Conservation for ag students

BY **LYNN BETTS**

HIGH school sophomores and juniors in Iowa may well have high-tech conservation tools in their hands before their parents get the chance to use them on the farm. The online computer tools are part of a new conservation curriculum being offered to all ag education teachers in the state.

"Until now, students have been using data that wasn't really specific, and estimating soil loss with formulas by hand," says Tom Paulsen, assistant professor in the Department of Agricultural Education and Studies at Iowa State University. "We didn't have a high-quality curriculum that used cutting-edge science for precision conservation. But we do now; the teachers who have looked at this are excited."

As a liaison to ag education teachers in Iowa, Paulsen helps find materials needed to keep students up to date with agricultural technology. "With this curriculum, students will have access to tools that use LiDAR elevation information to estimate soil erosion much more precisely than in the past," Paulsen says. "The tools help students consider conservation options in minutes, and give them accurate cost estimates as part of the package. It's got teachers excited about investigating soil erosion and teaching soil conservation."

Conservation in classroom

A former ag education instructor at Lynnville-Sully and Carroll, Paulsen made conservation and community partnerships a priority in his classes. The new curriculum — developed by ISU through a USDA grant in partnership with Agren, a conservation technology company in Carroll; Ball State University; and the South Fork Watershed — will encourage ag educators to partner with local resource professionals to promote more use of precision conservation.

Taylorann Clark helped complete an assessment of teacher needs and worked with Paulsen, Dr. Rick Cruse and others to develop the three- to four-week curriculum as an ISU grad student. Now an ag education teacher at Odebolt-Arthur/Battle Creek/Ida Grove schools, Clark is eager to use the curriculum next spring in her natural resources class.

"There's no other conservation curriculum like it out there," she says. "We pilot-tested it at five schools in the South Fork Watershed in north-central Iowa: Iowa Falls, CAL, Hampton, South Hardin and Webster City," she says.

The teachers who initially pilot-tested the curriculum in their ag education classrooms attended a three-day training session in order to grasp the concepts of precision soil conservation. They also got hands-on experience with Agren's online soil conservation tools. "Teachers who go through training are allowed to demonstrate use of Agren's online computer tools in the classroom," Clark says.

"The reception from ag education teachers participating in the pilot was exceptional," Clark says. "From the very first training session, teachers were excited about using the SoilCalculator, PondBuilder, WaterwayBuilder and other tools," she says. "They were impressed with the speed and precision the tools offer in estimating soil erosion levels and planning conservation alternatives. It's a new way to make decisions and plan for ponds, grassed waterways, terraces and other conservation practices. There's interest in this well beyond what I thought it would be."

ENTHUSED: Ag teacher Doug Dodd at Alden is using a new curriculum to introduce his high school students to computerized high-tech soil conservation tools.

Teachers, students impressed

One teacher involved in early testing is Doug Dodd of Alden. He used the curriculum last year and will use it again in the next school year. "Students are hungry for this kind of technology," he says. "We've used a fair amount of outside resources for soil science classes, including the Web soil survey. The kids were blown away with this one."

Dodd says some students were more challenged than others in using the materials. "Students who had more prior conservation knowledge grasped this readily," he says. "They all saw the value of the technology in estimating soil losses, and the tools were highly effective for the students who are headed towards production agriculture."

For his part, Dodd was impressed with how easy the Agren tools were to use. "I got my eyes opened on user friendliness," he says. "We could all see the value of these tools in the first five minutes."

The new conservation curriculum was shared with more than 60 ag education teachers at their summer meeting. The goal is to get it to every ag education instructor in Iowa. "This needs to be taught everywhere. I'll use it, and I want to take it home and show it to my dad in Decatur County," Clark says.

"We have an opportunity to make a difference with this," Paulsen adds. "It's a tremendous opportunity to use new technologies to help students see what's really taking place on the land, and to take that technology into their communities."

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