CROP NOTES for October 31, 2014
Past issues of Crop Notes are posted at:
http://www.extension.iastate.edu/winneshiek/page/crop-notes-brian-lang

Iowa State University Extension Information for Northeast Iowa
By Brian Lang, ISU Extension Agronomist
325 Washington St., Suite B, Decorah, IA 52101
563-382-2949

TABLE OF CONTENTS
SOIL TEMPERATURE & N FERTILIZATION
  Soil Temperature <50F
  Nitrogen Fertilization Rates for Corn Production
CORN
  Field Dry Down and Drying Costs
  Grain Drying and Storage Resources
  Android App of a High Moisture Shell Corn Price Calculator
SOYBEANS
  Summary of the 2014 Soybean Aphid Trial by Decorah
ALFALFA & FOLIAR FUNGICIDES
  Summary and Comment on Trials 2011-2014, ISU Northeast Research Farm
VARIETY TRIALS
  Oats, Wheat, Soybeans, Corn
EVENTS
  Farm Bill Overview Meetings at Many Locations Across Iowa
    Nov 5, Elkader
    Nov 13, Cresco & West Union
    Nov 14, Independence, New Hampton
    Nov 17, Waukon
    Nov 18, Elkader & Maquoketa
    Nov 19, West Union, Grundy Center & Van Horne
    Nov 20, Allison
    Nov 24, Waverly
    Nov 25, Cresco
    Dec 1, Peosta & Independence
    Dec 2, Independence, Monticello & Waterloo
    Dec 3, Calmar & Marion
    Dec 10, Calmar
    Jan 12, Allison
    Jan 26, Grundy Center
SOIL TEMPERATURE & N FERTILIZATION

Soil Temperature <50F

Upper 4-inch soil temperatures are available at: [http://extension.agron.iastate.edu/NPKnowledge/](http://extension.agron.iastate.edu/NPKnowledge/)

Northeast Iowa soil temperatures are currently around 50°F. They will drop further with the colder weather, and should remain so. Most falls seem to have soil temperatures reach 50°F right around Halloween to trigger the start of anhydrous ammonia applications, and also if possible holding off fall liquid swine manure applications until now. Ideally its great if all fall manure applications could wait until now, but the priority is on swine manure with its very high ammonium-N content compared to other livestock manures.

Nitrogen Fertilization Rates for Corn Production

Changes in corn grain prices and N fertilizer affects most profitable N fertilizer rates; the Maximum Return To Nitrogen (MRTN). ISU Extension has a massive research data base that takes these factors into account, and its available as a simple on-line calculator. For the calculator, go to: [http://extension.agron.iastate.edu/soilt fertility/nrate.aspx](http://extension.agron.iastate.edu/soilt fertility/nrate.aspx) For more explanation about MRTN, see the article at: [http://www.extension.iastate.edu/CropNews/2014/1014Sawyer.htm](http://www.extension.iastate.edu/CropNews/2014/1014Sawyer.htm)
CORN
Field Dry Down and Drying Costs
Average dry down rates of standing corn in northeast Iowa is about 1/2% per day in September, 1/4% per day in early to mid-October, 1/8% per day in mid to late October, and 1/10% per day in early November. After mid-November very little drying occurs. That’s about 6% in October and 1% in November. A quick ballpark method to estimate drying costs is as follows. It takes about 0.02 gallons of propane to remove one point of moisture from a bushel of corn, according to Scott Sanford, University of Wisconsin. He says to estimate drying costs for a high temperature dryer, multiply the propane price by 0.02 and then multiply by the number of percentage points of moisture to be removed. For example, if propane is $2.00 per gallon and corn is to be dried from 28 to 15% (13 points), then $2.00 x 0.02 x 13 = $0.52 drying cost per bushel.

Grain Drying and Storage Resources
The Iowa Grain Quality Initiative has a series of learning modules on grain quality issues: Dryeration, fan performance, grain aeration, storage, costs and others. These are available at: [http://www.extension.iastate.edu/Grain/Topics/GrainStorage.htm](http://www.extension.iastate.edu/Grain/Topics/GrainStorage.htm)

Android App of a High Moisture Shell Corn Price Calculator
The University of Wisconsin-Extension released a Smartphone app this fall to provide a simple way to help estimate the market value of high moisture shell corn. It’s based on three main variables: dry corn moisture, current corn moisture, and price per bushel. This app is free and available for Android smart phones and tablets on the Google Play store by searching for “HMSC”.

