

Agriculture & Landscape Program

Landscape,
Nursery &
Urban
Forestry
Program

UMass Extension Landscape Message #16 - 2005

June 17, 2005

Scouting Information by Region

Environmental Data

The following growing degree day (GDD) and precipitation data was collected for the one-week period from June 8 through June 15, 2005. Soil temperature and phenological indicators were observed on June 15, 2005. Accumulated GDDs represent the heating units above the 50° F baseline temperature collected via our instruments since the beginning of the current growing season. 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	2005 GROWING DEGREE DAYS		Soil Temp (°F at 4" depth)	Precipitation (1-Week Gain)
	1-Week Gain	Total accumulation for 2005		
Cape Cod	142	400	60°	0.25"
Southeast	156	490	65°	0.30"
East	146	475	58°	trace
Central	150	453	55°	1.13"
Pioneer Valley	174	588	65°	1.69 "
Berkshires	153	524	74°	no rain
n/a = no data available				

The statewide GDD averages for this period are as follows: Total = **488**; GDD/week = **154**; GDD/day = **22**

Regional Notes

Cape Cod Region (Barnstable) - General conditions: Hot and humid weather was the norm until a cold front swept through on Tuesday, the 14th, and temperatures plummeted back to April levels. Unfortunately, no precipitation accompanied the cold front and soils are rapidly drying out. Rhododendrons look particularly fine this year. **Pests/Problems:** Winter moth caterpillars are pretty much gone. Fall cankerworms are still feeding in the Dennis area. Forest tent caterpillars are leaving the trees in search of pupation sites. The onslaught of caterpillars appears to be winding down for this year. Defoliated trees are beginning to put out some new growth. The most important action to take to help defoliated trees is to water them if we have no rain. Rose slug sawfly, Asiatic garden beetle, lily leaf beetle adults and larvae, tortoise beetles, aphids, and spittlebugs on pine and on herbaceous plants are all present. The white, cottony egg masses of the cottony taxus scale can be found on taxus and holly. Earwigs are active at night, eating holes in many annuals, perennials and vegetable seedlings. Slugs and snails are numerous. Apple scab, black spot of rose, leaf spot on dogwood, anthracnose on sycamore and oak are all active at this time. Red thread is rampant in turf. Mosquitoes are vicious.

Southeast Region (Hanson) - General Conditions: Warm, humid weather for the past reporting period gave way to cool temperatures on Tuesday afternoon (June 14) and 52 degrees F. on Wednesday. Hanson received 0.3 inches of rain from one brief, isolated downpour on the 14th and unirrigated soils are very dry. With no rain, a good deep soaking over the root zone, once a week, is warranted. Tuliptree, doublefile viburnum and other viburnums, beautybush, Rutgers hybrid dogwoods, *Chionanthus virginicus*, *C. retusus*, *Physocarpus*, kousa dogwood, Miss Kim Lilac, *Corydalis lutea*, *Dicentra eximia*, peonies, *Campanula*, *Baptisia* sp. columbine, *Geranium* sp., Siberian iris, early daylilies, *Pulmonaria*, *Phlox subulata*, *Trillium*, *Vinca minor* and ajuga are in full bloom. *Wisteria*, *Phlox stolonifera*, bearded iris, Solomon's seal, *Lunaria*, Euphorbia sp.

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Phlox divaricata, *Dicentra spectabilis*, *Primula*, and *Polemonium* are past bloom. **Pests/Problems:** Winter moth caterpillars pupated and are finished for the year. A few forest tent caterpillars are still feeding but many have begun to pupate. The mustard sawfly or the pale mustard sawfly caterpillars are feeding on witch hazel 'Arnold Promise.' Large black, winged reproductives of carpenter ants, aphids, cottony camellia scale on Taxus, carpenter bees, lily leaf beetle (eggs, larvae, adults), gypsy moth caterpillar, mosquitoes, ticks, Asiatic garden beetles, European chafer beetles, June beetles, and ladybugs are all active. Clover is in full bloom. Plymouth County Extension does not spray for mosquitoes. The number to call for Plymouth County residents is 781-585-5450.

