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Archived Messages

Aug 7, 2015

Issue: 18

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 August 21. 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: Hot and humid conditions have been the norm for the past two weeks. The Cape remains dry, as most storms died out before reaching this area. The Cape received 0.15" on July 27 and 0.4" on August 4 and nothing in between. Plants are beginning to look a bit drought stressed and unirrigated turf has gone into summer dormancy and is brown and brittle. The Cape did experience a very strong line of thunder storms that raced through the area during the morning of August 4. It was accompanied by amazing amounts of lightning and very strong winds but it traveled so quickly that less than half an inch was

accumulated in the rain gauge in Marstons Mills. A wind gust of 63 mph was recorded in Falmouth and reports of trees down and broken limbs was widespread. Black-eyed Susans are in full bloom, both annual and perennial species. Sweet pepperbush, *Clethra alnifolia*, is filling the air with fragrance. Dog day cicadas are singing in the trees.

Pests/Problems: Lack of rainfall for much of the growing season is the predominant problem for landscape plants that are not under irrigation. Marginal and tip browning is evident on the foliage of many trees and shrubs. Newly planted material is most at risk of failure to establish if sufficient water is not available. Encourage clients to water deeply twice a week for all new plantings. Sunflower moth caterpillars have been found in the cones of several *Echinacea* cultivars here on the Cape. Deborah Swanson has reported this in Plymouth County and lists most composite flowers as hosts. Please refer to the Southeast report below for more information on this relatively new pest. Ground nesting bees and wasps are active in areas of full sun and dry, sandy soils. Use caution when mowing in these areas. Japanese, Oriental, and Asiatic garden beetles are still active. Two spotted mites and leafhoppers are active on annuals, perennials, and roses. Monitor Austrian pines for red-headed pine sawfly larvae. Black Swallowwort is flowering and crabgrass is setting seed, as is red root pigweed. Pokeweed is blooming. Powdery mildew is quite active on *Phlox*, Lilac, and beebalm. Slime mold is showing up on bark mulc

Southeast Region (Hanson)

General Conditions: The past 2 weeks continued to feature hot, humid weather with temperatures mostly in the mid-high 80's, and some days, in the low nineties. Hanson received 0.80 inches of rain, most of which came from a thunderstorm on Aug. 4. Soils are dry. *Clerodendron trichotomum*, *Oxydendrum arboreum* (Sourwood Tree), *Albizia julibrissin*, *Campsis radicans*, *Aesculus parviflora*, *Clethra alnifolia*, *Rhus copallina*, *Hydrangea paniculata*, *Hydrangea macrophylla*, *Hydrangea quercifolia* (Oakleaf Hydrangea), *Hydrangea arborescens* (Smooth Hydrangea), *Caryopteris divaricata*, *Clematis*, roses, Rose-of-Sharon, *Echinops ritro* (Globe Thistle), *Rubus odoratus*, *Phlox paniculata* (Garden Phlox), *Echinacea* sp., *Asclepias tuberosa*, *Platycodon* sp., *Hosta*, *Corydalis lutea*, *Persicaria polymorpha*, *Lythrum salicaria*, *Liatris spicata*, *Lysimachia clethroides*, *Perovskia atriplicifolia*, daylilies, Shasta daisy, *Nepeta* sp., Joe-pye weed, *Heliopsis* 'Summer Sun', *Helianthus* sp., Hollyhocks, *Monarda didyma* (Beebalm), *Silphium* sp., *Veronicastrum*, Lavender, *Rudbeckia triloba*, *Rudbeckia fulgida*, *Rudbeckia* 'Herbstonne', Oriental and Asiatic lilies, *Coreopsis* sp., *Astrantia major* and *Campanula* sp. are in full bloom.

Pests/Problems: The high temperatures and lack of rain over the past few weeks have led to drought stress (shedding leaves, marginal leaf scorch) on some un-irrigated plants. Remind clients to monitor water stressed landscape plants during hot, dry weather, especially those plants defoliated by winter moth and/or gypsy moth caterpillars, and water, if possible. Some towns have enforced outside water restrictions.

