

Farmers share their water quality efforts

BY JEAN CASPERS-SIMMET
simmet@agrinews.com

WATERLOO — Farmers in the Middle Cedar River Watershed shared practices they use to keep soil, nitrates and phosphorus in their fields and out of waterways as part of a recent Cedar River Watershed Coalition tour.

The 75 participants on two buses visited farms in Miller Creek and Wolf Creek watersheds in Black Hawk, Benton and Tama counties to learn about conservation practices to help reduce farm field runoff.

Tour partners were the Sustainable Corn Project, Iowa Corn, Iowa DNR, Iowa State University Extension, the Iowa Department of Agriculture and Land Stewardship and the Miller Creek and Benton/Tama Water Quality Improvement projects.

In the Miller Creek Watershed, south of Waterloo, Chad Ingels, an Extension watershed project specialist, and Aaron Folkman, Lanehaven Farms on-farm agronomist, answered questions about the denitrification bioreactor Lanehaven Farms installed at the edge of a 75-acre field to treat tile water. A water control structure at the top end of the bioreactor directs tile water into a woodchip-filled trench covered with soil and native grass.

After being treated in the bioreactor, the water is drawn through another water control structure into a tile and out to the stream.

The Iowa Soybean Association is monitoring nitrates in the water as it flows into the bioreactor and when it flows into the stream. First-year results show the structure



ABOVE: Ben Fehl, who farms in the Wolf Creek Watershed, near La Porte City, shows a radish he grew as part of an oat, radish and clover cover crop mix during a recent Cedar River Watershed Coalition bus tour.

RIGHT: Nicholas Meier, who farms near La Porte City, describes his conservation practices, which include buffer strips, strip-till, no-till and cover crops, during the Cedar River Watershed Coalition bus tour.

Photos by Jean Caspers-Simmet / Agri News



reduced nitrates by up to 40 percent.

"This is one of the things we are trying to do to show we are progressive in the management of water quality,"

Folkman said. "We are very much in support of everyone who has a hand in this project."

Lanehaven also uses cover crops and is moving back to

strip-till. They do in-season nitrogen applications to limit the amount of fall anhydrous they apply.

See **WATER QUALITY**, page A2

WATER QUALITY

From page A1

Funding for the bioreactor was a collaboration between the multi-state Heartland Water Quality Project and the State Soil Conservation Committee through the Lime Creek Watershed Project, Ingels said.

La Porte City farmer Nicholas Meier, who also participates in the Miller Creek Water Quality Improvement Project, has been no-tilling since 1995. He continues to no-till plant his soybeans, but after wet, cool conditions affected corn yield in 1997, he started strip-tilling corn.

"I've found that corn needs good soil-to-seed contact," he said. "It's been working for me ever since."

Meier has CRP buffer strips along creeks, and last year tried cover crops.

"As a farmer it has to pay," Meier said. "I seeded two fields, one corn, one beans. A local farmer has a highboy with a 120-foot boom and he spread the cover crops."

He seeded oats, radish, rape seed and crimson clover the last week of August into standing soybeans. He seeded annual rye grass, radish, rape seed and crimson clover in the corn.

"It was the first year, and we're still learning," Meier said.

Working with crop consultant Shannon Gomes, Meier soil sampled using the Haney Soil Test and also used Adapt-N, a nitrogen recommendation tool developed by

Cornell University.

Meier will work with Ingels to install a bioreactor, and will partner with ISU on a saturated buffer strip. Tile water will be diverted into the buffer through perforated tile. The native grass buffer along a small creek is 70 feet wide and a half-mile long.

Ben Fehl, of LaPorte City, uses no-till and cover crops on his ground in the Benton/Tama Water Quality Improvement Project.

"We flew on oats and radish on Sept. 1, and it was 10 to 12 inches when it died in November," Fehl said.

He will no-till plant into the residue. In fall 2013 he seeded cereal rye into standing corn.

His landlord, Al Schafbuch, helps cost-share on the cover crops.

"It has to pay or people won't do it," Fehl said.

This summer he will use a high-clearance sprayer to seed cover crops. About 10 percent of the land he farms is seeded to cover crops.

"I'm ready to jump in with both feet, but my checkbook is in the way," Fehl said. "Until we know more and it gets close to paying for itself, we'll take it slow."

Fehl said cover crops are the next step.

"It's a scary step, but sometimes we have to do it," he said. "We don't want to be regulated."

