

POULTRY PROCESSING PLANT

Case study showing more than 50% sludge reduction; DO increase to 1.2 mg/l; Elimination of noxious odors; Savings in chemical usage and Lowering of Effluent BOD and TSS

A food Poultry Processing Plant in North Carolina generates 800,000 gpd of high strength waste. The wastewater treatment plant consists of influent into an 11 MG anaerobic pond, 16-20 feet deep with a concrete cover. Overflow is to two aeration basins, then to a DAF unit. The DAF separates solids that are land applied with the liquid waste going to the city treatment plant for further treatment.

Pre-Treatment Conditions

1. The anaerobic pond was completely filled with solids; no ability to remove solids. The dissolved oxygen levels were 0 mg/l.
2. Hydrogen sulfide odors were pervasive throughout the plant; operating costs included lime and peroxide for odor control with limited success.
3. The aeration basins were covered with a thick, greasy foam blanket.
4. The plant was paying the city a large monthly surcharge on BOD and TSS to further treat the liquid waste.

BYO-GON PX-109® Treatment Program

Treatment began with setting up a recirculation line in the anaerobic pond to gently stir the contents. A metering pump was set up to inject **BYO-GON PX-109®** into this line. On Day 1, the pond was shocked with **BYO-GON PX-109®** added via the metering pump.

Changes Noted After the First Year of Treatment

Anaerobic Pond: More than 8 feet reduction to sludge blanket with clear water on the surface, dissolved oxygen levels average 1.2 to 1.4 mg/l; odors gone.

Aeration Basin: Grease cap gone and DO levels up, odors gone.

DAF: Solids reduced over 800,000 pounds per month, less polymer usage.

Effluent From Plant: Now cleaner than effluent from city treatment plant; plant no longer paying high surcharges; BOD and TSS <20 mg/L.

Odors: Hydrogen sulfide eliminated with no need for lime or peroxide.