

PROBIOTIC SOLUTIONS®

Industrial Wastewater Treatment For Corn Processing Plant

CASE STUDY

Location: Indiana

Problem

Within a few months of operation, a lagoon and spray field system at a corn processing plant in Indiana began giving off offensive odors. COD levels in the anaerobic and aerobic lagoons climbed to 8,000 mg/L and 4,000 mg/L respectively. The pH in the anaerobic lagoon was dropping dangerously low for methane production. Attempts to resolve the issues with bacteria, odor masking products and lime were unsuccessful and short-term at best. Lime settled to the bottom of the lagoons, temporarily raising pH and reducing odors. The odor soon became unmanageable and an annoyance to neighbors.

To reduce loading to the wastewater system, the mill operates a solids separator and an anaerobic upflow reactor. Following the anaerobic reactor are two lagoons: an anaerobic lagoon, and an aerobic lagoon with a spray field for a final effluent disposal. The lagoon wastewater system capacity is 160,000 gallons per day (gpd), operating 5 days per week, 24 hours per day.

Solution

In March, BIO ENERGIZER® was administered to the anaerobic lagoon at the rate of 1 gpd. Within 4 weeks of initial application, pH began rising and the odors were dramatically reduced.

After approximately 3 months, COD in the anaerobic lagoon dropped from 8,000 mg/L to 200 mg/L. Because surplus effluent was being sent to the city where excess COD charges were levied, the corn processing plant saved approximately \$22,000 per month in loading surcharges. As methane generation began, the lagoons became more biologically active, the pH self-adjusted, and the ponds began reducing the COD/BOD as designed.

Plant Manager Geraldo O.

"It's the silver bullet we've been looking for all along."

Plant Operator Steve W.

"We tried everything to solve the (odor) problem....We've been tickled to death with the product."

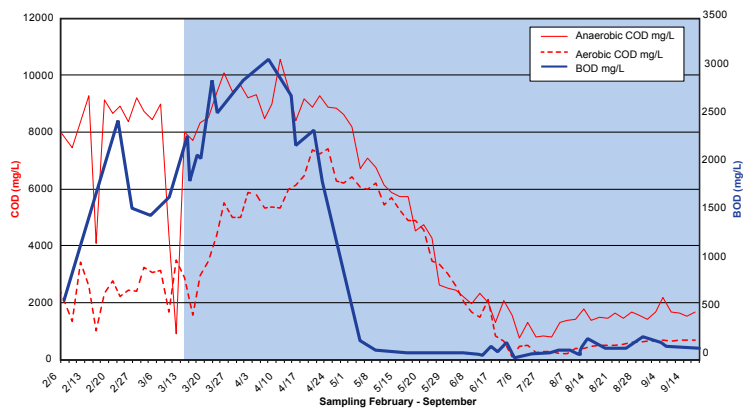
Plant Operator Ken R.

"It definitely works. BIO ENERGIZER® allows us to function more efficiently."

Results

At the end of the initial 30-day period, COD reduction improved in the anaerobic and aerobic lagoon (see Chart 1). Odor and pH levels also improved.

Chart 1. COD/BOD Before and After BIO ENERGIZER®



Conclusions

Probiotic Solutions® BIO ENERGIZER® applied over a period of 30 days to the anaerobic lagoon system of a corn processing wastewater treatment plant resulted in BOD and COD reduction, odor reduction, and improved pH levels. COD levels in surplus effluent that was pumped to the city dropped from 8,000 mg/L to 200 mg/L, saving the plant \$22,000 per month in excess COD charges.

Product Information

Probiotic Solutions® BIO ENERGIZER® is a formulation of nutrients, organic acids, natural biological stimulants, and energy systems that balance the natural microbial ecosystem to increase bio-oxidation capacity in lagoon systems. BIO ENERGIZER® is a broad-spectrum bio-activator containing over 30 essential microbial growth-promoting ingredients.

Wastewater facility operators have been using BIO ENERGIZER® for many years to cut their sludge-hauling costs. For more information, go to www.probiotic.com.

Probiotic Solutions® Product Information

For many years, wastewater operators have continued to use BIO ENERGIZER® to cut sludge hauling costs.

BIO ENERGIZER® is a broad-spectrum bio-activator containing over 30 essential microbial growth-promoting ingredients. By design, BIO ENERGIZER® is a balanced formulation of vitamins, trace nutrients, enzymes, organic acids, and biostimulants that stimulate the existing microbial community to greater metabolic capacity and efficiency. BIO ENERGIZER® is not a bacterium nor an inoculum.

For more information, go to www.probiotic.com.

Operators Using BIO ENERGIZER® Report:

- 1) Increases in BOD removal efficiency.** BIO ENERGIZER® improves treatment plant BOD removal efficiency to increase plant treatment capacity and more easily meet effluent requirements.
- 2) The elimination of expensive dredging costs.** BIO ENERGIZER® converts sludge into gases and water, reducing sludge accumulations. No draining, drying, excavating, or inconvenient down time.
- 3) The reduction of odors and aeration costs.** BIO ENERGIZER® enhances aerobic and facultative biological ecosystems to reduce the production of objectionable and offensive odors and enhances dissolved oxygen levels, which decreases the need for aeration.

BIO ENERGIZER® enhances endogenous respiration for faster and more complete oxidation of sludge into carbon dioxide and water.



Our Probiotic Solutions® Products

Are Highly Efficient and Effective Due to Our Unique Delivery System

Call Toll-Free Today for Your Free Quote and System Evaluation.

1 (800) 961-1220