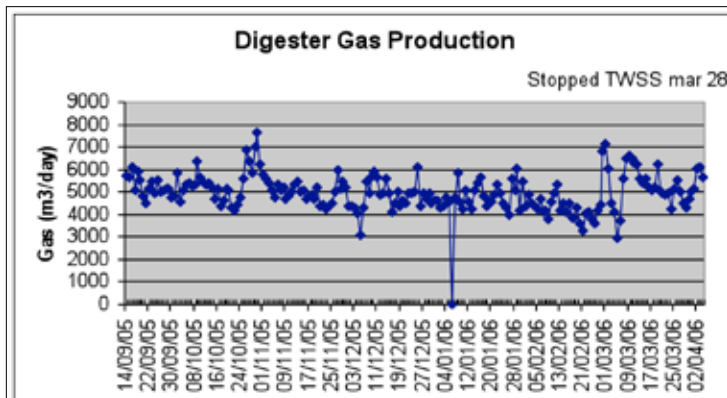


# PRODUCT SPOTLIGHT

## Cortec's Bionetix BCP12 Increases Methane Production in Anaerobic Digester Systems.



Anaerobic digestion (AD), is the process by which organic materials in an enclosed vessel are broken down by microorganisms, in the absence of oxygen. Anaerobic digestion produces biogas (consisting primarily of methane and carbon dioxide) and AD systems are also often referred to as "biogas systems". Depending on the system design, biogas can be combusted to run a generator producing electricity and heat, burned as a fuel in a boiler or furnace, or cleaned and used as a natural gas replacement.

There are three conventional options for the scale of the AD system. Farm-Based Systems are typically designed for one farm's manure, for the manure from several nearby small farms. Farm-based systems are sized to utilize the farm-based byproducts, to provide sufficient heat or power for the farm (such as at a greenhouse), or to provide surplus power to the local electrical lines. Food Processing AD Systems may have similar characteristics and designs as farm-based systems, or they may be designed for removing organic matter from wastewater. Food processing systems will likely be sized to meet either the heating requirements of the facility or to manage the byproducts produced on-site or from several food processing facilities. In centralized AD Systems, material from many farms and food processing plants is hauled to a centralized operating facility.

facility. Heat from the centralized AD System is used at nearby commercial facilities or for heating residences.

Although the fundamentals of an AD System are very simple, the operation and control can be complex. Fresh organic material is required so that optimum organic matter is available for digestion by the bacteria product. A narrow temperature range suitable for digestion must be maintained. Problems of plugging, crusting, or foaming should be eliminated. One of the major challenges is to produce sufficient and consistent biogas to make the economics of the system work - that is to ensure the conversion to methane has been good.

Methane gas production can be boosted by bioaugmenting biosolids digestion with Bionetix BCP12 that contains selected strains of bacteria and ancillary organic compounds containing various micronutrients. BCP12 promotes the performance of methanogenesis, and may reduce the generation of methyl mercaptans.

A Water Pollution Control Plant in Ontario, Canada, which provides primary treatment, phosphorus removal, and anaerobic sludge digestion, uses the methane gas produced during the anaerobic digestion process as an energy source for mixing in its digester enhancement BCP12 to promote methane production.

In addition to improving the efficiency and methane output of an anaerobic digester, BCP12 is a potential tool to decrease the recovery period, and increase biogas production of some anaerobic digesters after toxic event. Digesters with poorly adaptable microbial communities may benefit greatly from bioaugmentation.

When it's time to boost methane gas production in an anaerobic digester system, it's time to use bioaugmentation with BCP12, a digester enhancement.