SOYBEANS
Summary of the 2014 Soybean Aphid Trial by Decorah
For those of you that followed my weekly soybean aphid counts during the summer from the research trial near Decorah, here are the highlights:
   1) Aphid populations remained low until mid-August.
   2) Threshold was reached (using Speed Scouting) on Aug. 12 and treatments were applied Aug. 13
      a. One treatment was an insecticide application only.
      b. The other treatment was insecticide plus fungicide, although leaf disease incidence was low.
   3) Aphid populations and soybean stages for the last 6 weeks of assessment were as follows: Aug 15 (400 at R5 stage), Aug 22 (1,150 at R5.5 stage), Aug 29 (1,900 R6 stage), Sept 5 (1560 at R6 stage), Sept 12 (1,340 at R6.5 stage) and Sept 19 (110 at R6.5 stage, nearly initial R7). Aphid populations were relatively high for 4-5 weeks. This trial is among very few replicated trials that have been able to compare treatments on late season soybeans (+R5 stage) with significant aphid pressure.
   4) Yields were on the low side, in the 40’s. Just like most, the site was hit hard by June rains, then 6 weeks of dry weather. The ground got hard, soybeans were short, and didn’t reach full canopy until late August. It is possible that this stress might account for some
of the yield response discussed below, where fields with better growing conditions could have possibly tolerated more aphids with less yield loss.

5) Yield increases for the two treatments over the untreated control (UTC) were small but significant:
   a. Insecticide only: 45.14 bu/ac. A 7.5% yield increase over the UTC.
   b. Insecticide + Fungicide: 46.10 bu/ac. A 9.4% yield increase over the UTC.

6) Results on profitability: With $9.50/bu soybeans and costs of $6/acre for application, $8/acre for insecticide, and $22/acre for fungicide, net returns were:
   a. Insecticide only: Net profit of $18.21/ac.
   b. Insecticide + Fungicide: Net profit of $5.33/ac.

7) Conclusion: In this case, late season populations of soybean aphid into R5 stage did cause a significant yield reduction. This is not always the case, and certainly not the case for all other infested fields this season. However, this is an example of why we should monitor populations closely, even into the R5 stage so that if an insecticide application is needed it can be applied timely.

ALFALFA & FOLIAR FUNGICIDES
Summary and Comments on Trials 2011-2014, ISU Northeast Research Farm
Over the past 4 years ISU Extension has conducted 12 site/years of research trials at the Northeast Iowa Agricultural Experimental Association Farm (NEIAEA) near Nashua. The 12 site/years of trials had 85 fungicide treatments by harvest comparisons. During the previous 2 years (2012-2013), profitability with a foliar fungicide application was quite good, especially for first crop. The table shows on average that first crop provides a higher yield response to a foliar fungicide application than for later crops. Three main factors affect this: 1) the spring environment is more favorable many alfalfa diseases; 2) the yield potential for first crop is significantly higher than for later crops; 3) the growth period is considerably longer for first crop than for the growth periods of the other crops.

Hay prices were at all-time highs in 2012-2013, and profitability with fungicides was quite good. However, hay prices have and are continuing to decrease. This changes profitability. The table below calculates yield (converted to 15% moisture hay for farmer convenience), fungicide costs, and application costs. It also has a column without an application cost since some farmers may treat for Potato leafhopper anyway. Although treating Potato leafhopper for first and fourth crops is much less likely, so the fungicide cost plus application cost column would better reflect those situations.

The yields of the established stands at the research farm are quite good, with seasonal totals of 15% moisture hay cut 4 times a year averaging 8 ton/acre. Lower hay yields reduces the chance of foliar fungicide treatments being profitable. The far right column includes theoretical calculations assuming 20% lower yields than what the research provided (6.4 rather than 8 ton/acre yields) just to give an idea of possible breakeven hay prices with the lower yields.

The yields for the “new seeding” trials were not very good. They were planted later in spring then what we recommend, and one trial was in 2012 where the summer drought also hurt yield potential. There was no point to calculate breakeven hay prices with 20% lower yields. If
anything, I should re-calculate for 20% higher yields to reflect more reasonable yields for a new seeding.

| 12 site/years of trials, 2011-2014, NEIAEA Research Farm, Nashua | Number of fungicide treatment by harvest comparison s per cutting | Average yield response to foliar fungicide | Average dry matter yield by cutting | Profitability? Assum fungicide cost of $22/acre and application cost of $6/acre. Converted dry matter yield to 15% moisture hay. The breakeven 15% moisture hay price is: |
|---|---|---|---|---|---|
| Establishe d stands | % | ton/acre | $/ton when using fungicide and applicatio n costs | $/ton when using only fungicide cost | $/ton when using fungicide and applicatio n costs |
| 1st crop | 13 | 12.7 | 2.23 | 84 | 66 | 126 | 99 |
| 2nd crop | 21 | 7.4 | 1.79 | 180 | 141 | 264 | 207 |
| 3rd crop | 17 | 8.6 | 1.46 | 190 | 149 | 279 | 219 |
| 4th crop | 10 | 6.9 | 1.31 | 263 | 207 | 387 | 304 |
| New seedings | | | | | |
| 1st crop | 12 | 2.2 | 1.01 | 1,071 | 842 | |
| 2nd crop | 12 | 10.9 | 1.38 | 158 | 124 | |

