IOWA STATE UNIVERSITY
Extension and Outreach

CROP NOTES for May 24, 2016
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
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TABLE OF CONTENTS

CLIMATE

4-inch Soil Temperatures Warm Enough to Plant Summer Forages

Soil temperatures are now warm enough for warm-season forages (*i.e.* Sorghum-sudan, Millet, Teff), remaining 65F or better. Average soil temperatures available at: http://extension.agron.iastate.edu/NPKnowledge/soiltemphistory.html

CORN

Corn Growing Degree Days (GDD), Growth & Development

Northeast IA is currently around 190 GDD from May 1 to today. Long-term normal is ~235 GDD.

- It takes about 90 to 120 GDD from planting to emergence (assuming good soil moisture). A new leaf (fully developed, collar visible) appears approximately every 84 GDD. So May 1 planted corn should be ~V1 stage.
- From mid-April to today is ~320 GDD (long-term normal is ~315 GDD) and shows V2 stage corn soon to be V3.
- Normal GDD in northeast Iowa for the 4th week of May averages 13 per day.

If you want to determine GDD for any given period of time, this website can do that http://mesonet.agron.iastate.edu/GIS/apps/coop/gsplot.phtml?network=IACLIMATE&var=gdd50&year=2016&smonth=5&sday=1&emonth=5&eday=24

Basic Scouting for Emerged Corn. Check for:

1) Population, seed depth and plant spacing. Did you get what you intended with your planter settings? Plant counts per 1,000th acre at: http://www.agronext.iastate.edu/corn/production/management/planting/replanting.html
2) Early-season weed issues. Pre-emerge program working? Weed escapes? Figure timing for post-emergence program.
3) Insects. Above ground: Black cutworm, Armyworm, Common stalk borer. Below ground: If you find gaps, missing plants, wilted plants, look for grubs, wireworms, seed corn maggot, Hop vine borer (bores up into the stem from below ground). Here is a corn insect scouting calendar to help organize scouting activities: http://www.ipm.iastate.edu/ipm/icm/2001/5-7-2001/scoutcalendar.html
4) Seedling root disease or not. Proper development of seminal roots from the seed; a healthy white mesocotyl; initial development of the permanent root system from the coleoptile node about 3/4-inch below the soil surface is visible at about V2, and by V3 makes up about half of the total root mass. https://www.agry.purdue.edu/ext/corn/news/timeless/Roots.html
5) Still planting or replanting? It is time to switch to an earlier maturity hybrid.

SOYBEANS

Basic Scouting for Emerged Soybeans. Check for:

1) Population, seed depth and plant spacing. Did you get what you intended with your planter settings? If a reduced stand, why? soil crusting, planter setup, soil insects (seedcorn maggot, wireworms, grubs), seedling disease?
2) A final stand of a uniform 100,000 plants per acre should maximize yields, and it seldom pays to replant uniform stands of 75,000 because of the cost of replanting and yield penalty for the delayed planting. Here's soybean plant populations in plants per foot of row.

	Desired plants per acre (X1000)					
	75	100	125	150	175	200
Row Width	Average number of plants per foot of row					
6 inch	0.9	1.2	1.4	1.7	2.0	2.3
7.5 inch	1.0	1.4	1.8	2.2	2.5	2.9
10 inch	1.4	1.9	2.4	2.9	3.3	3.8
15 inch	2.2	2.9	3.6	4.3	5.0	5.7
20 inch	2.8	3.8	4.8	5.7	6.7	7.7
30 inch	4.3	5.7	7.2	8.6	10.0	11.5

3) Still planting or replanting? Stay with "normal" adapted maturity soybeans for northeast Iowa until about mid-June. For delayed planting, if feasible, use narrower rows (*i.e.* 15 or 20-inch vs. 30-inch) and up the population a bit since late planted soybeans don't develop as robust and cover the rows as well as earlier planted soybeans.
4) Early-season weed issues? Pre-emerge program working? Weed escapes? Figure timing for post-emergence program.

