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Archived Messages

Aug 21, 2015

Issue: 19

UMass Extension's Landscape Message is an educational newsletter intended to inform and guide Green Industry professionals in the management of our collective landscape. Scouts compile and record environmental and phenological data for locations throughout Massachusetts to aid in the monitoring of plant and pest development, the planning of management strategies, and the creation of site-specific records for future reference. Detailed reports from Extension specialists on growing conditions, pest activity, and cultural practices for the management of woody ornamentals, trees, and turf are regular features. UMass Extension has updated the following issue to provide timely management information and the latest regional news and environmental data.

The Landscape Message will be updated bi-weekly July-September. The next message will be available on September 4. To receive immediate notification when the next Landscape Message update is posted, be sure to [join our e-mail list](#).

Scouting Information by Region

Regional Notes

Cape Cod Region (Barnstable)

General Conditions: Hazy, hot, and humid describe the mid-August weather on the Cape. It's wonderful if you are on vacation and can go to the beach but quite uncomfortable if you are working in the landscape. At the very beginning of this reporting period, the Cape did have a cool down, with temperatures in the 70's instead of the upper 80's. On the morning of 8/10, the low temperature was 55° F, making it feel a bit like September. That quickly changed. Although the weather overall has been dry, the Cape did have a day-long rain event on 8/11. The rain was gentle to begin but became heavy by late afternoon. In Marstons Mills,

2.37" was recorded in the rain gauge. According to weather monitoring sites, Chatham received the jackpot, with 3.71" recorded. Hyannis received 1.94", Dennis received 2.37", and Falmouth received 1.89". The exception to this much needed precipitation was Provincetown, which only recorded 0.15" at the P-town airport. There has been no further rainfall since then while daytime temperatures have been consistently in the upper 80s and dew points have been above 70. Perennial Hibiscus are in full bloom and Crepe Myrtle is beginning to bloom. The berries of Siebold viburnum are turning red.

Pests/Problems: The dry weather continues to be the biggest challenge this summer. While the Cape did receive some much needed rainfall, it didn't break the cycle of dry weather and soils have quickly returned to a droughty state. Insect activity has dropped off to a certain extent. Japanese beetle numbers are dropping, although they are still active. Asiatic garden beetles and Oriental beetles are still active. Mites and leafhopper damage can be seen on the foliage of many perennials. The prolonged humid weather has helped powdery mildew, which can now be seen on white oak, native Florida dogwood, Common Lilac, Phlox, and Beebalm. Slime mold can be observed on mulch. Ragweed is both in bloom and setting seed. Poke weed berries are still green.

Southeast Region (Hanson)

General Conditions: Like other areas in MA, Southeastern MA continued to see higher than normal temperatures and the weather reporters talk about just missing an "official heat wave". Hanson received 1.25 inches of much-needed rain over the last two weeks, yet soils have already dried out. More rain is needed. Rose-of-Sharon, *Albizia julibrissin*, *Campsis radicans*, *Hydrangea paniculata*, *Hydrangea quercifolia*, Butterflybush, *Acanthus spinosus*, *Veronicastrum*, roses, *Coreopsis tripteris*, *Rudbeckia 'Herbstonne'*, *Rudbeckia subtomentosa 'Henry Eilers'*, *Rudbeckia triloba*, *Rudbeckia 'Goldsturm'*, *Persicaria amplexicaulis*, *Ligularia dentata*, *Liatris sp.*, *Campanula sp.*, Joe-pye-weed, *Platycodon sp.*, *Echinacea purpurea* and hybrids, *Corydalis lutea*, *Ligularia sp.*, *Astrantia*, *Nepeta*, *Hosta plantaginea* and other late blooming *Hosta*, *Heliopsis 'Summer Sun'*, *Helianthus 'Lemon Queen'*, perennial hibiscus like *Hibiscus 'Summer Storm'* and *Hibiscus 'Old Yella'*, *Lobelia syphilitica*, *Lobelia cardinalis*, *Lobelia hybrids*, *Platycodon grandiflorus*, *Coreopsis 'Harvest Moon'*, *Perovskia sp.*, and *Phlox paniculata* are in full bloom. *Clerodendron trichotomum*, *Clethra alnifolia*, *Monarda didyma*, and *Lysimachia clethroides* are ending bloom. Annuals and tropical plants are doing well and adding color to the landscape. Remind clients to water and pay attention to plants in pots and to window boxes, as they will dry out quickly in the hot weather and may need to be watered on a daily basis.

