

Industrial Wastewater

CP Feed Mill, Thailand

Background

CP Foods, the largest animal feed producer in the world, began using BiOWiSH™ Aqua at its Aquatic feed mill in Ban Phru, Thailand, to help the plant come into compliance with local environmental standards limiting the amount of Total Suspended Solids (TSS) in discharged wastewater. The facility also wanted to reduce sludge that had accumulated in its polishing pond.

Releasing untreated or improperly treated wastewater can cause pollution to nearby land and waterways and poses health risks for humans, animals, and vegetation. The Thai government has been working with companies to reduce water pollution from industrial waste discharge.

Objectives

CP Foods had two primary goals for the testing:

1. Reduce accumulated sludge in wastewater polishing pond
2. Improve water quality by lowering TSS

Solution

BiOWiSH™ Aqua was chosen for the testing because of its proven ability to remove nutrients from wastewater. BiOWiSH™ Aqua is a novel composite biocatalyst consisting of microorganisms, enzymes, and non-enzymatic co-factors. The product reduces odor, Volatile Organic Compounds (VOC), COD, BOD, and Total Suspended Solids (TSS).

Implementation Program

Workers activated 1kg of BiOWiSH™ Aqua in 200 liters of water and let it sit for 24 hours. The activated BiOWiSH™ Aqua was then sprayed by hand into the polishing pond. Aerators were set up to help rotate the wastewater and reduce the inflow. Samples were taken for analysis on the edges and in the center of the pond.

BiOWiSH™ Aqua Benefits

- Reduces sludge production and handling
- Increases plant capacity; Capital avoidance
- Reduces odors
- Reduces aeration; Energy savings
- Reduces need for chemical additives
- Improves plant stability
- Reduces hydrogen sulfide, ammonia, and nitrates
- Pre-treats influent in collection systems
- 100% natural and non-toxic

Available Sizes

- 100g/3.5oz
- 1kg/2.2lb





Activating BiOWiSH™ Aqua



Dosing BiOWiSH™ Aqua



Before BiOWiSH™: water in the aerator is dirty & cloudy

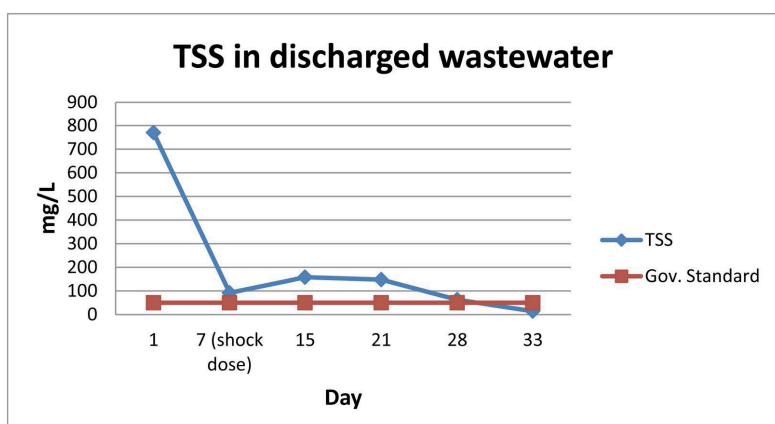


After BiOWiSH™: water in the aerator is clean & clear

Within two weeks of applying BiOWiSH™ Aqua, sludge measurements in the feed mill's polishing pond were lower. After 5 weeks, sludge had been eliminated in many of sample locations and reduced by more than 85% in the others.

Sludge level in Polishing Pond						
	Week 1	Week 2	Week 3	Week 4	Week 5	% Reduced
From pond edge 2 m	80 cm	70 cm	30 cm	15 cm	0 cm	100%
From pond edge 2 m	1.20 m	1 m	40 cm	20 cm	10 cm	91%
Middle of Pond	2 m	1.80 m	80 cm	30 cm	20 cm	90%
From pond edge 2 m	50 cm	40 cm	20 cm	15 cm	0 cm	100%
From pond edge 2 m	70 cm	60 cm	30 cm	20 cm	10 cm	85%
From pond edge 2 m	40 cm	30 cm	20 cm	10 cm	0 cm	100%

BiOWiSH™ Aqua also showed great potential for lowering Total Suspended Solids (TSS). In less than five weeks of treatment, TSS was significantly reduced and brought into compliance with the government standard.



Day	TSS (mg/L)
1	770
7 (Shock Dose)	92
15	158
21	148
28	63
33	14

Conclusion

BiOWiSH™-Aqua is extremely effective at helping to remove sludge from industrial wastewater even after long periods without maintenance. At the CP Foods aquatic feed mill in Banpru, BiOWiSH™-Aqua completely removed sludge from many of the sample locations in the polishing pond during the five week trial. Total Suspended Solids were also greatly reduced. In about a month, the TSS level at the plant was lower than the government standard.

Contacts

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