



providing education and research support to the agricultural industry

September/October 2007

Articles

Fall Nitrogen

Research

Profits, costs, and the Changing Structure of Dairy Farming

Switchgrass: Bridging Bioenergy and Conservation

Resources

Wheat Variety Trials Results

Illinois voluntary Limestone program
Producer Information

Field Guide to herbicide injury on
Landscape Plants

Educational Opportunities

University Of Illinois Agriculture Events

Statewide U of I Extension Calendar
Website

—more—

View current and past issues
on the web@
www.urbanext.uiuc.edu/agupdate

Fall Nitrogen

Ellen Phillips, Extension Educator-Crop Systems, 708-352-0109, ephillips@uiuc.edu

Check soil temperatures to know when ammonium containing nitrogen fertilizer may be applied without excessive nitrification. The websites below give the current and long-term average of soil temperatures across Illinois.

The *Illinois Agronomy Handbook* states that at 50°F and below, the rate of nitrification is reduced since cool temperatures slow biological activity that converts nitrogen in the ammonium form to nitrate form. At soil temperatures below 60°F, you can begin applying anhydrous ammonia application with a nitrification inhibitor. Inhibitors slow the conversion of ammonium to nitrate. They work best in moderately or well-drained soils or when there is excessive rainfall and frequent flooding.

Soil temperatures do fluctuate during the fall. It is not uncommon to have a period with soil temperatures below the accepted threshold for N application followed by days where soil temperatures are above the accepted threshold. Therefore, when making your decision of when to apply nitrogen, use the current soil temperature and short- to long-term weather forecasts.

Current Soil Temperatures for Illinois

<http://www.sws.uiuc.edu/warm/soiltemp.asp>

Long-term Soil Temperature Averages

http://www.sws.uiuc.edu/atmos/statecli/Soil_Temperature/soil_temperature.htm

Research Results

Profits, Costs, and the Changing Structure of Dairy Farming

<http://www.ers.usda.gov/Publications/ERR47/>

U.S. dairy production is consolidating into fewer but larger farms. This report uses data from several USDA surveys to detail that consolidation and to analyze the financial drivers of consolidation. Specifically, larger farms realize lower production costs. Although small dairy farms realize higher revenue per hundredweight of milk sold, the cost advantages of larger size allow large farms to be profitable, on average, even while most small farms are unable to earn enough to replace their capital. Further survey evidence, as well as the financial data, suggests that consolidation is likely to continue.

Switchgrass: Bridging Bioenergy and Conservation

Linda Tokarz, ARS News Service, USDA. (301)504-1658, linda.tokarz@ars.usda.gov

An important part of the answer to the country's energy woes could be blowing in the prairie wind, according to Agricultural Research Service (ARS) plant geneticist Michael Casler. He has spent the past 10 years breeding switchgrass, an eight-foot-plus native plant that was an integral part of the tall grass prairies that once dominated America's Midwest.

As a breeder, Casler is mostly concerned with the plant's bioenergy-friendly attributes, including its ability to accumulate large amounts of biomass and tolerate environmental stress. Casler works at the agency's U.S. Dairy Forage Research Center in Madison, WI. Recently, he began looking at switchgrass from another standpoint—as a restorer of once-pristine prairies. Historically, a sprawling seas of grasses once stretched from Montana and the Dakotas down to Texas, with pockets of

prairie as far east as New York. Now, with much of this land fragmented or altered, only a patchwork of remnant prairies remains.

Numerous federal, state and private conservation efforts are examining how best to revive these vestigial prairies. But a question of genealogy always arises: Which switchgrass varieties should be planted that will be in keeping with a site's genetic legacy? Some conservationists insist on using only long-established, local varieties of switchgrass. Others argue that modern-day cultivars can appropriately be used. Along with ARS scientist Kenneth Vogel in Lincoln, Neb., Casler set out to bring clarity to this debate and, hopefully, ease the task of grassland restoration. After two summers spent trekking native Midwestern prairies, plucking samples and sending them back to his laboratory, Casler discovered that today's agronomically important switchgrass cultivars are nearly identical genetically to their grassy ancestors. The study's findings are good news for prairie restorers, who can confidently tap a wider pool of switchgrass cultivars and local varieties for conservation projects. And switchgrass growers can take satisfaction knowing their fields still are, in many ways, symbolic of the country's rich grassy past.