Pests/Problems: With the continued high temperatures and lack of rain, soils continue to be dry and plants increasingly are displaying signs of drought stress: premature fall color, brown leaf margins, shedding leaves, etc. Some trees defoliated by winter and gypsy moths appear dead and those trees that did leaf out need to be watered deeply during this hot, dry weather. Dry, warm soils are probably the biggest landscape concern right now, as there is not much going on in the area of insect problems. It has been difficult keeping up with the watering and even tough plants like hosta are showing marginal leaf browning. Continue to monitor for dogwood sawfly, Asian Longhorned Beetle (ALB), viburnum leaf beetle, redheaded pine sawfly and introduced pine sawfly. Monitor Hibiscus foliage for Hibiscus sawfly larvae which remain active; the foliage will often look like Swiss cheese – full of holes. Snails were also observed feeding on the foliage.

Sunflower moth caterpillars, *Homoeosoma electellum*, remain active on *Echinacea*, *Rudbeckia fulgida* *Heliopsis* 'Summer Sun', marigolds and *Helianthus*. There are still a few remaining Japanese, Oriental and Asiatic garden beetles but they are few and far between. The following insects remain active: earwigs, aphids, snails, slugs, *Pieris* lacebugs, spider mites, boxelder beetles, cicada killing wasps, stinkbugs, leafhoppers, wasps, hornets, ticks, biting flies and mosquitoes. Ladybugs, hoverflies and assassin bugs are also active. Mosquito populations seem to be less active than earlier in the season, but still take precautions around dawn and dusk. Be on the lookout for ground nesting wasps. Stepping on a nest can be painful and dangerous, especially for those allergic to wasp and/or bee stings. Many bees, wasps and hornets release an "attack pheromone" when disturbed. They "mark" their attacker and the other wasps hone in on that pheromone and continue to sting. Powdery mildew continues to show up on *Helianthus*, *Lonicera*, dogwood, *Monarda didyma* and garden phlox. Grasses are starting to bloom and along with ragweed, contribute the pollen often responsible for allergies. The more colorful goldenrod is often blamed, but it is the pollen produced by these other plants that is most likely the culprit. Weeds like crabgrass, spotted spurge, clearweed, and purslane are thriving with all this heat. Deer, wild turkeys, voles and chipmunks remain active

North Shore Region (Beverly)

General Conditions: The conditions during this reporting period were hot and humid. There was no rainfall reported except on Tuesday, August 11 when there was a storm that brought much needed rainfall. Approximately 0.78 inches of rainfall were received at Long Hill. Temperatures during this reporting period were in the high 80s during the day and high 70s during the night. Temperatures of 90 degrees and above were recorded on only one day (August 17) during this period. Woody plants seen in bloom include: Japanese pagoda tree (*Sophora japonica*), Golden raintree (*Koelreuteria paniculata*), Sourwood (*Oxydendrum arboreum*), Silk tree or Mimosa (*Albizia julibrissin*), Oakleaf hydrangea (*Hydrangea quercifolia*), Panicle hydrangea (*Hydrangea paniculata*), Butterfly bush (*Buddleia davidii*), Hypericum shrub (*Hypericum* spp.), Rose-of-Sharon (*Hibiscus syriacus*), Harlequin glorybower (*Clerodendrum trichotomum*) and Summer Sweet Clethra (*Clethra alnifolia*). Herbaceous plants seen in bloom include: Culver's root (*Veronicastrum virginicum*), False anemone (*Anemonopsis macrophylla*), Cardinal flower (*Lobelia cardinalis*), Blue lobelia (*Lobelia siphilitica*), Garden phlox (*Phlox paniculata*), Blue mist shrub (*Caryopteris x clandonensis*), hostas (*Hosta* spp.), sedums (*Sedum* spp.), Clematis vines (*Clematis paniculata*), Russian sage (*Perovskia atriplicifoli*), Feverfew (*Tanacetum parthenium*), *Rudbeckia* (*Rudbeckia hirta*), Trumpet creeper (*Campsis radicans*) and Water lily (*Nymphaea odorata*). Adding even more color in landscapes were an assortment of annuals

Pests/Problems: Japanese beetles (*Popillia japonica*) were observed causing damage on *Aronia*. Diseases observed include cedar quince rust (*Gymnosporangium clavipes*) on hawthorn, cedar apple rust (*Gymnosporangium juniperi-virginianae*) on crabapples and powdery mildew (*Microsphaera alni*) on lilac. Weeds are thriving and many are in bloom. Ticks and mosquitoes are still active.

