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Capital Area Ag Report 2012

“Only he can understand what a farm is, what a country is, who shall have sacrificed part of himself (herself) to his farm or country, fought to save it, struggled to make it beautiful. Only then will the love of farm or country fill his heart.”
—Antoine de Saint-Exupery (1900-1944)

Announcements

Winter Forages will be the topic of various field days this fall and spring. Fall oats, triticale, rye, and annual ryegrass are being grown on various farms throughout our region. We will hold field days right before harvest to discuss how to grow forage in the “cool” months and its value for livestock feed. “Stay tuned” for dates and times of field days, since they will be set once harvest time is known. Or give me a call (Aaron, 380-1496).

On-Farm Research will be the topic of my winter crops meeting. Most attendees at last year’s “Stability Amidst Volatility” meeting expressed interest in learning about how to do and participate in on-farm research. The date will probably be in December. Call me (Aaron) if you have any suggestions or requests.

Aaron’s Comments

Corn: Northern corn leaf blight is showing up in many fields. Last year if developed very rapidly. Since we are having dry weather, I expect it to develop more slowly, but
Weather Data—April 25, 2012

<table>
<thead>
<tr>
<th>Location</th>
<th>Rain</th>
<th>GDD 86/50</th>
<th>GDD 41</th>
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<td>This Month</td>
<td>Since April 1&lt;sup&gt;st&lt;/sup&gt;</td>
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</tr>
<tr>
<td>Redhook</td>
<td>1.4</td>
<td>1.4</td>
<td>16.4</td>
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</table>

Growing Degree Days (86/50) for corn growth stages:

- Emergence – 100 to 120 GDD
- Leaf development 65 GDD each
- Silking to silage harvest (68% moisture) - 800 GDD
- Silking to black layer (full maturity) – 1200 – 1400 GDD
you should still check fields and monitor moisture content. *Moisture content at silage harvest is a critical management decision—65% - 68% moisture is the target.* Check stalks for stalk rot.

**Soybean:** This week I found white mold in a soybean field. Sometimes it is easy to pick out a lone dead plant. However, you need to look underneath the canopy to see that white mold is present on the lower parts of plants—not so obvious. Check fields so that you know which need to be rotated out of soybeans for 3 to 5 years. The sclerotia (propagules that cause infections) survive for a few years in the soil. *Obvious dead plant. Only under the canopy.*

**Winter Grains:** Planting dates for winter grains are a little tricky. Wheat should be planted soon after the Hessian fly-fee date. Not only will you avoid the Hessian fly, but also aphids which carry viruses. The sooner you plant winter grains in the fall, the more they tiller and develop a greater yield potential (for forage and grain). Triticale should be planted by mid-September and cereal rye can be planted until late-October. If you end up planting late, increase seeding rate to increase the plant density. For forage, annual ryegrass can be mixed with triticale, wheat, or rye seed to improve forage quality. My experience with annual rye is that it needs to be planted before October to over-winter well.

**Drought May Increase Stalk Lodging in Corn**

Peter Thomison, Pierce Paul, C.O.R.N. Newsletter 2012-30, OSU Extension

Drought conditions experienced during grain fill often increase the potential for stalk rot and lodging problems in corn. When stalk rot occurs late in the season, as it often does, it may have little or no direct effect on yield. However, stalk lodging, which results from stalk rot, can have such an impact on harvest losses that many plant pathologists consider stalk rots to be the most significant yield limiting disease of corn. For a corn plant to remain healthy and free of stalk rot, the plant must produce enough carbohydrates by photosynthesis to keep root cells and pith cells in the stalk alive and enough to meet demands for grain fill. When corn is subjected to drought stress during grain fill, photosynthetic activity is reduced. As a result, the carbohydrate levels available for the developing ear are insufficient. The corn plant responds to this situation by removing carbohydrates from the leaves, stalk, and roots to the developing ear. While this "cannibalization" process ensures a supply of carbohydrates for the developing ear, the removal of carbohydrates results in premature death of pith cells in the stalk and root tissues, which predisposes plants to root and stalk infection by fungi. As plants near maturity, this removal of nutrients from the stalk to the developing grain results in a rapid deterioration of the lower portion of corn plants in drought stressed fields with lower leaves appearing to be nitrogen stressed, brown, and/or dead.