Sunflower moth caterpillars (*Homoeosoma electellum*) continue to be a problem for many plants in the composite (Asteraceae) family. Monitor flowers of *Echinacea*, *Rudbeckia*, marigolds, *Helianthus*, *Bidens*, *Heliopsis*, and other plants in the family. Carefully dissect the centers (cones) of the flowers for the small caterpillars which feed in the disk flowers and eventually burrow down into the receptacle. The results of their feeding turn the cone into a brown mess of insect frass and dead tissue. For more information see:

<https://negrighthouseupdate.info/photos/sunflower-moth-caterpillar-0> and <http://entomology.k->

state.edu/extension/insect-information/crop-pests/sunflowers/sunflower-moth.html. Continue to monitor for Asian Longhorned Beetle (ALB), as peak emergence is usually in August. Check susceptible trees: maples, horsechestnut, elm, poplar, willow, etc. ALB beetles attack healthy trees. For more information: <http://ag.umass.edu/fact-sheets/asian-longhorned-beetle>. The following insects are active: Mosquitoes, deer ticks, dog ticks, Andromeda and azalea lacebugs; Japanese, Oriental and Asiatic garden beetles; deer flies, horseflies, four-lined plant bugs, black horseflies, aphids, spider mites, annual cicadas, snail, slugs, stinkbugs and leafhoppers. Continue monitoring for viburnum leaf beetle, redheaded pine sawfly and introduced pine sawfly and manage as needed. This hot, dry weather is conducive to ground nesting yellow jackets, as their nests do not get flooded out. Be on the lookout for these wasps before digging etc and also for nests, like the bald-faced hornet, in trees and shrubs before pruning. Powdery mildew is prevalent on a number of plants including helianthus, flowering dogwood *Phlox paniculata*, *Monarda didyma* etc. Giant tar spot is becoming more noticeable on Norway maples. This disease, while unsightly and which may cause premature leaf drop, does not usually warrant treatment. Goldenrod is starting to bloom and joins other weeds in flower like Queen-Anne's-Lace, *Linaria vulgaris* (Yellow toadflax), clover and fleabane.

North Shore Region (Beverly)

General Conditions: This reporting period was hot warm and humid with scattered storms on some days. Temperatures during this reporting period were in mid and high 80s during the day and mid 70s during the night. Temperatures of 90 degrees and above were recorded on a few days during this period. Long Hill gained 326 growing degree days (GDD) during the last two weeks, and approximately 1.59 inches of rainfall were received. Woody plants seen in bloom include: Japanese pagoda tree (*Sophora japonica*), Bottlebrush buckeye (*Aesculus parviflora*), Rose mallow (*Hibiscus moscheutos*), Beebee tree (*Tetradium daniellii*), Golden raintree (*Koelreuteria paniculata*), Sourwood (*Oxydendrum arboreum*), Silk tree or Mimosa (*Albizia julibrissin*), Smoke bush (*Cotinus coggygria*), Big Leaf dogwood (*Cornus macrophylla*), Oakleaf hydrangea (*Hydrangea quercifolia*), Butterfly bush (*Buddleia davidii*), Hypericum shrub (*Hypericum* spp.) and Rose-of-Sharon (*Hibiscus syriacus*), Mountain Stewartia (*Stewartia ovata*) and Beauty berry (*Callicarpa dichotoma*). Herbaceous plants seen in bloom include: Culver's root (*Veronicastrum virginicum*), Balloon flower (*Platycodon grandiflorus*), False anemone (*Anemonopsis macrophylla*), Cardinal flower (*Lobelia cardinalis*), Harlequin glorybower (*Clerodendrum trichotomum*), Fairy candles plant (*Actaea racemosa*), Turk's cap lily (*Lilium superbum*), Bee balm (*Monarda didyma*), Shasta daisy (*Leucanthemum x superbum*), Garden phlox (*Phlox paniculata*), hostas (*Hosta* spp.), sedums (*Sedum* spp.), Astilbe (*Astilbe* spp.), Summer flowering roses (*Rosa* sp.), Clematis vines (*Clematis paniculata*), Spiderwort (*Tradescantia* sp.), late blooming bellflower (*Campanula persicifolia*), Persicaria (*Persicaria polymorpha*), Heucheras (*Heuchera* sp.) and Water lily (*Nymphaea odorata*). Adding even more color in the landscapes were an assortment of annuals.