East Region (Boston) - General Conditions: Hot and humid followed by cool and cloudy.

Central Region (Boylston) - General Conditions: No report.

Pioneer Valley Region (Amherst) - General Conditions: The week was generally sultry with clouds or hazy sunshine. Gardens, turf and woody ornamentals continue to look lush and green. There were scattered areas with downpours on several days in the Valley. Soil moisture is adequate where there was rainfall but is dry where little rain fell.

Berkshire Region (Great Barrington) - General Conditions: Very dry conditions exist. Lawns are beginning to brown as turfgrass goes dormant. On sites without irrigation, shrubs and herbaceous perennials have been seen to wilt during the heat of the day. **Pests/Problems:** New pests observed this past week include roseslug feeding on foliage of roses and boxwood psyllids, now visible as cottony covered nymphs at the shoot tips of boxwood. Population of two-spotted spider mite on conifers is increasing but so is the population of predatory mites. Crawlers of pine needle scale have settled. Leaf spot diseases are prominent on a wide variety of plant material.

Phenology

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

Indicator Plants - Stages of Flowering (begin, b/full, full, f/end, end)						
PLANT NAME (Botanic/Common)	CAPE	SOUTH EAST	EAST	CENT.	P.V.	BERK.
<i>Hydrangea macrophylla</i> (bigleaf hydrangea)	*	*	*	*	begin	*
<i>Catalpa speciosa</i> (northern catalpa)	*	*	full	*	b/full	*
<i>Cornus sericea</i> (redosier dogwood)	*	*	begin	*	*	*
<i>Cornus racemosa</i> (gray dogwood)	*	*	begin	*	*	*
<i>Syringa reticulata</i> (Japanese tree lilac)	begin	b/full	*	begin	full	*
<i>Rosa multiflora</i> (multiflora rose)	begin	full	b/full	full	full	b/full
<i>Cladrastis lutea</i> (yellowwood)	begin	*	full	*	*	*
<i>Kalmia latifolia</i> (mountain laurel)	*	full	full	full	full	b/full
<i>Philadelphus</i> spp. (mock orange)	*	full	begin	full	*	full
<i>Cornus kousa</i> (kousa dogwood) bracts	b/full	full	full	full	full	full
<i>Kolkwitzia amabilis</i> (beautybush)	b/full	full	f/end	full	*	full
<i>Chionanthus virginicus</i> (fringe tree)	full	full	*	full	*	full
<i>Wiegela florida</i> (weigela)	f/end	full	f/end	full	full	full
<i>Deutzia</i> spp. (deutzia species)	full	full	*	f/end	*	full
<i>V. plicatum tomentosum</i> (doublefile viburnum)	full	full	end	end	end	full
<i>Crataegus</i> spp. (hawthorn)	f/end	*	*	begin	f/end	*
<i>R. catawbiense</i> (Catawba rhododendron)	full	f/end	end	end	f/end	full
<i>Robinia pseudoacacia</i> (black locust)	b/full	full	full	*	f/end	f/end
<i>Spiraea x vanhouttei</i> (Vanhoutte spirea)	f/end	end	end	end	end	f/end
<i>Leucothoe</i> spp. (leucothoe, fetterbrush)	f/end	full	*	end	end	*
<i>Syringa meyeri</i> (Meyer lilac)	full	full	*	end	end	*
<i>Cotoneaster</i> spp. (cotoneaster species)	f/end	end	*	*	*	end
<i>Elaeagnus umbellata</i> (autumn-olive)	full	end	end	*	*	*
<i>Prunus serotina</i> (black cherry)	f/end	end	full	*	*	end
<i>E. campanulatus</i> (redvein enkianthus)	full	end	*	end	end	end

<i>Aesculus hippocastanum</i> (horsechestnut)	f/end	end	end	f/end	*	end
<i>Cytisus scoparius</i> (Scotch broom)	end	end	end	*	*	*
* = no activity to report/information not available						

