

As we enter the corn harvest phase, many interesting observations can be made. This appears to be a year where adequate drainage, late applied Nitrogen, timely weed control, and farming conditions which reduced compaction all paid big dividends. Fungicides appear to have assisted in maintaining plant health in both corn and soybeans. Stalk quality in SE Iowa appears to be extremely weak considering the high moisture content still present in most corn hybrids. We are approximately two to three weeks behind the last few years due to later planting dates and cooler temperatures causing lower heat unit accumulation. This is **not** a year to wait for field drydown, due to potential harvest loss from stalk quality issues and kernel quality deterioration. Healthier hybrids appear significantly later (by 2-3% moisture) than the "die-and-dry" hybrids of similar maturity, but they also can stand later harvest.

Disease Concerns

There appears to be a significantly greater incidence of Diplodia root rot and Diplodia, Fusarium and Anthracnose stalk rots in corn this year, compared to normal. This is due to: 1) the number of days with heavy dew or rain, 2) the number of cloudy days which reduced the photosynthate produced to build the stalks and roots, 3) the high number of kernels produced under favorable pollination conditions, and 4) later planting which tends to reduce stalk diameter.

There also appear to be more ear rots than normal this year. These include 1) Diplodia Ear Rot (DER) www.ent.iastate.edu/imagegal/plantpath/corn/diplodia which usually leads to a completely rotted ear that is grayish colored. DER is somewhat hybrid specific, but is quite common this year. 2) Gibberella Ear Rot (GER) www.ent.iastate.edu/imagegal/plantpath/corn/gibberella which tends to be on ears with tight husks and it causes a reddish colored rot starting at the tip and progressing down the ear. GER is hybrid specific and is seen occasionally this year 3) Fusarium Ear Rot (FER) www.ent.iastate.edu/imagegal/plantpath/corn/fusarium which often is evident in scattered split-kernels which tend to be white or dark. FER is quite common this year and it can coalesce to form a large rotted area. 4) Aspergillus Ear Rot www.ent.iastate.edu/imagegal/plantpath/corn/aspergillus which causes a greenish mold often associated with aflatoxin. Aspergillus is normally associated with drought conditions, but is present in some corn ears this year as well.

I have observed a lot of rotted ear tips and sometimes the rot progresses down the cob and this cob rot will cause cobs to break and shell poorly. Ears from non European corn borer tolerant hybrids also have a lot more rot (usually FER) along the tunnels the borers form in the grain and cob. The bottom line is that the later you harvest, the more likely you will suffer from either standability or grain quality issues caused by disease.

Harvesting Late Planted Corn

Many fields planted in June may be difficult to harvest for high quality grain. Stephen Barnhart and Roger Elmore help you decide whether to harvest grain or silage: <http://www.extension.iastate.edu/CropNews/2008/1006barnhartelmore.htm>

Grain Drying Tips

No producer wants to throw away money, especially when the majority of input costs are on the rise. Some tips from [Sara Muri](#), Farm Journal Business & Crops Online Editor include: 1) Field dry corn if stalk and grain quality conditions allow. You can lose .3 to 1% moisture per day under low humidity conditions. 2) A common mistake for producers using heated air, is applying too much heat. When adding supplemental heat, the relationship between temperature rise and relative humidity is not linear. You get your best drying efficiency with the first 20° F of heat. Generally the relative humidity drops by one-half for each 20° F rise in temperature. The second 20° F increment of added heat results in half as much reduction in relative humidity (half of half). Keeping the drying temperature at a moderate level will reduce drying costs and may improve grain quality. 3) If you have multiple bins, partially filling several bins and starting the drying process while you're still harvesting can save from 20 to 35% of energy costs. By having a shallower layer of grain for the air to travel through, drying time and energy consumption is reduced.