Pests/Problems: Lily leaf beetles (*Lilioceris lili*) were observed causing damage on turk's lilies. Also observed were Japanese beetles (*Popillia japonica*) causing damage on some plants and Viburnum leaf beetle damage on american cranberrybush viburnum. Diseases observed include cedar quince rust (*Gymnosporangium clavipes*) on hawthorn, Cedar apple rust (*Gymnosporangium juniperi-virginianae*) or crabapples. Also observed was Powdery mildew (*Microsphaera alni*). Weeds are thriving and many are in bloom. Remember that ticks are still active.

East Region (Boston)

General Conditions: Overall for the month of July, we hit 90° F on 3 occasions with high temperatures averaging 83.3° F and low temperatures averaging 63.6° F; we received 2.5 inches of rain over nine rain events, of which 2.39 inches fell on three separate days. Over the last two weeks, high temperatures averaged 85.7° F but this last week was quite hot, we reached highs in the 90's on three occasions, peaking at 94° F on July 29. High temperatures over the last week averaged 90° F! Since the last message, low temperatures have been quite enjoyable ranging from the high 50's to low 70's, providing much relief from the daily heat. We received five rainfall events, totaling 0.62 inches, most of which fell on August 4th. The storm that plowed through the area in the afternoon of the 4th brought dark clouds, lightning, extremely loud thunderclaps, heavy downpours and hail, ranging from ½" to golf ball sized, dropping 0.40 inches of rain within 30 minutes. Despite high winds during the storm, the arboretum collections suffered no damage. The day before however, on August 3rd, as hot and humid conditions persisted, we lost a number of very large limbs on black cherry, beech, liquidambar and oak trees. We gained 348.5 GDDs since the last message bringing us up to 1742.0 on the year. Several trees and shrubs are flowering including: *Albizia julibrissin* (pink silk tree), *Clerodendrum trichotomum* (harlequin glorybower), *Clethra alnifolia* (sweet pepperbush) and *Styphnolobium japonicum* (Japanese pagoda tree). Color in the landscape is dominated by many herbaceous plants: *Eutrochium purpureum* (Joe-Pye weed), *Helianthus tuberosus* (Jerusalem artichoke), *Lobelia siphilitica* (great blue lobelia), *Solidago* sp. (goldenrod), and *Tanacetum vulgare* (tansy). Swallowtail butterflies are abundant throughout the landscape.

Pests/Problems: Lack of precipitation has been the predominant problem, even weeds were flagging in the landscape. Supplemental irrigation is well underway as all recent plantings as well as mature collections are being watered. Powdery mildew has been prevalent on a wide range of susceptible plants. Viburnum leaf beetle adults are active on susceptible viburnum. Many noxious weeds are producing seed including bittersweet nightshade (*Solanum dulcamara*), black swallowwort (*Cynanchum louiseae*), enchanter's-nightshade (*Circaea lutetiana*), greater burdock (*Arctium lappa*), lesser burdock (*Arctium minus*), and yellow nutsedge (*Cyperus esculentus*). Despite past success with loosestrife eating beetles, purple loosestrife is prolifically flowering in the meadow amidst low beetle counts.

Metro West (Acton)

