

Everything else you ever wanted to know about manure . . .

EEC Energy wants to change the way people think about manure. For starters EEC Energy's Anaerobic Digester system can turn manure "waste" into a variety of safe, environmentally friendly by-products - all by taking advantage of what nature has to offer.

A bug's Life . . .

The biogas created by EEC Energy's AD System is the result of a naturally occurring process involving bacteria, or "bugs." When manure is first introduced into a digester, the "anaerobic" (without oxygen) process begins with "acid-formers" breaking down the volatile solids in the manure into amino acids. The most important "bug", THERMOPHILES, feed on these amino acids. It is this process that actually creates the biogas used to power a generator. THERMOPHILES get their name from their ability to survive in higher temperatures.

What do you get . . .

The "anaerobic" digestion process will produce methane, also known as natural gas. The Natural Gas used in most homes and businesses have additives to "purify" the product. Biogas from a digester is roughly 60-70% methane and 15-20% Carbon Dioxide. EEC Energy's AD system removes much of the CO2 for cleaner methane. The CO2 can be used as plant growth aid in greenhouses!

It's all in the temperature -

The temperature at which a digester operates determines how effectively gas is produced and how pathogens are destroyed. EEC Energy's AD System operates at the THERMOPHILIC (high temperature) range - at 55 degrees Celcius. This reduces "Retention Time" or the amount of time the manure spends in the digester. This higher temperature increases both gas production and ensures greater pathogen kill than MESOPHILIC (mid-temperature), requires a longer "Retention Time" and is not as effective in either gas production or in pathogen destruction.

Daily Waste and Methane Production by Dairy, Beef and Swine per 1000 Pounds of Animal Weight

Item	Dairy	Beef	Swine
Raw Manure (lbs.)	82	60	65
Total Solids (lbs.)	10	7	6
Volatile Solids (lbs.)	9	6	5
Methane Potential (cu ³)	28	19	18



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EEC Energy's AD System is designed to obtain the maximum nutrient benefit from processed manure. A 300 dairy cow herd will produce almost 150,000 pounds of Nitrogen in a year. This high nutrient value fertilizer is all natural, weed-free and pathogen free - perfect for a growing organic farming market!

For more information, please visit www.eecenergy.ca