

# In New Way To Grow

## Haskell Ag Lab Studying Organic Winter Wheat

BY RITA BRHEL  
P&D Correspondent

CONCORD, Neb. — Many conventional producers may believe that the organic farming movement is a newer idea, something borne of liberal farmer wannabes who decide to quit their city jobs one day and move to a small country acreage the next. Others feel it's a left-over of the Hippies generation.

In talking to organic producers, the reason for choosing organic farming most of the time has to do with a healthy respect for the environment or societal well-being. They are making a conscious decision to farm differently, keeping the economic goals at the same priority level as environmental conservation, community development, and consumer health.

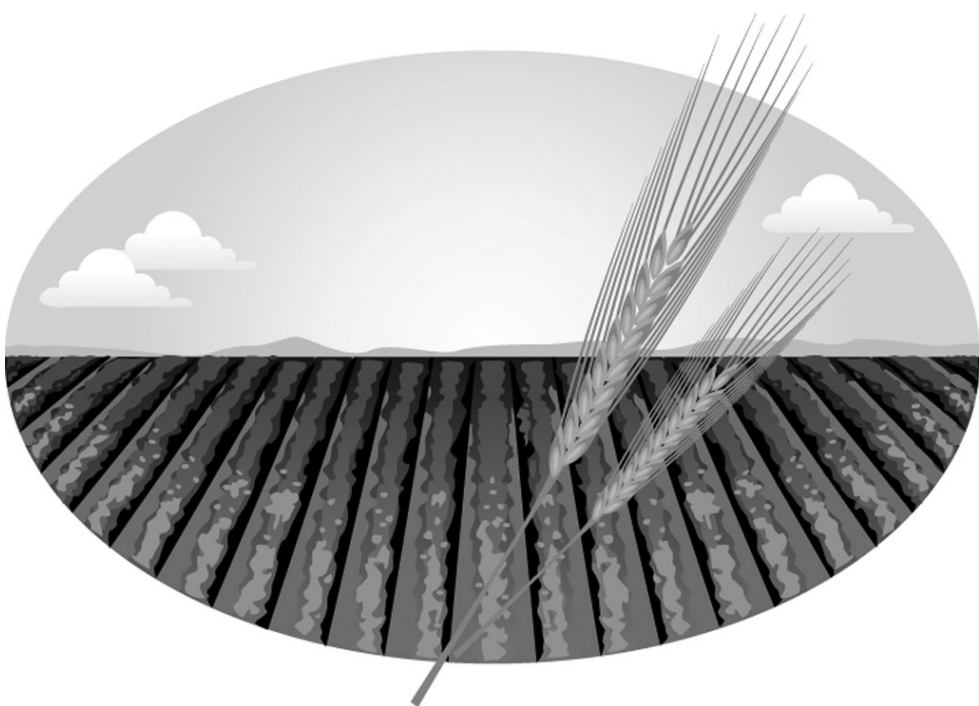
In 1976, researchers at the University of Nebraska at Lincoln felt the organic farming trend important enough to establish long-term research projects, studies that continue today, according to Elizabeth Sarno, UNL Organic Project Coordinator based at the UNL Haskell Ag Lab near Concord. In 2006, U.S. Department of Agriculture funding allowed UNL to expand its organic farming research across Nebraska's five agro-ecoregions, allowing organic farming trials to measure effects of the state's great climate variety — from 13 inches annual precipitation in the Panhandle to 36 inches in the southeast counties — and to develop solutions to challenges such as weed control and nutrient management specific to each climatological region.

The 2006 research expansion also brought an opportunity to conduct on-farm research not only on the four UNL research farms spread through the state but also on a variety of independent organic operations. The information collected through these research trials are being used to create a library of informational publications and other materials for use by local county Extension educators in working with organic farmers in their areas. And now, the latest development of the UNL organic program is including it in students' studies at the UNL East Campus, where a student-run organic demonstration farm will allow graduate students to conduct research trials while undergraduate students can try their hand at organic production principles. Haskell Ag Lab's main project is organic cropping systems specific to winter wheat.

### ORGANIC WHEAT MANAGEMENT

Charles Shapiro, UNL Soil Scientist at Concord, discusses his latest study evaluate cover crops, rotation schedule, and nutrient management on winter wheat. The first trial was a corn-wheat-corn rotation with a legume cover crop. The second trial was an alfalfa-wheat-soybeans rotation with a grass cover crop. Both trials were run concurrently during 2009 and 2010 with nutrient applications of manure and foliar nitrogen. Both trials' cover crops were killed using a comparison of flaming, through which propane-powered fire is directed to kill weeds; a roller-crimper, through which an piece of equipment rolls over the weeds, flattening and crimping weed stems; traditional disking; and winter kill.

