Agren provides planning tools for precision conservation

Jean Caspers-Simmet | Posted: Tuesday, July 16, 2013 3:21 pm

MASON CITY, Iowa —Tom and Stan Buman had 24 years of experience between them working with conservation planning for the Natural Resources Conservation Service.

They were once frustrated by the slow pace of conservation implementation.

"What used to take weeks and months to do, we can do in minutes with our new conservation planning tools and also give farmers a number of options," said Stan Buman, who, with his brother, Tom, and Jamie Ridgely, are Agren's management team.

Agren developed conservation planning tools using the light detection and ranging elevation data Iowa purchased several years ago. LiDAR is a remote sensing technology that measures distance by illuminating a target with a laser and analyzing the reflected light. Iowa developed its LiDAR database using airplanes equipped with lasers that flew over the state and mapped elevation every 3.5 by 3.5 feet.

Agren put the LiDAR data into software that helps conservation planners develop plans for waterways, ponds and wetlands. Current Agren tools are PondBuilder, BasinBuilder, WetlandBuilder, WaterwayBuilder, RxFirePlanner and SoilLossCalculator.

During a presentation at the Ag Ventures Alliance annual meeting in Mason City, Tom described what Agren does as precision conservation, "getting the right practice in the right place to maximize the environmental benefit."

"Before we had LiDAR, if a landowner wanted a pond, a field survey had to be conducted, and if it was December and there was ice and snow, the survey had to wait until spring, but it had to be done before there were leaves on the trees," Stan said. "Sometimes it would be a year before we got out there to do the survey. Farmers solve problems, and if you're not helping them, they'll move on to the next problem. When technical assistance takes a long time, conservation loses."

The tools fit well with Iowa's new Nutrient Reduction Strategy, Stan said.

"The important part of the strategy is reduction in soil loss, so erosion control," Stan said. "One of our newest tools is the SoilLoss Calculator. Development of that was funded by the Division of Soil Conservation with the Iowa Department of Agriculture and Land Stewardship."

The NRCS state engineer isn't comfortable with the accuracy of LiDAR so he does not want field offices using LiDAR data for designs, Stan said. The software is used in the planning process, but Agren is doing research to field proof the tools so that they can be used for designing.

Agren's conservation planning software is in 59 Iowa Soil and Water Conservation Districts. It is available in some SWCD offices in Minnesota, and in seven SWCD offices in Ohio and four in Nebraska. Contractors use the tools.

"We use BasinBuilder and PondBuilder all the time," said LuAnn Rolling, NRCS district conservationist in Allamakee County. "If a landowner wants to build a dam, we enter the information and within five minutes we have a very accurate cost estimate. We know right away if a project will work or if it is cost prohibitive."

Todd Duncan, NRCS district conservationist in Winneshiek County, said Agren's conservation planning tools are useful. If a producer comes in and wants to investigate putting in a waterway or pond, the tools allow his staff to draw a line on a map, compute the size and get an accurate cost estimate.

Jay Jung, NRCS resource conservationist in Floyd and Chickasaw counties, said his offices use Agren's software as a quick estimating tool to figure out the cost of building structural practices.

"It takes 15 minutes or less, and the customer gets an idea of the cost and size," Jung said.

Ag Ventures Alliance, Iowa Corn Opportunities and three private investors have invested in Agren. The company, which is based in Carroll, has also secured a low interest loan from the Iowa Economic Development Authority.

The Bumans say that conservation needs to be targeted where it will bring the most benefit, and Agren's tools allow that to happen.

"There has never been a better time to think about this," Tom said. "There is continuing pressure on agriculture to improve its environmental outputs."