Horticulture 2011 Newsletter
No. 26  June 29, 2011

Video of the Week:  Tomato Problems

UPCOMING EVENTS

KNLA Summer Meeting - July 20-21,
Wichita, KS
For more information, go to  http://www.hfrr.ksu.edu/doc3191.ashx

Bedding Plant & Flower Field Day - July 28
Olathe K-State Research & Extension Center

Olathe Center Open House - July 30
Olathe K-State Research & Extension Center

Turf & Ornamentals Field Day - August 4
Olathe K-State Research & Extension Center
For more information, go to  http://www.hfrr.ksu.edu/doc3157.ashx

TURFGRASS

Possible Herbicide Injury to Spruces and Pines; Imprelis

I’ve received a couple of calls about Dupont Imprelis and injury to Spruces and White Pines. And there have been some recent blog posts on the subject. I’ve spoken with Ryan Lawn and Tree, Bruce Steward (Dupont Rep) and it was discussed at last week’s NCERA-192 meeting I attended. Dupont is supposed to be putting out a news release on their website at http://www2.dupont.com/Professional_Products/en_US/Products_and_Services/Imprelis/index.html ASAP at but it is not up yet. But I did get the following letter from them.

I haven’t taken any pictures yet, but here are some pictures and descriptions from other blogs. Nebraska Turf Notes has a good summary.

http://turf.unl.edu/pdfctarticles/Juneimprelisdamageonconifers.pdf

Buckeye Lawn and Garden Online:

IA turf Blog Impralis damage on trees:
http://iaturf.blogspot.com/2011/06/imprelis-damage-on-trees.html

http://Ohio.com> Home and Garden

The herbicide is an excellent herbicide. It has a very low use rate and it controls a wide variety of broadleaf weeds. The issue with the tree damage we are seeing seems to be due to its root absorption characteristics.

I’m adding some good points I received from Judy O’Mara at the KSU Plant Diagnostic Clinic, “it sounds like in situations where it (Imprelis) has been used in the landscape near Norway spruce and white pine trees, it may be having a negative impact on those trees. I just want to throw some caution into the mix. I have been seeing loads of spruce trees across the state with a range of symptoms of needle browning, defoliation and branch dieback. Some of it has been due to spider mites, a small amount due to Rhizosphaera needle cast and a lot I have attributed to environmental stress (drought in the west, low temperatures, dessicating winds, …). It is possible Imprelis is playing a bigger role, but I still think in many locations environmental stress is the biggest factor. A lot of the spruce problems started last fall when we had hot, dry conditions at the end of the summer and into the fall. I think some of the damage is a continuation of that stressful period.”

Megan also wanted to add, “At the disease clinic we don’t do herbicide testing. All we can do is look for disease agents and send to Entomology to look for insects/mites, etc.

But, if people suspect Impralis damage, they should take photos and collect all their pesticide records. They should have records, anyway, with date, rate, method of application, weather conditions, were any other products applied at the same time, etc.”

And I agree with Nick’s statements from the IAturf blog, “It is important to note that there are many locations where the product was used and no tree damage has occurred. Also, not all trees on the treated areas are damaged.”

We will keep you posted as we learn more. (RSJ)
VEGETABLES

Tomato Leaf-Spot Diseases

This time of year two common leaf-spot diseases appear on tomato plants. Septoria leaf spot and early blight are both characterized by brown spots on the leaves.

Septoria leaf spot usually appears earlier in the season than early blight and produces small dark spots. Spots made by early blight are much larger and often have a distorted “target” pattern of concentric circles. Heavily infected leaves eventually turn yellow and drop. Older leaves are more susceptible than younger ones, so these diseases often start at the bottom of the plant and work up.

Mulching, caging, or staking keeps plants off the ground, making them less vulnerable. Better air circulation allows foliage to dry quicker than in plants allowed to sprawl. Mulching also helps prevent water from splashing and carrying disease spores to the plant. Cages and stakes should be cleaned if they supported diseased plants the previous year. Wash cages with a dilute bleach and water solution (1 part bleach to 10 parts water) before use.

