

# *Sustainable Agriculture*

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## **Lower diversification, higher variability increases grain supply risk**

High-tech agriculture has brought with it high risk for most farmers. But the uncertainties of ag production now carry wider implications beyond the farm field, says a University of Minnesota economist.

According to Philip Raup, increasing dependency on three main crops and higher yield variability have resulted in more risky grain supplies for the U.S. and the world. “We’re living on a narrower margin from year to year,” says Raup.

Raup believes that grain growers have violated major rules of thumb in terms of diversification over the last several decades. Farmers are now putting more productive land into fewer crops. In the 1950’s, Minnesota farmers had 40 percent of their total acreage in corn, soybeans, and wheat. That figure has since risen to 75 percent.

At the same time, the state has witnessed a dramatic shift upward in the yield variability levels of these three crops. For example, in three instances over the last two decades, Minnesota corn production has dropped by around half when measured in three year periods. Raup says that this is unprecedented in modern agriculture, and that these trends hold true throughout the U.S.

The consequences are far-reaching. For individual farmers, greater variability makes it more difficult to decide on which crops to plant. It also means that they must set aside more of their income flow to cover the risk of a particularly bad harvest. “It’s as if you had a land tax increase,” observes Raup.

This variability can affect the domestic economy, as well. For example, bankers assume a constant risk when making their ag lending decisions. However, given the greater variability of the last two decades, Raup believes that their reserves to cover prospective risks are inadequate.

Likewise, U.S. coarse grain reserves have hit their lowest level ever. By the end of last year, supply stocks were down to between six and seven weeks. This is the amount of time that it would take the grain just to get through the supply pipeline. “Domestic food prices have generally held down inflation over the last three decades,” says Raup, “but that could change.”

Ultimately, international markets could suffer. The U.S. is the dominant coarse grain supplier to the world. As such, fluctuations in U.S. production could significantly affect global markets. For example, were a prolonged drought to hit a large section of the North American grain belt, Raup believes that the lack of alternative crops combined with low reserves would wreak greater havoc today than in the 1930’s. “Just-in-time production is risky when you’re trying to feed the world,” he says.

A copy of his paper, “Some Major Trends Affecting the Structure of Agriculture,” is available in Working

Paper WP 96-4 from the Waite Library, 1994 Buford Avenue, 332 COB, St. Paul, MN 55108, (612) 625-1705.

## **New study shows less sediment and phosphorus entering Minnesota River**

Farmers have reduced the amount of sediment and phosphorus entering the Minnesota River, according to a new University of Minnesota study. Producers have reduced erosion through earlier crop planting dates, conservation tillage and cropland retirement through the CRP program, according to David J. Mulla, a researcher with the university's Agricultural Experiment Station.

In the study, scientists analyzed monthly sediment and phosphorus entering the Minnesota River during the 20-year period from 1974 to 1994. They adjusted their calculations to allow for wetter climates (more rain plus more intense, erosion-causing rainfalls) of the last few decades. While the wetter climate has actually increased sediment and phosphorus levels, the crop and land management practices adopted by farmers have "masked" reductions of the pollutants.

Most of the reductions in sediment and phosphorus came from the Blue Earth and Le Sueur watersheds. Most other watersheds showed small increases in phosphorus and sediment after allowing for climatic effects. In most cases, these increases were in watersheds with less conservation tillage.

"Results of this study show the importance of conservation tillage," Mulla says. There's a great variation in adoption rates for improved soil conservation practices throughout the Minnesota River basin. For example, in 1995 the percent of individual county acres with corn planted into 15 percent surface residue cover ranged from six to 51 percent, with an average of 28 percent.

Increased adoption of soil conservation practices can further accelerate the reduction in sediment loads to the Minnesota River. Efforts to accelerate the adoption of conservation practices should focus first on the most erodible land and steep lands near rivers, Mulla says.

Working with Mulla on the project were A. Mallawatanri, a research associate, and Mark Seeley, climatologist with the University of Minnesota's Extension Service. For copies of their research paper, contact Professor David J. Mulla, 439 Borlaug Hall, 1529 Gortner Ave., St. Paul, MN 55108, (612) 625-6721.

## **Landscaping to make feedlots more attractive looking, possibly disperse odors**

Landscaping around cattle and hog feedlots could do more than make the facilities more attractive. The windbreak effect could enhance energy efficiency while redirecting odors so neighbors get less of a whiff. Gary Wyatt, extension educator with the University of Minnesota's Extension Service, says planning is underway to develop educational materials such as publications or web sites on landscaping livestock facilities.

Working on the project are a number of university colleges and departments, plus Branch Experiment Stations at Lamberton, Morris and Southwest State University, Marshall. The project is now in the planning stages. The idea that odors could be redirected is intriguing, but Wyatt says one issue being studied is how landscaping would affect "natural ventilation" buildings.

More information will be available after a planning conference at Southwest State University in Marshall Feb. 18. For more information, contact Wyatt at (507) 375-1275.

## **Applications for producer grant program available in early February**

Farmers and ranchers interested in exploring new possibilities for higher profits, environmental stewardship, or community development have the opportunity to do so with funds for research and education projects from the USDA's North Central Region (NCR) Sustainable Agriculture Research and Education (SARE) Producer Grant Program.

"This is a very good program for farmers who want to make a change for the better," says Joe Golimbieski, a Michigan farmer and Producer Grant recipient. "Farmers receiving the grant get help and in return they can help many other farmers from experience gained by the SARE grant work." This year, \$200,000 is available through this competitive grant program. The North Central Region will award up to \$5,000 to individual producers investigating any sustainable practice or concept and up to \$10,000 to groups of producers proposing creative marketing projects.

