

**It's the Pits**

## An Effective Manure Treatment Product Technology for Swine, Dairy or Beef Pits and Lagoons

### Bioaugmenting Manure to Enhance Nutrient Cycling

Raw manure can cause major issues in the soil if not properly augmented. High salt levels, pathogens and toxic substances can all wreak havoc on the soil food web. One of the best ways to combat the negative attributes of raw manure is to bioaugment it before application to the soil. Bioaugmenting manure is a process that will enhance nutrient cycling, reduce harmful pathogens and reduce salts in the soil. The result will be high-quality nutrient rich and biologically active manure that your plants and soil will love.

Bioaugmenting is a process in which microbes break down manure and urine into more plant useable forms of nutrients. When manure is applied, the presence of beneficial biology in the manure increases nutrient cycling efficiency so more nutrients are available to the plant throughout the growing season. Microbes increase nutrient cycling by pulling apart the chemical bonds that hold nutrients together. This process releases nutrients into plant available forms for efficient uptake by the plant.

The bioaugmentation of manure will also help reduce the presence of harmful pathogens that are commonly present in raw manure. Though most pathogens found in manure are host specific, meaning they only infect a specific type of animal, some are highly adaptable and pose a risk to human health. By bioaugmenting the manure, the manure ecosystem is flooded with beneficial bacteria that will outnumber and out-compete the harmful pathogens for food. When beneficial biology is in control of the pit, pathogen presence is significantly reduced and, in some cases, completely removed from the system. By removing the pathogens, the risk of environmental contamination is greatly reduced and allows waterways, food supplies and humans to remain healthy.

Another benefit of bioaugmentation is the drastic reduction in salt levels in comparison to raw manure. It can contain from 25 to 100 pounds of salt per 1,000 gallons of manure. If 5,000 gallons of manure per acre are applied annually, it's like applying 1,500 pounds of salts over a three year period! Salt can have many negative impacts on the soil including reduced yields and increased compaction. When harsh, high-salt raw manure is applied to the soil, it takes three to four months for microbes to break down the manure into a plant available form. When bioaugmented manure is applied to the soil, the salt levels are already substantially reduced before application and reduce the risk of yield loss and compaction.

Manure is a key source of nutrients for many growers throughout the country and if not properly managed can cause long-term negative effects on the soil and ecosystem. Bioaugmentation is one of the easiest and most effective ways to manage manure and the benefits of increased nutrient cycling, the reduction of pathogens and a substantial reduction in manure salt content will benefit any farmer.



There are many more benefits to bioaugmenting manure so call in on **June 5, 2014** for our **FREE Teleconference** as we will discuss this process and field your questions on the nutrient cycle. **Soil health**, both the **Biological** and **Nutrient Balance**, are keys to improving the food quality.

## Microbial Manure Master™

Microbial Manure Master is the premier manure treatment technology used to bioaugment the manure. It contains 17 strains of beneficial bacteria including the aggressive purple non-sulfur bacteria. The Manure Master technology provides enhanced manure digestion that is critical to manure storage related issues and problems.

It is designed specifically to provide the following benefits:

- Significantly reduces surface & bottom solids
- Provides a consistent manure slurry from first to last load
- Enhances manure fertilizer value by biological cellular nutrient storage
- Significantly reduces manure mixing at time of draw down Microbial Manure Master™
- Reduces barn odor and odor on land applications
- Reduces Hydrogen Sulfide emissions
- Reduces fly population

In addition to the above benefits, Microbial Manure Master will:

- Enhance manure value on application
- Stimulate root growth
- Fix nitrogen
- Help control nutrient run off

Microbial Manure Master reduces agitation requirements and improves the ease of extraction and application from pits or lagoons. These benefits, combined with sludge reduction and reduced mixing, more than justify its use.

Microbial Manure Master™ carries a  
Performance Assurance Guarantee



ProfitProAG offers both a service contract and self treatment programs – Call us today to get your program started!