Other plant stresses which increase the likelihood of stalk rot problems include: loss of leaf tissue due to foliar diseases (such as gray leaf spot or northern corn leaf blight), insects, or hail; injury to the root system by insects or chemicals; high levels of nitrogen in relation to potassium; compacted or saturated soils restricting root growth (recent flooding); and high plant populations. Most hybrids do not begin to show stalk rot symptoms until shortly before physiological maturity. It is difficult to distinguish between stalk rots caused by different fungi because two or more fungi may be involved. Similarly, certain insects such as European corn borer often act in concert with fungal pathogens to cause
stalk rot. Although a number of different fungal pathogens cause stalk rots, the three most important in Ohio are Gibberella, Collectotrichum (anthracnose), and Fusarium. For more information on stalk rot in corn, consult the OSU Plant Pathology web site "Ohio Field Crop Diseases" (http://www.oardc.ohio-state.edu/ohiofieldcropdisease) for more details and pictures of the disease symptoms associated with these pathogens. The presence of stalk rots in corn may not always result in stalk lodging, especially if the affected crop is harvested promptly. It’s not uncommon to walk corn fields where nearly every plant is upright yet nearly every plant is also showing stalk rot symptoms. Many hybrids have excellent rind strength, which contributes to plant stability even when the internal plant tissue has rotted or started to rot. However, strong rinds will not prevent lodging if harvest is delayed and the crop is subjected to weathering, e.g. strong winds and heavy rains.

A symptom common to all stalk rots is the deterioration of the inner stalk tissues so that one or more of the inner nodes can easily be compressed when squeezing the stalk between thumb and finger. It is possible by using this "squeeze test" to assess potential lodging if harvesting is not done promptly. The "push" test is another way to predict lodging. Push the stalks at the ear level, 6 to 8 inches from the vertical. If the stalk breaks between the ear and the lowest node, stalk rot is usually present. To minimize losses from stalk lodging, avoid harvest delays. Identify fields which are at greatest risk and harvest these fields first. Fields which experienced drought stress, defoliation due to hail, foliar disease injury, etc. would be prime candidates for early harvest.

**New York State Integrated Pest Management—Weekly Report, Sept. 8, 2012**

**View from the Field**

This is the week of the corn and soybean plant diseases. There have been many reports of plant diseases including, sudden death syndrome, white mold, soybean vein necrosis virus, downy mildew, septoria leaf spot in soybeans. In corn we have had reports of gray leaf spot, northern corn leaf blight, eye spot, corn rust and common smut.

**Gray Leaf Spot**

Gary Bergstrom (Cornell Field Crops Plant Pathologist) gave a workshop on corn and soybean diseases in Columbia County on September 7. He pointed out that gray leaf spot is a disease that is starting to show up more often around the state. The farm that hosted the workshop had issues with gray leaf spot. Much of the Hudson Valley has seen an increase in the incidence of Gray Leaf Spot. The Cornell Research Farm has in Valatie (Columbia County) has had this disease the last few 3 years. *Cercospora zeae-maydis* is the fungus that causes the disease. Early symptoms are yellow to tan lesions with a faint watery halo. As the lesion progresses it turns brown and rectangular in shape that exist between the distances of the veins. When fully developed the lesion can be 3 to 4 inches long and a 1/6 to 1/8 inch wide. The fungus can overwinter on corn debris left on the soil surface. Spores develop when it starts getting warm and the humidity started to rise in late spring. The spores can be transmitted by both wind and rain. In some cases gray leaf spot can limit yield up to 5 to 40 bushels of corn per acre.

**Management of Gray Leaf Spot**

1. Select corn hybrid with at least moderated resistance to gray leaf spot.
2. Crop ration and tillage is an effective method to control the fungus.
3. If you maintain no tillage or reduced tillage...
rotation away from corn 2 years can help control the fungus. If the corn has gray leaf spot use of a fungicide is available to the fungus.

**Soybean Aphids**
While soybean aphid populations have been low statewide I was in a field in Dutchess county this week where the average was 225 aphids per plant. This is more than double from the previous week. There were also a lot of lady beetles adults and larvae in the field indicating the potential for a fair amount of biological control of the aphids. It should be noted that plants in this field were at the R6 stage and mature enough to not be at risk of yield damage by soybean aphids.

Other insect pests reported on corn this week were European corn borer and western bean cutworm larvae in ears. On soybeans I (Ken Wise) saw a lot of green stink bugs and nymphs. I have not seen Brown Marmorated Stink Bug.

**Planting Wheat? Hessian Fly-Safe Date is Not Only about Hessian Fly….** Ken Wise, NYS IPM
Several questions have come in this week regarding the recommended timing for planting wheat. For years, the standard recommendation for profitable wheat production has been to plant wheat after the Hessian fly-free date. This recommendation is based on the fact that at the dates indicated on the map below, Hessian fly adults would no longer be alive.

Hessian fly, *Mayetiola destructor*, is a species of fly that is a significant pest of cereal crops including wheat, barley and rye. Hessian flies emerge in late summer, mate, and then oviposit in different types of grasses – among them wheat. Adult life span is extremely short, perhaps only a week, during which time they do not even feed. After this short time span, adults die off.