General Conditions: The Metro West area gained 303 GDD during this two-week recording period and received 0.91" of rain. Tornado warnings were issued for the Acton area on the 4th and fortunately there was not a touchdown but there were strong winds that brought down trees and lots limbs, causing road closures and detours but brought little much needed rain. The average rainfall for the month of July is 4.07" and this year just less than half that amount, 2.02" of rain, was 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*), *Hydrangea paniculata* and its many cultivars including 'Tardiva', *Hibiscus syriacus* (Rose-of-Sharon), *Oxydendron arboreum* (Sourwood), *Potentilla fruticosa* (Potentilla), *Rosa rugosa* (Rugosa Rose), *R.* 'Knockout' (The Knockout family of Roses), and *Spirea japonica* 'Alpina' (Daphne Spirea). 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), *Echinops ritro* (Globe Thistle), *Eupatorium purpureum* (Joe-Pye Weed), *Hemerocallis* 'Stella D'Oro' (Daylily), *H. fulva* (Orange Daylily), *H. spp.* (Daylily), *Heuchera* spp. (Coral Bells), *Hosta* spp. (Plantain Lily), *Lavendula angustifolia* (Lavender), *Leucanthemum* sp. (Shasta Daisy), *Liatris spicata* (Spike Gayfeather), *Lilium* spp. (Lily), *Limonium latifolium* (Sea Lavender), *Lysimachia cletheroides* (Gooseneck Loosestrife), *Macleaya microcarpa* (Plume Poppy), *Monarda didyma* (Bee-Balm), *Oenothera macrocarpa* (Ozark Sundrops), *Patrinia gibbosa* (Patrinia), *Perovskia atriplicifolia* (Russian Sage), *Phlox carolina* (Carolina Phlox), *C. paniculata* (Phlox) and its many cultivars, *Physostegia virginiana* (obedient Plant), *Rudbeckia fulgida* 'Goldsturm' (Black-Eyed Susan), *Solidago* spp. (Goldenrod), and *Tradescantia* sp. (Spiderwort).

Pests/Problems: Lack of substantial rainfall is a problem. Supplemental irrigation may be required. Powdery mildew is evident on *Monarda* (Bee Balm), *Phlox* and *Syringa* (Lilac). One of our most aggressive weeds, *Cynachum nigrum* (Black Swallowwort) is setting seed. Already setting seed and quite visible is *Ailanthus altissima* (Tree of Heaven). Look for it growing along roadsides and in medians. Emergence season is upon us for the Asian Longhorned beetle so continue to check your trees for oviposition sites, frass, exit holes and the beetle. Most importantly, begin to scout for the Asian Longhorned beetle! Monitor the 13 host genera: *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 this invasive pest.

Central Region (Boylston)

General Conditions: Classic summer weather dominated for this reporting period - hot, humid days were enlivened by periodic thunderstorms. Though the region gained 1.82" of rain much of it fell rapidly during fast moving thunderstorms and failed to penetrate. Among the plants currently in bloom are Summersweet (*Clethra alnifolia*), Pee-Gee Hydrangea (*H. paniculata* 'Grandiflora'), Rose of Sharon (*Hibiscus syriacus*), Sourwood (*Oxydendrum arboreum*), Black-eyed Susan (*Rudbeckia* cultivars), *Actaea racemosa*, *Geranium* 'Rozanne', *Geranium psilostemon*, *Persicaria* 'Golden Arrow', Heather (*Calluna vulgaris* cultivars), Daylilies (*Hemerocallis* cultivars), *Indigofera amblyantha*, *Persicaria polymorpha*, Cup Plant (*Silphium perfoliatum*), *Cassia hebecarpa*, and Winecups (*Callirhoe involucrata*).

Pests/Problems: Tomato Hornworms are beginning to feed, Japanese and Asiatic Beetles continue to be a problem, Powdery Mildew is appearing on Phlox and other susceptible plants. Lack of soaking rains has caused areas of drought in both turf and beds and borders.

Pioneer Valley Region (Amherst)

General Conditions: Once again, rainfall has been hit-or-miss this reporting period. Numerous, fast-moving thunderstorms have passed through the valley as we transitioned from late July into early August. According to the Northeast Regional Climate Center (<http://www.nrcc.cornell.edu/>), precipitation during the month of July was average for most of the valley. Eastern portions of Franklin and Hampden Counties were

a bit drier. Regionally, the NRCC graphic illustrates the patchy distribution of rain, with some portions of southern New England receiving well below-average rainfall in July. Hot, humid weather has dominated the local conditions with high temperatures in the upper 80s to low 90s and dew points reaching very uncomfortable levels. Thick fog has blanketed the Connecticut River on several mornings and afternoon haze has been common and especially noticeable when viewing the Holyoke Range. The hail storms that pummeled eastern Mass on Tuesday, 8/4 did only minor damage to the valley. Hail was observed in Amherst, but the pea-sized stones did not cause noticeable damage to trees and shrubs. Scattered reports of downed trees were reported but there were no injuries. August is typically one of the driest months of the year. When coupled with high heat and humidity, drought stress can be a major concern, especially since it is one of the main predisposing stresses of landscape trees. Supplemental watering should be taking place for shallow-rooted trees and recently transplanted material that could be sensitive to drought stress.

