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Landscape Message: May 7, 2021

May 7, 2021

Issue: 5

UMass Extension's Landscape Message is an educational newsletter intended to inform and guide Massachusetts Green Industry professionals in the management of our collective landscape. Detailed reports from scouts and Extension specialists on growing conditions, pest activity, and cultural practices for the management of woody ornamentals, trees, and turf are regular features. The following issue has been updated to provide timely management information and the latest regional news and environmental data.

The Landscape Message will be updated weekly in May. The next message will be posted on May 14. To receive immediate notification when the next Landscape Message update is posted, be sure to [join our e-mail list \(/landscape/email-list\)](#)

To read individual sections of the message, click on the section headings below to expand the content:

Scouting Information by Region

▾ [Environmental Data](#)

The following data was collected on or about May 5, 2021. Total accumulated growing degree days (GDD) represent the heating units above a 50° F baseline temperature collected via regional NEWA stations for the

2021 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.

MA Region/Location	GDD		Soil Temp (°F at 4" depth)		Precipitation (1-Week Gain)	Time/Date of Readings
	1-Week Gain	2021 Total	Sun	Shade		
CAPE	25	70.5	54	52	0.90	12:00 PM 5/5
SOUTHEAST	33.5	96	57	53	1.27	3:00 PM 5/5
NORTH SHORE	23	99.5	52	47	2.81	10:30 AM 5/5
EAST	25	113	54	51	1.91	4:00 PM 5/5
METRO	26.5	108	50	47	2.56	6:15 AM 5/5
CENTRAL	26.5	115	52	52	2.63	3:30 PM 5/5
PIONEER VALLEY	27.5	121	58	52	3.95	12:00 PM 5/5
BERKSHIRES	19.5	79.5	55	52	3.47	8:15 AM 5/5
AVERAGE	26	100	54	51	2.44	-

n/a = information not available

See MA drought status as of May 4 here:

<https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?MA>
[\(https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?MA\)](https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?MA)

Phenology

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>Spiraea x vanhouttei</i> (Vanhoutte spirea)	Begin	Full	Full	*	*	*	*	*
<i>Elaeagnus umbellata</i> (autumn-olive)	*	Full	Full	*	*	*	*	*
<i>Syringa vulgaris</i>	Begin	Full	Begin/Full	Begin	Begin	Begin/Full	Full	Begin

(common lilac)								
<i>Cornus florida</i> (flowering dogwood)	Begin	Full	Full	Full	Begin/Full	Begin	Full	Begin
<i>Rhododendron</i> spp. (early azaleas)	Begin	Full	Full	Begin/Full	Begin/Full	Begin/Full	Full	Full/End
<i>Malus</i> spp. (crabapple)	Begin/Full	Full	Begin/Full	Begin/Full	Begin/Full	Begin/Full	Full	Begin/Full
<i>Cercis canadensis</i> (redbud)	Begin	Full	Begin/Full	Full	Full/End	Full	Full/End	Begin/Full
<i>Rhododendron</i> 'P. J. M.'	Full/End	Full/End	Full	Full/End	Full/End	Full/End	Full/End	Full
* = no activity to report/information not available								

Regional Notes

▼ Cape Cod Region (Barnstable)

General Conditions: The average temperature from April 28 through May 5 has been 53° F with a high of 68° F on May 2 and a low of 41° F on May 1. The period had one sunny day on May 1, otherwise cloudy or partly cloudy days. Precipitation did occur on every day during the period but totaled just under 1 inch. The relatively cool and moist conditions have extended blooms on many species. Herbaceous plants seen in bloom include grape hyacinth, tulips, daffodils, Epimedium, Pulmonaria, Brunnera, barren strawberry, fringed bleeding heart, yellow Alyssum, merrybells/large-flowering bellwort (*Uvularia grandiflora*), and Pachysandra. Woody plants seen in bloom include Forsythia (just past full bloom), serviceberry (full bloom), some early azaleas, Fothergilla, andromeda (*Pieris japonica*), and saucer Magnolia. Callery pear is in full bloom and 'Kwanzan' cherries are just beginning to bloom.

Pests/Problems: Winter moth can be found in susceptible hosts. Caterpillars range in size from about 0.5-1 cm in length at this time and have been seen on maple, oak, apple and blueberry in the past week. Winter moth populations are not expected to cause defoliation, but holes are likely to be seen in the leaves of host plants. Fall cankerworm has caused some small patches of defoliation in the last couple years, so keep on the lookout for these areas in the next couple of weeks. As caterpillars, winter moth and fall cankerworm can be differentiated by the number of prolegs, winter moth having two and fall cankerworm having two and a half. Lecanium scale is still present in high numbers in some locations and in other locations appear to be under control by entomopathogenic fungi. Scout for lecanium scale to determine whether treatment is necessary, the time to target this insect with dormant oil is now. Signs of recent activity by the black oak gall wasp (*Zapatella davisae*) was seen in a black oak with a history of black oak gall wasp damage.

