Announcements

Friday, June 19, from 9:30 a.m. to 4:00 p.m., Growing Grains for Flour will be held at Cooperative Extension, 34570 State Highway 10, Hamden, NY. The cost is $15 per person – checks should be made out to “Cornell Cooperative Extension” and mailed to 34570 State Highway 10, Hamden, NY, 13782 by June 12. Write “flour grains” on the memo line and provide complete contact information. Snacks and beverages will be provided. Bring your own bag lunch. Registration and requests for accommodations for persons with disabilities should be made by June 12 by calling Extension: 607-865-6531 or emailing Janet Aldrich: JLA13@CORNELL.EDU.

Tuesday, June 23rd, 1 pm to 3 pm – “Alfalfa IPM and New Technology” – at the O.A. Borden Farm, 2841 Valley Falls Rd., Easton. A field meeting about RoundUp Ready Alfalfa, Hybrid Alfalfa, Low-lignin Alfalfa, Potato Leafhopper Resistant Alfalfa and how it affects integrated pest management. RSVP and Questions to Aaron Gabriel, Capital Area Agriculture & Horticulture Program, 518-380-1496, adg12@cornell.edu. TWO PESTICIDE CREDITS, CCA CREDITS REQUESTED.

Thursday, July 2nd, 8:30 am—Famous Grazing and Holistic Planning Expert to Eastern NY. At Berlin Town Fire Hall, 11 Community Avenue, Berlin, NY. Presentations begin at 9:00 AM. Lunch will be served at noon at the same location with a pasture walk to follow. The pasture walk por-
The Winter Green-up Committee, Cornell Cooperative Extension Albany County and Black Queen Angus Farm, LLC will host a presentation and pasture walk by famed grazier and Holistic Planning expert, Ian Mitchell-Innes. Ian Mitchell-Innes is a South African who began high stock density grazing on his operation many years ago in an effort to take his farm into both financial profitability and ecological enhancement. Both dairy farmers and beef producers as well as sheep and goat producers stand to gain relevant knowledge on the planning and practices that make for a low stress, profitable grazing operation.

The cost of this one-day event is $60.00 per person or $100.00 for two people from the same farm. It is well worth the low cost. Lunch is included.

We will be meeting at the Berlin Town Fire Hall, 11 Community Ave. Berlin, NY 12022 at 8:30 AM with opening remarks and Ian’s presentation to begin at 9:00 AM. Lunch will be served at noon at the same location with a pasture walk to follow. The pasture walk portion of the day will be hosted at Black Queen Angus Farm, 630 Green Hollow Road, Berlin, NY 12022.

For more information and to register, please contact Tove Foss Ford, Cornell Cooperative Extension, Albany County at tff24@cornell.edu or direct phone line (518) 765-3518. You can also reach Tom Gallagher at tlg3@cornell.edu or Morgan Hartman at morgan@blackqueenangus.com or (413) 358-8435 for information.
Please contact Tove to register. We need registrations as soon as possible to best gauge the number of lunches to provide. Please make checks payable to Cornell Cooperative Extension, P.O. Box 497, 24 Martin Road, Voorheesville, NY 12186.

Tuesday, June 16, 2015 from 5-7pm, Farm Transfer and Estate Planning Workshop at Cornell Cooperative Extension of Ulster County 232 Plaza Road, Kingston. This workshop is free but please RSVP by June 10 so we can plan ahead. Refreshments will be provided. RSVP to Maria Rojas at 212-788-3814 or email mrojas@grownyc.org.

FYI

Updated Chart Helps Growers Choose Cover Crops (at http://www.ars.usda.gov/is/pr/2015/150605.htm)
USDA Agricultural Research Service scientists at the Northern Great Plains Research Laboratory have updated their interactive, downloadable Cover Crop Chart to include 58 species. The chart helps growers choose the best cover crops to meet their management and production needs. It provides specifics on growth cycle, water use, plant architecture, forage quality, pollination, and more. (from ATTRA News)

Cornell Pollinator Research Probes Role and Health of Wild Bees
Cornell University researchers experimented this year to see whether wild bees could pollinate Cornell Orchards' apple trees without the help of commercial honeybees. They found that wild bees provided enough fruitlets to support a full crop. The successful test provides incentive for further research on supporting native bee health.
A related Cornell study found that pesticides harm wild bee populations, but that the negative effects lessen in proportion to the amount of natural areas near orchards. Researchers suggested that natural areas near orchards might host larger numbers of wild bees or provide wild bees a refuge from pesticide exposure.

Aaron’s Comments

Alfalfa: I found a couple medium sized alfalfa weevil larvae and a couple potato leafhoppers. You would expect the PLH after the last storms blew in from the midwest. Monitor new seeding especially for PLH. DO NOT WAIT TO SEE DAMAGE. Once you see PLH damage, it is too late (yellow “V” at the leaflet tip). Lepto leaf spot as seen in this picture, is typical on regrowth after a rain or wet weather.
Corn: Corn looks good and will look better as we get more heat. Managing nitrogen is a challenge. We had some heavy rains. How much nitrogen did you put down early? Side-dressing nitrogen is a chore, but every comment I have ever heard from farmers and agronomists, is that it has been the best way to manage nitrogen in corn. Weeds need to be under control early to ensure tops yields.

