Liquid Composting of Manure

Air

Water

Biosolids
The Task

Nowadays, pig and poultry farming is carried on in a large scale. Livestock usually grows without bedding, the excrements being disposed of as a liquid mixture. The contents of manure make it a valuable fertilizer. However, there are limitations regarding quantity and periods of application to agricultural land.

The Challenge

Due to legal and practical requirements manure has to be stored before applying it. It is recommended that it undergoes a treatment to avoid bad odours, improve its quality as a fertilizer and minimize the release of gaseous nitrogen into the environment. Pathogens may entail application restraints.

The Final Product: A valuable fertilizer - First Class Biosolids

Digested manure contains valuable organic and mineral components. Agricultural application returns them into the natural cycle.

FUCHS liquid composting at thermophilic temperatures (> 50°C) provides for stabilization as well as disinfection. Under ecological as well as economical aspects this FUCHS technology is the premium choice.

High temperatures for disinfection

Easy to install

Sturdy and efficient equipment
Fundamentals

Liquid composting takes place at elevated temperatures (35 - 60 °C). Volatile solids contained in the manure are biologically degraded and converted into biomass.

Biological degradation takes place aerobically. The energy contained in the manure is released. Due to this biological activity the manure heats up autothermally to temperatures ranging from mesophilic to thermophilic. At thermophilic temperatures (> 50°C) the sludge is stabilized and disinfected simultaneously.

A detention time of only 6 - 8 days generates a premium product. The FUCHS CENTROX Aerator provides for aeration, mixing and foam control.

Advantages

Improving Economic Efficiency
- Short detention time
- Simple tanks
- Low investment cost
- Autothermal process
- Disinfection at thermophilic temperatures
- Final product: valuable fertilizer
- Easy storage of well-stabilized low-odour product
- Sturdy and efficient process and equipment

The FUCHS CENTROX Aerator is the key to liquid composting. It features fine-bubble aeration, thorough mixing of the tank and reliable foam control.

The CENTROX Aerator is fix mounted in well-designed tanks. Installation in existing tanks as well as in existing lagoons is also possible.

The sturdy and efficient CENTROX Aerator, which is made of high-quality materials, is almost maintenance free.

Machinery

The CENTROX Aerator for excellent aeration and foam control

CENTROX Aerator on flotation
That’s your way to a Clean Solution!

The Equipment

Aerators
- OXYSTAR Aerator
- CENTROX Aerator
- CENTROX Aerator with foam control
- AEROSTAR Aerator

High Speed Mixers
- TURBOSTAR Mixer
- Submerged TURBOSTAR Mixer

ATAD Equipment
- Spiral Aerator
- CENTROX Aerator
- Foam Controller

Biofilters for Odour Control
- with integrated pre-scrubber
- with separate pre-scrubber

The Applications

- Municipal Wastewater
- Industrial Wastewater
- Activated Sludge Plants
- Aerated Lagoons
- Nitrification/Denitrification
- Aeration of Rivers and Lakes
- Balance and Equalization Tanks
- Neutralization of Alkaline Wastewater
- Mine Water Treatment
- Leachate and Landfill Lagoons
- Biosolids Treatment
- ATAD-process (Autothermal Thermophilic Aerobic Digestion)
- ATAD AIC™ (Advanced Integrated Concept)
- Liquid Composting of Manure
- Odour Control

FUCHS
Clean Solutions

FUCHS Enprotec GmbH
Stocktal 2 · 56727 Mayen · Germany
Phone +49-2651-8004-0 · Fax +49-2651-8004-135
info@fuchs-germany.com · www.fuchs-germany.com