**VARIETY TRIALS**

**Corn, Soybeans, Wheat, Oats, Alfalfa**

Illinois:  [http://vt.cropsci.illinois.edu/wheat.html](http://vt.cropsci.illinois.edu/wheat.html) Wheat, oats and some soybean trials are available now.

Iowa:  [http://www.croptesting.iastate.edu/](http://www.croptesting.iastate.edu/) So far only corn and soybean trials harvested in northwest Iowa are available. The oat variety trial results from Nashua is available at: [http://www.extension.iastate.edu/wright/sites/www.extension.iastate.edu/files/wright/Oat%20Variety%20Trial%202014%20Nashua%20Iowa.pdf](http://www.extension.iastate.edu/wright/sites/www.extension.iastate.edu/files/wright/Oat%20Variety%20Trial%202014%20Nashua%20Iowa.pdf)

Minnesota:  [http://www.maes.umn.edu/Research/Crop_Variety_Trials/Oat/index.htm](http://www.maes.umn.edu/Research/Crop_Variety_Trials/Oat/index.htm) 2014 crops not posted yet, although two southeast MN soybean trials are attached.

North Dakota:  [http://www.ag.ndsu.edu/varietytrials](http://www.ag.ndsu.edu/varietytrials) All crops available.


Wisconsin:  [http://fyi.uwex.edu/fieldcroppathology/university-of-wisconsin-variety-trials/](http://fyi.uwex.edu/fieldcroppathology/university-of-wisconsin-variety-trials/) Only wheat is posted at this time. At this web site, click on “winter wheat” to get to oats.
EVENTS
Nov – Jan, Farm Bill Overview Meetings at Many Locations Across Iowa
For dates, times and locations click on a county on the colored state map posted at: http://www.extension.iastate.edu/agdm/info/farmbill.html#meetings

Nov 6, Women Land and Legacy, Cresco (please register)
5:00 to 7:00 PM at SunOpta, north edge of Cresco. Meeting of women land and legacy group and a tour at SunOpta. For registration and more information, contact Sue Barnes 563-547-3001 or email: skbarnes@iastate.edu

Nov 7, Pro-Ag Outlook & Management Meeting, Iowa City
12:00 to 4:00 PM. ISU hosts an Ag Outlook & Management Seminar designed to provide agribusiness professionals and producers with an evaluation of current and outlook market conditions and expected trends in crop and livestock income potential. Pre-registration and program agenda is available at: http://www.extension.iastate.edu/agdm/info/meetings.html

Nov 11, 18, 25, Women Managing Dairy Cattle Course, Holy Cross (register by Nov 6)
11:00 am to 2:30 pm at Neumann’s Bar and Grill, 927 Main St., Holy Cross. Women Managing Dairy Cattle is an outgrowth of the national program, Annie’s Project, which empowers farm women to be better business partners through peer networking to help them develop their management and decision making skills for their farm operation. Sessions will provide education and support materials for key production and business issues for a dairy operations. Facilitators for the course are Kristen Schulte, Farm Management Specialist, Jenn Bentley and Larry Tranel, Dairy Specialists, and local dairy industry specialists. All have experience in helping farm families with production and business issues and goals for many years. Registration is $25 for the entire program (all 3 days) due by Nov. 6. You can register online at http://www.aep.iastate.edu/annie/ or call Program Services at 515-294-6429. For more information, contact Kristen Schulte at 563-547-3001, e-mail kschulte@iastate.edu

Nov 12, Pro-Ag Outlook & Management Meetings, Cedar Falls & Mason City
8:00 to 11:30 AM, Cedar Falls
1:00 to 4:00 PM, Mason City
ISU hosts an Ag Outlook & Management Seminar designed to provide agribusiness professionals and producers with an evaluation of current and outlook market conditions and expected trends in crop and livestock income potential. Pre-registration and program agenda is available at: http://www.extension.iastate.edu/agdm/info/meetings.html