- CAPE COD REGION - Roberta Clark, Horticulturist for Barnstable County, Barnstable.
- SOUTHEAST REGION - Deborah Swanson, Horticulturist for UMass Extension in Plymouth County, Hanson.
- EAST REGION - James R. Allen, Horticulturist and Greenhouse Manager for UMass Biology Department, Boston.
- CENTRAL REGION - Joann Vieira, Superintendent of Horticulture, Tower Hill Botanic Garden, Boylston.
- PIONEER VALLEY - Dan Gillman, Plant Pathologist, Urban Forestry Diagnostic Lab, UMass, Amherst.
- BERKSHIRES - Ron Kujawski, Specialist, UMass Extension Landscape, Nursery & Urban Forestry Program, Amherst.

Woody Ornamentals

Insects

The atypical hot weather for the past week has accelerated insect activity and development.

Lepidopteran caterpillars:

- **Gypsy Moth** - This pest is active in larger numbers than it has been for a few years. However, the now, naturally occurring fungus--*Entomophaga maimaiga*--should be very prevalent this year due to the wet conditions. It is expected to have a significant role in reducing gypsy moth numbers once again. If treatments are deemed necessary, a product containing spinosad (e.g. Conserve SC™) **or** tebuzeozide (e.g., Confirm™, an insect growth regulator (IGR) **or** one of the registered pyrethroid insecticides should work well. Even though gypsy moth is noticeable throughout the state, it is at much higher levels in the Boxborough area and down through much of southeastern Massachusetts. Statewide, gypsy moth is now too large to be effectively controlled with *B.t.k.*
- **Winter Moth** - This pest is now virtually finished feeding for this year. A few isolated pockets of caterpillars remain but they will be disappearing soon. Controls are no longer warranted.
- **Forest Tent Caterpillar (FTC)** - This caterpillar is quickly approaching full-size and will begin pupation very soon. However, at this size, each caterpillar is capable of consuming much foliage per day. As noted earlier, FTC is starting to be affected by naturally-occurring pathogens in some areas. If treatments are deemed necessary, a product containing spinosad (e.g. Conserve SC™) **or** tebuzeozide (e.g., Confirm™, an insect growth regulator (IGR) **or** one of the registered pyrethroid insecticides should work well.
- **Eastern Tent Caterpillar** - This caterpillar is now almost through feeding for the year throughout the state. The unsightly webs will remain for some time but previously healthy trees should re-leaf soon.
- **Fall Cankerworm** - This native pest is still present in high numbers, especially in eastern Massachusetts. Parts of Plymouth county and Cape Cod have very high numbers of this insect right now. It can be found primarily on oaks but it has a rather wide deciduous host range. Now that winter moth is disappearing from the scene, this insect is becoming more noticeable. Treat with a *B. t. k.* product **or** spinosad **or** tebuzeozide **or** with one of the registered pyrethroid insecticides.
- **Fruitworms** - These caterpillars have five pairs of prolegs and are green. They are free-feeders and have been increasing in numbers over the past 2-3 years. Oaks, maples and many other deciduous hosts are attacked. They are currently still quite small but will increase in size dramatically within the next few weeks. Treat the same way as the other Lepidoptera.
- **Euonymus Caterpillar** - This pest can be found on a number of different deciduous euonymus species. It is a pale yellow caterpillar with black spots that makes much silk on the host plant. In large numbers, it can be a serious defoliator. This caterpillar has mostly finished feeding for this year. Treat the same way as the other lepidopteran caterpillars.