INSECTS

Armyworm

True Armyworm (TAW) is a spotty inconsistent threat every spring. Moths migrate from the south and lay eggs into grassy and high residue areas. Overwintering small grain cover crops (rye, wheat, triticale) tend to be quite favorable to the moths, but so are grass pastures, CRP, and no-till fields. In general, the time we begin to scout for Black Cutworm is the time to also start watching for TAW. We scout for Black cutworm to V5 stage corn. We scout for 1st generation TAW through the month of June, regardless of corn stage. There are just a few Bt-hybrids listed as tolerant to
TAW: http://corn.agronomy.wisc.edu/Management/pdfs/Handy_Bt_Trait_Table.pdf . This pest is a minor threat to soybeans. They usually just feed enough on soybeans to sustain their migration as they move to much more favorable food sources (corn, oats, grass pasture, etc.). For photos and scouting tips, go
to: http://www.extension.iastate.edu/winneshiek/sites/www.extension.iastate.edu/files/winneshiek/CropNotes/First%20Generation%20True%20Armyworm.pdf

Black Cutworm in Corn

Current predictions for northeast Iowa are to scout from now to V5 stage corn. The recent ICM article provides scouting tips (potential hot spots) and
thresholds: http://crops.extension.iastate.edu/cropnews/2016/05/black-cutworm-scouting-advisory-2016

Common Stalk Borer Control in Corn

For those that lose the first few rows of corn plants (photo 1) along grassy field borders or grass-back terraces, you may have a problem with Common Stalk Borer. First check if you are using a Bt-hybrid tolerant to this
insect: http://corn.agronomy.wisc.edu/Management/pdfs/Handy_Bt_Trait_Table.pdf . Otherwise, the management option remaining this season is to spray during larval migration.



Wait for initial migration from the grass to the corn for when to apply insecticide on the grass field border and the first few rows of corn. This begins around 1,300 DD (base 41, Jan. 1). Migration has started in southwest Iowa. Northeast Iowa is still only at about 800 DD (see map link: http://mesonet.agron.iastate.edu/cgi-bin/oa-gdd.py?year1=2016&month1=1&day1=1&year2=2016&month2=5&day2=24&base=41&max=86). For northeast Iowa, we anticipate migration to begin in 2 to 3 weeks in various parts of northeast Iowa. Future Crop Notes will zero in on initial migration dates. A scouting method quite helpful to estimate a need for treatment is to evaluate grass seedheads bordering the fields. As the larvae feed in the grasses, they eventually kill the main growing point at which time the seedhead dies prematurely and turns tan color (photo 2, plant in the middle). This premature tan color shows up nicely against the other green plants (photo 3). Seeing just a few plants like this indicates a low threat, but seeing many indicates a high population of common stalk borer that could migrate into the first few rows of corn. Combine this scouting method with accumulated DDs to assess whether or not to treat at initial migration.

Hop Vine Borer – Control at Corn Emergence

There are a few fields, or rather spots within fields, in northeast Iowa that have a known history of Hop Vine Borer problems. This insect tends to stay in the same areas of a field year after year. If you have identified this as a pest in a part of a field in the past, the recommendation is to apply a pyrethroid insecticide at initial corn emergence (spike stage). For a photo of Hop Vine Borer larva, go to: http://www.ent.iastate.edu/imagegal/lepidoptera/hvborer/3936.79hopvineb.html In a field, the above ground plant injury looks like it is wilted (Photo 1) or dead plants since this insect tunnels up from below the soil line into the crown of the corn plant (Photo 2) and damages the main growing point.


Pea Aphids in Alfalfa

It takes a lot of aphids to reach threshold, and populations can be spotty across fields. As with most insect thresholds and forages; if it is less than a week to harvest, take the harvest. Move harvest up a bit if possible. If it is more than a week from harvest, consider an insecticide treatment. The harvest process kills many aphids, but not all. Whether the population rebounds is anyone's guess as weather plays a major roll to still favorable for aphids or not. In general,

dry weather is more favorable. Following harvest, beneficial insects will get an even start on a lower population of aphids. Sufficient numbers of beneficial insects to justify not treating are: 1 adult lady beetle to 5 – 10 aphids; 1 lady beetle larvae to 13 aphids. Typical management after 1st crop is to scout for Potato leafhopper. If at threshold, this treatment would also control aphids.

Economic thresholds for aphids in alfalfa from ISU publication IPM-58.