Lichen growth on trees, oaks and other ornamentals, is a common question at this time of year. In many cases, excessive lichen growth occurs on trees with thinning canopies. Thinning canopies are often a

result of chronic stresses. For a large portion of oaks, the chronic stresses of winter moth, gypsy moth, black oak gall wasp, and multiple droughts have predisposed oaks to boring beetles and decay fungi. Those stressors have led to widespread decline and death of oaks, creating ideal locations for lichens to grow. With other ornamental trees and shrubs, excessive lichen growth is an indicator of poor vigor and poor growth and the causes of chronic stress should be investigated. Dieback as a result of last season's drought is widespread on Rhododendrons in unirrigated landscapes. (See the Disease section in this issue for photos.) The other common casualty of the drought is arborvitae, especially more recently planted arborvitaes. Other pests or damage seen in the past week include tulip fire on tulip, white grub damage in turf, spruce spider mite damage on Alberta spruce, hemlock woolly adelgid on hemlock and boxwood leafminer damage on boxwood. The invasive plant garlic mustard is in full bloom. Other weeds seen in bloom include fig buttercup, hairy bittercress, Arabidopsis, chickweed, speedwell, common violets, annual bluegrass and dandelions. Lots of weeds are germinating now. Rabbits are abundant. Don't forget to protect yourself from deer ticks.

▼ Southeast Region (Dighton)

General Conditions: Fortunately, we've had some rain, albeit not nearly enough. Plants are leafing out rapidly with the warming temperatures. Flocks of cormorants can be seen, seemingly pursuing schools of fish up river. Baby squirrels are making their first forays out into the world, feeding on new buds and flowers. Asparagus is harvestable. Among the many plants that are flowering, I've noticed: *Aurinia saxatilis* (basket of gold), *Alliaria petiolata* (garlic mustard), *Allium* spp. (ornamental onion), *Aquilegia* spp. (columbine), *Barbarea vulgaris* (yellow rocket), *Betula nigra* (black birch), *Carya ovata* (pignut hickory), *Cercis canadensis* (redbud), *Chaenomeles* spp. (flowering quince), *Chelidonium majus* (greater celandine), *Convallaria majalis* (lily of the valley), *Cornus florida* (native flowering dogwood), *Deutzia* spp., *Elaeagnus umbellata* (autumn olive), *Fothergilla* spp., *Fragaria* spp. (strawberry), *Fraxinus americana* (white ash), *Halesia carolina* (Carolina silverbell), *Hyacinthoides hispanica* (wood hyacinth), *Kerria japonica* 'Pleniflora', *Lamprocapnos spectabilis* (bleeding heart), *Leucojum aestivum* (summer snowdrop), *Lonicera morrowii* (Morrow's honeysuckle), *Lunaria annua* (honesty, money flower), *Magnolia soulangeana* (saucer Magnolia), *Malus* spp. (apples, crabapples), *Muscari* spp. (grape hyacinth), *Narcissus* spp. (daffodils), *Oxalis stricta* (yellow wood sorrel), *Phlox subulata* (creeping Phlox), *Pieris japonica* (Japanese andromeda), *Polygonatum biflorum* (Solomon's seal), *Prunus x cistena* (purple-leaf sand cherry), *P. maritima* (beach plum), *P. serrulata* ('Kwanzan' cherry), *P. virginiana* (chokecherry), *Pulmonaria* spp. (lungwort), *Rhododendron* spp. ('PJM', early azaleas), *R. mucronulatum* (Korean azalea), *R. vaseyi* (pink-shell azalea), *Sassafras albidum* (Sassafras), *Spiraea x vanhouttei* (Vanhoutte spirea), *Syringa vulgaris* (common lilac), *Trillium grandiflorum* (white flowered Trillium), *T. erectum* (wake robin), *Tulipia* spp, *Viburnum carlesii* (Korean spice Viburnum), *V. x burkwoodii* (Burkwood Viburnum), and *Viola tricolor* (Johnny-jump-up).

Pests/Problems: Much needed rain was ushered in by violent winds over the past week. Quite a number of trees, newly leafed out now with larger sails, were knocked down. I saw a town tree, not in Dighton, hit a couple of cars that were stopped at a set of lights during one of these episodes. Considering the number of very obvious, structurally unsound trees that line the streets, it's amazing there aren't more of these disasters. Ticks, ticks, and more ticks. If you haven't noticed them then you should be concerned as they will not fail to notice you. Eastern tent caterpillar was observed on crabapple.