Hymenopteran Caterpillars (Sawflies):

- **European Pine Sawfly** - This voracious caterpillar is now quite large and injury is very apparent. Treat with a spinosad product **or** with one of the registered pyrethroid insecticides. This pest is almost finished feeding for this year. However, at this stage, it can cause large amounts of defoliation within days if not treated.
- **Azalea Sawfly** is now active on deciduous azaleas, such as 'Exbury' and 'Mollis' varieties. This pale green caterpillar is virtually the same color as the foliage of its host and feeds along the leaf margins, making it very hard to see despite it being in plain sight. Monitor for foliage that has nothing remaining but the main vein of the leaf. Look very closely for this cryptic caterpillar. They are capable of defoliating individual plants within a few weeks. Treat with a spinosad product **or** with one of the registered pyrethroid insecticides. Younger larvae can be treated with an insecticidal soap spray. This pest may be finished feeding in all regions of the state except for the coolest areas, such as Cape Cod.
- **Birch sawfly caterpillars** are active. They can be easily observed lined up along the leaf margins. They will feed down to the mid-rib of the foliage. When disturbed, they will writhe in a defensive posture. Treat with a spinosad product **or** with one of the registered pyrethroid insecticides. Younger larvae can be treated with an insecticidal soap spray.

Beetles:

- **Viburnum Leaf Beetle** - Inspect all viburnum plants (those that are established in the landscape and

nursery, as well as those which are newly arriving) for the presence of this unwanted pest. The indicators of its presence at this time of the year will be bare twigs that have a 'sandpaper' texture, a sign of the overwintering eggs. Larvae are active now and foliage is starting to display holes from feeding. Report any new findings in MA to Robert Childs, rchilds@psis.umass.edu, 413-545-1053.

- **Lily Leaf Beetle** - The bright red adults are now actively mating and the females have been laying eggs. In all areas of the state, eggs are hatching and tiny larvae are feeding. Inspect foliage for notching (adult feeding) and for 'window-paning' effects that are initially caused by the larvae feeding from the leaf undersides. The eggs are laid in irregular lines, about one inch long, on the leaf undersides. Initially, the eggs are tan in color but soon darken and turn a deep red prior to hatching. This is a pest of all true lilies (not daylilies), fritillaria, Solomon's-seal and others. It is a devastating pest to true lilies. Neem-based products, when applied every 10-14 days, can be effective against the larvae when they begin to appear. Other than that, certain pyrethroid insecticides may be necessary.
- **European chafer** adult beetles are active. These are night feeders but are often attracted to outdoor lighting. Adult beetles will congregate on trees and shrubs for mating but in the process may cause heavy feeding injury to foliage. The appearance of ragged notches on the foliage margins could be from this pest. Inspect at night with a light and treat with a pyrethroid insecticide if necessary.
- **Asiatic garden beetle** adults are becoming active. These are night feeders and are most active between the hours of 9 PM and midnight. They are attracted to a wide range of host plants from the landscape to the garden. Their feeding can cause much defoliation. Inspect plants at night with a light and treat if necessary.
- **Rose chafer** adult beetles are active. These tan-colored and slender scarab beetles have a wide deciduous host range. Currently, we have reports of them causing defoliation to rose and Zelkova but they are certainly active on other hosts such as peonies and ornamental shrubs.
- **Black Vine Weevil** - Begin to monitor foliage of taxus and rhododendron in the landscape and nursery for notched foliage, especially on the lower part of host plants. The adult weevils will become active soon and begin to feed on foliage. Inspection now provides a baseline for new injury. This insect does not fly and must walk up the host plant each night to feed. Place loosely folded burlap strips on the ground around plants and inspect during the day. Adult weevils will use the burlap as a hiding place during daylight hours; collect and destroy beetles. If found in large numbers, treat with a product that contains lambda-cyhalothrin.

Piercing-Sucking Pests:

- **Spider Mites** - Inspect the needles and stems of conifers now for the presence of spruce spider mite. One of the growth regulator miticide products may be useful. Continue to monitor on a weekly basis for any building populations. Horticultural oil sprays (at the summer rate) can also be effective.
- **Hemlock Woolly Adelgid (HWA)** - This pest is now into its second generation for this year. Monitor for increasing numbers and treat with horticultural oil (when plant phenology allows) and/or whenever the correct weather conditions prevail. Systemic imidacloprid products can also be of benefit.
- **Mealybugs** - Begin to inspect the undersides of inner branches for taxus mealybug. Treat when found. In most areas of Massachusetts they are quite active now.
- **Honeylocust Plantbug** - At this time, honeylocust foliage is mostly expanded and this pest is no longer of great concern.
- **Andromeda lacebug** is active. The eggs of this pest overwintered embedded in the host plant tissue. Inspect leaf undersides of Japanese andromeda for the activity of this pest. Treat the plant with a soil applied systemic treatment of imidacloprid **or** spray the leaf undersides with an insecticidal soap. Pyrethroid insecticides are also labeled for this pest.

