

Natural Biotechnology and GGT Waste, affiliates of Green Growth Technology, Inc. have created a Confined Animal Feeding Operations (CAFO) Manure System that essentially turns organic wastes to water. This is one of several fact sheets that explain that system and its benefits to CAFO operators.

The GGT Waste AG Manure Treatment System uses a proprietary mixture of microorganisms called NBT-100 that:

- **Addresses concerns about CAFO lagoon water.**
- **Reduces odors resulting from anaerobic decomposition.**
- **Eliminates pathogens that multiply in the lagoon environment.**
- **Reduces nutrient buildup that prevents direct use of lagoon water.**
- **Attacks solids buildup.**
- **Reduces environmental and health issues arising from runoff and seepage.**

CAFO Lagoon Water Concerns

As the bulk of livestock production has moved from small farms to concentrated CAFO facilities, the collection, storage and treatment of animal wastes have become significant issues. Lagoons are the industry standard for holding and treating manure and wastewater because they are relatively inexpensive to construct, simple to maintain, and allow waste to partially decompose before field application. However, they are also the source of many health, environmental and disposal problems, all of which are addressed by the NBT-100 solution.

Lagoon Water Odors

The lagoon environment involves water filled with solid matter. Without constant aeration to introduce oxygen into the water, the resulting anaerobic decomposition of the organic materials produces offensive odors and strained relationships with neighbors. The highly active microbes in NBT-100 accelerate decomposition while killing bacteria that produce odors. The result is a nearly odor-free lagoon.

Multiple Pathogens

A CAFO lagoon is a breeding ground for multiple pathogens, many of which are harmful to humans. This is partly due to the water itself – pathogens survive and grow best in a high-moisture environment. NBT-100 is a highly effective pathogen-fighter, demonstrating reduction in Total Coliform bacteria of up to 99.9% when tested on New Orleans flood waters. The multiple bacteriocins in NBT-100 eliminate CAFO concerns about health risks from lagoon runoff or seepage.

Nutrient Buildup

Continual addition of animal wastes to a lagoon results in a high concentration of nitrogen, phosphorous and potassium (NPK) which prevents the water from being directly applied as a fertilizer. NBT-100 is highly effective in reducing these nutrients, allowing direct use of lagoon water for crop fertilization.

Solids Buildup

Lagoon crusting, sludge buildup and the resulting lagoon shrinkage are also significant factors for CAFO operators. NBT-100 effectively turns organic wastes and lagoon solids to water, eliminating crusting and maintaining lagoon capacity. The result is indefinite lagoon life and pumping of lagoon water without agitation.

Environmental and Health Issues

Lagoon water is a constant source of concern to CAFO operators due to possible environmental damage and health problems that seepage or runoff could produce. NBT-100 not only eliminates those concerns, it produces lagoon water compliant with continuous discharge requirements of many states.

The NBT-100 microbe strain developed by Natural Biotechnology and GGT Waste has been demonstrated to effectively address the environmental concerns, health issues and other problems associated with CAFO lagoon water.