▼ North Shore (Beverly)

General Conditions: This reporting period, we experienced cloudy and rainy weather with cooler than normal spring temperatures most of the days. Day temperatures were in the low 50s to mid-60s most days except on Sunday, May 2, when temperatures went up to the low 70s. Night temperatures were in

the mid-40s throughout this reporting week. The average daily temperature was 53 °F, with a minimum temperature of 43 °F recorded on May 1 and a maximum temperature of 74 °F recorded on May 2. Some amount of rainfall was recorded most of the days during the past seven days. A total of 2.81 inches of rainfall were recorded at Long Hill during this period. Woody plants observed in bloom include: mountain Pieris (*Pieris floribunda*), flowering dogwood (*Cornus florida*), redbud (*Cercis canadensis*), large Fothergilla (*Fothergilla major*), royal azalea (*Rhododendron schlippenbachii*), common lilac (*Syringa vulgaris*), Kwanzan cherry (*Prunus serrulata*), hardy orange (*Poncirus trifoliata*), crabapple (*Malus* spp.) and Burkwood Viburnum (*Viburnum x burkwoodii*). Non-woody plants seen in bloom include: daffodil (*Narcissus* spp.), forget-me-not (*Myosotis sylvatica*), tulips (*Tulipa* spp.), bleeding heart (*Dicentra spectabilis*), native Allegheny Pachysandra (*Pachysandra procumbens*), vinca vine (*Vinca minor*) and Trillium (*Trillium grandiflorum*).



(/sites/ag.umass.edu/files/pest-alerts/images/content/rhododendron_dieback.jpg) **Pests/Problems:** Hemlock woolly adelgid (*Adelges tsugae*) has been observed on hemlock trees in the region. Soil injection of systemic insecticides labeled for management of hemlock adelgid may be applied by commercial applicators around the trees when there is sufficient soil moisture. Dieback was observed on some Rhododendrons. This may be due to last year's drought stress and winter desiccation. Make sure to prune off all the dead branches and twigs. (See the

Disease report in this issue.) Weeds seen in bloom include: dandelion (*Taraxacum officinale*), lesser celandine (*Ranunculus ficaria*), ground ivy (*Glechoma hederacea*) and purple deadnettle (*Lamium purpureum*). Ticks are very active. Be careful to protect yourself when working outdoors.

▾ East Region (Boston)

General Conditions: We received measurable precipitation on six of the past seven days, gaining 1.91 inches of beneficial rain. Daytime temperatures have been below average - in the 50's with minimal glimpses of the sun. The landscape is greening up with many plants coming into bloom. Dogwood (*Cornus florida*), redbud (*Cercis canadensis*) and early azaleas (*Rhododendron* spp.) are adding significant color to the landscape.

Pests/Problems: The recent cool temperatures and much needed 1.91" of precipitation has been great for the landscape. Hydrangea leaf tier (*Olethreutes ferriferana*) has begun sewing up the outermost leaves of susceptible Hydrangea. The culprit, a small caterpillar, can be found inside the leaves and should be removed and disposed of. Viburnum leaf beetle (*Pyrrhalta viburni*) larvae are emerging and beginning to feed on susceptible Viburnum foliage. Garlic mustard (*Alliaria petiolata*) is in full flower and should be cut before it goes to seed. Japanese knotweed (*Fallopia japonica*) is gaining in height and should be continuously cut to the ground. Norway maple (*Acer platanoides*) seedlings are emerging everywhere.

▾ Metro West (Acton)

General Conditions: Spring is exploding with the recent rain and spell of summer like temperatures. Precipitation has been recorded for this area on each of the past seven days, bringing our total rainfall recorded for the month of April to 3.71" and the month of May's total so far to 0.86". The monthly average precipitation for April is 4.16" and May's average precipitation is 4.04". Other weather-related data include a high temperature of 79 °F recorded on Sunday May 2nd and wind gusts of up to 40 mph last Friday, April 30th. The landscape is filled with color and observed in some stage of bloom this past week were the following woody plants: *Amelanchier* spp. (shadbush, serviceberry), *Cercis canadensis* (redbud), *C. canadensis* 'Alba' (white flowering redbud), *Chaenomeles speciosa* (common flowering quince), *Cornus florida* (dogwood), *Daphne x burkwoodii* 'Carol Mackie' (Carol Mackie Daphne), *Forsythia* spp., *Fothergilla*

gardenii (dwarf Fothergilla), *F. major* (large Fothergilla), *Halesia carolina* 'Arnold Pink' (Arnold Pink silverbell), *Halesia tetraptera* (mountain silverbell), *Kerria japonica* (Japanese Kerria), *Magnolia x loebneri* 'Merrill', (Merrill Magnolia), *M. x soulangeana* (saucer Magnolia), *M. 'Butterflies'* (butterflies Magnolia), *M. 'Yellow Lantern'* (yellow lantern Magnolia), *Malus* spp. (apple, crabapple), *Pieris japonica* (Japanese Pieris), *Prunus* spp. (cherry), including *Prunus serrulata* 'Kwanzan' (Japanese flowering cherry), *P. japonica* (flowering almond), *Pyrus* spp. (pear), *Rhododendron* 'P. J. M.' (PJM Rhododendron), *R.* spp. (early flowering Rhododendron/azalea), *Sambucus racemosa* 'Lemony Lace' (Lemony Lace elderberry), *Spirea thunbergii* (Thunberg spirea), *Syringa* spp. (early blooming lilac), *Syringa vulgaris* (common lilac), *Vaccinium angustifolium* (lowbush blueberry), *V. corymbosum* (highbush blueberry), *Viburnum x burkwoodii* (Burkwood Viburnum) and *V. x burkwoodii* 'Mohawk' (Mohawk Burkwood Viburnum).

