The Development and Commercialization of Aerobic Digestion Of Poultry Manure to Produce Bio-Active Fertilizers

Project Lead: Marc Legault, Alberta Agriculture and Rural Development

This project is a continuation of the previous aerobic digestion project using poultry manure.

The bio-digestion of poultry manure to produce bio-active fertilizers will be further developed for commercialization. The project will build and compare crop yield of two parallel greenhouse water recycling systems. One will use nutrient solutions derived from poultry manure the other will employ synthetic fertilizers.

Key goals:

1. Investigate the technical feasibility and economic merit of ARD's aerobic digestion technology to produce Bio-Active Nutrient Solutions from poultry manure.
2. Investigate the environmental merit of ARD's aerobic digestion technology to produce biologically active greenhouse nutrient solutions from poultry manure.
3. Investigate the use of biologically active nutrient solutions to grow commercial greenhouse crops.
4. Investigate the use of biologically active nutrient solutions to grow greenhouse nutraceutical crops.
5. Investigate the impact of utilizing BANS when using field drip irrigation techniques in particular if nutrients and sodium buildup occurs within the soil.
6. Investigate the soil biology impact of utilizing Bio-Active Nutrient Solutions when using field drip irrigation techniques in particular monitor soil microbiology before and after a season's application.

Key objectives:

1. Characterize the fermentation process to ensure pathogen kill.
2. Optimize the fermentation process to yield stable nutrient product solutions.

Optimize the fermentation process to maximize the economic and nutrient value with regard to acid addition.