

# *Sustainable Agriculture*

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## **Minnesota River contributes to “dead zone” in Gulf of Mexico**

It's a paradox: record low world grain supplies give Minnesota farmers the chance to log record crops at high prices. But there's also an environmental challenge, says C. Ford Runge, applied economist at the University of Minnesota.

Runge says the U.S. Geological Survey has recently investigated sources of a growing “dead zone” in the Gulf of Mexico, where nitrogen and other nutrients have killed fish and aquatic life. It's estimated that over 70 percent of total nitrogen delivered to the Gulf originates over the confluence of the Ohio and Mississippi rivers, in Iowa, Illinois, Wisconsin and Minnesota.

“We can look no further than our own Minnesota River, now regarded as one of the most agriculturally polluted in the nation” Runge says. But a recent proposal by Governor Arne Carlson would allow state and federal set-aside programs to work together to permanently conserve environmentally sensitive lands in the Minnesota River watershed.

The proposal builds on the recommendations of the 30-member Minnesota River Citizens' Advisory Committee to procure permanent easements on 200,000 acres of flood prone lands, establish buffers along the main stream and tributary streams and ditches, and restore quality wetlands in the river basin. “This is exactly the direction in which the state and federal government should be headed,” says Runge, who spoke at the recent Governor's Summit on Agriculture in Minneapolis. Call (612) 625-1222 for copies of his talk.

## **Comparing meat quality, production costs of sustainable vs. conventional beef**

Whether to produce beef using sustainable production practices depends on production costs, available resources and marketing possibilities. A University of Minnesota study is being conducted to determine if sustainable or conventional production systems affect animal performance, the meat's nutritional composition, chemical levels and economic differences. “Sustainable” refers to reduced input as compared to conventional management, falling outside organic standards in some areas. The project is also comparing conventional and organic deworming treatments, according to Brent Woodward, animal scientist with the University of Minnesota's Extension Service.

Thirty crossbreed steers from conventional and 36 from sustainable farming systems were purchased in late 1995, after they had been preconditioned. Then each group was randomly divided into two groups and assigned to either sustainable or conventional feedlot systems, resulting in four treatment groups.

Conventional feedlot treatment included a diet of conventional feedstuffs, raised with chemical fertilizers and herbicides: 82 percent corn; nine percent extruded soybeans; eight percent hay; one percent minerals, vitamins and ionophore. Animals were implanted and dewormed, and conventional health treatments were used.

Sustainable feedlot treatment included a diet of certified organic feedstuffs: 82 percent corn; nine percent extruded soybeans; eight percent hay; one percent minerals and vitamins. Animals were dewormed with diatomaceous earth (DE), two percent of dry matter intake daily for 30 days. Cattle weren't implanted and no ionophores were fed. Two became so sick they were given antibiotics (they were not counted as part of the "organic" group).

Detailed records of all on-farm production costs will be provided by each farm owner. These records will be added to those for the feedlot period for financial analysis. The sustainable system will be analyzed under two scenarios: selling beef as an organic product vs. selling it as commodity beef.

The researchers are analyzing animal performance and chemical levels of the meat and feed. Based on early results of this study, DE was not effective as a dewormer.

More detailed information is available in the 1996 Minnesota Beef Cow/Calf Report, available for \$6 from the Department of Animal Science, 101 Haecker Hall, University of Minnesota, St. Paul, MN 55108. Checks should be made payable to the University of Minnesota.

### **High quality, grain-fed beef available from research project**

You can buy hand-raised beef, individually fed with corn and soybeans. Animals were part of the research project described in the above article. All proceeds from the sales will be used to conduct research on improving quality and consistency of meat at the University of Minnesota's Department of Animal Science.

Convenience packs that will fit in a refrigerator freezer are available for \$120 (about \$2.45 a pound). You'll pay about \$45 more at the grocery store. You can also buy beef raised under organic standards (no hormone implants or feed additives) for only \$140 per pack. More information is available by calling (612) 624-4995.

### **North Central SARE professional development program requests proposals**

The USDA's North Central Region (NCR) Sustainable Agriculture Research and Education (SARE) Program is calling for proposals to expand sustainable agriculture knowledge of Extension, NRCS and other agricultural personnel. Successful projects will be part of the NCR SARE Professional Development Program.

"The 1990 Farm Bill mandates the SARE Program to educate agricultural professionals in sustainable methods, and this program has successfully carried out that mandate," says George Bird, coordinator of the Professional Development Program for the NCR SARE. The Program will award \$400,000 this year to fund innovative educational activities on commercial farms, at workshops or during conferences.

Projects could include use of interactive technology; development of handbooks, factsheets and manuals; or other creative endeavors. Projects with multi-state scopes are encouraged, as are projects involving farmers or ranchers as meaningful participants. Proposal reviewers will also favor projects fostering partnerships between public and private organizations and colleges and universities. Any individual or group located in the North Central Region can receive an application by contacting the North Central Region Office at [sare001@unlvm.unl.edu](mailto:sare001@unlvm.unl.edu) or 402-472-7081. For questions about the Professional Development Program, contact George Bird at [bird@msuces.canr.msu.edu](mailto:bird@msuces.canr.msu.edu) or 517-353-3890. Applications must be received no later than 5 p.m. on February 14, 1997.

The SARE Program began with the 1985 Farm Bill. Congress appropriated initial funds in 1988 for grants in sustainable agriculture research, education and demonstration. Funding goes to producers, scientists, educators and public and private institutions and organizations.