Pests/Problems: Needle blight of white pine continues to be a major issue for the northeast and mid-Atlantic. Numerous fungal pathogens have been associated with white pine needlecast and new fungi are consistently emerging at diagnostic labs, although what role they have in the disease is not always clear since many are poorly studied. Tip browning on current season's needles is particularly worrisome but the cause is not yet known. Drought stress is suspected of contributing, due to the dry spring. But, in the Pioneer Valley, soil moisture was good until the last 1/3 of May and June was very wet. Additionally, because of the cool conditions during the spring, needle elongation was delayed by one to two weeks. In some cases, landscape trees are stressed by a lack of light, often due to improper spacing. While mid-tolerant of shade as a sapling, white pine requires full sun to thrive. Now is the time to inspect birches for D-shaped exit holes caused by bronze birch borer and dogwoods for holes and frass from the dogwood borer. On hard pines, scout for the orange-colored crawlers of the pine needle scale and the ominous larval masses of the red-headed pine sawfly feeding on terminal needles. Oak spider mites have been actively feeding on landscape trees, producing the distinctive flecking symptom on infested foliage. Because of the dry May conditions, spruce spider mite got an early head start on the season and has been very damaging. Older needles on trees like Norway spruce can appear pale green to yellow from the heavy infestations. Blighted shoots are common on many trees and shrubs and *Phomopsis* or *Botryosphaeria* are often the causal agents. Late season leaf spots and foliar blights are widespread (e.g. Tubakia leaf spot on oaks). Mosquitoes carrying the West Nile virus continue to be found within the southern New England region. Protection against these pests should be a priority, especially in the early morning and late evening hours. Japanese and, to a lesser degree, Oriental beetles continue their assault on roses, oaks, birches and many other plants on the landscape. Daily hand-picking of beetles is an effective way of reducing damage to high-value trees and shrubs. While the task is tedious, the process is cathartic. Evening is the best time, when cooler temperatures significantly slow the beetles. At midday in the heat of the sun, many will quickly drop off and disperse before they can be caught.

Berkshire Region (Great Barrington)

General Conditions: So-called "pop up" thunderstorms are regular occurrences of late. These storms suddenly appear as parts of weather fronts. They are typically brief, torrential, fast moving, very localized storms, and sometimes accompanied by hail. Such was the case in the very southern part of Berkshire

County on Tuesday, August 4. The combination of heavy rain, ¼ to ½ inch hail, and strong wind gusts brought down tree limbs, twigs, and many leaves. Not surprisingly, the hail caused some shredding of wide-leaved plants such as hosta and put holes in leaves of many other plants. Due to periodic rainfall, soil moisture levels are moderate to high. Except for newly planted turfgrass and ornamental plants, irrigation has not been necessary. Typical mid-summer perennials are putting on a colorful show as are summer-blooming shrubs, especially *Hydrangea paniculata* and *Hibiscus syriacus*. Ragweed is about to begin bloom but the key pollen producers (and allergy producers) are grasses.

Pests/Problems: Japanese beetles are getting most of the attention at this time but their numbers have dwindled somewhat in the past week. Among the active plant pests observed are: oak leaf lacebug (all stages), lacebug on *Aronia*, aphids, two-spotted spider mite, Asiatic garden beetle, and lily leaf beetle (adult). As is usual, foliar diseases, mostly leaf spots, are becoming increasingly apparent as summer progresses. One leaf spot which might be confused as a fungal disease is tulip leaf spot gall. A similar gall appears on red maple and both resemble eye spots. The causal organism in each case is a midge. Powdery mildew is rapidly developing on lilacs, susceptible phlox cultivars, and *Monarda*. The cedar apple rust stage infecting foliage of crabapples is now producing spores, called aeciospores, which are released into the air and infect junipers. Canker caused dieback was found on *Rhus typhina* "Bailtiger". Chlorosis is a common feature on many plants as this time of year. In some cases, this is due to nitrogen deficiencies. Ericaceous species planted near foundations or in high pH soils often have yellowing foliage but with dark veins. This is a typical symptom of iron deficiency related to the high pH which ties up iron in the soil making unavailable for uptake by the plants. The soil can be made more acid by the addition of sulfur, aluminum sulfate, iron sulfate, or iron chelates.