Plant height, inches	Pea aphids/stem	Blue & Cowpea aphids/stem	Spotted aphids/stem
< 10	30 – 50	10 - 50	10 – 20
10 – 20	50 – 75	30 - 50	20 – 40
> 20	100	> 50	> 40

Potato Leafhopper (PLH)

Once first crop alfalfa is harvested, its time scout for PLH. Consider your first scout 7-10 days after cutting first crop. Scouting and threshold information is provided at: http://crops.extension.iastate.edu/cropnews/2014/06/managing-potato-leafhoppers-alfalfa . Although, a simple threshold that still basically holds true = 1 or more PLH per inch height of alfalfa per 10 sweeps. In other words, if I take 10 sweeps on 4-ich tall alfalfa, I reached threshold if I find 4 or more PHL in the net. Owning a sweep net is an excellent investment. Thresholds are based on a 15-inch diameter net, and taking about a 3-4 foot sweep across the alfalfa canopy with the edge of the net about half-way into the canopy. If PLH are present, they are easy to kill. The lowest labeled rates work very well on this pest.

DISEAES

Submitting Plant Samples for Disease ID

ISU Plant & Insect Diagnostic Clinic (http://www.ipm.iastate.edu/ipm/info/contact) provides a fee-based services for disease ID and more. Sample submission forms with instructions are available at the following links.

Type of service	Fee	Sample submission forms with instruction
Disease ID	$20	https://store.extension.iastate.edu/Product/Plant-Problems-Diagnosis-Form
Insect ID	$10	https://store.extension.iastate.edu/Product/Insect-Identification-Form
Nematodes	$20 for soybeans $35 for corn	https://store.extension.iastate.edu/Product/Plant-Nematode-Sample-Submission-Form
Plant/Weed ID	$10	https://store.extension.iastate.edu/Product/Plant-Identification-Form

WEEDS

Approaching Prime Time to Control Canada Thistle & Multiflora Rose

Multiflora Rose is best sprayed when it is in full bloom. This is discussed in the following ICM News article by Dr. Hartzler at: http://www.extension.iastate.edu/CropNews/2011/0526hartzler.htm Additional management

options (biological, mechanical, grazing, basal bark and foliar herbicide treatments) for Multiflora Rose control are providing in the following 9-page publication from Ohio State University: https://efotg.sc.egov.usda.gov/references/public/RI/MFRose_b857_OhioState.pdf

Canada Thistle is best controlled if sprayed right before or soon after buds start to develop. The persistent nature of Canada thistle is due largely to its extensive root system. In order to eliminate this weed, the entire root system must be drained of energy reserves. No matter what strategy is used (herbicides, tillage, mowing), it will take repeated measures to bring established patches under control. Canada thistle is not tolerant of shade, thus the first step is to invigorate competition from desirable forage species planted in the pasture. This may involve fertilization, liming, overseeding and adjusting animal stocking rates. Overgrazing is a common cause of infestations since the animals over-eat surrounding vegetation and not the thistles. Simply applying herbicides while ignoring the health of the pasture will generally not provide acceptable results. Only a few herbicides are highly effective on controlling Canada thistle in pastures. Standard herbicide programs for biennial thistles are generally not adequate against established stands of Canada thistle. Herbicide programs containing either picloram (Tordon, Grazon) or clopyralid (Stinger, Curtail) have proven most effective against Canada thistle. While more costly than other treatments, their performance warrants the cost when Canada thistle is the target. ISU Extension research trials in eastern Iowa found that spring applications (late-May to early June) of herbicides provide better control of Canada thistle than fall applications, and there was little benefit to a combined fall and spring treatment. Above ground shoots of Canada thistle are relatively easy to kill with herbicides. It's the extensive root system that makes the weed so difficult to control. Both picloram and clopyralid are also persistent in the soil and readily absorbed by roots, with picloram being more mobile in the soil than clopyralid. The added mobility of picloram is also the reason for picloram products to be classified as Restricted Use Pesticides, since picloram can easily move off the target site with runoff water.