East Region (Boston)

General Conditions: Temperatures have varied substantially over the last two weeks, highs ranged from 72° F to 94° F while low temperatures ranged from 56° F to 71° F. The first week was relatively cool as high

temperatures averaged 78° F making it feel as if fall was right around the corner. However, over the second week we experienced four days of hot weather from the 15th to the 18th, where temperatures reached 92° F, 89° F, 93° F and 94° F respectively. Thunder, lightning and windy conditions followed in the afternoon of the 18th; a brief downpour brought 0.11 inches of rain and storm damage to a hickory was recorded. Over the last two weeks, rain fell on four occasions accumulating 1.22 inches of precipitation. *Cephalanthus occidentalis* (buttonbush) continues to flower. *Lobelia cardinalis*, the native cardinal flower is full bloom, monarch caterpillars have been spotted feeding on *Asclepias incarnata* (swamp milkweed).

Pests/Problems: Despite the 1.22 inches of rain received over the last 8 days, many plants are showing signs of water stress, including maples, katsuras, and hydrangeas; leaves on some plants are starting to yellow and turn brown.

Metro West (Acton)

General Conditions: Four consecutive days of 90 plus degree temperatures was recorded for the first time this summer on the 15th, 16th, 17th and 18th with 90° F, 90° F, 92° F and 93° F respectively. The hot and humid weather brought the threat of thundershowers but we did not experience them. The Metro West area gained 279 GDD during this two-week recording period and received 0.54" of rain. The average rainfall for the month of August is 3.72" and we have a long way to go before we hit that record with just 1.21" of rain recorded for the entire month. Woody plants seen in bloom this week are *Albizia julibrissin* (Silk Tree), *Buddleia* spp. (Butterfly Bush), *Clethra alnifolia* (Summersweet Clethra), *Hibiscus syriacus* (Rose-of-Sharon), *Hydrangea paniculata* and its many cultivars including 'Tardiva', *Potentilla fruticosa* (Potentilla), *Rosa rugosa* (Rugosa Rose), and *R. 'Knockout'* (The Knockout family of Roses). Woody vines in bloom are *Campsis radicans* (Trumpet vine) and *Clematis* spp. (Clematis). Contributing even more color and interest to the landscape are some flowering herbaceous plants including: *Alcea rosea* (Hollyhocks), *Asclepias syriaca* (Common Milkweed), *A. tuberosa* (Butterfly Weed), *Astilbe* spp. (False spirea), *Boltonia asteroides* (Bolton's Aster), *Cassia marilandica* (Wild Senna), *Cichorium intybus* (Chicory), *Coreopsis verticillata* (Threadleaf Coreopsis), *Daucus carota* (Queen Anne's Lace), *Echinacea purpurea* (Coneflower), *Eupatorium purpureum* (Joe Pye Weed), *Hemerocallis 'Stella D'Oro'* (Daylily), *H. fulva* (Orange Daylily), *H. spp.* (Daylily), *Hosta* spp. (Plantain Lily), *Liatris spicata* (Spike Gayfeather), *Limonium latifolium* (Sea Lavender), *Lobelia cardinalis* (Cardinal Flower), *Lysimachia cletheroides* (Gooseneck Loosestrife), *Macleaya microcarpa* (Plume Poppy), *Monarda didyma* (Bee-Balm), *Patrinia gibbosa* (Patrinia), *Perovskia atriplicifolia* (Russian Sage), *Phlox carolina* (Carolina Phlox), *C. paniculata* (Phlox) and its many cultivars, *Physostegia virginiana* (obediant Plant), *Rudbeckia fulgida 'Goldsturm'* (Black-Eyed Susan), and *Solidago* spp. (Goldenrod).