The larvae of this small insect feed between the stem and leaf sheath near the base of the plant in newly established wheat in the fall and again in the spring. Damage during the fall causes stunting of the new plants; the spring and early summer damage results in unfilled heads and fallen straw. Look for the small white maggots and brown puparia (the resting stage, commonly called "flaxseeds" for their resemblance to the flat spindle-shaped seeds of flax) deep within the sheaths of the lower leaves in the weeks just before wheat harvest.

The fly-free date is set at a time when it is expected that the adults have died and are no longer around the area. As a result, damage caused by this insect will likely much less if wheat is planted after the specific date fly-free date in your area. Note the dates shown on the map are adjusted for altitude i.e. higher elevations = earlier Hessian fly free dates. The recommendation is to plant wheat only after the fly-free date for your area but as soon after that date as possible. Ask your seed dealer about the availability of Hessian fly-resistant varieties.

Use of the recommended Hessian fly-free date guidelines has kept damage to wheat from this pest to a minimum in NY. However, the Hessian fly-safe date is not only about the Hessian fly. Another excellent reason to plant wheat after the fly-safe date is to minimize problems with diseases, especially aphid transmitted diseases such as barley yellow dwarf virus (BYDV).

BYDV is transmitted by aphids and tends to be most severe when transmission occurs in the fall. Research has shown that aphid populations tend to crash after the fly safe date due to unfavorable weather conditions – (think first frost), leading to fewer problems with BYDV. Planting date studies conducted at OSU have shown that BYDV problems and yield loss associated with this disease are much higher when wheat is planted well before the fly-safe date. Planting after the fly-safe date also minimizes early establishment of other diseases such as Stagonospora blotch and leaf rust.
No insecticides are recommended for control of the Hessian fly. Plow under stubble of infested grain at least 6 inches immediately after harvest. Destroy all volunteer wheat by disking when the plants are small. 

{Portions of this article were adapted from an Ohio State C.O.R.N. article by Pierce Paul and Ron Hammond, (

Corn Ear Rots, Ken Wise, NYS IPM

While scouting fields this week I can across some corn ear rots in the field. These can be an important issue if you are feeding this to dairy cattle or other animals, since some fungi create mycotoxins that are toxic to livestock. Taking a few minutes to check a field for certain ear rots can help you determine if you want to feed your field of corn to livestock. Pull back the husks on several plants and look for the presence mold growing on the ear of corn. The following are specific symptoms of certain ear rot diseases that can be found in NYS:

- **Fusarium Ear Rot** appears as a white-to-pink or salmon-colored mold. This mold can begin with bird, deer or insect-damaged kernels. Fusarium ear rot may contain *fumonisins* which are mycotoxins that can be toxic to livestock.

- **Gibberella Ear Rot** symptoms are pink to reddish colored mold. This disease starts near the tip of the ear and progresses down toward base of the ear. Gibberella can produce vomitoxin and zearalenone which is toxic to many kinds of livestock.

- **Diplodia Ear Rot** symptoms appear as a thick white mold that usually starts near the base of the ear. This disease can also appear on the plant as raised black fruiting bodies on moldy husks or kernels. *Diplodia* does not produce any known toxins.

- **Cladosporium Ear and Kernel Rot** symptoms appear as greenish black, blotched or streaked kernels scattered over the ear. This disease can also infect kernels that have been damaged by insects, birds, deer, hail, or frost. The disease can progress after the grain is harvested and stored.

- **Penicillium ear rot or blue eye** symptoms range from a powder-like green or blue-green mold that is on and between the kernels and normally on the tip of the ear. If this disease progresses in storage it is referred to as blue eye because the germ is a bluish-green color. Penicillium ear rot can produce a mycotoxin called “ochratoxin”.

If you discover presence of ear rot make notes of the hybrid, tillage methods, rotation history, and planting date. By doing this you can avoid the disease occurrence in the future. The following is the effectiveness of specific management practices for corn ear rots:

<table>
<thead>
<tr>
<th>Corn Disease</th>
<th>Resistant Crop</th>
<th>Plow Under</th>
<th>Fungicides</th>
</tr>
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<tbody>
<tr>
<td>Ear Rots</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1= highly effective, 2= moderately effective, 3=slightly effective, 4= not effective, 5 = not usually economical,</td>
<td></td>
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</tbody>
</table>

