



North Dakota Discovery Farms are working farms and ranches whose owners partner with natural resource managers. Together, they evaluate the effectiveness of various practices at reducing environmental impacts while maintaining farm profitability. The program is a cooperative effort involving North Dakota State University, the North Dakota Department of Health and U.S. Geological Survey.

More Information

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Johannes Farm and Feedlot

Doyle and Patsy Johannes, Underwood, N.D., are pioneer North Dakota Discovery Farm participants. Their diversified operation consists of a 200-head cow herd and a variety of crops, including wheat, corn, soybeans, lentils and sunflowers. The Johanneses also background their calves and custom feed up to 300 cows. The business is a family affair. Son Matt and his wife, Denise, and daughter Katelyn and her husband, Mike Watson, also are actively involved in day-to-day operations.



Patsy and Doyle Johannes

The Johanneses' feedlot provides a prime opportunity to monitor runoff and determine whether it affects water quality because their farm is only five miles from the Missouri River. Three gaging stations are placed strategically on the Johanneses' land to collect samples as water leaves the feedlot and runs downslope to the second and third collection sites. The distance between station one and station three is a half-mile, and the runoff passes through grass and trees. Studying the three samples, researchers and the Johannes family seek to determine 1) how much nitrogen and phosphorus is leaving the feedlot and 2) to what extent the natural vegetation lowers the amount of nutrients as the runoff moves closer to the nearby watershed.

As fourth- and fifth-generation stewards of the land, the Johanneses have volunteered their operation as a study site to provide research-based data for producer and policymaker use.

"We are very passionate about agriculture and believe that the conditions are right in North Dakota for the industry to generate new wealth," Doyle says. "To do this, though, we need to be proactive in regard to matters of the environment. The Discovery Farms program gives our family the chance to contribute to sound, factual information for the advancement of agriculture, and that is why we are excited to be involved."

Using the knowledge that is gained from the Discovery Farms program, the Johannes family will team with natural resource managers to implement feasible nutrient management practices. Other steps the family has taken to improve natural resources include planting shelter belts and air seeding crops to minimize erosion.

"We do what we do so that the next generations can make a living on this land," Doyle says.



Spring 2009 snowmelt provides ample opportunity for runoff monitoring. Pictured is one of three gaging stations at Johannes Farm and Feedlot.