Scale Insects:

- **Armored Scales** - A group of scale insects characterized by a hard, convex covering over their bodies, such as **pine needle scale**, euonymus scale, juniper scale and white prunicola scale can be monitored now. Treat with a horticultural oil spray (summer rate) when plant phenology and correct weather conditions prevail. Pine needle scale has a new batch of crawlers that are settling now to feed.
- **Soft Scales** - Tuliptree scale and azalea bark scale can be monitored now. Look for sooty mold on the host plants. In the case of tuliptree scale (found on tuliptree and magnolia), one can also find the large, dark brown coverings on the stems. Azalea bark scale will appear white and cottony and will mostly be found in branch axils along the main trunk. Treat with a horticultural oil spray **or** systemic imidacloprid. These can be difficult to manage and may require future monitoring and treatments.
- **Azalea bark scale** is active. Inspect the intersections of branches with the main stems for the cottony, white females with egg-sacs. Wait for the crawlers to emerge (soon) and treat with a horticultural oil spray at the summer rate **or** a spinosad product **or** with a cyfluthrin product.
- **European fruit lecanium scale** has many hosts. Inspect for the large, dark brown female scale coverings from last year that will appear lined-up on the stems. This is another soft scale that is problematic to control. Wait for the crawlers to emerge (late June into early July) and treat with a horticultural oil spray at the summer rate **or** a spinosad product **or** with a cyfluthrin product.

Leaf Miners:

- **Birch Leaf Miner (BLM)** - This pest now has well-established mines within the foliage and treatments now are most likely not feasible.
- **Arborvitae Leafminer** adults will emerge with 2-3 weeks in much of the state. This leafminer (a moth as an adult) is not attracted to yellow sticky cards. Inspect foliage for browned tips and exit holes. Gently shake branches to dislodge the tiny, off-white moths. Treat with a pyrethroid insecticide **or** a

spinosad product to kill the newly hatching caterpillars. Eggs are laid on the foliage and the larvae must chew their way into the leaf, which usually occurs on the leaf underside.

Wood Borers:

- **Dogwood Borer** - The adult moth will become active very soon. Pheromone traps are available for this pest. Keep flowering dogwood free of wound from mowers and line trimmers, which encourage invasion by this insect. Treat infested trees in August with a trunk/branch spray of entomopathogenic (beneficial) nematodes.
- **Bronze Birch Borer** - This wood boring beetle requires a previously weakened tree for successful colonization. Keep birches healthy by watering during drought, mulching and avoiding soil compaction. Some advise that birches not be pruned from June into September to avoid releasing plant volatiles that may attack female beetles. However, healthy trees should be able to withstand pruning at this time and still naturally defend itself against this pest.

Other Insects:

- **Birch Catkin Bug** - This bug will become active soon. This pest overwinters as an adult. Upon emerging in the spring, it mates and lays eggs in newly forming catkins. Nymphs feed on the developing seeds. This pest does not harm plants; it consumes seeds. However, they often occur in large numbers and accidentally find their way onto people and into homes where they become a nuisance. When catkins fall to the ground, they will contain the developing bugs. Mowing over these catkins crushes the insect within and releases their foul smelling odor. When found exposed on the host plant in large numbers, treat with a registered pyrethroid insecticide, if necessary.
- **Squirrels** have been active by clipping off foliage that holds seeds. In some cases, dozens to hundreds of shoots can be found lying on the ground beneath a tree. Maples, ash, spruce and other seed-bearing trees are susceptible. There are no legal controls nor are they usually necessary.
- **Carpenter ant reproductives** are very active right now throughout the state. The future queens of new colonies are 3/4" to 1" in length, black in color, have two pairs of membranous wings (with the front pair being larger than the hind pair) and elbowed antennae. They will look very wasp-like but the elbowed antennae and the spike (pedicel) between the thorax and abdomen, makes them ants and not wasps. They will be seeking moist wood where they can establish a new colony.