Wayne Siela and his sons seed a rye cover crop as soon as they chop silage in September at their Vinton crop and cattle operation. They planted cover crops on 200 acres this fall. His sons chop the rye in

the spring for forage.

In spring 2012 when heavy rains fell, they saw no soil movement where they had cereal rye.

"The boys got the rye out in early June and we had a tremendous bean crop," Siela said. "I'm a believer."

Cover crops need to be seeded as close to Labor Day as possible, said Siela, who participates in the Benton/Tama WQI project.

Adam Kiel, state water resources manager with the Iowa Soybean Association, talked about the organization's water monitoring in the Miller Creek watershed during a stop at a wetland/natural area near Washburn. A bald eagle was perched in a nearby tree. ISA monitors tile outlets on farms and in streams throughout Iowa.

Shane Wulf, coordinator, of the Miller Creek Water Quality Improvement Project in Waterloo, takes the samples and ships them to ISA's lab in Ankeny.

2014 nitrate averages for Miller Creek watershed ranged from a high of 14.2 mg/l to a low of 1.07. The EPA drinking water standard is 10 mg/l.

"Through monitoring we identify where to invest the dollars to do the most good," he said.

Kiel said that the area with the lowest nitrate level has a lot of wetlands upstream.

"Any time you can slow and treat water through vegetation or a carbon source such as a bioreactor, it is good for reducing nitrates," Kiel said.

.....

Cedar Rapids partners with farmers

BY JEAN CASPERS-SIMMET

simmet@agrinews.com

LA PORTE CITY — Steve Hershner, Cedar Rapids utilities director, provided an update on the Middle Cedar Partnership Project during lunch at Hickory Hills County Park near La Porte City during a recent Cedar River Watershed Coalition tour. Cedar Rapids is partnering with farmers, agribusinesses and other watershed projects along the Cedar River to install practices that reduce nitrate, phosphorus and sediment runoff and control flooding.

Agriculture, food processing and biotech are key industries in Cedar Rapids with 100,000 bushels per day of soybeans and 1 million bushels of corn per day processed and used in the city, Hershner said.

"We need our industries to be successful and all of our water consumers to be safe," he said.

Cedar River water quality is important because it is a significant source of supply to its alluvial well system.

"We are vitally connected to our upstream watershed in many ways as an economic resource, source water and flood history," Hershner said.

Cedar Rapids is concerned about nitrates in the Cedar River, Hershner said. The EPA has established a limit of 10 mg/l for nitrates in drinking water.

"If you exceed that value you have to notify customers immediately," Hershner said.

Nitrates are a concern for infants and individuals with suppressed immune systems, he said. Food processing industries and hospitals may have additional concerns if the nitrate limit is ever exceeded in water supplied by Cedar Rapids.

Nitrate samples taken by the U.S. Geological Survey at Mohawk Park in Cedar Rapids show a slight increase from 2008,

Hershner said. The trend line has increased from 6.4 to 7.4 mg/l nitrate.

The goal of the Middle Cedar Partnership Project is to establish connections with individual farmers to enhance adoption of practices that will improve soil health, improve bankside and downstream water quality, potentially limit peak downstream flows and enhance the long-term viability of producers, Hershner said.

Cedar Rapids is the lead partner and will be working with 15 partners in five HUC 12 watersheds — Miller Creek, Headwaters Miller Creek, Rock Creek, Wolf Creek and Pratt Creek — on the Cedar River between Vinton and Waterloo, upstream of Cedar Rapids. Iowa Soybean Association is a key partner. ISA already has established a water quality initiative project in this area. The project will be able to expand to an additional 13,000 acres in these watersheds. Cedar Rapids and its partners are contributing \$2.3 million in technical and financial assistance and NRCS is providing \$2 million in financial and technical assistance through the Regional Conservation Partnership Program.

On-farm practices farmers will be able to receive financial assistance for include cover crops, nutrient management, saturated buffers, bioreactors and the installation of 30 acres of wetlands.

"We want to hold nutrients on the landscape," Hershner said.

The project will be successful if Cedar Rapids does not have to build a nitrate treatment facility at a cost of tens of millions of dollars, Hershner said. In addition, producers will experience improved productivity and financial success through adoption of practices in the MCPP area.

"We hope producers will independently adopt practices that work for their operations because it makes financial sense, and it's the right thing to do," Hershner said.