Soybeans: The few I have looked at are looking good. The first nodules that develop on the main root are from the *Rhizobia* inoculant put on the seed. The nodules that develop on the side roots are from *Rhizobia* already in the soil.

Nitrogen-fixing nodules on the main root are from the seed inoculant.

Small Grains: Winter wheat is headed out and pollinated. Keeping the upper canopy leaves healthy (top two at least) is critical for small grain health once they are headed out.

Some barley is beginning to head out. You can control broadleaf weeds up through the boot stage with Buctril herbicide.

I found a couple cereal leaf beetles. Their damage is obvious. They usually do not cause economic damage in wheat, but if you have one per stem at this time, give me a call. There is no threshold level for wheat or barley in NY. The threshold for oats is one per flag leaf after the boot stage.

Barley begins flowering while it is in the boot stage and it continues into heading. Wet weather during this time period can lead to Fusarium head blight (scab). Fungicides are needed if weather will favor disease development. Corn and small grain residues in the field provide spores to start an infection. Spores also blow in from distant fields.

Cereal leaf beetle larva

Weeds dying from 2,4-D herbicide applied last week. (above)

Cereal leaf beetle larva (below)

Barley starting to head out.
I call to your attention an unusual finding of flag smut of wheat in Kansas. Please make me aware if you find any symptoms that look like this disease. It is one of the diseases for which we need to certify freedom from in order to obtain phytosanitary certificates for wheat seed to be shipped to certain other countries. I have never observed flag smut in New York.

- Gary Bergstrom, Cornell University

Wheat flag smut in Kansas first time since 1930s

Weather conditions have been ideal for flag smut, a fungus found in the United States, but not known in Kansas since the 1930s. [In early May 2015, it was initially detected in a field demonstration plot in Rooks County and confirmed by laboratory results during regular and on-going disease survey work. Additional surveys [are being conducted] to determine the severity and breadth of the outbreak. Of the 64 fields surveyed, only 2 presumptive positive tests have been detected.

More information about the spread of the disease will be available [soon]. Yield loss from flag smut is anticipated to be less than that caused by the stripe rust [see link below] present this year [2015]. Best management practices for farmers to prevent flag smut in the coming crop year include planting treated seed.

[byline: Greg Akagi]

communicated by:
ProMED-mail

[Flag smut of wheat is caused by the fungus _Urocystis agropyri_. The disease is known to infect wheat and many grass species but the strain(s) that affect wheat are specific to wheat. It occurs in some European countries, Australia, Canada and the USA. Yield losses of up to 10-15 per cent have been reported, for example, in Western Australian. Even where yield losses are limited, it can have a serious impact on export trade. Many nations have quarantine restrictions prohibiting the importation of wheat products from countries with the disease.

Affected plants are severely stunted. Excessive tillering is common]
and often the ears fail to emerge, remaining within the boot. Plants show long dark grey to black streaks on the leaf blades and leaf sheaths. The streaks eventually erupt so leaves become ragged and the black spores are exposed giving the plant an appearance of being covered in soot. Spores are wind dispersed and can drop onto the soil where they are very persistent surviving up to 4 years. Disease management may include cultural practices, but systemic chemical seed treatment is the most effective means of controlling the disease.

Because flag smut has mostly been considered of low importance for decades, specific resistance breeding programmes do not seem to exist. Re-emergence of the disease reported from South Australia in 2008 (ProMED-mail post 20080919.2953) was attributed to farmers cutting back on seed treatments.

Maps
USA:
Kansas:

Pictures
Wheat flag smut symptoms:
<http://c8.alamy.com/comp/ACYNFW/flag-smut-urocystis-agropyri-distorted-and-infected-wheat-ears-flag-ACYNFW.jpg>,
<http://www.fao.org/docrep/006/y4011e/y4011e18.jpg> (whole plant),
and
<http://www.fao.org/docrep/006/y4011e/y4011e17.jpg> (ears)
Microscopy of _U. agropyri_ spores:
<http://www.ipm.uiuc.edu/diseases/series400/rpd409/409-4.gif>

Links
Information on wheat flag smut:
<http://wheatdoctor.org/pests-diseases/list/12-english/pests-and-diseases/83-flag-smut>,
<http://pnw-ag.wsu.edu/smallgrains/Flag%20smut.html>,
<http://www.hannafords.com/disease.php?id=3>,
<http://www.cabi.org/isc/datasheet/55784>,
<https://www.agric.wa.gov.au/mycrop/diagnosing-flag-smut-wheat> (with pictures) and
_U. agropyri_ life cycle:
<http://archive.hgca.com/images/upload/Flag_smut.gif>
_U. agropyri_ taxonomy and synonyms:
<http://www.indexfungorum.org/Names/NamesRecord.asp?RecordID=340754> and
<http://www.speciesfungorum.org/GSD/GSDspecies.asp?RecordID=340754>
Current situation of stripe rust in US states, including Kansas, via:
<http://www.ars.usda.gov/Main/docs.htm?docid=9757> - Mod.DHA]
Keep Stored Grain Cool and Dry During Summer

Keeping stored grain cool helps reduce insect infestations and mold growth

Source: North Dakota State University Press Release. www.ndsu.nodak.edu

Fargo, North Dakota (May 11, 2015) -- Stored grain needs to be cool and dry during the summer, a North Dakota State University Extension Service grain drying expert says.

