

ERGOFITO IN ACTION

Give Nature What Nature Wants

Hog's Daily Waste Biological Conversion



ERGOFITO

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PREAMBLE:

Disposing of hog's waste is the base of continuous research worldwide as a sustainable and economic solution has not yet been available. Many systems are utilized with aerobic/anaerobic lagoons been the most commonly used. Algae conversion, reverse osmosis, digesters and many other systems have achieved various levels of success and failure.

Simplicity, sustainability and reverting back to nature eventually prove that a long-term economic solution does exist.

BACTERIAL INTERVENTION:

Beneficial bacteria require retention time, air and humidity. All three elements are found in most hog's farms. The introduction of **Ergofito** at the pig's pen and can be delivered by overhead mist sprayers or floor mist sprayers. It is beneficial for the pig's health and does not irritate the skin when applied on the hog itself.

Upon application immediate conversion of Ammonia into Nitrates occurs rapidly and thus eliminates smells with immediate effect. Decomposition commences and follows through all the way to the lagoons.

Soft aeration of the holding ponds is recommended. The smaller and softer the bubbles the higher the oxygenation and greater the decomposition.

Bacterial competition for nutrients will starve the pathogens and after a retention time of 16 hours the pathogens are eliminated. Both the sludge and the liquid are now ready for application on the field as fertilizer.

NH₃ elimination at the pig's pen increases the health of the animal thus assisting in weight gain.

TREATING HOG'S PENS:

Problem: Ammonia NH₃

Ammonia is the most common poison in the pig's environment. The concentrations of the various gases found in piggeries are expressed as parts per million (ppm).

The human respiratory tract can detect levels at around 10ppm.

Levels of ammonia from 50 to 100ppm affect the animal's performance, particularly daily gain that may be reduced by up to 10% during prolonged periods of exposure.

At levels of 50ppm and above the clearance of bacteria from the lungs are also impaired and therefore the animal is more prone to respiratory disease.

Clinical signs include increased coughing and respiratory rates, irritation of the mucosa lining the respiratory tract and an increased incidence of pneumonia.

Pigs are restless, uncomfortable and may show increased levels of vice, such as tail biting, ear biting and flank chewing.

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Solution:

In order to eliminate Ammonia NH₃ an **Ergofito** bacterial spray is applied in the pen. This can be done from a mist spray from the ceiling or it can be sprayed at the Hog's feet on the concrete. It can also be applied directly below the grid at the hog's effluent recovery floor.

In all three solutions, Ammonia will immediately abate and be eliminated by bacterial food competition.

The daily dosage to apply is 0,07 Ounces (2 grams) per hog mixed in water.

Once **Ergofito** is on the effluent, (liquid or solid) it will continue with a natural decomposition path and eventually will land in the ground if the said effluent is used as fertilizer. This will benefit the land.

Odour is immediately abated below the required 5ppm of NH₃. This reduces the possibility of Methane CH₃ forming, as decomposition will affect any formation of anaerobic situations.

Pathogens are reduced and possibly eliminated depending on the retention time in the slurry pond.

CONVERTING HOG LIQUID EFFLUENT INTO FERTILIZER:

Hog's slurry is a good fertilizer provided it has been pre-treated with **Ergofito Bio-Flush H**.

Each hog produces 1,5 to 2 gallons per day of slurry. The said slurry contains the following nutrients:

Nitrogen N	0,06 pounds
Phosphorus P	0,02 pounds
Potassium K	0,04 pounds

Ergofito Bio-Flush H will balance the pH., add the missing nutrients and eliminate both the smell and the pathogens rapidly. Therefore using treated hog slurry, as a primary fertilizer is an attractive proposition.

A barn with 1200 hogs will produce the following each year:

Nitrogen N	157 680 pounds
Phosphorus P	52 560 pounds
Potassium K	105 120 pounds

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Methodology:

The required time period to make a fluid stabilized organic fertilizer is 10 weeks. The following is required per barn containing 1200 hogs:

- 700 cubic yards aerated pond (aeration is a simple pump in and out)
- 1 x aeration pump of 3 KW
- 15 000 pounds of **Ergofito Bio-Flush H**

Outcome:

- Total odor abatement within hours of mixing
- Elimination of surface crust in the pond
- Reduction of bottom of pond silting
- Introduction of beneficial micro-organisms
- Increase crop results where this fertilizer is applied
- Organic and complete green solution



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