In some years, tomatoes will develop these diseases even when these recommendations are followed. In such cases, rotation is a good strategy. Rotation is a good idea even if you have not had problems in the past. But many gardens are too small to make it practical. If you have room, rotate the location of the tomatoes each year to an area that has not had tomatoes or related crops (peppers, potatoes, eggplant) for several years.

If rotation is not feasible, fungicides are helpful. Be sure to cover both upper and lower leaf surfaces, and reapply fungicide if rainfall removes it. Plants usually become susceptible when the tomato fruit is about the size of a walnut. Chlorothalonil is a good choice for fruiting plants because it has a 0-day waiting period, meaning that fruit can be harvested once the spray is dry.

Chlorothalonil can be found in numerous products including Fertilome Broad-Spectrum Fungicide, Ortho Garden Disease Control, GardenTech Daconil and others. Be sure to start protecting plants when the disease is first seen. It is virtually impossible to stop it on heavily infected plants.

If chlorothalonil doesn’t seem to be effective, try mancozeb (Mancozeb Flowable). Note that there is a five-day waiting period between application and when the fruit can be harvested. You may wish to pick some tomatoes green just before you spray if you use Mancozeb as they will ripen inside. (WU)
Raccoons and Sweet Corn

It seems the official sweet corn inspector should be the raccoon, which seems to harvest sweet corn the day before it is to be picked. Electric fences can provide an effective means of control.

– Two or more wires must be used. Place the first about 5 inches above the ground and the second 4 inches above the first (or 9 inches above ground). Raccoons must not be able to crawl under, go between or go over the wires without being shocked.

– Fence posts used for electric fences work well for this application (go figure), as do the insulators used to support the electric wire.

– It is much easier to use the woven electric wire with strands of wire embedded than to use a solid metal wire. The woven wire is easier to bend around corners and to roll up when done for the year.

– Though both the plug-in and battery operated fencers work, the battery operated types allow more flexibility in where corn is grown. One set of batteries is usually sufficient for the season. You may also use an automotive battery if one is available. It should last at least a month if full charged and in good shape.

– Start the charger before the corn is close to being ripe. Once raccoons get a taste of the corn, they are more difficult to discourage.

– Control weeds near the wire. Weeds can intercept the voltage if they touch a wire and allow raccoons entry beyond where the weed grounds it.

– Check the wire occasionally to make sure you have current. This can be done easily (but unpleasantly) by touching the wire. There are also tools that will measure the voltage. (WU)

FRUIT

Summer Care of Strawberries

Taking good care of strawberries this summer and fall will make a difference in the amount of fruit you harvest next spring. Next year’s fruit buds will be set in September and October. Larger, healthier plants set more fruit buds.
If you use a garden cultivator, rototiller, or hoe for weed control in and between rows, throw about a half-inch of soil over the crowns. Strawberry plant crowns continue to develop at the top, and new roots are initiated above old roots on the crown, so they need about a half-inch to an inch of soil covering the crown. You will provide a good rooting medium for new runner plants by keeping the soil pliable or resilient rather than allowing it to harden on the surface. Remember to keep soil moist. Strawberry plants need about 1½ inches of moisture each week when temperatures reach 90 degrees. (WU)

**FLOWERS**

**Phoma Blight on Vinca**

Vinca can be attacked by a stem/shoot disease called Phoma blight during wet spring weather. The fungus girdles the stem, causing the entire shoot to die. Usually the disease ceases to be active once the weather gets hot and dry. The spores spread in wet conditions. The diseased parts will dry out and fall off.

As with any landscape planting, make sure to start with disease-free planting material. Avoid overwatering. Hand-removal of infected stems might reduce disease pressure by removing the source of spores. This may not be feasible, depending on the size of the bed. Avoid working in the beds when they are wet, to avoid spreading spores. (MK)

**PESTS**

**Ash Flower Gall**

You may have noticed ugly, gall-like masses in ash trees. This is most likely the ash flower gall.