Rural Route 2 is Available at 1-800-468-1834

<http://www.extension.uiuc.edu/ruralroute/>

The Rural Route 2 service is designed to help farm families get through tough times. This **confidential service** provides referrals for farm business and family financial advice; helps manage economic as well as personal situations; helps locate local support; and identifies assistance through the Illinois Farm Development Authority.

Resources to Consider

Wheat Variety Trials Results

The University of Illinois Wheat Variety Trail Summary are available at your local Extension office or view the results at:

<http://www.extension.uiuc.edu/ruralroute/>

Illinois Voluntary Limestone Program Producer Information

<http://www.agr.state.il.us/news/pub/Limestonebooklet.html>

Limestone should be the first soil amendment applied to the soil in crop production. The rate of limestone application should be based on a soil pH test and recommendations in the Illinois Agronomy Handbook. When deciding which limestone to apply producers are encouraged to consult the "Illinois Voluntary Limestone Program Producer Information" booklet. It is produced by the Illinois Department of Agriculture and Department of Transportation. It indexes limestone samples from quarries that wish to participate in the Illinois Voluntary Limestone Program. Analyses of Calcium Carbonate Equivalent (CCE) and fineness scores, plus correction factors are included in the booklet.

Field Guide to Herbicide Injury on Landscape Plants

[Dawn Nordby](#), [Michelle Wiesbrook](#), and [Scott Bretthauer](#)

Distinguishing herbicide injury from other causes of abnormalities on landscape plants can be challenging. With the *Field Guide to Herbicide Injury on Landscape Plants*, you'll have in your pocket the details you need to troubleshoot and diagnose herbicide injury problems. This extensive guide presents more than 200 color photographs of several herbicide families, with images of vegetables, annuals, and herbaceous and woody perennials. Diseases and environmental conditions that may show similar symptoms are also highlighted in the key. Order by calling Kris Ritter at (217)333-4424 or by e-mail karitter@uiuc.edu.

Educational Opportunities

University of Illinois Agriculture Events

New programs are being confirmed every day. Keep in touch with your Extension Office for programs addressing the topics that interest you and are offered in your County. To find your counties website go to: <http://web.extension.uiuc.edu/state/findoffice.html>

Statewide University of Illinois Extension Calendar Website

<http://web.extension.uiuc.edu/state/calendar.cfm>

To search for programs throughout the state, check out Extension's searchable calendar. Search by location, topic or date to find a program of your interest.



AG FACTS

- “By 2008, over half of the world's population will be living in urban areas.
- By 2030, it is estimated that 5 billion people will live in urbanised areas.

SOURCE: State of World Population 2007 - Unleashing the potential of urban growth

<http://www.unfpa.org/swp/index.html>

Internet Resources

Online Nitrogen Rate Calculator

<http://extension.agron.iastate.edu/soilfertility/nRate.aspx>

This web site provides a process to calculate economic return to N application with different nitrogen and corn prices and to find profitable N rates directly from recent N rate research data. The method used follows a newly developed regional approach for determining corn N rate guidelines that is being implemented in several Corn Belt states

"Soybean Aphid -*Aphis glycines* Matsumura," Regional Pest Alert (RPA) series

<http://www.ncipmc.org/alerts/soybeanaphid.cfm>

This new fact sheet provides a detailed profile of this pest's ability of transmitting a number of viruses that infect soybean crops. The single page, illustrates its life cycle and origin, and then discusses plant symptoms caused by this unwelcome visitor. Field monitoring is a key to identifying the presence of *A. glycines*. Control recommendations include a range of options. The RPA series is produced and distributed in cooperation with the U.S. Dept. of Agriculture Cooperative State Research, Education and Extension Service sponsored Regional IPM Program, and specifically the North Central IPM Center.

