

In this issue

- Grain drying and storage info
- Value of corn stalks
- Nitrogen application and soil temperature
- Manage and calculate crop residue
- Manure management plans and soil sampling

Introduction

Corn harvest should really pick up this week with in-field grain moisture reaching the mid to high teens. The extended forecast calls for a chance of rain mid-week, but after that the forecast looks to be very favorable for harvest. Excellent tips on grain drying and storage can be accessed from the listed University of MN website. Remember, corn stalk have feed value, particularly when supplemented with protein and minerals. Utilize this resource when available. I've noticed a few fields with anhydrous ammonia applied, be sure to monitor average 4-inch soil temperature and look for 50 degrees or less when deciding to apply fall nitrogen. I've also noticed some bean fields already tilled. Use the online calculator listed below to estimate remaining residue after tillage operations. You want a minimum of 30% after all operations are completed in the spring.

Crop Management

Grain Drying, handling and storage: A University of MN web site with excellent resources on all aspects of grain drying and storage can be found at this URL: <http://www.extension.umn.edu/topics.html?topic=4&subtopic=44>

Corn stalks have feed and \$ value Cornstalks can be a great source of winter feed for cattle. Cornstalks that are supplemented with protein, vitamins and minerals can supply the nutritional needs of cows that are in moderately good body condition. Cornstalks are generally considered to have about 80 to 90 percent of the energy of mixed grass and legume hay per pound of dry matter, but only 20 to 30 percent as much protein. Adding soybean meal can be a good way to increase protein content. Bruce Anderson (Nebraska Extension Forage Specialist) recommends that if you plan to graze cornstalks, the stalks should be grazed as soon as possible after harvest. The nutrient value of stalks declines the longer they are exposed to weathering. Grazing stalks right after harvest will put more condition on cows and faster gains on young stock. For information on estimating dollar value of cornstalks baled or in the field, see the October 6, 2003 ISU ICM newsletter, also found on-line at: <http://www.ipm.iastate.edu/ipm/icm/2003/10-6-2003/rentsellcorn.html>

ISU Yield trial data is being made available much quicker and easier this year and two new sites were added last week. You can find preliminary results online at this web address:
<http://extension.agron.iastate.edu/varietytesting/index.aspx>.

Pest Management

Pest Management Data Collection I am looking for comparisons between treated and non-treated areas of fungicide and/or insecticide treatments applied to soybeans to control either (or both) soybean foliar disease or soybean aphids. If you would like to share your results, please fill out one or both of the following forms.

Please find the "Treated vs. Non-Treated" printable PDF form at these URL's:

Soy aphid insecticide treatment form: <http://www.extension.iastate.edu/nwcrops/Soybean-Aphid-Insecticide-Treatment-Survey-2005.pdf>
Soybean disease fungicide treatment form: <http://www.extension.iastate.edu/nwcrops/Soybean-fungicide-Treatment-Survey-2005.pdf>

Soil and Fertility Management

Fall Application of Anhydrous Ammonia – pay attention to soil temperature I've already noticed a couple of fields with anhydrous ammonia or manure applied to soybean stubble. Considering the relatively warm temperatures the area has experienced, applying AA or manure with high levels of ammonium this early can be risky. Fall applications in warm soils are often associated with an increased risk of nitrogen loss by leaching of nitrate through the soil profile because the warm soil allows microbes to convert ammonium to nitrate. The

most efficient (least amount of lost nitrogen) method of nitrogen application is through spring split applications. But if you are set on applying AA this fall, try to delay applications until soil temperatures cool and there will be less risk for nitrogen loss. Addition of a nitrification inhibitor (N-Serve) with fall applied AA can reduce the rate of conversion of AA to nitrate and may reduce nitrate loss.