Pests/Problems: Lack of any rainfall is a problem. Signs of drought stress on woody plants are appearing in the form of leaf wilt, discoloration and drop and lawns are turning brown. Powdery mildew is rampant with the hot and humid weather and is evident on *Monarda* (BeeBalm), *Phlox* and *Syringa* (Lilac). The first Asian Longhorned beetle of the season was caught in a trap within the Worcester County ALB regulated area on the 14th in Worcester so continue to check your trees for oviposition sites, frass, exit holes and the beetle. Monitor the 13 host genera which are: *Acer* (Maple), *Betula* (Birch), *Ulmus* (Elm), *Salix* (Willow), *Aesculus* (Horsechestnut), *Fraxinus* (Ash), *Platanus* (Plane Tree), *Populus* (Poplar), *Celtis* (Hackberry), *Sorbus* (Mountain Ash), *Albizia* (Mimosa), *Cercidiphyllum* (Katsura) and *Keolreuteria* (Golden Raintree) for signs of

this invasive pest.

Central Region (Boylston)

General Conditions: Summer heat has come on strong for this reporting period. Hot, humid conditions have been the norm over most of the past two weeks. Annuals and vegetables have filled in nicely and the harvest of tomatoes has begun in earnest. Among the many plants in bloom in gardens are *Rosa* 'New Dawn', *Anemone tomentosa* 'Robustissima', *Iris domestica*, *Callicarpa japonica* and *C. dichotoma*, *Hibiscus moscheutos*, *Phlox paniculata*, *Veronicastrum virginicum*, *Vernonia noveboracensis*, Joe Pye Weed (*Eupatorium* sp.), *Rudbeckia hirta*, *Rudbeckia triloba*, *Rudbeckia nitida*, *Rudbeckia subtomentosa* 'Henry Eiler', Goldenrod (*Solidago* sp.), *Perovskia atriplicifolia*, *Indigofera amblyantha*, *Calluna vulgaris*, *Aster linariifolius*, *Angelica gigas*, *Chrysanthemum* 'Clara Curtis', *Helenium autumnale*, *Clerodendrum trichotomum* and *Galtonia candicans*.

Pests/Problems: Conditions remain quite dry and unirrigated lawns, trees and shrubs and herbaceous plants are beginning to show signs of stress from the lack of moisture. Four rain events occurred over the past two weeks but were generally insufficient in quantity, or occurred so quickly that much of it ran off. Among the pest and diseases we are seeing in the gardens are Blister Beetle on Anemone, Dogwood Sawfly on *Cornus stolonifera* & *C. sericea*, fall webworm, eggs of gypsy moths, and some early blight on tomatoes. Japanese Beetle damage is slowing down.

Pioneer Valley Region (Amherst)

General Conditions: This past reporting period began with unseasonably cool and pleasant weather. High temperatures peaked in the low 80s with nighttime temperatures dropping into the middle 50s. Sunshine was abundant with only passing clouds and little to no precipitation. For early August, it was near perfect summer weather for outdoor activities. Temperatures began to creep higher on the 13th and 14th with highs in the middle 80s and increasing humidity. On the 15th, the heat and unbearable humidity returned. Ambient air temperatures have peaked in the high 80s to low 90s, which is not terrible, but with the dew points in the middle 70s, the heat index has soared over 100° F. After a very wet June, July and August have been relatively dry, though not as dry as eastern Mass. The valley did receive some legitimate precipitation over this past reporting period with two rain events on 8/11 and 8/15. A day-long soaking occurred on Tuesday, 8/11 resulting in accumulations between 0.7-0.9" in most locations. While another inch would have been welcome, the long duration of the storm was welcome. Heavy downpours and a massive thunder and lightning display took place during the evening of Saturday 8/15, with the heaviest rain falling in southern Franklin, Hampshire and northern Hampden Counties, with accumulations between 0.5-0.75". Additionally, there have been numerous, scattered thunderstorms that have resulted in minor to moderate accumulations across the valley. The long-term forecast calls for showers over successive days so there is hope of significant precipitation.

