

Discovery Farms Data Confirm Importance of Following Nitrogen Best Practices

Edge-of-field monitoring as conducted by the Discovery Farms – Minnesota program can help identify connections between farming practices and economic and environmental concerns. Measurement of nitrate-nitrogen in surface runoff at the field edge in the spring of 2015 provides an example confirming the importance of good nitrogen application practices.

Several years of surface water monitoring at 11 locations shows that nitrate-nitrogen losses via surface water are typically very low. This spring, analysis of water leaving the field via surface flow at one location was higher in nitrate-nitrogen than surface water from other monitored fields, and higher than from this field in previous years. Was there a reasonable explanation?

For this field, urea had been broadcast to the soil surface of harvested soybean stubble in late November of 2014 after the soil temperature had dropped below 50 degrees F. This is a suggested time for application in the fall. However, there was no incorporation in the fall. A field cultivator pass in the spring prepared the seedbed for corn planting, but this shallow incorporation resulted in the nitrate-nitrogen produced from the breakdown of urea remaining close to the soil surface. Surface runoff caused by spring rains then carried a portion of the nitrogen away, resulting in potential economic loss for the farmer and potential environmental concerns.

The University of Minnesota's Best management practices for nitrogen use in south-central Minnesota recommend spring applications of urea with incorporation to a depth greater than 3 inches. Fall applications of urea are acceptable if a nitrification inhibitor is used, urea is incorporated to a minimum depth of 3 inches, and application occurs after soil temperatures at the 6-inch depth are below 50 degrees F. When these practices are not followed, there could be loss of nitrate-nitrogen with surface runoff leaving the field. Results from the Discovery Farms measurements confirm that these management practices are important and necessary to reduce both economic and environmental risk.

More information on nitrogen best practices can be found at:
<http://www.extension.umn.edu/agriculture/nutrient-management/nitrogen/>

Environmental Quality Board Releases Report

The 2015 EQB Water Policy Report "Beyond the Status Quo" was released this month, outlining state agency's goals for addressing water challenges. The report includes commentary on row crop production, agricultural drain tile and conversion of grasslands and forest to farmland, reporting the changes in agriculture over time in a negative context. The report also continues the agency's incessant message regarding declines in CRP acreage, as if the decline were an indication of farmer/landowner interest in conservation. In fact, while CRP acreages is down, several other land retirement programs are up. Further, the primary reason for the program shrinking is due to changes in the program. Farmers and farmland owners continue to offer more acres than are accepted into the program. You can find the report here- <https://www.eqb.state.mn.us/beyond-status-quo-2015-egb-water-policy-report>.

Soil Health Partnership Holds Minnesota Field Day

Approximately 60 farmers and other ag professionals gathered in a corn field on the Bryan Biegler farm north of Lake Wilson on September 16 to learn more about the Soil Health Partnership, an initiative of the National Corn Growers Association working to explore the economic and environmental benefits of different soil management strategies.

The Biegler farm demonstrations include strip tillage and several different forms of cover crop management, including multiple cover crop seed mixes and timing of cover crop seeding. While Minnesota farmers have rapidly adopted cover crops in recent years following canning crops, small grains and corn silage, implementing cover crops into full season corn and soybean crops continues to be a challenge. Seeding the cover crop at the same time as side-dressing with nitrogen shows promise, allowing some incorporation of the cover crop seed for improved germination. The corn canopy suppresses cover crop growth until the corn matures, at which time the cover crop can grow more rapidly.



In the photo, Nick Goeser, Manager of the Soil Health program for the NCGA, explains the benefits of cover crops and reduced tillage from a soil pit. The rye cover crop, though barely 6 inches tall, had roots extending more than a foot into the soil. For more information about the project, go to <http://soilhealthpartnership.org/index.html>

Governor Dayton Launches Pheasant Action Plan

Governor Dayton recently announced his ten step plan to improve pheasant hunting and habitat in Minnesota. Following up on the pheasant summit convened last December in Marshall, the DNR has announced their blueprint for more pheasants. Five of the ten action items include increasing habitat, including “enhance and protect habitat in areas at least 9 square miles large where at least 40 percent of the area can be permanently protected within four years”, “increase the rate of enrollment and retention in short-term conservation programs and enrollment of permanent conservation easements by private landowners” and “accelerate acquisition of land to increase the amount of public land open to hunting across the state’s pheasant range”.

Find the full report here- <http://www.dnr.state.mn.us/pheasantaction/index.html>.

The MAWRC is a non-profit research and education corporation comprised of 24 agricultural organizations working together to address water issues. For more information, go to www.mawrc.org.