Reported by Robert Childs, Entomologist, UMass Extension Landscape, Nursery and Urban Forestry Program, Amherst

Diseases

Mushrooms in lawns often develop from thatch, buried logs, dead roots, stumps, or even construction debris. They have many different sizes, colors, shapes, and habits of growth and invade lawns after prolonged wet weather. The fungi that produce these mushrooms are beneficial because they decompose organic matter in the soil, making nutrients available to other plants. These mushrooms usually are harmless to grasses, but some people consider them unsightly or want to get rid of them because young children play in the area. Neither spray applications nor drenches of fungicides are effective in controlling these mushrooms. Remove mushrooms growing from buried wood or roots by picking them as they appear or by digging out the wood. Elimination of excess thatch and aerating the soil to improve water penetration also helps in some cases. In addition, if the mushrooms are left to themselves, they just disappear when the weather becomes dry.

Botrytis blight is noticeable as a gray moldy blight of flowers, leaves and shoots in herbaceous perennial gardens, as well as on some young woody plants with dense foliage. Cool temperatures and shaded conditions enhance the damage by this fungus. To manage Botrytis blight, remove dead plant material that the fungus uses as a beachhead for the development of more inoculum. Irrigate before mid-afternoon so needles dry off before nightfall. Consider fungicide applications to protect succulent growth on high value plants from becoming infected. Fungicides labeled include: chlorothalonil, chlorothalonil plus fenarimol, copper sulfate pentahydrate, ferbam, fosetyl-Al, iprodione, mancozeb, thiophanate methyl, triflumizole, thiophanate methyl plus chlorothalonil, thiophanate methyl plus flutolanil, and PCNB. Repeat applications at labeled intervals until warm, drier weather prevails and Botrytis blight is less able to infect plants.

Cedar-apple rust is visible as orange-yellow spots on susceptible hawthorn, apple and crab apple leaves. By mid-summer tiny yellow-white tube-like fruiting structures will extend from the underside of infected leaves. From mid-summer to autumn, spores are wind-carried from the apple leaves and, when conditions are wet, they infect green shoots and needles of junipers. Pea-sized to 2" diameter round, brown galls develop on susceptible juniper needles and twigs between 12 and 20 months after infection. The best long-term approach to manage this disease is to grow cedar-apple rust resistant apple and juniper varieties. Also, prune dormant galls on juniper during the summer, fall, winter and early spring (before jelly-like horns form). Avoid growing susceptible junipers close to apples. The time to apply fungicides to protect high value apples from cedar-apple rust has passed for this spring. Fungicide protection of eastern red cedar and Rocky mountain junipers is seldom performed, but if it were desired, it would be from mid-August through September.

The minute red-purple spots of **hawthorn (Entomosporium) leaf spot** are visible on leaves of susceptible hawthorn. Now that the fungus is established, it regularly produces spores; and with recurring wet periods the disease spreads via these secondary infection cycles. A long-term management strategy to consider is replacement of susceptible hawthorns with resistant trees. Otherwise, preventative fungicides must be applied as buds open or when the first rains begin after the leaves start to develop in the spring; these should be repeated at labeled intervals several times until early summer. There is little benefit from chemical controls of this disease when they are started this late in the season.

Horsechestnut (*Guignardia*) leaf blotch is evident as scattered, irregularly-shaped orange-brown blotches on infected leaves. They are primarily affecting lower, inside leaves, and less than 10% of the total leaf area. However, as the summer progresses the impact of the disease may be more noticeable, but chemical intervention at this time for this season is of little benefit. Likewise, it has been noted that horsechestnut that suffer repeated severe infections continue to grow vigorously in spite of *Guignardia* leaf blotch.