Contributing even more color and interest to the landscape are some flowering herbaceous plants and spring ephemerals including: *Anemone pulsatilla* (pasque flower), *A. nemorosa* (wood Anemone), *Aquilegia canadensis* (columbine), *Arisaema triphyllum* (Jack-in-the-pulpit), *Asarum europaeum* (European ginger), *Aurinia saxatilis* (basket of gold), *Brunnera macrophylla* (alkanet), *Caltha palustris* (marsh marigold), *Claytonia virginica* (Virginia spring beauty), *Dicentra canadensis* (squirrel corn), *D. cucullaria* (Dutchman's breeches), *D. eximia* (fringed bleeding heart), *D. spectabilis* (old fashioned bleeding heart), *D. spectabilis* 'Alba' (white flowering old fashioned bleeding heart), *Epimedium x versicolor* 'Niveum' (white flowering barrenwort), *E. x versicolor* 'Roseum' (pink flowering barrenwort), *E. versicolor* 'Sulphureum' (yellow flowering barrenwort), *Erythronium americanum* (yellow trout-lily), *Gallium odoratum* (sweet woodruff), *Helleborus niger* (Christmas rose), *Hyacinthus* spp. (hyacinth), *Lunaria annua* (money plant), *Mertensia virginica* (Virginia bluebells), *Muscari* sp. (grape hyacinth), *Myosotis sylvatica* (forget-me-nots), *Narcissus* spp. (daffodil), *Omphalodes verna* (blue-eyed Mary), *Pachysandra procumbens* (Allegheny spurge), *P. terminalis* (Japanese Pachysandra), *Phlox subulata* (moss Phlox), *Primula* spp. (primrose), *Pulmonaria longifolia* (lungwort), *P. rubra* (salmon colored lungwort), *Stylophorum diphyllum* (wood poppy), *Tiarella cordifolia* (foam flower), *Trillium erectum* (red flowering Trillium), *T. grandiflorum* (white flowering Trillium), *T. sessile* (toadshade), *Tulipa* spp. (tulip), *Vinca minor* (periwinkle), *Viola* spp. (violet), and *Waldsteinia fragaroides* (barren strawberry).

Pests/Problems: Many herbaceous weeds are in flower including one of the most invasive of all time, *Alliaria petiolata* (garlic mustard), which is in full bloom and can easily be spotted because of its white flowers and can be seen growing anywhere and everywhere including on roadsides, in woodlands, wetlands, and gardens. Black flies are active and out in force. Be aware of *Toxicodendron radicans* (poison ivy). It is beginning to leaf out, so it is easy to detect its shiny red leaves of three. Even with the recent rain events, precipitation totals for this area are still below monthly averages and as of May 4, the designation of "Moderate Drought" only just changed to "Abnormally Dry" for this area. Some of the potential impacts of this drought might include stressed trees, shrubs and perennials, water sources below capacity, a decline in honey production, and an increase in wildfires.

▾ Central Region (Boylston)

General Conditions: Finally, some rain! During this reporting period, we saw more than 2.5 inches of precipitation, putting a dent in the water deficit this season. Across the region, we are still, according to the US Drought Monitor, in abnormally dry status. We've reached that point in the spring season where there are not enough hours in the day to accomplish all gardening tasks. But, the rewards are beautiful. Everything is seemingly in bloom at this point, including many native plant species from Virginia bluebells (*Mertensia virginica*) and moss phlox (*Phlox subulata*) to eastern redbud (*Cercis canadensis*). It's still too early to put most houseplants outdoors, but the frost-free date is right around the corner. When moving

houseplants outdoors, it's important to protect them from sunlight for a period of time to allow them to acclimate to the additional, stronger light they will receive.

Pests/Problems: We experienced many strong windstorms during this reporting period. Ticks, mosquitoes and other biting insects are very active. Deer browse continues to be an issue in the garden, and woodchucks are actively causing damage. There is little evidence of plant pests and diseases at this point in the season.

