

BiOWiSH® Manure & Odor - Swine & Poultry

Agricola Lorenzini Swine Farm in Molina, Chile Improves Effluent Management

Background

Agricola Lorenzini is a 600-sow farrow to finish swine producer located in Molina, Chile. They raise pigs in barns where the manure falls into shallow pits underneath the animals. The effluent is then spread over surrounding crop land. The farm is dealing with high odor issues and very high levels of biochemical oxygen demand (BOD), total suspended solids (TSS), and nitrogen.

Effluent high in BOD, TSS, and nitrogen can be harmful to vegetation and wildlife in the area and cause health problems for humans. BiOWiSH® reduces the likelihood of these negative impacts by rendering effluent safer for discharge in less time than other available treatments.

Objectives

The specific focus of the trial was to assess the impact of BiOWiSH® on BOD, solids, nitrogen, and odor levels which are all typical measures of the strength of the effluent.

Solution

BiOWiSH® Manure & Odor (Swine & Poultry) was used for the trial. Specially formulated to digest sludge, manage nutrients, and reduce odors from manure lagoons and pits, BiOWiSH® Manure and Odor Treatment accelerates the breakdown of organic waste and odor causing molecules. BiOWiSH Technologies has another treatment product designed for use on beef and dairy farms.

Implementation Program

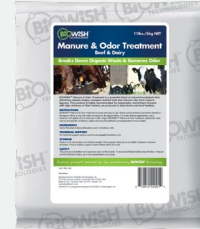
The effluent management system at the trial site consists of “shallow pits” below the barn floor, collecting swine waste. Each barn consists of 10 pens and houses approximately 240 pigs. Piglets arrived into the control barn seven days before the piglets arrived into the BiOWiSH® treated barn.

The implementation team activated 400 grams of BiOWiSH® in 40 liters of water then added the mixture to the shallow pits in the treatment barn 12 days after the piglets arrived. Both the control and treatment barns were flushed on the same day, 25 days after the piglets arrived in the treatment barn. Samples were taken from both bars right before the flushing took place.

Results

Laboratory analysis was obtained from effluent in both barns 25 days after BiOWiSH® was applied. Effluent was analyzed at HIDROLAB, a commercial laboratory in Chile. Following the introduction of BiOWiSH®, improvements were recorded for BOD, TSS and Nitrogen. People on the farm also reported less odor in the BiOWiSH® treated barn.

BiOWiSH® Manure & Odor

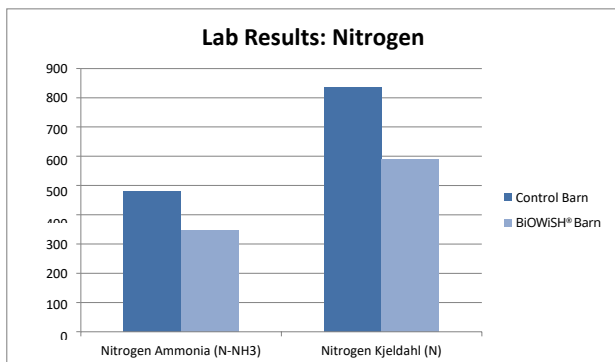
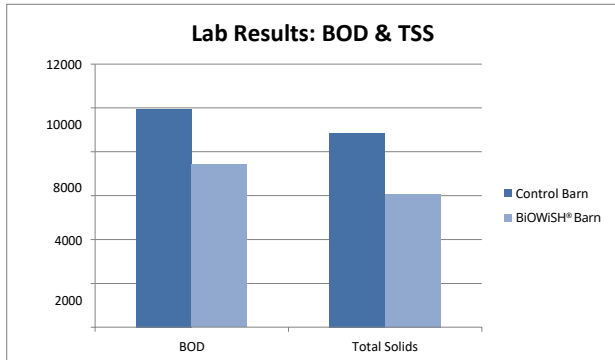


- Accelerates the decomposition of organic waste (sludge)
- Reduces the need for sludge pump outs
- Removes rather than masks odors
- Improves nutrient availability for crops
- Keeps concrete surfaces clean reducing slippage

Available Sizes

- 1kg/2.2lbs
- 5kg/11lbs
- 10kg/22lbs

Parameter	Control Barn	BiOWiSH® Barn	Difference
BOD (mg/L)	9960	7420	-25.6%
Total Solids (mg/L)	8865	6070	-31.5%
Nitrogen Ammonia (mg/L N-NH ₃)	479	364	-27.8%
Nitrogen Kjeldahl (mg/L N)	835	590	-29.5%



Conclusion

BiOWiSH® significantly lowered the BOD, TSS, and nitrogen levels in the barn that was treated when compared to the non-treated barn. According to human olfactory observation, treatment with BiOWiSH® also reduced odor. As a powerful composite biocatalyst, BiOWiSH effectively accelerated the natural decomposition of the swine manure in the treated barn, making it safer for use on nearby crop lands.



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