Fertilizer tips

The key thing to remember is that skimping on needed nutrients or untimely application can be costly. Several good articles on fertilizer are available from the Integrated Crop Management Weekly updates at: www.extension.iastate.edu/CropNews and <http://www.extension.iastate.edu/Publications/PM1688.pdf>. These include:

A) Manure management guide: <http://www.extension.iastate.edu/Publications/PMR1003.pdf>

To summarize the Manure Management Guide: 1) Have representative manure samples analyzed for at least moisture (dry matter) and total N, P, and K. 2) Set the manure application rate according to crop fertilization requirements and for the crop availability of manure N, P, and K. 3) Adjust manure rates for estimated N volatilization. 4) For manure



Miller Highlights

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application rates, consider the crop N, P, and K fertilization requirements and field P-Index ratings, but do not exceed the crop N fertilization need. 5) Allocate manure to fields based on soil tests and crops to be grown. Fall applications of manure should not be made until the soil temperature is 50° F and cooling, especially for manure sources that have a large portion of N as ammonium. 6) Do not apply manure to snow-covered, frozen, or water-saturated, sloping ground to reduce risk of nutrient loss and water quality impairment.

B) Making Fertilizer Decisions for 2009 by ISU agronomists John Sawyer and Antonio Mallarino :

<http://www.extension.iastate.edu/CropNews/2008/0922sawyermallarino.htm>
<http://www.extension.iastate.edu/CropNews/2008/0922sawyermallarino2.htm>

The following charts are from these reports:

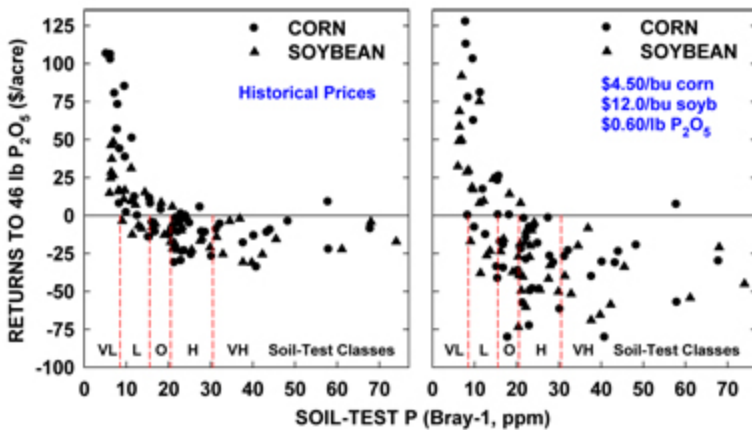
Price Ratio ¹	Corn Following Soybean		Corn Following Corn	
	Rate ²	Range ³	Rate ²	Range ³
\$/lb:\$/bu	----- lb N/acre -----			
0.05	150	138 - 164	209	196 - 234
0.10	128	117 - 140	183	173 - 197
0.15	113	104 - 123	163	152 - 176
0.20	100	92 - 110	147	138 - 157

¹ Price per lb N divided by the expected corn price. For this table, corn was held at \$6.00/bu and N varied from \$0.30, \$0.60, \$0.90 to \$1.20/lb N (for example, anhydrous ammonia at \$492, \$984, \$1476, to \$1968/ton).

² Rate is the lb N/acre that provides the Maximum Return To N (MRTN). All rates are based on results from the Corn N Rate Calculator as of July 1, 2008 (<http://extension.agron.iastate.edu/soilfertility/nrate.aspx>).

³ Range is the range of profitable N rates that provides a similar economic return to N (within \$1.00/acre of the MRTN).

Nitrogen rates suggested for corn following soybean and continuous corn based on the current Corn Nitrogen Rate Calculator dataset



Net return to P application at different soil test levels and crop/fertilizer prices

Most Miller Hybrids corn varieties have the Liberty Link gene **without a tech fee**. Cost effective, residual herbicides such as, Corvus™, new from Bayer®, guarantee free Ignite® for any late season nonselective weed control needs. Miller Hybrids new rootworm stacked corn and conventional corn are performing with the best. Talk to your Miller Seed Experts: **Jon Meester 319-325-6190** (N. of I80), or myself (**Bob Miller 319-325-6158**) for any corn or alfalfa questions. We have attractive prepay options (best by October 24, 2008) for elite corn hybrids with the right traits for your farm. Call us to help you understand the issues related to your fields in 2008.