Powdery mildew fungi are now visible as dusty, gray to white spots/blotches on horsechestnut, phlox, dogwood, sycamore and rose leaves in the Amherst area. Once established on plants, powdery mildews grow superficially on both upper and lower leaf surfaces as well as green shoots and flower buds. They are obligate parasites and derive sustenance only from living host plants. They do this using minute, tube-like structures (haustoria) that penetrate the epidermal cells and draw out material they need to survive. Later this summer spherical, black fruiting structures (cleistothecia) will be visible with a hand lens on the underside of leaves in the dusty, gray mycelia. Generally, the damage caused by powdery mildew is of minor consequence to healthy plants and does not warrant chemical control if unsightliness is not a critical concern. If chemical control is desired, there are a number of unconventional applied materials that are labeled to protect susceptible plants. They include summer horticultural oil, commercial baking soda preparations (sodium bicarbonate and potassium bicarbonate), anti-transpirants, as well as a number of conventional fungicides. Chemical spray programs are most effective when begun just as symptoms of powdery mildew begin to show. Once powdery mildew is extensive on the plant, there is little benefit from chemical control that season. Applications need to coat both surfaces of all susceptible plant parts to prevent infection. Spray on a regular schedule, and repeat more often during warm, humid weather.

Oak leaf blister is showing up on red and pin oak leaves as yellow-green to brown blister-like spots. Puckering is minimal but noticeable, if you look closely. This is a not a serious fungal disease problem in Massachusetts. If a severe outbreak is occurring on specimen trees, note that for future reference. Chemical control activities should be started just as buds open next spring.

Apple scab is more visible on susceptible crab apple leaves after the warm, humid weather. The heavy, prolonged rainy periods and cool temperatures earlier in the spring suppressed early scab infections. Some leaves are curling or cupping where lesions developed before the leaves were mature, and the dead leaf tissue constricted leaf expansion. Within weeks after infection the olive green fruiting bodies produce new spores. New infections can occur essentially the entire growing season during wet and mild conditions. Now is a favorable time to maintain scab-susceptible crabapples in the landscape in which infection has just begun with fungicides. These fungicides act primarily to prevent new infections, especially those infections that would develop on newly emerging leaves. Systemic fungicides can reduce the incidence of apple scab as the season goes on if they are applied soon, before the extent of infection is too severe, and protection is maintained at labeled intervals. Alternate every second or third systemic fungicide spray with a broad-spectrum fungicide to reduce problems with the development of fungicide resistance by the apple scab fungus. Prune to increase sunlight penetration and air circulation to promote rapid drying of wet foliage. If apple scab is a chronic problem, consider planting resistant varieties of crabapple if replacement is an option. This fall remove and destroy fallen leaves in the vicinity of the tree to reduce primary inoculum available for initial infections next spring.

Sycamore, maple, oak and ash anthracnose. Sycamore, maple, and oak anthracnose are evident now as dark-green to dark-brown curling leaves and shoots, while ash anthracnose is apparent as young green leaves with tiny brown spots falling from the trees. Anthracnose is widespread on early leaves and shoots this year due to the abundance of inoculum on over-wintering twigs and fallen leaves, as well as the consistently wet weather. These diseases cause some premature leaf loss, but that is not going to seriously affect an otherwise healthy tree. New flushes of growth are evident on sycamore, sugar maple, and white oak that will help fill out the crowns. In the fall fine prune infected twigs and collect and dispose of fallen leaves. Promote drying of foliage by pruning and spacing plants to increase the penetration of sunlight and air circulation in and around plants.

Dogwood anthracnose is visible as tan spots/blotches with purple margins as well as some shoot blighting. Remove and dispose of dead leaves, twigs and branches to reduce anthracnose inoculum in infected trees. Dogwoods receiving good cultural care are better able to limit the extent of dogwood anthracnose damage. Water during dry periods and maintain 2-4 inches of composted bark mulch over as much of the root area as possible. It is too late this spring to protect new shoots and leaves with fungicide applications. Next spring begin as buds break open, when bracts have fallen, and four weeks later. Later this summer, after flower buds form, if there is wet weather, a fungicide application may protect the flower buds from infection. If dogwood anthracnose is a persistent problem consider planting one of the many resistant cultivars of *Cornus florida* and *C. kousa* now commercially available.

