

▶ College student Erin Fulton, (right) brainstorms with grower Dave Legvold on how to maximize carbon sequestration.



PHOTO: SUSAN WINSOR

CORN-CARBON COLLABORATION

CARBON ACCOUNTING MAY CHANGE THE WAY YOU WILL FARM.

BY SUSAN WINSOR

What do six Minnesota corn growers have in common with the St. Olaf college band? About 171.6 metric tons of carbon, as it turns out.

That's also how many tons of carbon are sequestered by 286 acres of nearby southern Minnesota no-till corn and soybean fields. This offsets the amount of carbon burned by the St. Olaf band on a January 2009 California tour.

Although band member Erin Fulton plays the contra alto clarinet, the band tour found her keying her calculator a lot, too. She calculated the tour's carbon footprint and rallied the band's 95 members to buy offsetting carbon credits from local corn and soybean growers. (The carbon credits will be verified by a third party.) She led the band's EcoCrew, raising band members' environmental awareness.

Fulton graduated from St. Olaf last spring in biology and environmental studies and has begun a Master's pro-

gram in environmental management at Duke University.

In the Northfield, MN, area where she attended St. Olaf, it takes 1 acre of no-till crops to sequester, or bury underground, 0.6 ton of carbon dioxide emitted by burning fossil fuels. She calculated that the band tour released 171.6 metric tons of carbon dioxide. Band members contributed \$1.40/ton to purchase carbon credits from local farmers to make their tour carbon-neutral. In fact, they raised enough money to doubly offset the carbon from their trip.

This idea has been adopted by other colleges' band tours, too.

THIS TYPE OF CARBON accounting may play out on your farm. It characterizes cap and trade policies promoted by the Obama administration to reduce atmospheric greenhouse gases. It announced his intention to "transition large farms from direct payments to increased income derived from emerging markets for environmental services. Large farmers are well positioned to replace payments with alternate sources of income from emerging markets for environmental services, such as carbon sequestration, renewable energy production and providing clean air, clean water and wildlife habitat."

Carbon sequestration results from no-till-crops' removal of atmospheric carbon dioxide and anchoring it underground. (Trees do this also.)

Fulton, the St. Olaf band student, studied riparian nutrient flows in college and tracked nitrate leaching into streams. By testing wells and streams, she documented the impact of buffer strips and no-till methods on stream turbidity, algal blooms and microplankton and trout populations. She brainstormed with farmers like Dave Legvold, Northfield, MN, on how farmers can anchor nutrients for best root access.

"Farmers haven't gotten much credit for conservation efforts over the years," Legvold says. "Carbon sequestration will benefit farmers and water quality." He's documenting efficiencies and tile line water quality and flow rates from zone-applying hog manure using a Soil Warrior strip-till implement. He expects it to be a win-win for his farm budget, local water quality and carbon sequestration.

Fulton's roots in southern Minnesota cornfields shape emerging carbon sequestration theories that promise to change the way we farm. **CSD**

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