Environmental Data

The following growing-degree-day (GDD) and precipitation data was collected for an approximately two week period, July 23 through August 6. Soil temperature and phenological indicators were observed on or about August 6. Total accumulated GDDs represent the heating units above a 50° F baseline temperature collected via our instruments for the 2015 calendar year. This information is intended for use as a guide for monitoring the developmental stages of pests in your location and planning management strategies accordingly.

Region/Location	GDD (2-Week Gain)	GDD (Total 2015 Accumulation)	Soil Temp (°F at 4" depth)	Precipitation (2-Week Gain in inches)
Cape Cod	381	1584	75	0.55
Southeast	177	1,457	84	0.80
North Shore	326	1560	70	1.59
East	348.5	1742	77	0.62

Metro West	303	1589.5	79	0.91
Central	276	1598	68	1.82
Pioneer Valley	332	1800	72	0.92
Berkshires	262	1430	71	2.08
AVERAGE	381	1584	75	0.55
n/a = information not available				

Phenology

Phenological indicators are a visual tool for correlating plant development with pest development. The following are indicator plants and the stages of bloom observed for this period:

Indicator Plants - Stages of Flowering (BEGIN, BEGIN/FULL, FULL, FULL/END, END)									
PLANT NAME (Botanic/ Common)	CAPE	S.E.	N.S.	EAST	METRO W.	CENT.	P.V.	BERK.	
<i>Sophora japonica</i> (Japanese Pagodatree)	*	*	full	full	begin	*	full	begin	
<i>Vitex agnus-castus</i> (Chastetree)	full	*	*	*	*	*	*	*	
<i>Polygonum cuspidatum</i> (Japanese Knotweed)	begin	*	*	*	begin	begin	*	*	
<i>Buddleia davidii</i> (Butterfly Bush)	full	full	full	full	full	full	full	full	
<i>Clethra alnifolia</i> (Summersweet Clethra)	begin	full	full	full	begin/ full	full	full	begin/ full	
<i>Hibiscus syriacus</i> (Rose-of-Sharon)	full	full	full	full	full	full	full	full	
<i>Oxydendrum arboreum</i> (Sourwood)	full	full	full	full/end	full	full	full	*	
<i>Campsis radicans</i> (Trumpet Vine)	full	full	full	full	full	full	full/end	full	
<i>Koelreuteria paniculata</i> (Goldenrain Tree)	full	end	full/end	*	end	*	end	*	
* = 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

Recent woody ornamental problems of interest seen in the [UMass Extension Plant Diagnostic Laboratory](#):

Shoot and needle blight of Leyland cypress (\times *Cupressocyparis leylandii*) caused by winter injury (suspected), *Kabatina* and *Pestalotiopsis*. 17 trees in a border screen, less than 10-years-old and planted four years ago. Moderate to severe needle browning was observed this spring, mostly on lower canopy and interior branches. Trees reside in full sun with drip irrigation in rocky soils. While widely planted in southeast Mass. and the islands, Leyland cypress is rated as hardy only to zone 5 (or in some cases zone 6). This makes the plant semi-hardy in our region and many have experienced winter injury as a result of the past two winters. *Kabatina* and *Pestalotiopsis* are common and sometimes destructive pathogens on Leyland cypress, arborvitae, cedars and juniper in the region.

Dutch elm disease, caused by *Ophiostoma novo-ulmi*, on Wych elm (*Ulmus glabra*). Tree is 15-years-old and has been present at the site for 10 years. Arboretum setting with full sun and seasonally wet soils. Elm leaf miner and leaf beetles have been an issue in the past. Foliage was observed yellowing and browning earlier this growing season.

Dothistroma needle blight, caused by *Dothistroma septosporum* (syn. *Mycosphaerella pini*) on eastern white pine (*Pinus strobus*). Several trees, believed to be >50-years-old, with browning needles and thin canopies. Some of the trees are within a yard setting while others reside along a forest border.