Reference: Purdue University Field Crops Pest Management Manual

While there isn't any practical solution for coping with ear rots this late in the current season proper fertilization, timely weed control and reductions in insect pest pressure can help reduce risk of disease. For example: European corn borer (ECB) resistant Bt corn is at lower risk for injury by this insect. Lower risk means fewer ECB tunnels into stalks and less potential for fungi to infect through wounds and cause stalk rot. Also avoid continuous planting of corn under conservation tillage where stalk rot can be prevalent. If you are harvesting corn
grain make sure you clean the grain bins prior to adding new grain to bins. Keeping the proper temperature, moisture content and good aeration in the grain bin can reduce storage molds from developing. It is important to have regular inspections of the stored grain. This is essential to minimize risk of developing insect and mold associated storage problems. Harvest silage at recommended maturity and moisture level, and pack silage tightly and exclude air rapidly. Consider using organic acid preservatives if you can't exclude air or reduce moisture. If you had a lot of stalk rot and were growing for grain consider chopping earlier for silage to minimize lodging and combine losses. There are kits you can purchase to test your corn for different toxins on your own farm. The following are places where you can also test your corn:

Dairy One Forage Lab in Ithaca: For more information: http://www.dairyone.com/Forage/services/default.asp or call the lab at 1-800-496-3344

The Cornell College of Veterinary Medicine's Animal Health Diagnostic Center: More information is available on the web (http://ahdc.vet.cornell.edu/Services/) or customer service is (607) 253-3900

**Western Bean Cutworm Update, Keith Waldron, NYS IPM**

Our Western Bean Cutworm monitoring program is winding down. Twenty-three traps were operating this week. Field corn is maturing and some fields have been harvested. WBC larvae have been found in corn in some locations in Wyoming, Jefferson and Lewis counties. Unlike other corn ear infesting larvae, such as European corn borer, multiple WBC larvae can infest one corn ear. The best way to identify them is by the two wide dark bands located on the pronotum (shield) behind the head. These bands become more distinct as the larvae reach full size. Larvae have no stripes or distinguishing spots or warts (see photo). Larvae complete development in 43-70 days, depending on temperature. Mature larvae will drop from the plant and overwinter in cells that they construct 5-10 inches below the soil surface. Light, sandy soils are most conducive for successful overwintering. Those larvae that successfully overwinter will pupate and emerge as moths next June. See: Western Bean Cutworm identification card – including larval stages.

![Photo by Joe Lawrence, CCE Lewis County](image)

**Clipboard Checklist, Keith Waldron, NYS IPM Program**

**General:**
- Emergency contact information ("911", local hospital, Chem.Spill emergency contact, other) posted in central posting area
- Maintain crop records by field, including variety, planting date, pesticides used, nutrient inputs including manure, etc.
- Watch for any patches of herbicide resistant weeds, weed escapes

**Corn:**
- Monitor fields for plant vigor, growth stage, late season pest issues (European corn borer, foliar diseases, nutritional deficiencies, vertebrate damage)
- Monitor for weeds, note presence of "who", "how many" and "where"
* Monitor reproductive stage corn fields for foliar diseases, stalk standability issues, corn ear damage (insect pests and diseases)
* Prepare storage areas to accept upcoming silage harvest

**Alfalfa & Hay:**
* Monitor alfalfa seedings for weeds, insects & diseases.
* Check regrowth of established alfalfa stands for potato leafhopper, weed and disease problems.
* Storage areas cleaned and ready to accept incoming harvest

**Soybeans:**
* Evaluate stand growth, development and condition
* Monitor fields for soybean aphid, foliar diseases, white mold, natural enemies, defoliating insects, spider mites, bean leaf beetles and weed escapes

**Dairy Livestock Barn Fly Management:**
* Sanitation, sanitation, sanitation - clean animal resting areas, feed troughs, minimize source of moist organic matter i.e. fly breeding areas in barn and in adjacent animal loafing yard
* Check water sources, drainage, roof gutters for leaks and potential overspill
* Continue fly monitoring; install "3X5" index card fly speck monitoring cards through out barn
* Install/refresh/replenish as needed: fly tapes, insecticide baits, natural enemies (parasitoids)

**Dairy Livestock Pasture Fly Management:**
* Monitor animals for presence of pasture fly pests. Treatment guidelines: Horn flies (50 per dairy animal side, 100 per side for beef cattle), face flies(10 per animal face), stable flies (10 per 4 legs). See IPM's Livestock page.
* Consider installing biting fly traps to reduce horse, deer and stable fly populations.

**Storage:**
* Check temperature, moisture, pest status of bin stored small grains
* Keep areas around storage bins and silos clean and mowed
* Check areas around storage bins and silos for vertebrate tunneling
* Check temperature of recently baled hay in hay mow

**Equipment:**
* Note any repairs needed for recently used equipment: tractors, tillage implements, planters, sprayers, etc. as they are cleaned and serviced.
* Service hay harvesting equipment as needed.

* Calibrate manure spreaders - maintain records on amount spread per field

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