Farm Owner's Death: Can Tenant Continue Farming Under the Lease?

http://www.farmdoc.uiuc.edu/legal/articles/ALTBs/ALTB_07-04/ALTB_07-04.pdf

When an Illinois farmland owner dies, becomes mentally incompetent, or sells the farm, what is the effect on the tenant's farm lease? A new Agricultural Law and Taxation Brief (ALTB) entitled "Farm Owner's Death: Can Tenant Continue Farming Under the Lease?" is available on *farmdoc*.

University of Illinois Ag Safety web site

<http://web.extension.uiuc.edu/agsafety/>

Fact sheets include:

- [Developmental Stages and Accident Risk](#)
- [Developmental Stages and Accident Risk](#)
- [Disability Services for Farm Families](#)
- [Manure Storage Entering Procedures](#)
- [Rollover Protective Structure - ROPS](#)
- [Teaching Agricultural Safety to Kids!](#)
- [Farm Electrical Safety](#)
- [Forage Harvesting Safety](#)
- [Hurry/Haste is Hazardous](#)
- [Mowing Safety](#)
- [Safe Movement of Farm Machinery on Public Roadways](#)
- [Snowmobile Use](#)
- [Safety with Animals](#)
- [Youth and Agricultural Employment - Tractor and Equipment Safety](#)
- [Senior Farmers at Risk on the Farm](#)
- [Challenges to Women in Farm Life](#)
- [How to Cope with Stress on the Farm](#)

EPA Pesticides and Endangered Species Protection Program website updated

www.epa.gov/espp

EPA has updated and redesigned its Pesticides and Endangered Species Protection Program website to make it easier for visitors to find relevant information about the Program and to reflect enforceable limitations on pesticides that will be put in place through its Endangered Species Protection program (ESPP). Topics of Risk Assessment, Effects Determination and Species Information are highlighted. There is also a section for kids to learn about endangered species.

Adoption of Genetically Engineered Crops in the U.S.

<http://www.ers.usda.gov/Data/BiotechCrops/>

This data product summarizes the extent of adoption of herbicide-tolerant and insect-resistant genetically engineered crops in the United States. Data cover GE varieties of corn, cotton, and soybeans over the 2000-2007 period, by State.

U.S. Ethanol Expansion Driving Changes throughout the Agricultural Sector

<http://www.ers.usda.gov/AmberWaves/September07/Features/Ethanol.htm>

A large expansion in ethanol production is underway in the United States, spurred by high oil prices and energy policies. Although corn is the primary feedstock used to produce ethanol in the United States, market adjustments to the ethanol expansion extend well beyond the corn sector to supply and demand for other crops, as well as to the livestock sector, farm income, government payments, and food prices. Adjustments in the agricultural sector to increased demand for biofuels will continue as interest grows in renewable sources of energy to lessen dependence on foreign oil.



Impact of Rising Natural Gas Prices on U.S. Ammonia Supply

<http://www.ers.usda.gov/Publications/WRS0702/>

The volatile and upward trend in U.S. natural gas prices from 2000-05 has led to a 17-percent decline in the Nation's annual aggregate supply of ammonia. During the period, U.S. ammonia production declined 44 percent, while U.S. ammonia imports increased 115 percent. Also, the share of U.S.-produced ammonia in the U.S. aggregate supply of ammonia dropped from 80 to 55 percent, while the share from imports increased from 15 percent to 42 percent. Meanwhile, ammonia prices paid by farmers increased from \$227 per ton in 2000 to \$521 per ton in 2005, an increase of 130 percent. Natural gas is the main input used to produce ammonia. Additional increases in U.S. natural gas prices could lead to a further decline in domestic ammonia production and an even greater rise in ammonia imports.

About the Ag Update Newsletter

The Ag Update Newsletter is a bi-monthly newsletter providing education and research support to the agricultural industry. Current and past issues may be found at the following website
<http://www.urbanext.uiuc.edu/agupdate/index.html>

Contact your county Extension office and request to be put on their agricultural mailing list to receive the local agricultural newsletter and notices about upcoming agricultural events near you. To find your counties location, phone and website go to <http://web.aces.uiuc.edu/ve/>

For further information about this newsletter, please contact:

Ellen Phillips, Extension Educator—Crop Systems
University of Illinois—Countryside Extension Center
6438 Joliet, Countryside IL 60525

Phone 708/352-0109

phillipe@mail.aces.uiuc.edu