A good explanation on how fall applied nitrogen is lost can be found in this recent article in the ICM newsletter: <http://www.ipm.iastate.edu/ipm/icm/2005/9-19/fiftydegrees.html>

Get county specific soil temperatures over the last three days from this ISU web site: <http://extension.agron.iastate.edu/NPKnowledge/>

Manage Crop Residue to Protect The Soil Resource As tillage plans are made for this fall, keep in mind the important role that crop residues play in the overall conservation plan. The amount of soil lost to erosion each year is directly proportional to the amount of crop residue remaining on the surface. You may already have made substantial changes in your farming operation to reduce erosion, but at the heart of your conservation plan should be some provision for conservation tillage. Conservation tillage is defined as tillage that leaves at least 30 percent of the field surface covered with crop residue after planting.

All crop residues (stalks, straw, chaff, and even the finest materials) stop rain splash, slow and trap runoff, and allow water infiltration. Plant residue also improves soil organic matter, which enhances soil physical and chemical properties such as soil tilth, aggregate stability, and cation exchange capacity. Plan your tillage management systems to provide crop residue coverage, such as Mulch-tillage, No-till or Strip-tillage.

Use this online calculator to determine how much residue will be left on a field after planned tillage operations: <http://extension.agron.iastate.edu/soilmgmt/calcResidue.aspx>

Soil sampling for manure management plans This is a reminder from an article written last year by Angela Rieck-Hinz (extension program specialist, Department of Agronomy) to be sure to follow ISU soil sampling guidelines (www.extension.iastate.edu/Publications/PM287.pdf) when sampling fields that are included in P-index based manure management plans. P-Index manure management plans will be phased in over the next four years. Soil samples taken this fall may fall under the new rules.

- Soil samples shall be taken from each field in a manure management plan at least once every 4 years.
- Each sample must be analyzed for phosphorus (P) and pH.
- Soil samples may be taken by soil map unit, management zone, or grid sampling. Please see the Iowa State University Extension publication PM 287, Take a good sample to help make good decisions.
- Each soil sample must be a composite of at least 10 cores from the sampling area.
- Each core taken must represent the top 6 inches of the soil.
- Each soil sample can represent no more than 10 acres, unless the size of the field is 15 acres or less, then only one sample is necessary. If manure is applied at a phosphorus-based rate and the P-index is Very Low, Low, or Medium between sampling years, the sample can represent up to 20 acres.
- Soil analysis must be completed at a laboratory enrolled in the Iowa Department of Agriculture and Land Stewardship's soil testing certification program.
- If soil pH is greater than or equal to 7.4, the Bray P1 extraction method is not suitable for analysis.

Full article can be found here: <http://www.ipm.iastate.edu/ipm/icm/2004/9-13-2004/soilsample.html>

Crop Update Newsletter Prepared By:
Todd Vagts, ISU Extension Crops Specialist
Serving northwest Iowa

IOWA STATE UNIVERSITY
University Extension

For further information pertaining to this newsletter; please contact me or any of the county extension offices. This newsletter can also be accessed on-line at http://extension.iastate.edu/carroll/crops/newsletter_2004.htm. If you would like this letter to be emailed directly to you, please send an email with the desired email address to vagts@iastate.edu.

This newsletter is available via fax (in selected counties) or e-mail and can always be found on the web at http://www.extension.iastate.edu/nwcrops/newsletter_2005.htm If you would like to receive this newsletter in a format (different than what you currently receive), please let me know by phone (712-792-2364) or email (vagts@iastate.edu).

Todd Vagts
Iowa State University Extension
Field Specialist, Crops

1240 D. Heires Avenue Office: 712-792-2364
Carroll, IA 51401 Cell: 712-790-0351
Email: vagts@iastate.edu Fax: 712-792-2366
Web Page: <http://extension.iastate.edu/nwcrops/>

Provided to you by:

IOWA STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY
COOPERATIVE EXTENSION

Information given in this publication is for educational purposes only. Reference to commercial products is made with the understanding that no discrimination is intended and no endorsement by Iowa State University with any specific product(s) used in this is implied

Iowa State University and U.S. Department of Agriculture cooperating
Extension programs are available to all without regard to race, color, national origin, religion, sex, age or disability.