

An aerial photograph of a wastewater treatment plant showing several large circular tanks. The tanks contain various colored liquids, including blue, white, and orange. The tanks are arranged in a grid-like pattern.

BIO REACT AD

30+% boost in biogas generation made possible by Drylet's biocatalyst solution built on material science and microbiology.

WHY DRYLET'S BIOREACT AD?

Drylet's innovative technology enables the enhanced degradation of undigested solid waste (**hydrolysis**), increasing biogas generation and solids reduction. The application protocol is tailored to each facility, after analysis of influent characteristics and of historical performance average data.

BioReact AD requires no commitment to new or expensive equipment -- ZERO CAPEX.

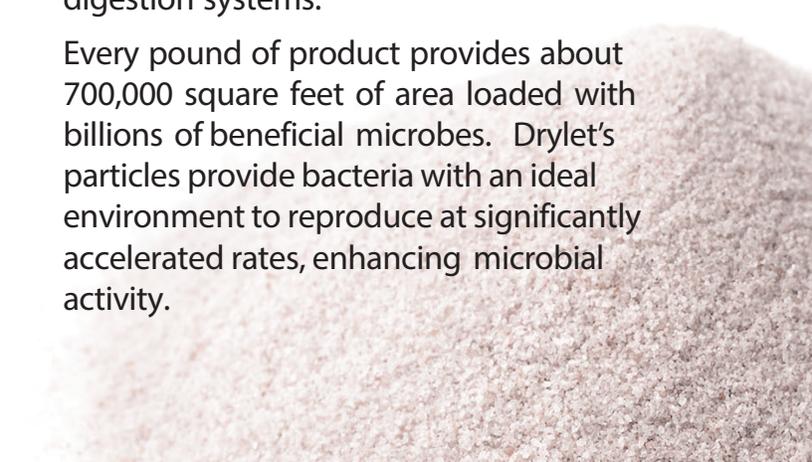
HOW TO USE DRYLET'S BIOREACT AD?

It is added daily as part of your routine biodigester maintenance program. A daily dose of 1 lb to 2 lbs is typically recommended per million gallons of wastewater flow treated at the plant.

WHAT IS DRYLET'S BIOREACT AD?

BioReact AD is a dry-to-the-touch engineered substrate. It is formulated with patented micro-bioreactor particles seeded with mixed microbial cultures beneficial for anaerobic digestion systems.

Every pound of product provides about 700,000 square feet of area loaded with billions of beneficial microbes. Drylet's particles provide bacteria with an ideal environment to reproduce at significantly accelerated rates, enhancing microbial activity.

A close-up photograph of the Drylet product, which is a light-colored, granular, dry-to-the-touch substrate.

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Case study #1: Large Wisconsin dairy farm

RESULTS SUMMARY >30% average daily production boost of biogas

\$470: Daily value of additional electricity sold to the utility

\$2,086: Average daily new gross income opportunity from renewable natural gas sold to the pipeline (on top of historically generated electricity)

THE SITE

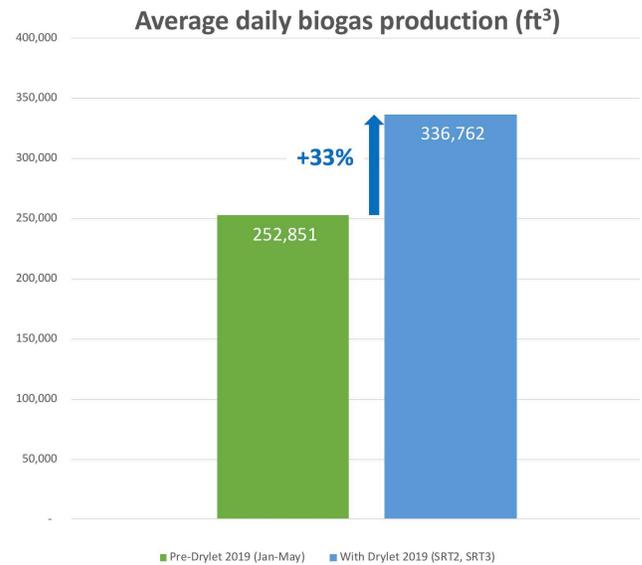
Dallmann's East River Dairy is host to a 1.7-million gallon capacity digester designed by DVO, Inc. that generates electricity, bedding, fertilizer, and heat. The operation also incorporates an ammonia/nitrogen recovery system after the digester, which helps to clean the biogas. The resulting methane generates enough electricity to power 500 homes – it is sold to the utility.

THE PROCESS

BioReact AD was dosed in the methane digester at a daily rate of 13 lb over 61 days. With a consistent influent (cow manure) in both composition and quantity over the whole period and no operational changes, the effect of BioReact AD clearly registered as a stable increase of biogas production with unchanged gas composition at 60% methane. At the end of August (6th SRT), after the product left the system, the average biogas production started to decrease.

THE IMPACT ON REVENUE

The demonstration resulted in about 6,000 ft³ of additional biogas generated per lb of Bio React AD at a cost of \$3.1 per MSCF. At the site, methane from biogas is used to generate electricity. Most of it is sold to the utility. It was calculated that electricity from the



additional methane generated through using Bio React AD represents a net value of about \$470 per day. Additionally, significant solids reduction resulted in cleaned-up sludge lines, reducing operating and maintenance costs.

Case study #2: 55-MGD WWTP

RESULTS SUMMARY 32% biogas generation boost
9% increase in Total Solids reduction in biodigesters

10% reduction in natural gas use
\$22,000 in monthly gross savings

THE SITE

This American wastewater treatment plant has been a leader in the use of renewable energy for wastewater treatment. It currently generates 95 percent of the energy it uses from onsite biogas, purchased natural gas, and solar energy generation. Only 5 percent of its energy requirement is imported from the local power utility. Fourteen primary and secondary anaerobic digesters make up the anaerobic digester complex. The primary digester contents are heated and maintained at about 95°F.

THE PROCESS

Data was collected on a broad range of operational parameters such as biogas generation, biogas composition, alkalinity, sludge-haulage volumes, solids flows to and from the digesters, energy generation from various sources and natural gas costs. Training was provided to facility personnel on the best points of product application. BioReact AD was added to the digesters starting in November 2018 with a daily dosing of 50 lbs. The goal was to boost biogas and enhance solids reduction. The demonstration took place over 90 days.