"It's critical to get enough precipitation, and that's part of the problem of being at the edge of the Corn Belt," Shapiro said. Rainfall timing makes a significant impact on organic cropping systems, and conveniently, the two years included in the trial represented both a very dry year, 2009, and a very wet year, 2010.



What Shapiro found during the trial was that:

- It's hard to kill alfalfa during organic crop rotation.
- Spring-applied manure will damage the winter wheat.
- Cover crop growth varied greatly by rainfall in August and spring. Very dry years resulted in poor cover crops.
- Disking and winter kill are more effective at weed control than flaming or the roller-crimper, and using a roller-crimper alone is not sufficient. Using the roller-crimper alone reduced corn yields by 68 percent and soybean yields by 36 percent.
- The best treatment for winter wheat was alfalfa with a fall manure application. Corn with a fall manure application resulted in higher wheat yields than corn with a foliar nitrogen application.

### ORGANIC WHEAT CULTIVARS

Richard Little, UNL Organic Wheat Breeding Specialist at Lincoln, Neb., is leading a project for breeding organic cultivars of Hard Winter Wheat, the type of wheat predominantly used in the bread market. A total of 1,200 varieties are available each year and largely grown to western South Dakota and Nebraska, although they are adapted to be grown outside this region, including in the Yankton area should there be interest. There is a growing concern to improve nutrient density in Hard Winter Wheat, Little says, particularly for use as whole grain flour. This means increasing the protein content in Hard Winter Wheat. The challenge is breeding cultivars that have increased protein content without sacrificing production qualities that would make protein-rich varieties unappealing to growers.

For example, "organic wheat is challenged by Fusarium Head Blight as well as Black Tip and Common Bunt," Little said of the yield-reducing diseases. "There are no truly resistant lines."

In addition, the infrastructure is such that it would be difficult to increase the range of where Hard Winter Wheat is grown. Because the organic market requires trucking, milling, and processing in as rigorously kept-up and inspected equipment and facilities, growers are

limited to growing what cultivars their local infrastructure is set up to handle.

Finally, there is a direct link between lower protein content and higher yields. Market premiums would need to be developed to encourage producers to grow protein-rich wheat.

"So far, there has been nothing promising for a line with optimal traits not found in conventional markets," Little said. "There is a better outlook for disease-resistant lines or lines with other specific qualities, but not lines with multiple traits."

There is also more interest in developing wheat cultivars with higher antioxidants. These are natural chemicals present in plants the lower the risk of cancer, heart disease, arthritis, Alzheimer's disease, diabetes, and Parkinson's disease, says Vicki Schlegel, UNL food scientist at Lincoln. Antioxidants are present in very small amounts, but the plant makes more antioxidants in response to stress, like drought.

In Schlegel's study, 19 wheat lines were grown organically four locations around Nebraska. The cultivars ranking highest and lowest, as well as the margin between the two, varied greatly depending on the climate in that some varieties with the most antioxidants in one region had the least in other regions.

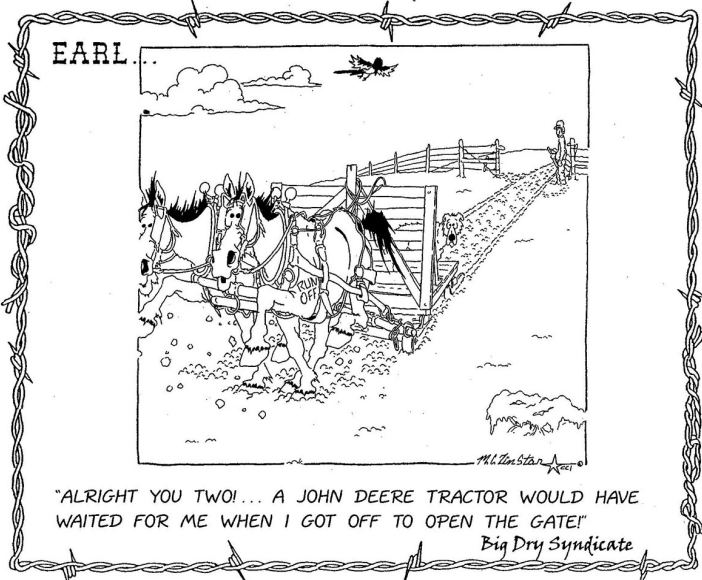
At the Haskell Ag Lab, the average antioxidants tested for the region were higher than other regions. Millennium had the highest antioxidant amount of all the lines. Overland had the lowest amount.

