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- Greenhouse Gases**
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- Pasture - Is the Grass Always Greener?
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No Greenhouse Gases Here!!

We Power The Dairy With Methane From Our Cows

It's true!

After a 5-year process, we're now creating electricity with our methane digester. The digester captures naturally occurring gas from manure and converts it into electricity. With this new system, we're generating up to 600,000 kWh per year.

More importantly, tarping manure ponds eliminates the release into the air of methane, a natural by-product of manure. According to the 2003 U.S. Department of Energy Report on Greenhouse Gases, agricultural sources (primarily animal waste) account for approximately 3% of greenhouse gas emissions. A cow can generate 120 lbs of solid and liquid waste per day, which translates to 40,000 lbs. per year per animal. While all waste at Straus dairy is composted and reused as fertilizer, this system provides additional and far-reaching benefits.

The project is funded by California's SB5X alternative-energy grant program. Ours is the first system to take advantage of regulations of "net metering" which allow the entire Straus operation to run meters in reverse, as electrical power produced but not used by the dairy is sent to the grid to the local power company.

This is one more step toward our goal of having the farm be completely self-sufficient in energy and minimize environmental impacts.

How the Methane Digester Works



After each milking of our cows, the barn is cleaned. Wash water and animal waste are pooled into a holding pond where the processes of decomposition and methane digestion begin. First, manure goes through a separator, to separate solids from liquids. The liquids are piped into a covered pond that uses anaerobic (without oxygen) digestion, a process in which bacteria break down waste.

One of the by-products of anaerobic digestion is methane gas. The captured methane gas is pumped through a pipe to a combustion engine, where it drives a generator. The generator then produces electricity. Heat created by the combustion engine is also used to heat water on the dairy. This 180-degree water is used for cleaning barns and for heating the liquids pond (generating more methane gas and increasing the efficiency of the cycle of renewable energy).

Links to the Experts

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Sustainable Conservation was involved in getting the legislation passed that funded the matching grant to purchase the generator and orchestrated the passage of AB 2228 allow for net metering of the electricity.



Methane digester



Albert throwing the switch for the 1st time!



There's electricity in there. Somewhere!