

Sustainable Agriculture

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Minnesota's most popular crop rotation starting to fail, researcher says

"It's starting to fail," says researcher Paul Porter of the standard corn-soybean rotation followed by the majority of crop farmers in the southern half of Minnesota.

"The corn-soybean rotation is easy to follow and has been economical and agronomically sound. But that's starting to change," says Porter, a researcher with the University of Minnesota's Southwest Research and Outreach Center at Lamberton.

Porter says the environment and rural communities are affected adversely by reliance on the corn-soybean rotation. And agronomically it is starting to fail as pest problems from weeds, diseases and insects change and the pesticides used aren't as effective as they used to be.

Porter says rotations that include alfalfa and oats in a four-year rotation offer several advantages. First, there's a positive yield effect from longer rotations due to availability of nutrients and soil moisture. And, pest problems are reduced as different crops upset the cycles of weeds, insects and diseases that are more problematic when just rotating corn and soybeans every year.

Agronomist Kent Crookston, former head of the University's Department of Agronomy and Plant Genetics, conducted earlier research trials with rotations. "In spite of all the management inputs a farmer might impose, there is still a yield advantage to be obtained from rotations," he says.

"The yield boost from rotating is clearly the result of alleviating some negative condition that exists under monoculture, rather than the introduction of some positive effect by an alternate crop," Crookston says.

From an environmental standpoint, the corn-soybean rotation is beginning to fail, Porter says. "We're seeing increased nitrates in our watersheds, increased agrichemicals in our systems and less diversity of plant species.

"Socially, the corn-soybean rotation is also starting to fail. We're getting larger farms and fewer farmers, which contribute to the demise of rural communities. It also leads to increased centralization and less competition," Porter says.

Another way to look at the problem, Porter says, is that what is a good practice for one individual may not be a good practice when done by most individuals in the community. Reliance on the corn-soybean rotation has been profitable for many farmers. But it's also led to increased tiling of land previously in wetlands and more fall tillage, which contributes to soil erosion.

Porter spoke at the recent Minnesota Organic conference in St. Cloud. (To contact him, see end of the next story).

Cover crops, green-manure crops can help organic producers

Optimizing organic production often means using cover crops and sometimes green manure crops. There are both positives and negatives to using cover and green-manure crops, says Paul Porter, researcher at the University of Minnesota's Southwest Research and Outreach Center at Lamberton.

Weed, insect and disease control can be improved; fertility and soil quality can be enhanced with cover crops and green manures. They can also help nutrients cycle more efficiently.

But cover crop and green-manure establishment can be tricky, and in drier environments they can limit soil water availability, Porter says. Also, the benefits of including them in the cropping system may not always be obvious or factored into a balance sheet.

A cover crop is used to cover and protect the ground, Porter explains, especially during winter; while a green-manure crop is used for turning into the soil and is planted to improve the soil's organic matter.

Examples of cover crops and green-manure crops include:

- Legumes, such as alfalfa, clovers, field peas and vetch planted with small grains.
- Ryegrass planted into corn at the six- to nine-leaf stage.
- Rye planted into corn at harvest.
- Buckwheat planted into corn at harvest.
- Buckwheat planted before soybeans.

"It's not easy to introduce these crops into our cropping system," Porter says. Problems include our short growing season, harsh climate, residue management problems, equipment limitations (especially for planting), and sometimes a lack of clear, easily measured benefits.

For more information, contact Porter at (507) 752-7372, pporter@tc.umn.edu.

Western Minnesota farmers marketing directly to consumers through a web site

Marketing has taken center stage at the Western Minnesota Sustainable Farming Association, says chapter coordinator LeeAnn VanDerPol. Through a USDA Sustainable Agriculture Research and Education (SARE) grant, five farm families have created a web site to direct market their farm produce.

One key element of the web site, www.prairiefare.com, is a computer kiosk at Java River, a coffee shop in Montevideo owned by Patrick and Mary Moore. For those not comfortable with computers, the computer kiosk has a touch screen for easy use.

The families include Audrey Arner and Richard Handeen, Craig and Joanie Murphy, Larry and Carolyn Olson, David and Avis Swenson, and Jim and LeeAnn VanDerPol.

The kiosk has given the five farm families excellent exposure to the local community. "Many have checked the web site, but most of our inquiries have been about farming, pricing and interest in direct marketing their own products," VanDerPol says. "Minimal sales have been made and it is slow to develop, but we've been told it takes time to build."