Brown needle spot, caused by *Mycosphaerella dearnessii*, on eastern white pine (*P. strobus*). Several trees near a home in a rural forested setting, approximately 20- to 30-years-old. Trees were planted too close together and have poor live crown ratios. Additionally, a large infestation of spittlebugs was recently observed. Canopies are sparse with considerable needle browning and premature shedding. Homeowner is considering removing some of the weakest trees to allow the remainders to receive more sunlight and better airflow.

Needle blight caused by *Stagonospora* (secondary pathogen?) and *Dothistroma* on eastern white pine (*P. strobus*). Row of 25- to 30-year-old pines, planted adjacent to a row of hemlocks for

privacy screen. A lack of light on the hemlock side has resulted in branch dieback, while side with full sun was trimmed last year. Trees in the middle of the row have experienced needle browning and premature shedding, noticed earlier this year. Little is known about *Stagonospora* and its ability to cause disease. It may behave as a secondary colonizer of weakened and killed needles.

Stem cankering caused by *Botryosphaeria* on American holly (*Ilex opaca*). 15 plants, roughly three-years-old, planted in autumn of 2014. Appeared healthy this spring with a good flush of new growth and as the season progressed they declined. A few of the plants are now dead. *Botryosphaeria* is very common on *Ilex* and likely took advantage of the establishment stress/transplant shock these shrubs are experiencing.

Dogwood anthracnose, caused by *Discula destructiva*, on kousa dogwood (*Cornus kousa*). Stem cankering and angular foliar lesions were observed on the submitted sample. After a brief incubation, the pathogen sporulated from cankers on the shoots. Tree is approximately 15-years-old and was transplanted less than three years ago with a tree spade. No supplemental water has been provided. Tip dieback from cold injury has been common on kousa dogwoods this season. Therefore, it's possible the pathogen gained entry via injured shoot tips and was able to cause disease on a host weakened by transplant shock. While highly resistant, kousa dogwood is not immune to dogwood anthracnose.

Marginal browning and a complete foliar blight, caused by *Pestalotiopsis*, *Phyllosticta* and *Pseudocercospora* on rosebay rhododendron (*Rhododendron maximum*). Plant is approximately 25-years-old and has been present at site for 15 years. Symptoms first appeared in 2013 and begin as a marginal leaf browning. Over time, the entire leaf is consumed and prematurely shed. While uncommon to see all three of these pathogens together, individually they are regular pathogens of rhododendron. The symptoms were not consistent with infection by *Phytophthora* and tests for this pathogen were negative.

Clematis wilt caused by *Phoma clematidina*. Considered the most serious disease of ornamental clematis, the pathogen causes leaf spots, foliar collapse and an entire wilt of the plant. In this case, wilted leaves and blackening shoots were first observed at the base of the plant and progressed upward. *Phoma* is known to overwinter in diseased material and reports of its ability to survive in soil exist.

Birch anthracnose, caused by *Discula betulina*, on paper birch (*Betula papyrifera*). Tree is approximately 10- to 15-years-old, present at the site four years. It resides in an overplanted privacy berm. Roughly 1/3 of the canopy is yellowing, starting on interior sections and progressing out to the branch tips. Over time, leaves brown and are shed. Sapsucker damage is also evident on the tree. Numerous fungal pathogens can be responsible for birch anthracnose which is generally not a severe disease.

Elm leaf spot caused by *Phloeospora ulmi* and stem cankering caused by *Phomopsis* on camperdown elm (*Ulmus glabra* 'Camperdownii'). Tree is approximately 90- to 100-years-old and has been present at current site for over 80 years. Symptoms developed only recently and included yellowing leaves and branch dieback. No vascular staining was observed and DED is not suspected. Elm leaf spot is a late season disease and appears to be more common on camperdown elm than other species or cultivars of elm, perhaps because of its compact canopy close to the ground where humidity is higher and moisture persists (or the fact that we cannot see leaves 80-100' off the ground). Symptoms of the disease

(pictured below) include yellowing foliage with brown, angular spots on the surface and white masses of spores on the underside of the foliage that may resemble cottony masses of aphids/scales/adelgids.



