



Lystek

Advantages of LysteGro®

Class A Biosolids

The Lystek Thermal Hydrolysis Process (Lystek THP®) technology produces a concentrated high solids liquid product, LysteGro®, that is considered a Class A biosolids in the US and is registered with the California Department of Food and Agriculture (CDFA) in California. In Canada, LysteGro is regulated by the Canadian Food Inspection Agency (CFIA). LysteGro has a solids content ranging from 13 – 16% with a viscosity below 10,000 centipoise. This means that it is fully pumpable using traditional liquid manure handling and application equipment.

There are several advantages to producing and managing a Class A biosolids.

Simple and Cost Effective Liquid Pumping and Storage Systems

Pumping LysteGro from processing to storage and from storage to truck loading is completed with standard pumps proven within the industry. This allows for rapid, familiar and low maintenance pumping operations, and accurate quantification of the volumes. Liquid solutions offer automation that is not possible with solid loading operations which often requires manned loading equipment. Concentrated liquid storage solutions reduce site footprint compared to solid options as storage tanks can be constructed with practically unlimited vertical storage capacity unbound by the slumping properties of dewatered biosolids.





Transportation Loading and Unloading Efficiencies

Depending on the site requirements, loading of tanker trucks can be completed quickly (5 – 10 minutes at larger facilities) and accurately. Additionally, the product can be transferred to the application tank in the field in as little as 5 minutes. The result is an efficient and clean program at both the facility and field sites with minimal staffing requirements.

Odor Mitigation with Enclosed System

From the point of production to application in the field, the product is contained within enclosed Reactors, piping systems, storage, tanker trucks, and finally the soil. Lystek THP generates minimal process air compared to dry alternatives, which require the evaporation of water and the liberation of odorous compounds that must then be captured and treated. This is a significant advantage when managing odor throughout the life cycle of the process.

Efficient and Cost-Effective Land Application

Due to the loading methods at the facility and in the field, LysteGro application programs are highly efficient. At the field, the product is injected into the soil subsurface, requiring only one pass over the field with the application equipment. This translates to less equipment, less staffing, and less time spent on fields as well as minimizes compaction risk and facilitates application into living crops.

Application Accuracy and Nutrient Use Efficiency

The application rate is controlled with flow meters to ensure it is placed evenly and accurately throughout the field. This provides confidence that the customer can rely on the material as a synthetic fertilizer replacement. This also creates opportunities for farmers to utilize their GPS technology to place the seed close (within 2" for example) to the band of LysteGro to optimize carbon and nutrient use efficiency. The sub-surface injection of the product minimizes nitrogen loss, maximizing the effective nutrient value of the product.

Environmental Protection

LysteGro is sub-surface injected, which increases soil contact and removes the risk of run-off. Additionally, because the material is concentrated there is a dramatic reduction in the overall water volume applied per acre versus traditional liquid programs. As a result, application above the hydraulic loading rate of the soil is not a concern with this product.

Improved Optics (Out of Sight, Out of Mind)

Injection of the product minimizes soil disturbance and the outcome is a professional job with little product on the soil surface, avoiding public nuisance and concern.

Value Proposition for the Farmer

The value proposition to the farmer is to provide a consistent quality product they can rely on to improve yields and reduce input costs. LysteGro is enhanced with potassium during the treatment process, adding further benefit to the farmer. The Lystek approach to Class A biosolids management is preferred by farmers compared with historical application methods, as it only requires one pass to inject and incorporate the product. Additionally, it is compatible with minimum till systems, which are rapidly growing in popularity in agricultural systems throughout North America.



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