As with most galls, the ash flower gall is unsightly but does not harm the health of the tree. Though most galls are caused by insects, this one is caused by an eriophyid mite, *Eriophyes fraxinivorus*. These tiny mites (about 0.5 mm long) feed on the male flower clusters of ash early in the season, transforming the male flowers into irregular, fringed masses. These masses persist until the following spring and become more noticeable when the leaves drop in the fall. Masses start out green but turn black as they dry.

As mentioned, the ash flower gall is unsightly but does not harm the health of the tree. The mites are also difficult to control because they are able enter the flower bud before it is visibly open. Control measures are not recommended. (WU)
Grub Control

If you plan on using a grub preventative on your lawn, the first half of July is a good target date for most products. Preventatives are normally used on areas that have had a history of grub problems. Traditional grub insecticides such as Dylox or carbaryl (Sevin) are normally applied in late July after grubs are present or as a rescue treatment once damage is seen. Products that contain Merit (imidacloprid) or Mach 2 (halofenozide) are considered grub preventers. Actually, neither product prevents grubs, but rather they kill grubs when they are quite small, and long before they cause damage. Merit and Mach 2 are safer to use around pets and humans than traditional grub killers. Merit can be found in Bayer's Season-Long Grub Control, Grub No-More, and Grub Free Zone. Mach 2 is the active ingredient in Kill-a-Grub.

Another grub preventer with the trade name GrubEx contains chlorantraniliprole. Though this product is very effective, it is less water soluble than imidacloprid or halofenozide. It should be applied earlier, preferably April or May, but applications through June should still be effective.

Remember all grub products should be watered in soon after application. (WU)

Buffalograss Webworms

Despite the name, buffalograss webworms also feed on bermudagrass, and will damage bentgrass greens. Like typical sod webworms the silken surface tubes are encrusted with particles of dirt/frass/grass blades and stems and other surface debris. Scraping away the tubes, holes appear in the soil surface. These are entrances to silk-lined vertical tubes in the soil. Inside the tubes buffalograss webworms (during daytime) feed on grass harvested and stored during the previous night’s foraging foray. This is in contrast to other sodworm species that do not create vertical tubes but remain in and feed within their surface tubes.

Buffalograss webworms are often first detected at the beginning of summer when something looks strange. Typically a site will have visibly green grass bordered by an off-colored area. Those who do not detect problem areas early, may be jolted into reality when bare ground captures their attention.
Buffalograss webworms produce a single generation per year. Moths appear from August through September. Eggs are individually deposited in barren areas. The female moth thrusts her stout ovipositor ¼ to ½ inch into the soil and deposits a single egg. After an incubation period averaging 12 days, larvae emerge but do not feed, but rather construct a hibernaculum in which to overwinter. Larvae initiate feeding activities the following in mid- to late April, a time coinciding with the initiation of growth of the warm-season grass host. Larvae feed and develop throughout summer. Pupation begins in late July and extends to the end of September. Moths begin appearing again in August to repeat the cycle. Buffalograss webworms are probably present every year, but sporadic outbreaks in certain years bring them to the forefront. High populations coupled with hot and dry conditions result in bare areas that require renovation.

Although there are no specific control recommendations, measures can be taken to keep populations in check. Larvae are well protected (from direct contact with insecticides) within silk-lined tubes (photos A & B). Although you will not find them fully exposed (photo C), they will poke their heads out to clip grass blades as they forage during the night. Knowing this, apply an insecticide treatment to the healthy grass next to damaged areas, which likely would have been harvested during the next night’s foraging period. Worms that come in contact with insecticide as they forage or consumption of treated foliage will cause mortality.