Pests/Problems: Drought stress is a concern with the intense heat and humidity coupled with below-average rainfall over the past several weeks. The dry conditions are mostly focused in the eastern half of the valley, as portions of the western valley (especially in Hampshire County) have received average rainfall during the first two weeks of August). Drought stress is one of the most important predisposing stresses for

diseases like root rot, vascular wilts and severe stem cankering and needle cast. Lawn grass is brown in many locations, which is not atypical in mid-August, but still an indicator of dry weather. Japanese beetle populations are declining and Oriental beetles are now rarely encountered. Dogwood sawflies are maturing and are visible on the underside of the leaves. Hawthorn leaf spot, caused by *Entomosporium*, is building in severity. The dry weather is likely slowing down spore dispersal. If hawthorns are defoliated in early to mid-September, there is usually no lasting damage to the tree as a result. Many anthracnose fungi have gone dormant right now, which is typical for these fungi. But, when cooler weather returns in the autumn these pathogens can become active again if we experience successive days of wet weather.

Berkshire Region (Great Barrington)

General Conditions: We finally hit classic summer 3-H weather, i.e. hazy, hot, and humid...or, hotter than the hinges of Hades. Under such conditions, outdoor workers are at risk of heat stress which can lead to heat stroke or heat exhaustion. Green industry workers should become familiar with methods to prevent heat stress as well as the symptoms of heat related illness and the first aid measures for treating such illnesses. Detailed information on heat stress can be found at <http://www.cdc.gov/niosh/topics/heatstress/>. Though 1.76 inches of rain were collected in the rain gauge at the Great Barrington monitoring site during the past two weeks, almost all of that fell in one storm. Despite several days in which the skies darkened and thunder rumbled, only 0.05 inches fell during the rest of the past two week period. As a result, soils are now quite dry in many locations of Berkshire County and irrigation may be needed on the driest sites, especially where soils are predominantly sandy or gravelly.

Pests/Problems: Pre-mature fall color and/or leaf drop is not an unusual observation at this time of year. In most of the cases recently observed, these symptoms were the result of environmental stress and/or poor maintenance. Deep planting, string trimmer injury to the base of the plant stem, and planting on sites with poor drainage, coarse soils and lack of irrigation were some of the causes. However, root rots, foliar diseases, and vascular diseases including verticillium wilt, and insect or mite problems should be considered when determining the underlying causes of premature fall color and leaf drop. Among the pests which continue to be observed are adult Japanese beetles (though few in number), Japanese beetle grubs, Asiatic garden beetle, oak leaf lacebug (adults and nymphs), lily leaf beetle adults (numbers diminished), and two-spotted spider mite (predatory mites frequently found with them). The second generation euonymus scale crawlers are now active and control measures can now be effectively applied. Crawlers of magnolia scale are also active now and control measures should be applied soon. Magnolia scale is more prominent this year than any previous year in this scout's memory. The presence of magnolia scale is easily detected by the abundance of sooty mold on the plant leaves, the result of honeydew secreted by the insect. The honeydew also attracts large numbers of bees and wasps. Cytospora canker was found on most of the lower branches of several trees in a screen of Norway spruce at one site. It appeared that site collected water in spring which likely weakened the trees. Voles continue to a serious problem in gardens this year as their population is very high.

Environmental Data

The following growing-degree-day (GDD) and precipitation data was collected for an approximately two week period, August 7 through August 19. Soil temperature and phenological indicators were observed on or

<i>Buddleia davidii</i> (Butterfly Bush)	full/end	full	full	full	full	full	full	full
<i>Clethra alnifolia</i> (Summersweet Clethra)	full	full/end	full	full/end	full/end	full/end	end	full/end
<i>Hibiscus syriacus</i> (Rose-of-Sharon)	full	full	full	full/end	full/end	full	full	full
* = no activity to report/information not available								

- CAPE COD REGION - Roberta Clark, UMass Extension Horticulturist for Barnstable County - Retired, reporting from Barnstable.
- SOUTHEAST REGION - Deborah Swanson, UMass Extension Horticulturist for Plymouth County - Retired, reporting from Hanson.
- NORTH SHORE REGION - Geoffrey Njue, Green Industry Specialist, UMass Extension, reporting from the [Long Hill Reservation](#) 📍, Beverly.
- EAST REGION - Kit Ganshaw & Sue Pfeiffer, Horticulturists, reporting from the [Arnold Arboretum](#) 📍, Jamaica Plain.
- METRO WEST REGION – Julie Coop, Forester, Massachusetts Department of Conservation & Recreation, reporting from Acton.
- CENTRAL REGION - Joann Vieira, Superintendent of Horticulture, reporting from the [Tower Hill Botanic Garden](#) 📍, Boylston.
- PIONEER VALLEY REGION - Nick Brazee, Plant Pathologist, UMass Extension Plant Diagnostic Lab, reporting from UMass Amherst.
- BERKSHIRE REGION - Ron Kujawski, Horticultural Consultant, reporting from Great Barrington.

