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### Scouting for Stalk Rot

*Ellen Phillips, Extension Educator, Countryside Extension Center,  
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Stalk rot fungi have different symptoms, but they affect the corn plant in the same way. Stalk strength decreases which increases lodging, grain fill is reduced and dry down speeds up. Lodging can cause more yield loss than the effects of the fungal disease. Stalk rots can affect nutrient movement in the plant by blocking pathways leading to lower yield. Stress is one factor influencing the amount of stalk rot development with the degree of injury increasing with higher levels of stress.

The most common types of stalk rot are Anthracnose, Gibberella, Fusarium, Diplodia and Pythium. Detailed information on these diseases can be found at Field Crop Diseases website [cropdis-ease.cropsci.uiuc.edu](http://cropdis-ease.cropsci.uiuc.edu) and in the publication "Corn Stalk Rots" [www.ag.uiuc.edu/~vista/abstracts/aCORN.HTML](http://www.ag.uiuc.edu/~vista/abstracts/aCORN.HTML)

#### Steps to Scouting for Stalk Rot

The amount and distribution of stalk rot diseases varies year to year. Most years it is possible to find a low level of rot in most fields. Here are two ways to test for stalk rot.

##### The **Push Test**

- Randomly look at 100 plants in the field.
- **Push** the top part of the stalk. Does the plant lodge?
- If 10 –15% of plants lodged then consider harvesting this field first.

##### The **Pinch or Squeeze Test:**

- Randomly look at 100 plants
- Pinch or squeeze the stalk above the brace roots
- If 10 –15% of plants lodged then consider harvesting this field first.

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# Research

## Grain Moisture Measurements May Divert Mold, Insect Infestation

Sharon Durham, ARS

Grain storage bins are routinely monitored for temperature to control insect and mold problems. Now an Agricultural Research Service (ARS) scientist and his colleagues at Kansas State University (KSU) have preliminary research findings showing that monitoring carbon dioxide—along with humidity and temperature—also may help detect problems more effectively. Grain moisture content and temperature are the primary factors affecting grain deterioration in storage. If these factors are not properly monitored and controlled, grain quality can deteriorate quickly due to mold growth and insect infestation.

ARS engineer Paul Armstrong at the agency's [Grain and Marketing and Production Research Center](#) in Manhattan, KS., and Haidee Gonzales and Ronaldo Maghirang at KSU monitored a simulated grain storage bin during aeration to determine if high-moisture grain, or adverse storage conditions, in the bin top could be detected using sensors to measure relative humidity, temperature and carbon dioxide levels.

Relative humidity and temperature can be used to estimate grain moisture, while carbon dioxide levels indicate the amount of respiration due, primarily, to molds. Current technology allows relative humidity and temperature sensors to be placed at multiple points within the grain mass. Carbon dioxide sensing is more feasible at an aeration duct.

In the study, sensors were placed at different depths in the bin. High-moisture grain—comprising about 11% of the volume—was placed at the top of the bin and produced high amounts of carbon dioxide, which in most cases was easily detectable during aeration. Lowering grain temperature with aeration diminished the amount of carbon dioxide produced, making it more difficult to detect unless the carbon dioxide sensor was located very close to the wet grain.

Relative humidity and temperature sensing gave good estimates of grain moisture for all conditions, but under some grain conditions, high carbon dioxide levels persisted for grain considered to be at safe moisture and temperature conditions. Combining relative humidity, temperature and carbon dioxide measurements gave reasonably accurate measurements of grain moisture content as well as overall storage conditions.

# Internet Resources

## **Farmdoc Crop Insurance**

<http://www.farmdoc.uiuc.edu/cropins/index.asp>

The *farmdoc* Crop Insurance section has been modified so that quotes for wheat are now available. This includes a new Fall-deadline section which will give quotes for 2009 wheat. The Spring-deadline section will continue to give quotes and information about 2008. Wheat quotes are preliminary as no information to accurately quote wheat has been released by RMA. Final base prices, volatilities and price factors have not been released for wheat harvested in 2009; hence, all premium quotes are estimates.

## **UPDATED - Pesticide Safety Education Program website**

<http://www.pesticidesafety.uiuc.edu/>

This site includes the Illinois Pesticide Review newsletter, featured tips, fact sheets, a directory of training manuals, training schedules, certification information as well as a comprehensive list of resources.