Nov 12, Cover Crops Field Day, Calmar (RSVP by Nov 5)
Noon to 3:00 PM at the Wilder Business Center, NICC Calmar. Start with a lunch, talk with local producers about their experiences with cover crops, and tour two area demonstration plots. For more information and to RSVP, contact Michelle Elliott, Project Coordinator, Central Turkey River Nutrient Reduction Demonstration Project, SWCD Decorah at 563-382-4352 or E-mail: michelle.elliott@ia.nacdnet.net
Nov 13, Midwest Dairy School on Robotic Milking Systems, Dairy Center, Calmar
9:30-2:30 PM. For details about the program, go to: http://www.extension.iastate.edu/winneshiek/news/midwest-dairy-school-focused-robotic-milking-systems

Nov 16-17, 14th Annual Iowa Organic Conference, Iowa City

Nov 17, Women Agriculture Marketing Club, Cresco (please register)
5:30 to 7:30 PM at the Howard County Extension Office, 132 1st Ave. West. Monthly meetings of women in agriculture to learn about calculating cost of production, crop insurance, 2014 Farm Bill crop commodity programs, and marketing tools. Other monthly dates include: 12/15, 1/19, 2/16, 3/16, all at the same time of 5:30 to 7:30 PM. For registration and more information, contact Sue Barnes 563-547-3001 or email: skbarnes@iastate.edu

Nov 18, Cover Crop Field Day, Nashua
At the ISU Northeast Research Farm, Borlaug Learning Center. The time has not yet been set, but will be posted on the following website site: http://www.extension.iastate.edu/ilf/page/events The event will explore cover crop mixtures and single species at field demonstration sites.

Nov 18, Iowa-Minnesota-South Dakota Drainage Research Forum, Ames
The program is intended for all drainage stakeholders, including state and federal agency staff, county supervisors, crop consultants, academics, contractors, farmers and others interested in drainage research issues in the upper Midwest. The program will feature results and updates on drainage research and on-farm projects by university and agency research leaders from Iowa, Minnesota, and South Dakota. Program details are available at: http://www.aep.iastate.edu/drf/

Nov 25, Iowa Forage & Grassland Conference, Des Moines
9:00 AM to 3:00 PM. Conference agenda, registration and other details are available at: http://www.extension.iastate.edu/article/ifgc-conference-focuses-forages

Nov 25, Ag Chemical Dealer Update, Iowa City
The meeting qualifies for Certified Crop Adviser (CCA) continuing education credits: 0.5 crop, 1.0 nutrient, 1.0 soil and water, 4.0 pest (including applicator session) and Commercial Pesticide Applicator recertification for calendar year 2014 in categories 1A, 1B, 1C and 10. Program details are available at: http://www.aep.iastate.edu/acu/

Dec 3 to 4, Integrated Crop Management Conference, Ames
On-line registration is now open. The conference which offers over 30 different seminars and workshops focusing on the latest in crop production technology. Experts from Iowa and surrounding states will provide research updates and results in soil fertility, soil and water management, crop production and pest management. Attendees can choose from up to 5 topics each hour. This format allows you to customize your conference experience to meet your
interests and CCA credit needs. This program usually sells out. Don’t wait too long to register. Conference information is at:  http://www.aep.iastate.edu/icm/

Dec. 10, Ag Chemical Dealer Update, Ames
The meeting qualifies for Certified Crop Adviser (CCA) continuing education credits: 0.5 crop, 1.0 nutrient, 1.0 soil and water, 4.0 pest (including applicator session) and Commercial Pesticide Applicator recertification for calendar year 2014 in categories 1A, 1B, 1C and 10. Program details are available at:  http://www.aep.iastate.edu/acu/

Commercial Pesticide Applicator Re-certification:  For details on each go to:  http://www.extension.iastate.edu/PME/ComAp.html
Nov 5, Ornamental and Turfgrass Applicators Course, Cat. 3O, 3T, 3OT & 10.
Nov 12, Commercial Ag Weed, Insect, Plant Disease Course, Cat. 1A, 1B, 1C & 10.
Nov. 18, Fumigation Course, Cat. 7C & 10.
Dec 3, Pest Control Operators Course, Cat. 7A, 7B, 8 & 10.
Late Nov program for Aerial Application, Cat. 11 to be determined.
Greenhouse & Ornamental, employers will be contacted.

Iowa State University Extension and Outreach programs are available to all without regard to race, color, age, religion, national origin, sexual orientation, gender identity, genetic information, sex, marital status, disability, or status as a U.S. veteran. Inquiries can be directed to the Director of Equal Opportunity and Compliance, 3280 Beardshear Hall, (515) 294-7612. Cooperative Extension Service, Iowa State University of Science and Technology, and the United States Department of Agriculture cooperating.

Brian Lang
Iowa State University Extension
Agronomist
325 Washington St., Suite B
Decorah, IA 52101
Office 563-382-2949
Fax 563-382-2940
Cell 563-387-7058
www.agronext.iastate.edu/