Woody Ornamentals

Diseases & Insects

Diplodia shoot blight, caused by ***Sphaeropsis sapinea***, on a dwarf eastern white pine (***Pinus strobus*** 'Pendula'). Tree resides in full sun and is 12' in height and spread with a 10" diameter at breast height. Last year, cankers with oozing sap and bark splitting were observed on the main trunk and branches, worsening this season. The tree is provided with supplemental water.

Dutch elm disease, caused by ***Ophiostoma novo-ulmi***, on American elm (***Ulmus americana***). Very old tree with a diameter of 43.5" and a twin leader that separates at approximately 25'. The tree resides on a town green and is extremely valuable to the town. In the mid-canopy, flagging was observed on branches that are four inches in diameter. The vascular staining was not prominent in the submitted sample but ***Ophiostoma*** was incubated and isolated in pure culture. The tree has been regularly injected with thiabendazole hypophosphite (Arbotect 20S).

Infestation of the oak spider mite (***Oligonychus bicolor***) and leaf blight caused by ***Tubakia dryina*** on swamp white oak (***Quercus bicolor***). Tree was transplanted earlier this summer and is 12" in diameter. Two months after planting, scorch and bronzing of the foliage developed. Tree resides in full sun with drip irrigation in loamy soils amended with compost. Oak spider mite has been a prominent pest

this season.

Branch cankering on English oak (*Quercus robur*) caused by *Fusarium solani*. Mature tree, roughly 40-years-old, present at the site for nearly as long. Approximately two years ago, branch tip dieback was observed. Caterpillar feeding has been an issue as well. Smaller diameter (<2") branches had visible cankers with callus tissue and sap flow. In addition, there was a bluish-gray stain of the vascular tissue that extended deep into the xylem. Branch cankering from *Fusarium* has been associated with oak decline in Europe, but only in combination with numerous other pests and pathogens. It appears to be common on English oak in SE Mass and Rhode Island, where widespread reports of decline have surfaced.

Branch cankering caused by *Cytospora* on peach (*Prunus persica*). 12-year-old tree present at the site for six years. Scattered, terminal branches wilted with clear evidence of stem cankering. In commercial and landscape settings, *Cytospora* is an important pathogen of peach.

Needle tip blight of white fir (*Abies concolor*) caused by *Rhizosphaera*. Tree is 15-years-old and has been present at the site for five years. In spring of this year, canopy dieback at the base of the tree was observed. Needles are browning from the tips to the base. Research at the UMass Plant Diagnostic Lab indicates there are at least six species of *Rhizosphaera* that can attack true fir in this region. Drought stress may be a predisposing stress, as the tree resides in full sun without supplemental watering.

Infestation of the Norway spruce gall midge (*Piceacecis abietiperda*) and twig cankering caused by *Phomopsis* on Norway spruce (*Picea abies*). Two trees, ~120-years-old, with visibly thinning canopies. Symptoms first developed in 2014 and have worsened this year. The trees reside in full sun in a rural, landscape setting with heavy forest cover immediately adjacent. There have been no additional disturbances (e.g. construction, storm damage, etc.). Exit holes from the gall midge were abundant on blighted shoots.



For more detailed management information for woody plant diseases in the landscape, refer to [UMass Extension's Professional Management Guide for Diseases of Trees and Shrubs](#).

Report by Nick Brazee, Plant Pathologist, UMass Extension Plant Diagnostic Lab, UMass Amherst.

Landscape Turf

Insects

White Grubs

NOW is a good time to monitor for white grub activity!!!

