

## **Humates in Manure Management**

Manure is often looked at as a problem, however, the reality is that it is the most complete fertility choice a producer can use. Most producers underestimate its value and how to use it correctly in crop production. All manures contain the essential nutrients plants need to grow, and these nutrients levels can vary depending the species source, bedding material used, storage and application method used. The application of manures also help soil because of the added organic matter.

So, manure can yield beneficial results, but storing and managing manure comes with concerns and even dangers. Harmful gases and potent stenchs emit from manure which can actually hinder livestock and workers, especially in closed storage areas. Ammonia is one of these damaging gases which negatively affects health and output. Diseases in livestock, especially hogs, is found more often and widespread in animals exposed to manure in its natural state. In addition to the natural dangers of manure, it is also prone to solidification.

FeedBiotics, a division of SoilBiotics, manufactures a Carbon Based Acid (CBA) product aimed at ensuring a better environment when using manure. FeedBiotics Manure Digester provides three key components to improve manure management; trace materials, activated carbon, and humic acids. There are 64 trace minerals that, through the stimulation of microbes, break down solid matter and dangerous gases. The activated carbon prevents elements found naturally in manure from rendering microbes inactive. The humic acids help break down solids found in manure by making a better environment for stimulating the microbes.

For years, growers have applied manure to cropland as a convenient remedy to constant build-up, and an effective and thrifty way of adding N to the soil for the following years crop. Crops need a 6:1 N:P ratio. Fresh manure contains that ratio, however, by the time it is applied to crop land producers are lucky if the manure they apply has a 3:1 N:P ratio. This is due to the fact that most of the (NH<sub>4</sub>) ammonia is lost due to N fixation. The result is that manure originally testing at a value of 20 lbs./1000 gallons total N will in reality only have a value of 10 lbs./1000 gallons available N when applied.

Soil testing is a necessity, as testing has proven that P levels from manure applications can rise to unhealthy levels. This is the result of unused P being tied up, and then subsequent manure applications adding more P well beyond future crop needs. Additionally, manure is prone to solidifying. Other emerging concerns for manure use as a soil amendment include environmental impacts of other manure constituents such as pathogens, hormones, antibiotics, and nonessential trace metals on human health and environmental quality.



Use of high quality FeedBiotics Manure Digester has been shown to assist in manure management in a variety of ways. Humic products chelate nutrients and increase molecular bonds, helping to hold nutrients in place and prevent leaching. Via this same process, they help to lessen the impact of any toxic substances that are present in the manure.

SoilBiotics wide range of humic products have been successfully used to stabilize various N fertilizer products such as Urea and UAN28% on crops, so it just makes sense for producers to use the FeedBiotics product to stabilize manure N as well. Manure is a complete fertilizer containing macro and micro nutrients that plants need, so additional input costs can be decreased or eliminated. Using FeedBiotics Manure Digester makes economic and environmental sense for your manure handling systems.