"But the difference between the highest and lowest isn't much," Schlegel said. "For the Haskell lab, there was no statistical difference for these lines."

As with protein content, increasing antioxidant content must be balanced with production qualities and infrastructure considerations to be useful.

"We're also looking at how increasing antioxidant amounts compare with nutrient treatments, disease stressors, weed and insect pressures, cultivars, weather, and organic-versus-conventional varieties," Schlegel said, who added that there are also studies going on with organic soybeans, corn, and sunflowers.

Read more about UNL's Organic Working Group at <http://organic.unl.edu>.



### Funds Available For Specialty Crop Projects

PIERRE — Interested in getting local foods into local schools, getting kids to eat more fruits and vegetables, or learning about honey production?

The South Dakota Department of Agriculture (SDDA) has a program for them. People involved in the specialty crop industry in South Dakota can now apply for select federal funding of projects that enhance the competitiveness of fruits, dried fruits, vegetables, tree nuts, nursery crops and horticulture.

The funds can be used for projects that involve research, food safety, nutrition, promotion, distribution, best-management practices, and a variety of other uses to advance the specialty crop industry in South Dakota. Projects must be of benefit to more than one product or organization and must solely enhance the competitiveness of specialty crops in South Dakota.

SDDA has established the following priority areas for projects in South Dakota:

- School/Institutional promotion
- Local foods initiatives
- Industry education
- Food safety

Applications may be submitted for projects outside of the priority areas. All applications are due to SDDA by April 9.

The Federal funds are part of the Specialty Crop Block Grant, a program funded in the 2008 Farm Bill.

For program guidelines, application forms, or other Specialty Crop Block Grant Program information, call SDDA at 605-626-3272 or visit <http://sdda.sd.gov>.

### NDA Accepting Specialty Crop Grant Proposals

LINCOLN, Neb. — The Nebraska Department of Agriculture (NDA) is currently accepting specialty crop grant proposals. Specialty crops are defined as fruits and vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture).

"The specialty crop industry in Nebraska continues to grow," said NDA Director Greg Ibach. "I encourage individuals involved in this sector to consider submitting a grant proposal this year."

NDA will utilize funds from the United States Department of Agriculture (USDA) Specialty Crop Block Grant Program to administer the state program, subject to the availability of funds.

A two-phase competitive process will be used to determine eligible grant recipients in Nebraska. Phase one requires interested organizations and groups of individuals to submit by April 19 a concept proposal explaining the main points of their project idea. All submitted concept proposals will be competitively ranked and the top proposals will be asked to move on to phase two of the process. Phase two will involve a more detailed grant proposal to be submitted as part of the state plan to be reviewed by USDA.

According to USDA guidelines, eligible projects must solely enhance the competitiveness of specialty crops, and may focus on: research, education, consumption, trade enhancement, food safety, food security, plant pest and disease control, organic and sustainable production practices, among other opportunities. Proposals must show how the project will benefit the specialty crop industry or a segment of the industry as a whole; proposals that will profitably benefit one organization or individual will not be accepted.

Grant proposal guidelines and application information are available through NDA by calling (800) 422-6692, or e-mailing [casey.foster@nebraska.gov](mailto:casey.foster@nebraska.gov). More information on the process can also be accessed on the NDA web site at [www.nda.nebraska.gov](http://www.nda.nebraska.gov). Additional information is also available at the USDA web site at <http://www.ams.usda.gov/scbgp>.

### Property Tax Homestead Exemptions Offered

PIERRE — Applications for the Property Tax Homestead Exemption Program are now available to eligible property owners who wish to delay payment of their property taxes in South Dakota.

May 1 is the deadline to apply for the program.

Under the state Homestead Exemption, qualified applicants can delay payment of property taxes until their property is sold. Taxes then become a lien on the property and must be paid along with interest before the property can be transferred.

To qualify for the exemption, an applicant must be at least 70 years old or a surviving spouse; have owned a single-family dwelling for at least three years or been a South Dakota resident for at least five years; have resided at least eight months of the past calendar year in a single-family dwelling; and meet the program's income limits.

For more information, call the department's toll-free helpline at 1-800-829-9188 and press "2" for the Division of Property and Special Taxes.

