

Number 3 - May 7, 2012

Weather & Insect Emergence

The weather over the last week has varied in its effect on insect development throughout the state. Insect development is generally governed by a base temperature of about 50 degrees F. Based on growing degree days with a base temperature of 50 degrees F, southern Illinois is about two and one-half weeks ahead of the historical average and central Illinois is two weeks early. Northern Illinois is about one and one-half weeks early.

Although temperatures for the next few days are predicted to be very warm, cooler temperatures are predicted next week. In previous years, early springs almost always had a May cool spell. Last year, you may remember that we had about ten days in May when the highs were around the 50's degrees F. We may achieve "normal" insect development yet this spring as it relates to calendar date. *(Phil Nixon)*

Scouting Watch

Emerald ash borer adult emergence was reported from Normal in central Illinois on April 30. In previous years, adult emergence typically began in early June in that area of the state. Adults will continue to emerge in southern and central Illinois for several weeks. Thanks to Kevin Black, Growmark, for his report.

Bagworm should be hatching in southern Illinois. Remember that this insect balloons or blows on silk strands from tree to tree for about two weeks before settling down to feed. Although some light feeding occurs during this ballooning period, leaf damage is light. One spray applied two to three weeks after egg hatch will provide almost 100% control. Spraying earlier will typically require an additional spray to achieve control on later ballooning larvae.

Silverleaf Whitefly, *Bemisia tabaci*, also known as the sweetpotato whitefly, is numerous in central Illinois. The adults are less than one-eighth long and yellowish with wings covered by a white powder. They fly readily from foliage when disturbed. The smaller, oval, almost transparent nymphs feed on sap and are found on leaf undersides. Their feeding causes leaf yellowing, curling, and early drop and are primarily a pest of greenhouses and outdoor flowers. These insects overwinter in Illinois but may have survived in higher numbers due to the mild winter. Numbers currently being seen are usually not achieved until mid to late summer. *(Phil Nixon)*

Eastern Flower Thrips

Large numbers of eastern flower thrips, *Frankliniella tritici*, are present in central Illinois. This insect primarily overwinters in the southern U.S. and typically

migrates into Illinois in the spring. They are major pests of greenhouses and outdoor flowers. These thrips cause severe distortion of the berries of strawberry. They are attracted to yellow, blue, and white sticky traps, so greenhouse growers should monitor their traps for an influx of thrips through the vents. Thrips is both singular and plural, as is sheep and shrimp.

Eastern flower thrips are small, very slender, tan insects. Adults are about three mm long, less than one-eighth inch with dark, feather-like wings; nymphs are smaller and yellowish. Thrips have rasping-sucking mouthparts. When they feed, they scrape away the surface cells of leaves and flower petals, then suck up the cell contents. Damage appears as whitish streaks which turn brownish as the injured cells die. They also feed on pollen in the flower anthers, breaking up the pollen packets, resulting in pollen that is easily seen scattered on the petals.

Thrips hide in tight locations such as at the bases of leaves and petals and in leaf and flower buds. Pulling back the leaves or petals disturbs the thrips, causing them to crawl upward on the leaves or petals where they are easily seen, despite their small size.

Thrips probe anything while searching for food. When numerous, they will fly onto people and probe them to determine whether they are edible. These bites are easily felt, but are not particularly painful. However, they are at least distracting and at most upsetting when numerous bites are occurring. High numbers of thrips are typically localized and can be avoided if the job at hand allows moving to a different location away from the thrips.

Minute pirate bugs, also known as insidious plant bugs, feed on thrips and are associated with the high thrips influx that is currently being seen. Minute pirate bugs are also small, being about one-eighth inch long. They are black and white, somewhat triangular in shape, and flat on the back. They will also bite people, but these predators have more substantial piercing mouthparts. Their bites feel like a small pinch, being much more noticeable than a thrips bite.

Thrips secretive nature makes them more difficult to control. Although some insecticides labeled for thrips are systemic, control can be difficult to achieve. Control is improved by removing the leaf and flower buds before spraying as well as thorough application to leaf axils using higher pressure. Outdoors, remove blossoms before spraying to reduce impact to pollinators.

Effective insecticides include spinosad (Conserve), abamectin (Avid), novaluron (Pedestal), bifenthrin (Talstar), tau-fluvalinate (Mavrik), pyrethrins (Pyreth-It), azadirachtin (Azatin), acephate (Orthene), and chlorpyrifos (DuraGard). Two applications are typically necessary seven to ten days apart to provide control. In extended control situations, rotate between insecticide chemistries to avoid insecticide resistance. In that case, do not rotate between the pyrethroids, bifenthrin, tau-fluvalinate, and pyrethrins, or the organophosphates, acephate and chlorpyrifos. (*Phil Nixon*)

Watch out for Impatiens Downy Mildew

In October, 2011, there were several reports of impatiens downy mildew

(IDM) on garden impatiens (*Impatiens walleriana*). This disease was first reported in the U.S. in 1942, but late last season was confirmed on impatiens in coastal southern California, northeastern Illinois, northern Indiana, Cape Cod in Massachusetts, Long Island and upstate New York.

The plant pathogen that causes IDM is an oomycete and is spread by oospores.

