



PROBLEM

GreenField Ethanol Inc. (GFE) is a manufacturer and distributor of alcohol, with ethanol produced in its Chatham plant. The Chatham plant processes corn into fuel ethanol and industrial alcohol. Additional marketable by-products of the process are dried distillers grains, a high energy and high protein animal feed supplement, as well as carbon dioxide, which is used by the food and beverage industry.

In March 1999, GFE retained Jagger Hims Limited to prepare a technical report for the characterization of the corn mash/syrup mixture as biosolids for agricultural land application as an alternative to commercial fertilizer as well as to manage the land application program.

APPROACH

The oversight and management of the land application process was developed to provide direction for the application of the biosolids in an environmentally responsible manner with beneficial effects as an alternative to commercial fertilizer for agricultural soil enhancement and crop production. As such, the following tasks are routinely completed.

* Licensing new lands for biosolids application. * Consulting with a professional agronomist for nutrient recommendations and plant removal restrictions. * Co-ordinating the land application of the biosolids in accordance with farmers' schedules. * Supervising the field application process including monitoring of application rates and practices. * Providing records to GFE and the applicator contractor regarding compliance on an application-by-application process. * Maintaining permanent records of the location of the fields that received biosolids and the amount and quality of biosolids applied to each field, in accordance with the regulatory Guidelines. * Documenting relevant activities, results, and findings in an annual summary report.

RESULTS

After biosolids application, soil quality generally exhibits elevated nutrient concentrations and continues to satisfy Guideline criteria. Farmer participation is generally reflective of biosolids quality and availability. Agronomic benefits of biosolids application to agricultural land have been noted, such as increased crop yield, by some farmers currently involved in the GFE Biosolids Management Program.