The project has helped the families focus on marketing and become more regular about presenting their products. VanDerPol says it's also helped people see where their food comes from and connect them to the land.

If you're interested in designing a web site for your own farm, one place you can get help is from Jennifer Hobbs, who specializes in developing and maintaining web sites for products produced at home or on the farm. Check it out at www.fromthefarm.com, or call (573) 442-0600.

Market for organic products still growing

The market for organic products looks good for at least the next five years, according to Todd Thompson of the Organic Alliance, who spoke at the recent Minnesota Organic Conference in St. Cloud. Thompson said surveys indicate 22 percent of consumers—most of them with strong environmental and health interests—will buy organic products. "The main barrier is that organic products are not readily available in supermarkets," he said.

All products have a life cycle ranging from introduction, growth stage, maturity and ultimate decline, Thompson said. Markets for all organic products are projected to grow for another five years. Largest projected growth rates are for organic snacks and candies, at 200 percent yearly.

Over 200 people attended the conference. Included were 10 University of Minnesota Extension Service educators. A number of U of M people gave presentations. (Thompson may be contacted at (651) 265-3678).

Sourcebook on pork production alternatives available from U of M

A new publication designed to provide information on a variety of pork production and marketing options is available from the University of Minnesota. Its title is "*Swine Sourcebook: Alternatives for Pork Producers.*"

The sourcebook highlights a variety of production systems designed to maximize profit for small and medium-sized producers while helping to sustain the environment and rural communities. These systems include hoop structures, deep-bedded gestation systems, pasture farrowing, and other low-capital investment swine management techniques. Producers from throughout Minnesota have contacted the University of Minnesota Swine Center for information on these systems.

"*Swine Sourcebook: Alternatives for Pork Producers,*" item number PC-7289, is available from county extension offices in Minnesota. It's also available from the U of M Extension Distribution Center by credit card at (800) 876-8636. The cost is \$17.50 plus \$4.00 for shipping and \$1.23 sales tax for one copy.

New beef production handbook is written for small scale producers

A new handbook titled "Small Scale Beef Production Handbook" is available through the University of Illinois Extension Service. It's designed for part-time beef producers and topics include nutrition, forage production, facilities, breeding, beef market grades, reproduction, health and economics. It sells for \$7 plus shipping. Call 1-800-345-6087 and request item number C1362.

Another reminder. . . SARE producer grant applications are available

Producers are invited to apply for competitive grants to research, demonstrate or educate others about profitable, environmentally sound, socially responsible agricultural systems. The grants are through USDA's Sustainable Agriculture Research and Education (SARE) program, now in its eighth year of producer grants.

A total of \$250,000 is available for grants of up to \$5,000 for individual producers and up to \$15,000 for groups of three or more producers investigating any sustainable practice or concept. Projects that include a youth component are encouraged. To apply, you need to live in the 12-state North Central region. Applications are due April 30, 1999, and are available by calling (402) 472-7081, e-mail sare001@nlvm.unl.edu, or at www.sare.org/ncrsare/.

SFA meeting theme is "The producer-consumer link"

"The Producer-Consumer Link—Making the Connection" is the theme of the Sustainable Farming Association of Minnesota's annual meeting March 12-13 (Friday-Sat.) at the Earle Brown Center, University of Minnesota St. Paul Campus. A food fair from 4:30 to 7 p.m. March 12, is the opportunity for producers to link with consumers.

Producers will have booths with samples of sustainably grown food (both free and for sale), along with information on how to purchase these products throughout the year. Details, including registration information, are available from DeEtta Bilek, (218) 445-5475, or deebilek@wcta.net.

Other interesting 1999 meetings . . .

Monday, March 22, 7-9 p.m., "Practical Solutions in Production of Field Crops," Craig and Joannie Murphy farm, Morris, (320) 392-5176 for more information.

Sunday, April 11, 1 to 5 p.m., "Local Community Farm Festival," Bush Student Center of Hamline University, St. Paul. For consumers, a chance to meet farmers who market their products in the Twin Cities through home delivery, subscription and the Community Supported Agriculture (CSA) model. Call Tim Reese (612) 721-5493 or the Land Stewardship Project at (612) 653-0618 for more information.

Position available at Lamberton

A temporary assistant scientist position is available at the U of M, Southwest Research and Outreach Center, Lamberton, MN. It's a two-year position with the Organic Conversion Project. To apply, contact Paul Porter at 507-752-7372 for a position description and U of M application. Application deadline is April 16, 1999. The U of M is an equal opportunity and affirmative action employer.

About this newsletter...

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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.