

**E R G O F I T O   I N   A C T I O N**

Give Nature What Nature Wants

## Treating Hog Waste with Nature



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 been available.

Many aerobic/anaerobic lagoon systems are mostly been 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.

## SYSTEM INTEGRATION:

As most farms are well established, integrating a solution into the existing infrastructure is important.

**Ergofito** bacterial approach is based upon recovering all the N.P.K and other minerals for usage in farmland rather than abating and loosing nutrients.

At the same time the elimination of all pathogens and bad odours are kept as a priority by using **Ergofito**.

All mechanical and existing infrastructures including the lagoons remain as is.

## BACTERIAL INTERVENTION:

Beneficial bacteria require retention time, air and humidity. All three elements are found in most hog's farms.

The introduction of **Ergofito Bioflush** at the pig's pen 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, Nitrogen 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 the higher the decomposition.

Bacterial competition for nutrients will starve the pathogens and after a retention time of 16 hours the pathogens are eliminated.

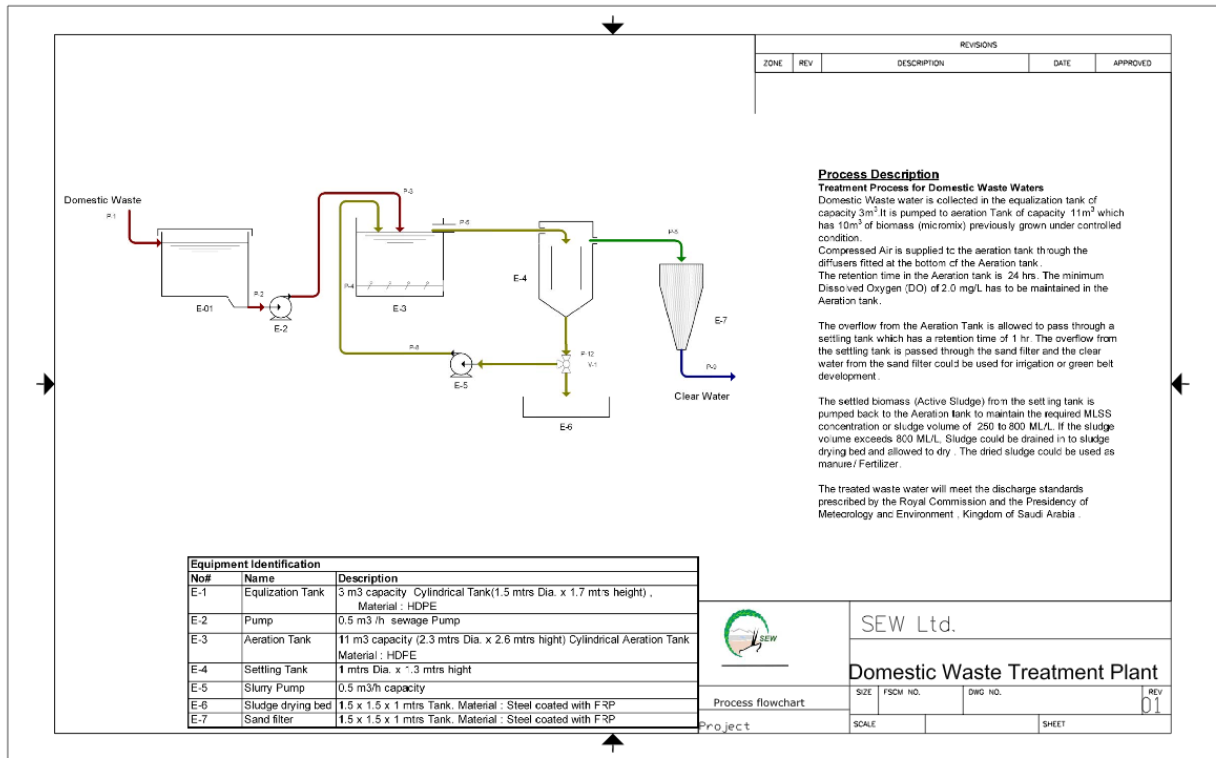
Both the sludge and the liquid are now ready for application on the field.

NH<sub>3</sub> elimination at the pig's pen increases the health of the animal thus assisting in weight gain.

## WATER RECIRCULATION:

In the likely event that water needs to be recirculated to wash down the hog's pens, it is imperative that the said water does not carry any pathogens and the odours are totally eliminated.

To safely achieve water standards for recirculation, it is advisable to use a simple three stage water treatment plant as shown below:



The above plant is simple and will treat the water to any desired standard by simply increasing the bacterial injection amount (**Ergofito Bioflush**).

This plant is only necessary if water needs to be recirculated. The secondary sludge produced by the above plant can be used as a fertilizer without any further additions.

## DEWATERING SOLIDS AND URINE:

The above plant will assist in dewatering the combined waste and wash water as recovered water will be circulating.

In order to further solidify the now treated waste, it is recommended to add dry organic matter like saw dust to bulk up the fertilizer. If sawdust is added, it is necessary to add Nitrogen in the form of Urea or similar to compensate for the negative Nitrogen spike that the decomposition of the organic matter will provoke.

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The usage of heat to dewater is not recommended for economic and environmental reasons.

### EXAMPLE GIVEN:

The following example is based on popular hog commercial farming practices.

### Parameters:

Number of hogs	1000 animals
Typical waste per day	2000 gallons
Washing water required	5000 gallons

### Recommendation:

1 x 8000 gallons three stage waste water treatment plant.

60 Kg of **Ergofito Bioflush** per month

Footprint required for waste water treatment plant:

1000 square feet maximum.

If the waste water treatment plant is not installed, the amount of bacteria remains the same.

It is recommended; if possible that the whole produced waste once treated with **Ergofito Bioflush** is used as fertilizer to grow food for the hogs.

### CONCLUSION:

The above described waste water natural management method will eliminate all pathogens and smells normally associated with this industry.

Furthermore a full recovery and re-usage of all wastes turns hog farming into a green business.



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