## **Securing the Load A Guide to Safe and Legal Transportation of Cargo and Equipment, PPP-75**

<http://www.btmv.purdue.edu/Pubs/PPP/PPP-75.pdf>

Accidents waiting to happen occur on roads everywhere. Chains, straps and ropes – do you know when they will break? Learn how to safely secure load in your trucks whether you are carrying pesticides or hay.

## **2008 Farm Bill Side-by-Side**

<http://www.ers.usda.gov/FarmBill/2008/>

The Food, Conservation, and Energy Act of 2008, which governs Federal farm programs for 2008-12, was enacted into law in July 2008. Summarized but substantive, this comparison is a time-saving reference on farm bill provisions.

## Moth Identification Guide for Blacklight Trap Catch in Wisconsin

Sarah Schramm and Eileen Cullen

<http://learningstore.uwex.edu/Moth-Identification-Guide-for-Blacklight-Trap-Catch-in-Wisconsin-P1268C31.aspx>

If you're maintaining a blacklight trap, you'll appreciate being able to refer to this overview of moths you're likely to encounter. This concise guide highlights key wing markings to help you quickly identify specimens. Profiles 16 common moths: European corn borer among others, corn earworm, and loopers.

### Farm Energy Calculators: Tools for saving money on the farm

<http://attra.ncat.org/attra-pub/PDF/farmenergycalc.pdf>

This new publication provides a list of web resources of a variety of farm energy calculator tools. Direct costs of energy, such as fuel and electricity, paired with indirect energy costs in the form of fertilizers and chemicals, can significantly affect farm net revenues. Minimizing direct and indirect energy consumption on farms can lead to considerable savings

### HOLD IT DOWN

[www.btny.purdue.edu/Pubs/PPP/PPP-76.pdf](http://www.btny.purdue.edu/Pubs/PPP/PPP-76.pdf)

Poster summarizing the critical points from the publication "Securing the Load."

## More Resources

### Publications Plus –University of Illinois Agricultural and Horticultural Publications

Call 1-800-345-6087 or order on the web

[www.PublicationsPlus.uiuc.edu](http://www.PublicationsPlus.uiuc.edu)

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### What's Driving Food Prices?

[www.farmfoundation.org/news/articlefiles/404-FINAL%20WDFP%20REPORT%207-28-08.pdf](http://www.farmfoundation.org/news/articlefiles/404-FINAL%20WDFP%20REPORT%207-28-08.pdf)

Wallace Tyner, Christopher Hurt and Philip Abbott, Purdue University

The report, commissioned by the Farm Foundation, summarizes a study identifying three broad sets of forces driving food price increases: global changes in production and consumption of key commodities, the depreciation of the U.S. dollar, and growth in the production of biofuels.

## Flaming as a Method of Weed Control in Organic Systems

D.R. Mutch, *et al.*, Michigan State University,  
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A multi-year trials program conducted under the aegis of Michigan State Univ. (MSU) compared the use of flaming against other non-chemical methods of weed management in organic crops. The results are set forth in a January 2008 extension bulletin (E-3038), "On a well-drained sandy loam soil, maize yields were comparable when weeds were controlled by either powered rotary hoeing or flaming. Because the growing point of maize is below the soil surface when flaming is applied, scorching crop leaves did not reduce yield whereas in soybean flaming caused crop damage that depressed yield. Dr. Mutch and colleagues discuss the various pros and cons of flaming, not the least of the latter now being propane gas cost to operate flaming equipment. On the plus side, flaming was shown to be independent of soil type, weather conditions, and much less invasive as well as more preserving of soil structure than rotary hoeing. The illustrated, concise, 4-page bulletin can be freely downloaded from <http://tinyurl.com/5r3vu2>.

## 'Dead Zones' Expand in the World's Oceans

The number of coastal areas known as dead zones is on the rise. A new study published in Science counted more than 400 dead zones globally, including 166 in U.S. waters, covering 245,000 square kilometers. Once filled with fish and many other organisms, these ocean waters are no longer habitable. For the full research report go to: <http://nationalacademies.org/headlines/20080819.html>

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The best way to control diseases in the field is to plant crops that have disease resistance built into its genetics. To find out more about specific varieties check out the Crop Science Department Variety Field Trial results webpage <http://vt.cropsci.uiuc.edu/>.



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## 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 you interest.

## 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:

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