"Cold or cool grain has been safely stored through the summer for many years," notes Ken Hellevang, an Extension agricultural engineer.

That means grain should not be warmed to average outdoor air temperatures during the summer. The goal is to keep the grain as close to 40 degrees as possible in northern regions of the U.S. and as close to 50 degrees as possible in southern regions. Grain at the top of the bin and along the walls will be warmer than that, but the goal should be to keep the bulk of the grain cool.

One reason for keeping grain cool is that insect infestations and mold growth are more likely at warmer temperatures. The optimum grain temperature for insect activity is approximately 70 to 90 degrees. Reducing grain temperatures below 70 degrees will lessen insect reproduction and activity. Also, warming the grain using aeration may increase the moisture content of the grain slightly. Typically, the increase will be less than 0.50 percentage point.

Despite some people’s belief that condensation will occur, particularly near the bin wall, if the grain is not warmed to near average outdoor air temperatures, that is not the case, Hellevang says. Condensation forms on cool or cold surfaces when warm, moist air comes in contact with the cool surface. An example of this is condensation on a glass or container of cold liquid.

In the case of stored grain, warm, outdoor temperatures heat the bin wall during spring and summer, so conditions for condensation on the interior of the bin wall will not exist. The bin wall is warmer than the grain and the air in the stored grain.

"There also has been concern that moisture will move from the warm grain near the bin wall into the cooler grain away from the bin wall," Hellevang says. "However, when 16 bins of grain were monitored through a summer, no statistically valid change in grain moisture content occurred within 4 feet of the bin wall."

Many grain storage problems that have been blamed on leaving grain cold during the spring and summer actually are the result of condensation during the fall and winter. Condensation will form on the interior of the grain bin wall when warm grain is placed into a bin with a wall that is being kept cool by cold outdoor temperatures. Reports of grain sticking to the bin wall and possibly deteriorating likely are due to condensation in the fall causing the grain to increase in moisture content and then deteriorate during the spring and summer due to mold growth occurring when temperatures grow warmer.

Aeration fans should be covered to prevent wind and a natural chimney effect from warming the grain. Wind blowing into uncovered fans or ducts will move air through the grain in a way that is similar to operating an aeration fan.

One problem during the summer is that a galvanized bin roof absorbs large amounts of solar energy, heating the air above the grain. Convection currents in the grain flow up along the bin wall and down into the grain near the top middle of the bin, drawing this heated air into the grain. Ventilating the space between the grain and the bin roof can reduce the amount that the grain near the top of the bin is warmed.

Natural ventilation to cool this space can occur if the bin has openings near the eave and peak; these openings work in like the vents in an attic of a building. The heated air rises and exits near the peak, drawing in cooler air near the eave. This natural
Ventilation will not occur unless the bin has adequate openings at the eave and peak. Roof exhaust fans also can be used to draw the heated air out of the bin if it has openings to allow air into the area above the grain. Cool the grain near the top of the bin by operating the aeration fan about every three weeks to reduce the potential for insect infestations during the summer. Using positive pressure aeration to push air up through the grain enables the cool grain in the bottom of the bin to cool the air, which then cools the grain near the top of the bin. Only run the fan long enough to cool the grain near the top surface. That may require running the fan for a few hours during a cool, dry morning for a couple of days. Running the fan more than necessary will warm more grain at the bottom of the bin, increasing the potential for storage problems.

If the air dew point is warmer than the grain temperature or if the air relative humidity is high, some moisture will condense onto the grain during fan operation. Condensing moisture will release heat that will warm the air slightly, reducing the effectiveness of the aeration and increasing the amount of warming occurring in the grain at the bottom of the bin. Therefore, selecting mornings when the air is cool and dry is important.

Check the grain moisture content to assure the grain is dry enough for storage at summer temperatures. The recommended long-term grain storage moisture contents are about 13.5 percent for wheat, 12 percent for barley, 13.5 percent for corn, 11 percent for soybeans, 13 percent for grain sorghum, 8 percent for oil sunflowers and 10 percent for confectionary sunflowers. Also measure the stored grain temperature at several locations near the top surface, along the walls and several feet into the grain. Temperature sensors are an excellent tool when monitoring stored grain, but remember that they only measure the temperature of the grain next to the sensor. Because grain is a good insulator, the grain temperature may be much different just a few feet from the sensor. Record the measured temperatures. Increasing grain temperature may be an indicator of an insect infestation or mold growth.

Mold growth and insect infestations occur rapidly at summer temperatures, so stored grain should be checked every two weeks. An insect infestation can go from only a few insects to a major infestation in less than a month. Using insect traps or placing grain samples on white material helps you look for insects.

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**Taken from the Plant Management Network**