▾ Pioneer Valley Region (Amherst)

General Conditions: May has arrived and the Pioneer Valley is lush with new growth and spring flowers. The fifth month of the year is one of the best times in the landscape, with so much rich color and new growth expanding at a rapid rate. After our extended dry stretch in March and early April, precipitation has been plentiful over the past week, with nearly 4" of rain recorded at the Easthampton gauge. More than half of that rainfall took place on 4/29, when a long duration storm dropped over 2" in the valley. Warm nights (>50°F) before and after the rain resulted in a dramatic increase in new plant growth. April couldn't properly end this year without another extremely windy day, as gusts >40 mph were recorded at Barnes Airport on 4/30. It's remarkable that tender shoots and leaves on large trees can withstand such strong wind gusts and remain attached. Additional rainfall took place on 5/2 (0.06"), 5/3-5/4 (0.64") and 5/4-5/5 (1.08") with more expected at the time of writing. That's essentially a month's worth of rain over a seven-day span (4/29 to 5/5). Soils are now saturated at just the right time when plants are drawing large volumes for new growth. The problem now is that what's good for plants is usually good for their associated pathogens. Mild, cloudy and wet weather is ideal for fungal spore germination and dispersal while tender new plant tissues are susceptible to attack. Now that forsythias are done flowering, prune to shape and remove crossing branches. Next year's flowers are produced on this year's wood. When pruning arborvitae, remember that *Thuja* will not produce new growth on old wood. Meaning, if you prune a branch back to where there is no live growth, none will develop in the future. This is in contrast to *Taxus*, which are happy to produce new growth on older wood. Turf grasses are growing at a strong rate now that soil temperatures are increasing and rainfall is regular. (/sites/ag.umass.edu/files/pest-alerts/images/content/carolina-silverbell.jpg)



(/sites/ag.umass.edu/files/pest-alerts/images/content/carolina-silverbell.jpg)



(/sites/ag.umass.edu/files/pest-alerts/images/content/umass_horse-chestnut.jpg)

Pests/Problems: Japanese maples are quickly reaching full leaf-out and it's critical that dead stems and branches be pruned from these trees. Stem cankering is a regular issue that significantly impacts the health of these landscape staples. The same can be said for redbuds, and now is an ideal time to closely examine

these trees and prune out dead stems. Newly hatched gypsy moth caterpillars were encountered on a Norway maple on 5/4. Scout lower trunks and scaffold branches to determine if caterpillars are present in your area. Overall, populations appear low, especially west of the Connecticut River. Snowball aphid damage on viburnum can be readily observed as plants are leafing out. The curled, distorted leaves can be unrolled to reveal the grey-blue aphids. The appressed fruiting bodies of *Kretzschmaria* are now visible on the lower trunk of beech and maple. They are grey in color with a white margin and over the season become blackened and more difficult to locate. Winter burn on rhododendron, mountain laurel, azalea, andromeda, inkberry, holly and other evergreen shrubs is a management concern at this time. Several opportunistic foliar pathogens can colonize these damaged plant parts and cause further dieback. Prune

out these blighted plant parts and provide extra care (e.g. watering and fertilization) to plants badly injured this past winter. With all the rain recently, this is a good time to scan the landscape and locate buckets, pots, etc. where standing water can linger and become breeding grounds for mosquitoes.

▾ Berkshire Region (Great Barrington)

General Conditions: Rain was the prominent weather feature of the past week. At the beginning of the scouting period, the National Weather Service at the Pittsfield Airport reported a precipitation deficit of 4 ¼ inches. That deficit, as of the morning of May 5th is now down to about 1.5 Inches. The drastic temperature fluctuations that characterized much of March and April seemed to have been tempered as daytime highs of the past week and projected for the week ahead are generally in the mid-50s to mid-60s while nighttime lows generally range in the mid-30s to mid-40s. As one would expect from the abundance of rain over the past week, soils are saturated and soil compaction could become an issue due to foot and/or vehicle traffic; and that includes riding mowers. One consequence of frequent rainfall and cool but gradually warming temperatures has been the acceleration of growth of turf grass. Frequent high wind events continue to be an issue.

Pests/Problems: As mentioned, several high wind events occurred last week and again resulted in some fallen trees but even more broken branches on trees and some tall shrubbery. Pest wise, the most serious issue for those working outdoors continues to be the high population of black-legged ticks. Almost every landscape maintenance worker this scout has encountered reported a tick bite. Applications of permethrin to clothing and following other recommended precautions are most important in avoiding the disease transmitting ticks. Surprisingly, few sightings of Eastern tent caterpillars have been observed while scouting. Plant pests found include: elongate hemlock scale (adult female stage), boxwood psyllid, boxwood leaf miner (pupal stage), and spruce spider mite. Volutella blight of pachysandra is a common sight on dense plantings of Japanese pachysandra. Allegheny pachysandra (*Pachysandra procumbens*) is less susceptible to Volutella and should be considered a replacement where pachysandra ground cover is desired. Some winter dieback or browning on arborvitae, juniper, and yews has been reported by several landscape maintenance workers. Weeds are growing quickly and in flower. Among the most invasive and environmentally damaging of these is garlic mustard (*Alliaria petiolata*), which must be controlled before it sets seed. Mosquitoes, black flies, and various species of wasps are out and about. Woodchucks, meadow voles, and deer are feeding on landscape vegetation. Bear sightings are increasingly common and will continue to be so where fruit trees and shrubs are plentiful.

