being injected in commercial catfish ponds in Israel and per-acre pond production is being increased by one-third.

—These liquid wastes are atomized and sprayed on the roots of tomato plants at 15-minute intervals and ripe fruit is being produced in 40 days instead of 120.

—Solid wastes from digesters, which are about 22 percent protein, are being fed to dairy heifers in Israel, comprising about a fourth of the total ration and eliminating

such ingredients as soybean meal. In his discussion of Mason Dixon's two-year experience with the manure digesters, Waybright told the handful of farmers attending:

"Even if I had only 50 to 100 dairy animals, I'd build a digester. "It could be built for \$10,000 to \$12,000 and if the gas is used, you'd have a four-year payoff.

"And even if I didn't use the gas, I'd still build a digester." Waybright cited the advantage of utilizing the liquid wastes which contain nitrogen in a more stable form and is more readily available to plants.

At Mason Dixon the irrigated liquid wastes have been sprayed on wheat, corn and alfalfa.

Waybright issued a couple of warnings concerning digesters. He cautioned against commercial digesters on the market which have not been able to stand up to continuing use.

Also, Mason Dixon has not had a successful experience in selling excess electricity back to Metropolitan Edison.

He explained that it would have cost some \$170,000 to install a heavier power line, step-up generator and switch gear, which the utility said was necessary to get the electricity from the farm into Met Ed's system.

"I don't think it's a viable option for farmers to think they'll be able to sell excess power back to the utilities," Waybright said.

Mason Dixon may be adding alcohol production to its on-farm energy operation in the future when commercial still equipment is better perfected, according to Waybright.

"We have enough excess heat to distill and ferment about 40 gallons

of alcohol an hour," Waybright said.

Mason Dixon has had a second digester operating since February 1. One digester produces 48,000 cubic feet of gas a day and the larger unit makes 60,000.

Mason Dixon flushes their barns, but scraping would be even better for digesters, Waybright said. He explained that poultry manure is too high in nitrogen and dairy manure too high in carbon content for optimum digester operation

But hog manure provides the greatest gas production.

Waybright observed one disadvantage that he has had concerning the digesters — too many visitors.

Total visitors number about 18,000 over the past couple of years.

And Waybright humorously recalled one visitor who came in the middle of the night.

Mason Dixon produces Kosher

milk. A rabbi from the Baltimore area drove up to the farm in the middle of the night to check on one of his students who was overseeing the production.

After the barns are flushed the manure slurry is pumped into a large collection pit. On a moonlit night, the filled pit gives off a reflection like a macadam parking lot.

The rabbi sold his black Cadillac after the nocturnal visit.

Diabetes test helps check pregnant ewe's nutrition

BELTSVILLE, Md. — A simple test used by diabetics to determine the level of ketones in their urine can help sheep producers determine if gestating ewes are getting adequate nutrients.

According to Science and Education Administration animal physiologist G. Paul Lynch of the Ruminant Nutrition Laboratory, here, when gestating ewes are not getting enough feed to meet their nutritional requirements, they use reserve body fat. When this happens, ketones shown up in their blood and urine. This can usually be corrected by providing ewes with more feed.

Lynch points out the trend in sheep production in recent years has been to produce three lamb crops in 2 years and to use breed crosses with a high rate of multiple births.

"A ewe carrying two or more fetuses has greater nutritional

requirements than one carrying a single fetus," the researcher says. "In one experiment, about half the lambs of underfed ewes carrying multiple fetuses were born underweight or dead."

With small flocks, it may be possible to separate ewes based on the results of the ketone test, and give extra feed only to those ewes who need it — usually, those with multiple fetuses. Owners of larger flocks may be able to test a few ewes to determine the general nutritional status of their flock.

Obtaining urine samples is a

simple procedure that is best done by two persons, Lynch says. One person holds a hand over the ewe's nostrils to temporarily cut off her breathing. This makes her nervous. In response she will urinate. The second person can then collect the urine sample. About a tablespoonful is all that is needed for the test.

The ketone test may be especially useful to owners of flocks who carefully manage their animals for maximum lamb production. Ketone test kits are available at local pharmacies.



Chicken:
 Good for you and good for your budget

Farmer Boy Comes Through Again . . .

SPECIAL TRUCKLOAD SALE WOVEN WIRE FLOORING

LOWEST
 PRICES
 EVER OFFERED!

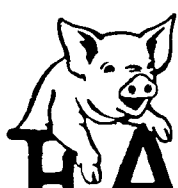
\$2¹⁰

SQUARE FOOT
 CASH & CARRY

**5 GAUGE GALVANIZED HIGH CARBON
 TOP QUALITY STEEL**



Complete sales, service and installation of:
 Gestation, Farrowing, Nursery Grower and Finishing Systems



Swine Confinement Systems

FARMER BOY AG. INC.

Best in Design, Price and Experience

457 E. MAIN AVE., MYERSTOWN, PA 17067
 1/2 Mile East of Myerstown

Call 717-866-7565 For An Appointment or Stop By Our Office. Our Trained Staff Will Do Their Best To Assist You With Layout And Design.