The IDM pathogen is favored by wet foliage, cool temperatures (especially at night), and moist air conditions.

Impatiens that are planted densely and in heavy shade are more at risk to be infected by this disease. In addition, impatiens that are watered by overhead sprinklers or stay wet for extended periods will be more prone for infection of impatiens downy mildew during favorable conditions.

Symptoms of IDM have been described as: "yellowish or pale-green foliage, downward curled leaves, leaf distortion, white to light-gray fuzz on leaf undersides, new leaves that are small or discolored (yellow or pale green), flowers buds fail to form, and stunted growth." After impatiens have been infected with this disease, defoliation of leaves can occur.

If you think that you experienced this disease in your garden, there are no worries of it infecting other plants. However, it is very important that you remove and destroy infected plants. There is still a chance that this disease pathogen could overwinter and infect impatiens the following year. New Guinea impatiens are resistant to IDM and can be planted in an infected area. If planting impatiens this year, choose

open, sunny areas. Keep a careful watch on impatiens to catch this disease in the early stages and remove infected plants immediately! Fungicides can provide some protection, but will not protect impatiens for the entire season.

(Stephanie Porter)

Chickweed is Struttin' Its Stuff

Has this weed ruffled your feathers? Before you think I've flown the coop, I'll stop with the chick humor.

There is certainly no shortage of chickweed in Illinois this spring. The mild winter and warm conditions early on have likely led to the increased populations we are seeing. Common chickweed (*Stellaria media*) is a cool-season annual (also known as a winter annual) member of the Pink family (*Caryophyllaceae*) that reproduces by seeds. Normally, cool-season annuals germinate in the autumn, flower the following spring, and die soon after summer temperatures rise; common chickweed, however, may occasionally persist through summer in sites protected from heat and drought. Common chickweed occurs in cool, moist, shady, often compacted, fertile sites in spring and autumn.

Common chickweed often forms large, dense patches in mowed areas but grows more upright in unmowed settings. The stems will often form mats over surrounding low growing plants. The stems are softly hairy. The roots are shallow and fibrous. Leaves are bright green, opposite, simple, broadly oval, and usually less than 1 inch long. Its small, spring-borne white flowers are approximately 1/2 inch in diameter,

have five petals, and are star shaped. The 5 petals are deeply lobed and appear from a distance as 10 petals.

To control common chickweed without chemicals, maintain turf density and health by employing proper turf culture and mechanically remove the weed from the site. For chemical control, apply postemergence herbicides (for example, products containing 2,4-D; MCPP; dicamba, clopyralid, or triclopyr) in midspring or mid- to late autumn during active growth; apply preemergence herbicides (for example, products containing benefin + trifluralin, dithiopyr, pendimethalin, or prodiamine) before germination in late summer or early autumn. Because most common chickweed plants are currently senescing and will soon die, application of chemical weed controls is not recommended any longer this spring. This plant pulls easily.

A closely related plant is mouseear chickweed (*Cerastium vulgatum*). This weed has a similar growth habit, however it is a perennial which commonly roots at the nodes. The leaves are densely hairy and typically quite oblong. It occurs less commonly in a general turfgrass or landscape setting.

The speedwells (*Veronica* sp.) also are noticeable this time of year and have a similar growth habit, leaf shape, and color. Speedwell leaves are more closely arranged on the stem and the flowers are pale blue to white. There are several species of speedwell. (*Michelle Wiesbrook, adapted from an HYG article by Tom Voigt, Bruce Spangenberg, and Luke Cella.*)

Spruce Needle Rust

The plant clinic has received a couple of Spruce samples that were found to be infected with Spruce Needle Rust (*Chrysomyxa* spp.). Several species of fungi belonging to the genus *Chrysomyxa* are known to cause rust on spruce. Most *Chrysomyxa* species are heteroecious and require more than one host to complete their life cycles. Weir's spruce cushion rust (*Chrysomyxa weirii*) is unique in that it is autoecious and does not require separate hosts to complete its life cycle. Control strategies differ between the heteroecious and autoecious species. As a result, laboratory analysis of infected needles is critical for accurate diagnosis and subsequent control strategies.

Chrysomyxa weirii. Weir's spruce cushion rust infection occurs in the spring, as new needles are emerging. Symptoms of the disease, however, are not seen until the following spring when the 1-2 year old needles develop yellow spots. As the infection progresses, the spots develop pustules that split open to reveal yellow-orange teliospores. In some cases, a heavily infected tree can have an abundance of pustules and teliospores, which results in a yellow-orange appearance to the tree when viewed from a distance. Diseased needles may drop, with repeated defoliations resulting in reduced growth. The pathogen is spread as the teliospores produce basidiospores, which are then blown or splashed onto newly emerging needles of the same tree or nearby spruce trees. New infections occur and the disease cycle then repeats in the same fashion.

Control. Damages caused by Spruce needle rusts are mostly aesthetic and should not affect the long-term health of the tree. General control recommendations are to purchase healthy disease free trees and to maintain plant vigor. Chlorothalonil is a

fungicide labeled in Illinois to control Weir's spruce cushion rust (*Chrysinyxa weirii*). Spray applications should begin once 10% of the tree's buds have opened. Repeat applications should be performed at 7-10 day intervals until the needles have matured. (*Travis Cleveland*)