### Opinion

## Production Ag Adjusts To The Times

BY RITA BRHEL  
P&D Correspondent

I'm a little behind the times. This past weekend, I was helping my mom write stories of her family history for a genealogy project. She had included some interesting items related to the family farm back in Illinois, like market prices and the cost of renting a farm house, when I came across the description of a 1970 land sale of \$3,700 an acre. I commented on how that seemed high for that time period, and Mom told me that that same acreage sold last year for \$12,000 an acre.

Hmm. It's been a few years since I wrote an article on land prices, and granted this is Illinois we're talking about, so the population is a bit denser and therefore the competition for land is stiffer, but I apparently missed the great inflation of land prices that has continued despite the recession a few years ago. I didn't know that there are some parts of Nebraska where farmland in the middle of nowhere is selling for \$8,000 an acre. And I was shocked that this scraggly, strange L-shaped piece of pasture just down the road, with giant cedar trees



Rita  
BRHEL

crowding out any grass, had recently sold for \$4,000 an acre. The new owners took a bulldozer to the property immediately and added it to the adjacent corn field. My parents have been attending a number of estate planning workshops lately, and naturally, these spur discussions among the farmers and ranchers there about the future of production agriculture and the barriers in place to attract and retain the younger generation. There have been some good points brought up about how the younger generation may not even want to farm, as they can make more money and easier, too, at an off-farm job with a steady paycheck rather than gambling against the weather, markets, taxes, and bank loans for a year's farm income. But, for those who do want to farm, it still comes

down to finances and what young person has the kind of money to either buy or rent a section of land big enough to make a farm living off of?

Production agriculture is suffering from a case of poor adjustment to the times, and in time, as the older generation passes on and is unable to farm, there will be a forced change to how farming and ranching work. Sure, there will still be those big farms and ranches passed down to the young generation. But, those with no heirs or no willing heirs will have to sell their land — adding to the properties of the mega-farms in isolated areas or breaking up into small acreages for hobby farmers nearer to towns and cities.

I feel lucky that my husband and I found five acres to live and have our little hobby farm, for only \$85,000. That value of cropland or pasture would get me 10-15 acres, and that doesn't include a place to live.

Some of the younger generation certainly wants to carry on the family farm legacy as a business, but for many of us, we just want the lifestyle. We want to live

and raise our children in the country lifestyle, but we don't want to live in a financially risky atmosphere that agriculture invariably brings with it. And what makes it risky is not the weather or the markets so much as the high, high cost of land and equipment to get started. The thought of buying a tractor that costs as much as a house, when you could just live in the country, feed out some dairy calves every summer, and get a biweekly paycheck from your off-farm job just doesn't make much sense when it comes to sensibility and family stability.

So, I think it's time for the production agricultural industry to adjust to the times. We have to stop lamenting over the lack of younger generation in the business if the industry can't change, and we have to prepare for the next chapter of mega-farms and a shrinking population of farmers.

**I refuse to...**

**let an injury keep me from reaching my best potential**

Matt Dvorak, PT

Michelle Tieszen, PT

**Morgen Square**  
**260.5003**

**The family of Dee Horacek** would like to thank everyone for their support and kindness. Thanks to Dr. Villanueva, Dr. Mikkelsen, Dr. Fanta, the infusion nurses at YMC, the staff at ASHH, Home Health and Hospice. The care, support and kindness you gave to Dee and our family was exceptional and greatly appreciated. Your care allowed us to have quality time together. We can't begin to thank all Mom's friends, who have become our friends, for all your help, hugs, prayers, food, and visits. You were the highlight of Mom's and Dad's days. Also thanks to all our friends and co-workers, who have given us support. Thanks for all your prayers, hugs, and picking up our slack so we could be there for Mom and Dad. Thanks also to everyone who has sent cards, flowers, food, prayers, and hugs. Your thoughtfulness and support is comforting, it makes us truly blessed to know all the lives Mom has touched. We would like to thank Opsahl-Kostel Funeral Home, Tami and Velma you were a tremendous support for us. Thanks also to Father Mark and Sacred Heart Parish for the beautiful ceremony and dinner. We hope we haven't forgotten anyone. We all know we are truly blessed to have such wonderful friends, coworkers, and support systems in our lives. We also know Mom is looking down on us smiling, shaking her head and saying that's my family, knowing in heaven she has her job cut out for her keeping us in line, but smiling because she left us in good hands to love and support each other. Thanks to you all for everything you have done for us.

Frannie Horacek  
Lynne and Doug Nelson  
Jason Nelson and Jill Sternquist, Easton, and Xavier Heather and Justin Olson, Burkley, and Mathea Derrik Nelson  
Matt Horacek  
Mason and Sarah Horacek  
Luke Horacek  
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