

SUCCESS STORY

▶▶▶ PROVIDING TOOLS TO MANAGE LIVESTOCK NUTRIENTS

PROBLEM

Management at Jennie-O Turkey Store was seeking an efficient and environmentally sound GIS solution to help them manage animal (turkey) waste from their barns and feedlots in Barron, Wis. to farm fields in the surrounding 15-county area. Their current system was inefficient and labor-intensive.

SOLUTION

Applied Data Consultants, Inc. (ADC) helped Jennie-O Turkey Store implement an ArcView GIS from ESRI to improve their Soil Enrichment Program (SEP). The primary role of the SEP is to manage animal waste going to farm fields, where it is used to enhance soil quality and improve crop yields. Stringent environmental discharge permit laws also must be followed.

ADC developed an ArcView extension that allowed SEP staff to determine how much waste could be applied to a specific field, and at what rate, given the field's proximity to water, the general depth to groundwater and bedrock across the field, and the porosity of the soils within the field. Field slope and the proximity to private wells were also incorporated to determine the capability of the field and surrounding areas to handle the nutrient application.

ADC also created a geodatabase for Jennie-O, compiling the necessary base map data for the coverage area, as well as digitizing over 3,500 farm field boundaries.

RESULTS

Environmental regulations are consistently met, nutrients are spread on farm fields in an efficient, environmentally sound method, and staff time is reduced by eliminating the need for manual reports and maps.