▾ Regional Scouting Credits

- CAPE COD REGION - Russell Norton, Horticulture and Agriculture Educator with Cape Cod Cooperative Extension, reporting from Barnstable.
- SOUTHEAST REGION - Brian McMahon, Arborist, reporting from the Dighton area.
- NORTH SHORE REGION - Geoffrey Njue, Green Industry Specialist, UMass Extension, reporting from the [Long Hill Reservation \(https://thetrustees.org/place/long-hill/\)](https://thetrustees.org/place/long-hill/), Beverly.
- EAST REGION - Kit Ganshaw & Sue Pfeiffer, Horticulturists reporting from the Boston area.
- METRO WEST REGION – Julie Coop, Forester, Massachusetts Department of Conservation & Recreation, reporting from Acton.
- CENTRAL REGION - Mark Richardson, Director of Horticulture reporting from [Tower Hill Botanic Garden \(https://www.towerhillbg.org/\)](https://www.towerhillbg.org/), Boylston.
- PIONEER VALLEY REGION - Nick Brazee, Plant Pathologist, UMass Extension Plant Diagnostic Lab, reporting from Amherst.
- BERKSHIRE REGION - Ron Kujawski, Horticultural Consultant, reporting from Great Barrington.

Woody Ornamentals

▾ Diseases

Tune in for a special Urban Forestry Today webinar at 12:00 pm (EST) on Thursday, 5/20

(<http://www.urbanforestrytoday.org/> (<http://www.urbanforestrytoday.org/>)) presented by Cameron McIntire (USFS Forest Pathologist) and Nicholas Brazee (UMass Extension Plant Pathologist). The first half of the webinar (McIntire) will focus on two of the primary contributors to eastern white pine decline (white pine needle damage and Caliciopsis canker) while the second half (Brazee) will focus on important landscape diseases of conifers in the landscape. White pine needle damage is most conspicuous in late May to early June in the northeast, as the new needles are expanding, so this webinar is well-timed.

Recent pests and pathogens of interest seen in the UMass Extension Plant Diagnostic Lab

(<https://ag.umass.edu/services/plant-diagnostics-laboratory/> ([/services/plant-diagnostics-laboratory](https://ag.umass.edu/services/plant-diagnostics-laboratory/))):

- **The UMass Plant Diagnostic Lab has received numerous rhododendron samples in recent weeks.** While the lab always receives a number of evergreen shrubs each spring, this year's volume is considerably higher. Pictured below are examples of the symptoms exhibited, which range from grey, brown or purple-colored spots and blotches to marginal leaf blight, desiccation and curling. While winter injury is often to blame, many shrubs were likely predisposed by the heat and dry weather in 2020. Foliar pathogens, such as *Pestalotiopsis* and *Phyllosticta*, can often be found on the blighted leaf parts, acting as opportunistic colonizers that cause further leaf dieback.

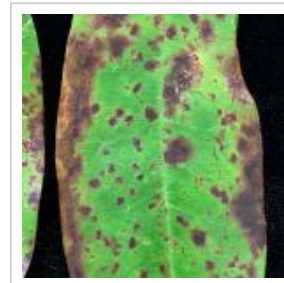


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(/sites/ag.umass.edu/files/pest-alerts/images/content/rhody_symptoms2.jpg)



(/sites/ag.umass.edu/files/pest-alerts/images/content/rhody_symptoms3.jpg)



(/sites/ag.umass.edu/files/pest-alerts/images/content/rhody_symptoms4.jpg) **Canopy dieback and marginal leaf blight on rhododendron (*Rhododendron* 'Roseum Elegans') caused by transplant shock, winter injury and *Phyllosticta* leaf blotch.** Young plants that were transplanted (B&B) two years ago. Beginning in early April, the plants started to exhibit symptoms of severe dieback, including leaf browning, curling and a marginal leaf blight. The setting is north-facing and the plants were provided overhead irrigation last fall due to drought conditions. The submitted tissues were negative for *Phytophthora*, which can be an important pathogen on recently transplanted rhododendrons.

- **Rhizosphaera needle cast on Douglas-fir (*Pseudotsuga menziesii*).** The tree is approximately 30-years-old and is situated on a slope with exposed ledge in full sun. While the tree is occasionally provided with supplemental irrigation, the site conditions suggest drought stress is a predisposing stress. Drought often predisposes conifers to needle blight infections by *Rhizosphaera*. The managing

arborist noted the tree appears thin and is rapidly losing needles. The homeowner did not observe the symptoms in previous years, but the needle loss has likely been intensifying over time. While Swiss needle cast, caused by *Nothophaeocryptopus*, is often associated with premature needle shedding on Douglas-fir, *Rhizosphaera* can be regularly encountered on this host in the northeast. Based on previous samples submitted to the UMass Plant Diagnostic Lab, *Rhizosphaera macrospora* is most frequently found on Douglas-fir. *Rhizosphaera macrospora* has a broad host range among conifers and has also been identified from true fir (*Abies*), true cedar (*Cedrus*), spruce (*Picea*) and hemlock (*Tsuga*).