Ramorum Blight, also known as **Sudden Oak Death (SOD)**. Since 1995, oaks and tanoaks have been dying in the coastal counties of California. Since then, other types of plants have been found to be infected or associated with this disease, referred to as Sudden Oak Death, ramorum leaf blight or ramorum dieback, or by regulation as *Phytophthora ramorum*. SOD was first seen in 1995 in Mill Valley (Marin County) on tanoak. Since that time, the disease has been confirmed on various native hosts in fourteen coastal California counties (Marin, Santa Cruz, Sonoma, Napa, San Mateo, Monterey, Santa Clara, Mendocino, Solano, Alameda, Contra Costa, Humboldt, Lake and San Francisco), and in Curry County, Oregon. Research being conducted by the Agriculture Research Service, US Forest Service, universities and others is under way to better identify hosts, methods of detection and effective treatments. Currently, 64 plants are regulated, two of which at the genus level (*Camellia* and *Rhododendron*). There are no chemical treatments currently available to eliminate the disease in nursery stock.

Status of *Phytophthora ramorum* Monitoring Surveys. The 2005 National Nursery Survey is underway. As

of May 5, 2005, 221 sites were surveyed and 1744 samples were collected; none were confirmed as positive for *P. ramorum*

UMass Extension's Landscape, Nursery & Urban Forestry Diagnostic Lab Report. The following are some of the interesting disease/abiotic disorder samples received at the diagnostic lab in Amherst during the period

- **Japanese maple** - 5-year-old tree had a couple branches wilt on the left side last summer and this spring lost several lower right side branches; Verticillium wilt.
- **Japanese maple** - 10-year-old tree experienced was fully leafed out last year and this spring only about 10% of the tree leafed out; lower stem wound/Valsa canker.
- **Red pine** - 40-year-old tree with scattered lower branches experiencing stunted tip death soon after needle emergence; Sphaeropsis (Diplodia) shoot blight.
- **Colorado spruce** - 15-year-old tree with loss of foliage and death of lower limbs; compacted soil/windy site/Rhizosphaera needle cast.
- **Kwanzan cherry** - 20-year-old tree lost about half of its crown this spring after leafing out; poor drainage/compacted soil/Leucostoma canker.
- **Magnolia** - mature tree with scattered shoot blight and blotching of leaves this spring; magnolia anthracnose (*Glomerella*).
- **Japanese tree lilac** - 15-year-old tree with 6 years on the site exhibited poor leafing out and dieback on several significant branches; growing in center of circular drive/compacted soil in root zone/exposed site/irregular irrigation during dry periods/Botryosphaeria canker.

Reported by Dan Gillman, Plant Pathologist, based in the Urban Forestry Diagnostic Lab at UMass, Amherst, Mass

Weeds

Winter annual weeds are completing their life cycle. There 's no need to attempt to control these weeds now. Areas where winter annuals are problematic should be recorded so control measures can be made in late summer and early fall. Collecting and removing seedheads may decrease fall populations. **Quackgrass** is starting to flower and can be spot treated now.

Randall Prostek, Weed Specialist, UMass Extension, Plant, Insect & Soil Sciences Dept., Amherst.

Landscape Turf

Weeds

The above average temperature of the past week has pushed **crabgrass and other annual grasses** along. Begin actively monitoring for crabgrass. Fenoxaprop and quinclorac can be applied now at the early stages of crabgrass development. **Broadleaf postemergence applications** can continue as long as the turf and weeds are actively growing and are not suffering from heat or moisture stress. Heat and moisture stress may result in turf injury and poor weed control.

Randall Prostek, Weed Specialist, UMass Extension, Plant, Insect & Soil Sciences Dept., Amherst



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