Currently in Kansas, no products are specifically registered for use against buffalograss webworms. But for sod webworms in general, there are 1,084 registered products. Visit local retail outlets and look at the product to see which have registered uses against sod webworms. (BB)

Editors Note: Commonly available homeowner insecticides labeled for sod webworm include bifenthrin (Bug Blaster II Turf, Termite and Ornamental Insect Control; Bug B Gon Max Lawn & Garden Insect Killer); lambda cyhalothrin (Spectracide Triazicide); permethrin (Bug-No-More Yard & Garden Insect Spray; 38 Plus Turf, Termite, & Ornamental Insect Control; Lawn, Garden, Pet and Livestock Insect Control) and spinosad (Captain Jack’s Dead Bug Brew).

**Hornworms on Tomatoes**

Hornworms are the largest larval insect commonly seen in the garden. Though usually seen on tomato, they can also attack eggplant, pepper, and potato. The larval stage of this insect is a 3 1/2- to 4-inch long pale green caterpillar with five pair of prolegs and a horn on the last segment. The two most common hornworms are the tobacco hornworm (seven diagonal white stripes and, most commonly, a red horn) and the tomato hornworm (v-shaped markings with a horn that is often blue or black). The adult of the tobacco hornworm is the Sphinx moth. The five-spotted hawk moth is the adult of the tomato hornworm. Both moths are stout-bodied, grayish-colored insects with a wing spread of 4 to 5 inches.

The larva is the damaging stage and feeds on the leaves and stems of the tomato plant, leaving behind dark green or black droppings.
Though initially quite small with a body about the same size as its horn, these insects pass through four or five larval stages to reach full size in about a month. The coloration of this larva causes it to blend in with its surroundings and is often difficult to see despite its large size. It eventually will burrow into the soil to pupate. There are two generations a year.

This insect is parasitized by a number of insects. One of the most common is a small braconid wasp. Larva that hatch from wasp eggs laid on the hornworm feed on the inside of the hornworm until the wasp is ready to pupate. The cocoons appear as white projections protruding from the hornworm's body. If such projections are seen, leave the infected hornworms in the garden. The wasps will kill the hornworms when they emerge from the cocoons and will seek out other hornworms to parasitize.

Handpicking is an effective control in small gardens. Bt (Bacillus thuringiensis) found in Dipel or Thuricide and other insecticides also may be used to control hornworms. (WU)

**Japanese Beetles**

Reports indicate Japanese beetles are moving into corn and soybean fields in eastern Kansas. Make sure the identification is correct as we get several calls every year about Japanese beetles that turn out to green June beetles, which look somewhat similar but larger, don't have the metallic maroon back, and do not have the characteristic white tufts along their sides (see photos). Japanese beetles will feed on just about any vegetation, but corn and soybeans are the agricultural crops most commonly affected. There is really no established threshold but remember, soybeans can withstand considerable defoliation during the vegetative stages, and Japanese beetles usually occur in patchy areas rather than field wide. They are voracious feeders and will continue to feed for 30 to 60 days with a few days off here and there to lay eggs. (HD and JW)

**Stalk Borer**

If you have noticed vegetable or garden plants suddenly wilt for no apparent reason, look for stalk borers. Though there are other insects that bore into vegetable plants (squash vine borer, for example), this insect can feed on a wider variety of species (about 175). Though there are so many plants that can be attacked, we have been noticing damage primarily on peppers and tomatoes. Usually the whole plant wilts but sometimes only a branch is affected.
It is the larva of this moth that causes damage by tunneling inside stems. The larva is unique in appearance, with a single white line running down the back and a white line on each side of the body that is visible near the head and the rear but is interrupted in the middle of the body with a purple band. The head capsule is brownish-tan.

If you look at affected plants closely, a small hole will be present in the side of the stem. Splitting the stem will reveal the larva. Some gardeners slit the stem, remove the larva, and wrap the stem back together. Heat and wind often render this operation unsuccessful. Fortunately, damage usually is sporadic, with only a plant here and there affected. There is one generation a year, so once the first attack is over, the problem doesn't reoccur. Insecticides are ineffective against this insect. (WU)

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