- **Maple anthracnose, caused by *Aureobasidium apocryptum*, on Japanese maple (*Acer palmatum* 'Yatsubusa')**. Very old bonsai tree (>100-years-old) maintained at an arboretum. The tree was very slow to leaf out this spring, after being returned to a greenhouse from cold storage. Submitted shoots and newly developing foliage were collapsed and brown to black in color. Submitted root tissue indicated no symptoms of decay. Maple anthracnose can thrive on newly developing shoots and leaves of various maple species, including *A. palmatum*. This fungal pathogen prefers moist, humid conditions and mild temperatures to cause disease.



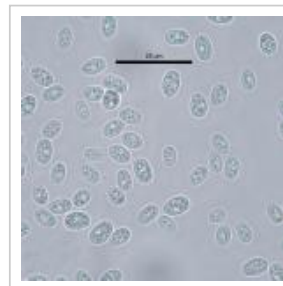
- (/sites/ag.umass.edu/files/pest-alerts/images/content/cherry_brown-rot.jpg) **Brown rot of stone fruits, caused by *Monilinia fructicola*, on flowering cherry (*Prunus x yedoensis*)**. The tree is approximately 20-years-old and resides in an urban park with full sun and sandy, compacted soils. In previous years, the tree looked sparse in the spring and flushes new growth later than surrounding trees. By July, the tree appears normal but begins fall senescence early. This spring, flowers became brown and wilted. *Monilinia* can infect flowering parts, leaves and shoots on various stone fruits. Poor flower set and wilting flowers in the spring are often the result of brown rot infections. Pictured here are mycelia and chains of lemon-shaped spores produced by *Monilinia* on aborted flowers.



- (/sites/ag.umass.edu/files/pest-alerts/images/content/mugo-pine1.jpg)



- (/sites/ag.umass.edu/files/pest-alerts/images/content/mugo-pine2.jpg)



- (/sites/ag.umass.edu/files/pest-alerts/images/content/mugo-pine3.jpg) **Needle blight of mugo pine (*Pinus mugo*) caused by *Lecanosticta acicola* and *Rhizosphaera***. The

tree is approximately 35-years-old and was planted 30 years ago. It resides in a mulched bed and is fertilized annually. There is a large nearby oak that is likely casting shade on the tree but it does receive some full sun. The submitted needles were brown at the tips with scattered orange-brown spots. *Lecanosticta* is one of the primary pathogens responsible for eastern white pine needle blight. As populations of this fungus have increased over the past decade, infections on two- and three-needle pines have become common. *Rhizosphaera* can often be located on hard pines with symptoms of needle blight, but usually in conjunction with other pathogens, suggesting it may be a secondary colonizer. Pictured here are the symptoms on the submitted tissue, spore masses produced by *Rhizosphaera* from the infected needles and spores under magnification at 1000x.

- (/sites/ag.umass.edu/files/pest-alerts/images/content/pinus-contorta1.jpg)
- (/sites/ag.umass.edu/files/pest-alerts/images/content/pinus-contorta2.jpg)
- (/sites/ag.umass.edu/files/pest-alerts/images/content/pinus-contorta3.jpg) **Infestation of the**



Japanese fiorinia scale (*Fiorinia japonica*) on lodgepole pine (*Pinus contorta* var. *latifolia* 'Taylor's Sunburst'). The tree, approximately seven-years-old, was in a three-gallon container

when it was shipped from a wholesale nursery to a retail nursery this spring. The lower canopy exhibited browning needle tips and chlorotic flecking symptoms. Closer examination revealed a significant infestation of *F. japonica*. Numerous lower and interior canopy shoots harboring this invasive armored scale were pruned and discarded. The remaining foliage was treated with dinotefuran, which is highly effective against armored scales. Following treatment, the tree was repotted to a seven-gallon container. During the repotting effort, the root flare was found two to three inches below the surface of the potting medium. Overall, the root form was very poor, with numerous circling and girdling roots along with improper orientation of the primary roots. By washing away the potting media and using a root hook, the roots were finally disentangled. However, a considerable number of roots had to be pruned out in the process. With the natural root flare now at the surface and the poor root orientation, the tree required staking to remain upright. It will remain in the new container for a year, receiving full sun, regular watering and fertilization in the hopes of recovery.

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

▾ Insects

In the News:

- **Periodical Cicadas:** *Magicicada* spp. have been the topic of conversation in the news because entomologists are anticipating the upcoming emergence of Brood X. (X being the Roman numeral for 10.) Brood X last emerged in 2004 and is set to emerge (after 17 years) in late May and early June in the northern portions of their range, sooner in the south. Brood X will be experienced regionally by the following states: DE, GA, IL, KY, MD, MI, NC, NJ, NY, OH, PA, TN, VA, and WV. As you can see, Massachusetts is not on that list. The next time Brood X will make an appearance is 2038. For parts of Massachusetts, historically, Brood XIV is the one that we need to watch, which is on track to emerge again in 2025 – something to look forward to! (Brood XIV is regionally distributed across KY, GA, IN, MA, MD, NC, NJ, NY, OH, PA, TN, VA, and WV and was last active in 2008.) But for this year, 2021, Massachusetts will miss out on much of the magical periodical cicada fun.

