

BIOFerm™ Anaerobic Digester

EUCOLINO PLUG FLOW CASE STUDY



Oshkosh, Wisconsin

Allen Farms

Allen Farms' small-scale, plug-and-play EUColino digester was constructed in 2012 to process industrial food waste brought onsite mixed with manure and bedding from 136 dairy cows. Herd size and a progressive mindset made Allen Farms an ideal partner for the University of Wisconsin Oshkosh and their Foundation, for an installation of BIOFerm's small-scale digester. EUColino's implementation opens a new market for U.S.A. facilities producing smaller amounts of waste or with limited footprints. The plant handles ~6,200 tons per year of the farm's manure and washwater, as well as industrial food waste brought onsite.



Plant Dimensions and Process

Allen Farm's digester consists of two fermentation vessels, each measuring 55.7' x 11.5' x 11.5', and a PASCO feeding hopper with 13' x 30' dimensions. Total footprint is ~2,460 square feet, and the system averages a retention time between 25-35 days.



Environmental Benefits

- >The methane produced and used is equal to the avoided release of 2,312 metric tons CO₂
- >Electricity generation from these renewable sources is equivalent to reducing
 - 529 metric tons CO₂ per year from a conventional bituminous coal facility, or,
 - 310 metric tons CO₂ per year produced from a natural gas facility



Power & Energy Production

- >64 kWel continuous power engine
 - 64 kW electrical capacity
 - 90 kW thermal capacity
- >Average annual energy production
 - 560,640 kWh electrical
 - 2,680 MMBTU thermal
- >Estimate energy from the CHP could
 - Provide electricity to 50 homes/year
 - Heat 61 homes/year



Financials

- \$1.2 million capital investment
 - >Focus on Energy (WI) grant: \$125,000
 - >Wisconsin State Energy Office grant: \$125,000