We were scouting for grubs at a local golf course last week and found populations (mixed oriental beetle and

Japanese beetle) of 20 grubs or more per square foot in untreated roughs. At that point about 60% of the grubs were second instars, and the other 40% were first instars. But with the recent warm weather, the grubs are undoubtedly developing quickly, so by early next week, most of them should be second instars or early third instars.

Because of the timely rain that has occurred throughout the summer in many parts of New England, beetles have been laying eggs at the "normal" time. European chafer females started laying eggs in late June, while oriental beetles and Japanese beetles started laying eggs around the second week of July in much of western Massachusetts.

As noted above, the grubs that emerged from these eggs are developing quickly. So this would be an excellent time to get out there and take a close look at some of your typical trouble spots. You can use a small spade to cut a hole about 4 to 6 inches on a side, and use a hand trowel to dislodge the soil from the sample. Any grubs will pop out of the soil quite easily, and while they are still relatively small (0.25 inch long), their cream color contrasts well with the dark soil. We use a golf course cup cutter to remove our soil samples - the core is about 0.1 square foot, so it makes the calculation of population density very easy. At this time of year, you only need to dig down about two inches. The grubs are up high in the root zone.

Remember that the tolerance level for white grubs in unstressed turf is around 8 to 14 grubs per square foot for Japanese beetles and oriental beetles, a little lower for European chafers. Also remember that any turf areas that have not received timely rainfall and are not irrigated may experience a delay in egg laying. (Females often delay egg laying when soil moistures are too low for the eggs to survive.) So in these situations, the grubs that are present may be a little smaller.

Finally, it is getting late to apply imidacloprid, in my humble opinion, and it is too late to get good control with chlorantraniliprole. But several colleagues have conducted trials with a related compound, cyantraniliprole, and it appears to work more quickly than chlorantraniliprole, so it might provide some relief. Chlothianidin, whether as a stand-alone product or in a combination with a pyrethroid, works more quickly than imidacloprid and should provide very good control if applied in the next two weeks. And of course there is the traditional curative product, trichlorfon, which will work very quickly (but won't stay around very long) - for those who can use it. Trichlorfon cannot be used on school grounds in Massachusetts and several other northeastern states.

Report by Pat Vittum, Professor and Extension Entomologist, UMass Stockbridge School of Agriculture and Interim Director, UMass Center for Agriculture, Food and the Environment.

Additional Resources

To receive immediate notification when the next Landscape Message update is posted, be sure to [join our e-mail list](#) and follow us on [Facebook](#) and [Twitter](#).

For a complete listing of upcoming events, see our [Upcoming Educational Events page](#).

For commercial growers of greenhouse crops and flowers - Check out the New England Greenhouse Update at <http://negreenhouseupdate.info>

For professional turf managers - Check out Turf Management Updates at <http://ag.umass.edu/turf/management-updates>

For home gardeners and garden retailers - Check out [home garden resources](#). UMass Extension also has a Twitter feed that provides timely, daily gardening tips, sunrise and sunset times to home gardeners, see <https://twitter.com/UMassGardenClip> 

Diagnostic Services

A UMass Laboratory Diagnoses Landscape and Turf Problems - The UMass Extension Plant Diagnostic Lab is available to serve commercial landscape contractors, turf managers, arborists, nurseries and other green industry professionals. It provides woody plant and turf disease analysis, woody plant and turf insect identification, turfgrass identification, weed identification, and offers a report of pest management strategies that are research based, economically sound and environmentally appropriate for the situation. Accurate diagnosis for a turf or landscape problem can often eliminate or reduce the need for pesticide use. For sampling procedures, detailed submission instructions and a list of fees, see [Plant Problem Diagnostics](#)

Soil and Plant Tissue Testing - The University of Massachusetts Soil and Plant Tissue Testing Laboratory is located on the campus of The University of Massachusetts at Amherst. Testing services are available to all. The function of the Soil and Plant Tissue Testing Laboratory is to provide test results and recommendations that lead to the wise and economical use of soils and soil amendments. For complete information, visit the UMass Soil and Plant tissue Testing Laboratory web site at: <http://soiltest.umass.edu/> Alternatively, call the lab at (413) 545-2311.

Ticks are active at this time! Remember to take appropriate precautions when working and playing outdoors, and conduct daily tick checks. UMass tests ticks for the presence of Lyme disease and other disease pathogens. [Learn more](#)

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