Equisetum (Horsetail) in Corn and Soybean Fields

For those trying to put a little hurt on Equisetum in corn and soybean fields… while no herbicide offers control, research suggests our best chance at suppression is with flumetsulam (Python, Hornet). Python is labeled for both corn and soybean, whereas Hornet is registered for use in corn. FYI, Equisetum fact sheet: http://www.weeds.iastate.edu/mgmt/2006/horsetail%20.pdf

EVENTS

May 26, Estate and Transition Planning 101: The Nuts & Bolts to Get You Started, Community Center, Protivin

Starts at 6:00 PM, Melissa O'Rourke, Attorney and ISU Extension Farm and Business Management Specialist will present information in transition and estate planning. Key topics will include: property ownership, wills, federal estate tax, Iowa inheritance tax, gifting, trusts, healthcare planning, and gifting strategies. For more details, go to: http://www.extension.iastate.edu/chickasaw/news/estate-and-transition-planning-101-nuts-bolts-get-you-started

May 31 through Fall, Pasture-Walk Schedule for Southwest WI
http://www.extension.iastate.edu/dairyteam/sites/www.extension.iastate.edu/files/dairyteam/2016%20Great%20River%20Graziers%20Crawford%20County%20Pasture%20Walk%20Schedule.pdf

June 7-9, A.I. Training, Dairy Center, Calmar
Three day, intensive hands-on class for those who wish to artificially inseminate their own cattle or gain experience to work for others. Class offered in partnership with Accelerated Genetics. For more information, go to: https://nicc.augusoft.net/index.cfm?method=ClassInfo.ClassInformation&int_class_id=50583&int_category_id=0&int_sub_category_id=0&int_catalog_id=0&upid=10513646&ebid=11981069&ebslid=726640&eblid=165

June 9, Grassroots Grazing Program, Belle Plain
6:30 to 9:30 PM at the Belle Plaine High School. This is the first of a 3-part series for beginning graziers. All participants will receive a resource manual. The first session includes discussion on controlling feed costs, goal setting for individual grazing systems, and comparing various grazing programs. The second and third sessions will include pasture walks and additional meetings on dates determined by the participants. For more information, go to: http://www.iowabeefcenter.org/news/GrassrootsGrazingBP2016.html

June 9, Sustainable Iowa Land Trust (SILT) Showcase Farm, Calmar
10:00 AM to 2:00 PM, Lyle and Sue Luzum's 170 acres in Driftless Hills Farm, 2264 200th St., Calmar. A program designed for landowners interested in a legacy of sustainable food production. Includes a farm tour, presentations by an appraiser and an attorney and a free, locally-sourced lunch. Landowners are encouraged to bring questions! Lyle and Sue Luzum's 170 acres in Driftless Hills Farm (organic crops, sheep and CRP), with appraiser Dan Dvorak on how mineral rights and buildings affect farm appraisals, and attorney David Bright on estate planning and land donation options. Lunch provided by Driftless Hills Farm. Space is limited. Please RSVP to info@silt.org – please put "Calmar" in the subject line. http://silt.org/silt-announces-first-showcase-farms/

June 15-16, Four-State Dairy Nutrition and Management Conference, Dubuque
This conference presents the latest research on issues concerning the dairy industry including feed efficiency, calves, and transition cows. For more information, go to: http://www.extension.umn.edu/agriculture/dairy/learning-opportunities/four-state-dairy-conference/index.html

June 17, Corn Silage Conference Webcast
8:15 AM to 4 PM. Free program for those that preregistered by Monday, June 13. The news release, brochure and registration form are at: http://www.iowabeefcenter.org/events/huskercornsilageconference2016.html

June 22-23, Farm Progress Hay & Forage Expo, Boone
Details are available at: http://hayexpo.com/

June 23, ISU Southeast Research Farm Spring Field Day

9:00 to Noon for a special program for Certified Crop Advisors.
1:00 PM start for the annual spring field day.
Details for both programs are available at:
http://www.extension.iastate.edu/Pages/eccrops/meetserc.html.

June 28, ISU Northeast Research Farm Field Day, Nashua
1:00 to 4:15 PM. The field day will emphasize soil and water quality. Speakers include Kristine Tidgren, Attorney from The Center for Ag Law and Taxation, who will give her insights on the latest legal issues on water quality. Rick Cruse, Professor of Agronomy, will share research information on the aspect of soil quality as it pertains to farming practices. Tom Kaspar, USDA-ARS, will provide the latest up to date information on cover crops for growers. Matt Helmers, Ag Engineer, will address accepted practices that improve soil and water quality and help reduce nutrient losses from farm fields. The program is free and open to the public. CCA's can receive 4 SW credits for a fee.

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