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 Management Practices

High Summer and Moisture Stress

We have reached that tentative point of the season where the finish line is in coming in to view, but the race is not quite over yet. As covered many times in this space, summer typically provides the most difficult environmental test for our favored cool-season grasses. The months of July and August historically have the lowest precipitation rates on average when compared across the calendar. Couple this with frequent hot and breezy conditions that intensify moisture loss to the atmosphere via evapotranspiration (ET), and you have the perfect recipe for turf (and turf manager) stress.

Where rainfall amounts and evaporative demand are concerned, this season has not brought extraordinary challenges, but some locations are nevertheless dry. In Massachusetts the pattern seems to be drier to the east, with gradual improvement east to west, and some fortunate pockets that have received inordinate benefit from frequent scattered storms. The biggest aberration this year came about shortly following snow melt in the spring, when [April and May set up alarmingly dry](#) until relief arrived in June, just in time to provide a boost before the arrival of summer. Remember that the primary period for cool-season turfgrass root development occurs in the spring. If any drought related issues at this time seem more pronounced than they should be, less than stellar root growth this spring could be the main culprit, and these problems are likely to continue over the next few weeks if the rainfall pattern does not pick up before temperatures moderate.

The collective means by which plants cope with moisture stress is often termed drought resistance. At the outset it is helpful to understand that within drought resistance there are two principal, distinct components:

Drought avoidance mechanisms promote the maintenance of a water supply sufficient to prevent plant tissue injury, despite supply limitations. In other words, attempting to defer the effects of drought entirely. Centers on factors such as water absorption (rooting), and water loss (ET).

Drought tolerance mechanisms promote the continuation of crucial biological processes, despite a water supply inadequate for normal functioning and likely tissue injury. In other words, attempting to endure the effects once drought sets in. Includes physiological responses such as increasing solute concentration to help conserve water within plant tissues.

A wide range of plant species use these mechanisms to varying degrees in response to reduced moisture levels. Avoidance mechanisms are most active during short-term water deficits, such as between irrigation events. Avoidance is a more important aspect for most turf managers, because avoidance supports the prevention of turgor loss and any associated tissue injury and performance reductions that follow. Maintenance of turf appearance and function is vital in systems for which performance is a primary consideration, such as golf and sports surfaces and high-value ornamental lawns.

Tolerance mechanisms are more about outright survival as opposed to performance preservation, thus tolerance becomes increasingly important as the duration and severity of drought progresses. A good understanding of tolerance mechanisms is especially useful for the management of lower maintenance systems such as roadsides, parks or cemeteries which are not irrigated and for which drought dormancy is commonly allowed in the summer.

The sensitivity and effectiveness of either avoidance or tolerance mechanisms can vary considerably based on many factors including turfgrass species and cultivars present, management practices, specific environmental conditions, etc. We definitely don't have much control over temperatures or precipitation rates, but we can influence the drought resistance of a turf stand with approaches such as careful turfgrass selection and focused management. For example, turfgrass species and cultivars with propensity for deep and extensive root systems or leaf morphology that reduces ET loss will be better 'avoiders', while those with notable tendency for osmotic adjustment or synthesis of protective proteins will be better 'tolerators'. Management practices that promote greater rooting and lower ET (regular mowing at an appropriate height, judicious fertility, etc) will encourage avoidance capability. Research has shown that deep, infrequent irrigation that allows for mild moisture stress between irrigation events enhances both rooting and the capacity for osmotic adjustment, leading to better drought resistance overall.

Summer moisture stress is a troublesome annual reality in the cool-season environment. Careful turfgrass selection and goal-oriented management with a mind to drought resistance, however, can promote water conservation, help in the maintenance of a desirable level of turf function and appearance, and enable better persistence of turf cover from season to season.

For more information on drought resistance, refer to our [Turf Irrigation and Water Conservation](#) fact sheet.

Planting time is right around the corner! For more information on selection of turfgrass species and cultivars for Massachusetts, including traits such as drought resistance, refer to the [Turfgrass Selection: Species and Cultivars](#) chapter of our [Professional Guide for IPM in Turf](#).

Report by Jason Lanier, Extension Educator, UMass Extension Agriculture & Landscape Program, UMass Amherst.

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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