"Marketing in this age of competitive global food systems is more and more a necessary survival skill for farmers," says Molly Bartlett, Ohio farmer and NCR SARE Administrative Council member. "With marketing knowledge, farmers are better able to seek out satisfying, profitable and regional markets."

Applications are available from the North Central Region Office beginning Feb. 3, 1997. Producers must reside in the 12-state North Central Region: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin. Applications are due May 1, 1997. Funding decisions will be made in late June 1997. Funds will be available in mid-fall for the 1998 crop production season. Call 402-274-7081 or e-mail [sare001@unlvm.unl.edu](mailto:sare001@unlvm.unl.edu) for an application. Or, write North Central Region, SARE, 13A Activities Building, University of Nebraska, Lincoln, NE 68583-0840.

The Producer Grant Program began in the North Central Region five years ago and is now a national SARE Program. Over 160 producer grants have been awarded in the NCR since the inception of this program. The national 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.

## **Whole farm planing report available from Minnesota Project**

A report is now available that recommends just what whole farm planning ought to be. It articulates the consensus of a diverse group of 120 participants in the Great Lakes Basin Farm Planning Network. Farmers, nonprofit groups, researchers, and agency staff from seven Great Lakes states and Ontario are working together to explore, test, and evaluate different approaches to whole farm planning. The Minnesota Project coordinated the effort.

The report describes why there is so much interest in whole farm planning and what purposes it can serve. Nine of the best examples of whole farm planning programs are described. Successful Whole Farm Planning will be useful to policy makers, researchers, conservationists, farmers, and everyone interested in tools to help farmers shift to more sustainable farming systems.

Copies are available for \$6.00 (includes shipping): The Minnesota Project, 1885 University Ave. West, Suite 315, St. Paul, MN 55104, (612)645-6159, Fax (612)645-1262. E-mail [water007@gold.tc.umn.edu](mailto:water007@gold.tc.umn.edu) By Loni Kemp, The Minnesota Project

## **Coming events...**

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

February 5-6, 22nd, Annual Forage Conference, Holiday Inn, Willmar. Emphasis is on production of alfalfa as a biomass fuel to produce electricity and as a high protein animal feed. Contact your local Minnesota Extension Service office or the Minnesota Forage and Grassland Council at (612) 436-3930.

February 6-7, Farmer-Led Watershed Initiatives Conference, Mankato. Contact Jim Kleinschmidt, Institute for Agriculture and Trade Policy (IATP) (612) 870-3421.

February 7-9, First annual gathering, Midwest Sustainable Agriculture Working Group, Des Moines, Iowa. Contact Mark Schultz LSP (612) 823-5221.

February 8, Cannon River SFA Annual Meeting, 9 a.m. to 3 p.m., First United Church of Christ, Northfield. Speakers include Dick and Sharon Thompson plus Bob Quist from the Oliver Kelley Farm. Contact Ruth Coffing (612) 652-2243.

February 11, South Central SFA Annual Meeting, First Baptist Church, Clarks Grove. Business meeting at 5:30 p.m., meal and presentations 6 p.m. Contact Jim Tjepkema (507) 256-4876.

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

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

March 2, Women in Agriculture Photo Exhibit, Northfield Art Guild, 304 Division St. S., Northfield. Sponsored by Women in Agriculture and the Minnesota Institute for Sustainable Agriculture (MISA). Contact Diane Milan (507) 645-8282.

March 4-5, Strengthening the Experiential Learning Process in Sustainable Agriculture, Sheraton Minneapolis Metrodome, Minneapolis. Hosted by the Department of Agronomy & Plant Genetics and Minnesota Institute for Sustainable Agriculture, University of Minnesota. Contact Juanita Reed-Boniface (612) 753-4636, agrifolks@aol.com or Darrell Cox (612) 625-2738, coxxx015@tc.umn.edu

March 4-6, HRM Training Session, Camphill Village, near Sauk Centre. Contact DeEtta Bilek (218) 445-5475.

March 18, Second Annual Flame Cultivation Round Table Dialogue, 9:30 a.m. to 3 p.m. at St. Mary Catholic Church meeting room, 1303 W. Broadway, Winona, MN. Contact Dwight Ault (507) 437-3085 or Tom Wegner (612) 374-8437.

March 19-21, International Conference on Agricultural Production and Nutrition, Holiday Inn Boston-Brookline, Brookline, Massachusetts. Organized by Tufts University School of Nutrition Science and Policy and the Henry A. Wallace Institute for Alternative Agriculture. Contact William Lockeretz (617) 627-3223, wlockeretz@infonet.tufts.edu

March 22, Restoring our Urban Waters, at First Universalist Society, 900 Mt. Curve Ave., Minneapolis. Contact Judith Lake of Citizens for a Better Environment, (612) 824-8637, ext. 222, cbelake@igc.apc.org

March 26, Sustainable Farming and Sustainable Communities, 9 a.m. to 3:30 p.m. at the Ramada Inn, Owatonna. Contact Tim Arlt (507) 444-7689, [tarlt@extension.umn.edu](mailto:tarlt@extension.umn.edu)

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

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'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). Other editorial board members: Helene Murray (612) 625-0220, [murra@021.tc.umn.edu](mailto:murra@021.tc.umn.edu); Tom Wegner (612) 374-8400, [twegner@extension.umn.edu](mailto:twegner@extension.umn.edu); and Bill Wilcke (612) 625-8205, [wwilcke@extension.umn.edu](mailto:wwilcke@extension.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.