### **Two Minnesotans appointed to SARE technical committee**

A 20-member technical committee evaluates SARE project proposals. The committee represents a balance within discipline, affiliation (university/non-profit/farmer) and state. Dan French, a dairy farmer from Mantorville, MN, and Helene Murray, coordinator of the Minnesota Institute for Sustainable Agriculture (MISA), has been appointed to the technical committee. They were nominated by Mary Hanks, director of the Minnesota Department of Agriculture's Sustainable Agriculture Program and a member of the North Central SARE administrative council.

### **Guidebook on integrated soil management being developed**

A weed problem might motivate a farmer to consider a new tillage tool. But when making the decision, other factors may include surface residue, labor availability in spring and fall, what might cause compaction, soil organic matter levels, the crop rotation, and other parts of the farm system.

Information sources typically address only one or two of these issues at a time. The goal of the Integrated Soil Management Guidebook project is to help farmers integrate existing information sources to manage their unique situation.

A parallel goal of the project is to use a process in which farmers and researchers work together to define needs and solutions to soil management and monitoring problems. This interaction among stakeholders is generating a unique product that many farmers will find useful, and it's fostering a rich exchange of information among farmers, researchers and other ag professionals.

Each unit of the guidebook will explain basic soil science principles, list issues to consider when making decisions, provide guidelines for dealing with problem areas, describe ways to monitor soil condition and identify problems, and point to further resources. The units on compaction, organic matter management, manure management, precision farming, and soil life will be ready next summer. The rest of the guidebook will be ready the following summer. This project is funded by a MISA educational materials grant. For more information, contact Ann Lewandowski, Department of Geography, 414 Social Sciences, University of Minnesota, Minneapolis, MN 55455, [bird@msuces.canr.msu.edu](mailto:bird@msuces.canr.msu.edu)

### **Coming events...**

Jan. 7-10, Windustry Minnesota, Arrowwood Resort, Alexandria, MN. A train-the-trainer conference on wind energy for electricity generation. Six nationally known, prominent speakers are scheduled. People who attend will learn "what you need to teach wind energy in rural communities." Cost of the four-day conference is \$250, which includes the workshop, materials, hotel room and all meals. For more information, contact Lisa Daniels, (612) 872-3280, or FAX (612) 870-0729 from the Sustainable Resources Center (SRC). SRC is a non-profit organization that's been funded through the Legislative Commission on Minnesota Resources to develop a curriculum on wind energy.

Jan. 18, 19th Annual Dairy Goat Conference, Classroom Office Building, St. Paul Campus, University of Minnesota. The program features "goat specialists and enthusiasts in a program geared to offer current, timely information about dairy goats." The program is for anyone interested in dairy goats—from

beginners to experts. The registration fee is \$22 for adults, \$8 for students. Lunch is an additional \$6. Contact Leon Meger, Extension Special programs, PO Box 64780, St. Paul, MN 55164-0780, phone (612) 625-2722, or 1-800-367-5363.

Jan. 23, State Sustainable Farming Association (SFA) sponsored Farm Financial Planning Conference, Staples. Contact Tim King (320) 732-6203.

Jan. 30-Feb. 1, Minnesota Fruit & Vegetable Growers Annual Conference, St. Cloud. Contact Marilyn Nysetvold (612) 434-5929.

Feb. 6-7, Farmer-Led Watershed Initiatives Conference, Mankato. Contact Emily Green, Institute for Agriculture and Trade Policy (IATP) (612) 379-5980.

Feb. 7-9, First annual gathering, Midwest Sustainable Agriculture Working Group. Contact Mark Schultz at the Land Stewardship Project (LSP) (612) 823-5221.

Feb. 15, Central SFA Annual Meeting, Country Hearthside on Hwy. 27 between Little Falls and Long Prairie. Contact DeEtta Bilek (218) 445-5475.

Feb. 21-22, Sustainable Farming Association of Minnesota Annual Meeting, Rochester. Contact Tim King (320) 732-6203.

March 4-6, Holistic Management Training Session, location to be determined. Contact DeEtta Bilek (218) 445-5475.

And, there's a call for presentations from farmers, ranchers, researchers, educators and conservationists for the March 5-6, "21st Century Agriculture—Creating a Sustainable Future" conference. It's a two-state (North and South Dakota) conference at the Ramkota Inn, Aberdeen, S.D. Respond by Jan. 10 to Tom Hanson, Rt. 3, Box 174, Minot, N.D. 58701, (701) 857-7679, FAX 857-7676, [thanson@ndsuxext.nodak.edu](mailto:thanson@ndsuxext.nodak.edu)

### **About this newsletter...**

We're always looking for story ideas. Send them to the editor: Jack Sperbeck, 405 Coffey Hall, University of Minnesota, St. Paul, MN 55108, (612) 625-1794. E-mail: [jsperbeck@extension.umn.edu](mailto:jsperbeck@extension.umn.edu)

For the past year we've been funded by the Minnesota Extension Service and the Minnesota Institute for Sustainable Agriculture (MISA) with support from the Minnesota Department of Agriculture.

We have a new editorial board member. Welcome Tom Wegner, Hennepin County extension educator. You can reach Tom at 612 374-8400, [twegner@extension.umn.edu](mailto:twegner@extension.umn.edu). Other editorial board members are Helene Murray (612) 625-0220, [murra@maroon.tc.umn.edu](mailto:murra@maroon.tc.umn.edu) and Bill Wilcke (612) 625-8205, [wilck001@maroon.tc.umn.edu](mailto:wilck001@maroon.tc.umn.edu)

**Our mission statement:** To help bring people together to influence the future of agriculture and rural communities to achieve socially, environmentally and economically sustainable farms and communities.