Water & Environmental Technologies

BG Max 3000

BG Max 3000 is a biological formulation combining beneficial microorganisms and fast-acting enzymes. BG Max 3000 can be used in a variety of industries that use anaerobic treatment for high-strength wastewaters. It increases biogas generation, reduces solids, and improves efficiency of anaerobic digesters.

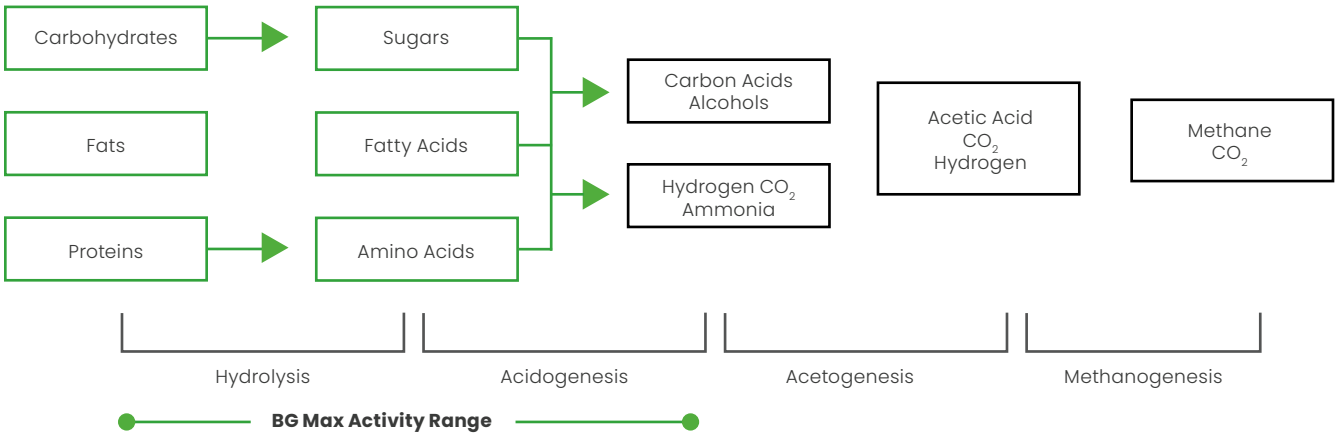
Benefits

The microorganisms and enzymes in BG Max 3000 were chosen for their ability to generate biogas and increase anaerobic treatment efficiency. As more COD is degraded in the anaerobic treatment stage, more biogas can be produced, and less COD gets sent to the aerobic system.

Anaerobic wastewater systems are designed to treat high-strength waste streams but are very sensitive to fluctuations in loading, changes in wastewater composition, or changes in the operating conditions. BG Max technology helps to overcome these deficiencies (if present) and enhance system performance.

Performance

Biogas is generated during a four-step biological process. The first step of the process, hydrolysis, results in the conversion of carbohydrates, fats, and proteins to sugars, fatty acids, and amino acids. Following hydrolysis, the acidogenesis step results in the production of carbon acids. The third step, acetogenesis, results in acetic acid, carbon dioxide, and hydrogen. The final step, methanogenesis, is where methane is formed by specific microorganisms called methanogens.



ENVIROZYME®

BG Max 3000 is most active in the hydrolysis and acidogenesis steps. The microorganisms and enzymes in BG Max 3000 degrade a wide range of organic compounds, including proteins, fats, sugars, and starches. BG Max contains facultative microorganisms, meaning that they are able to grow in both aerobic and anaerobic environments.

Performance will depend on system and plant design and operational specifics. The primary performance benefit for BG Max 3000 is generally linked to the amount of biogas generated and the amount of COD degraded. Anaerobic systems produce less sludge than conventional, aerobic activated sludge systems and require less energy. Therefore, any additional COD degraded in the anaerobic system reduces overall solids handling costs and the overall energy demand.

Figure 1 shows the results when BG Max 3000 was added directly to an anaerobic unit for a swine processing plant. The plant experienced a 37% increase in biogas yield.

Figure 2 shows the COD reduction results of a fruit preserve processor. After adding BG Max 3000, the COD removal efficiency increased by 18% in the anaerobic treatment unit. This stabilized the downstream aerobic system and reduced solids removal costs and energy demand.

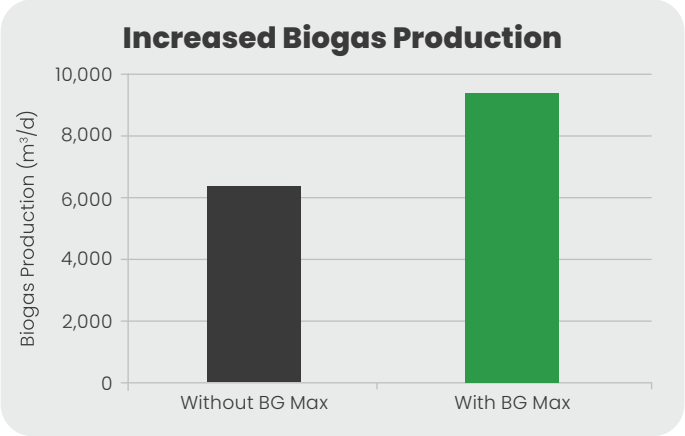


Fig. 1 Biogas production was 37% higher with the use of BG Max 3000.

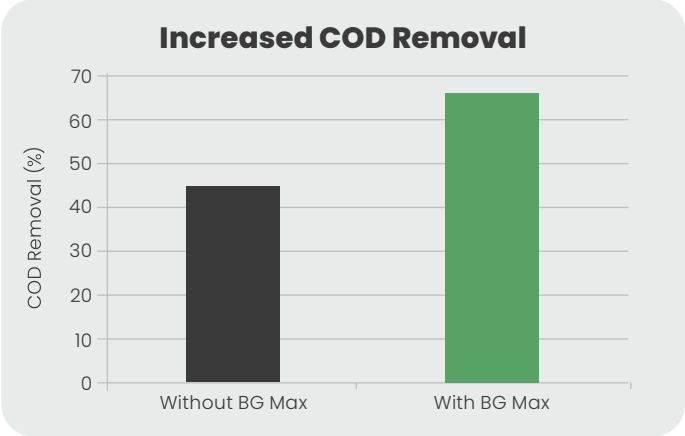


Fig. 2 COD removal was 18% higher with the use of BG Max 3000.

Recommended Use

BG Max 3000 is generally added daily to the influent waste stream just prior to entering the anaerobic or anoxic treatment unit or digester. BG Max 3000 can be used in a variety of industries and treatment system types.

Product Characteristics

PRODUCT	APPLICATION	PHYSICAL FORM
BG Max 3000	Anaerobic Treatment/Biogas • Effective in anoxic and anaerobic environments • Enhance biogas production	Dry Powder in Bulk and Water-Soluble Pouches

Find more information at www.envirozyme.com.

**Target industries: Industrial wastewater*

Safety, Handling, and Storage

Store in a cool, dry place. Avoid inhalation of dusts. Wash hands thoroughly with soap and water after handling. Avoid contact with eyes. More information can be found in the corresponding product safety data sheet (SDS).

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