Periodical cicada species emerge every 13 to 17 years, depending upon the species. 17-year cicada species, such as those representing Brood X, include *Magicicada septendecim*, *M. cassini*, and *M. septendecula*. 13-year cicada species include *Magicicada tredecim*, *M. neotredecim*, *M. tredecassini*, and *M. tredecula*.

Periodical cicadas cause injury to a wide variety of deciduous trees and shrubs, but oaks are primary hosts. Females cause damage when they lay a series of small groups of eggs (inserting them into twigs). Small branches may be girdled or killed by this process. The damage may also predispose the impacted branches to breakage and allow for easy-access by pathogens. Adults feed on the fluids they extract from twigs, and the nymphs feed in a similar manner on the roots of trees. Injury as a result of this feeding is considered to be minor. Broods of periodical cicada adults have synchronized emergence events every 13 or 17 years. These events can be loud and very noticeable to the public. Many people incorrectly categorize periodical cicadas with Biblical locusts.

The immature stages of these insects live on the roots of trees and shrubs, growing very slowly. In the case of Brood X, in the 17th year of their life (now) they will emerge from the soil, usually in late-May to early-June. As they emerge, they can climb trees, buildings, and all other manner of upright structures. They shed their nymphal skins (many of which remain visible to observers, stuck to these objects) and adults move to the trees. Adults will conduct a bit of feeding, and males make their well-known “buzzing” sound to attract females to mate. Females will then use their ovipositor (egg-laying structure) to insert their eggs into the twigs of trees and shrubs. Six to ten weeks later, those eggs will hatch, and nymphs will move to the ground where they will dig into the soil and begin feeding on host plant roots. After that time, their underground stages will go largely unnoticed until the next adult emergence event.

In addition to periodical cicadas, Massachusetts is home to dog-day cicada species (*Tibicen* spp.). These are the largest cicadas in North America, and are much less commonly observed (but frequently heard). Males make the loud, long, buzzing sounds that mark our summer days. These species are sometimes called annual cicadas, as the adults emerge each year. Nymphs take 2-5 years to develop, but overlapping generations result in annual adult appearance.

An important thing to remember about periodical cicadas, even though they may be quite the event for people living in Brood X territory these days, is that they are native to North America and have evolved with our forests. Some research suggests that they are natural pruners of trees, their oviposition damage actually leading to fuller canopies by removing branch tips. When they die, the adult cadavers return nutrients to the soil. Mammals and birds eat them. And after 2021, folks in the Brood X range will not need to worry about them again until 2038.


Looking for more information about periodical cicadas? Check out these resources:

Cicada Safari: <https://cicadasafari.org/> (<https://cicadasafari.org/>)

Penn State Extension: <https://extension.psu.edu/periodical-cicada> (<https://extension.psu.edu/periodical-cicada>)

Ohio State University Extension, BYGL: <https://bygl.osu.edu/node/1759> (<https://bygl.osu.edu/node/1759>)

Cool Insect Inquiries:

-  (/sites/ag.umass.edu/files/pest-alerts/images/content/semanotus_ligneus_cedar_tree_borer_4_30_21.jpg)
Cedar Tree Borer: *Semanotus ligneus* is a native beetle in the family Cerambycidae (long-horned beetles). Adults of this species are found in the northern U.S. and southern Canada. Records show them being active between March and August. Larvae are known to develop in *Chamaecyparis*, *Juniperus*, and *Thuja* (Lingafelter, 2007). Additional host plants have been reported. This species is known to attack dead or dying trees that have other (primary) stressors; so, it is not the cause of decline in the tree. The specifics of the life cycle of this species for Massachusetts are not clear at this time. **The mating pair shown in this excellent photograph (courtesy of Elizabeth Daniels) were seen in Plymouth County Massachusetts on 4/30/21.**

Upcoming Educational Programs:

Looking for more information about important arthropod vectors of human pathogens in Massachusetts? Don't miss UMass Extension's Tick and Mosquito Education Days!

June 8 & June 15 from 10:00 AM – 12:10 PM

This 2-day virtual webinar series will call upon topic experts to provide information about the seasonality, biology, and the diseases these organisms vector, as well as how to manage these pests and steps you can take to protect yourself.

June 8 – Tick Topics:

10:00 – 11:00 AM: Tick Management in the Landscape, Larry Dapsis, Cape Cod Cooperative Extension

11:10 AM – 12:10 PM: The Outreach Hiker’s Guide to Tick-ology: Personal tick bite prevention and more! Blake Dinius, Plymouth County Extension

June 15 – Mosquito Topics:

10:00 - 11:00 AM: Mosquitoes in Massachusetts, Arboviruses and Protecting Yourself, Dr. Jennifer Forman Orth, MA Dept. of Agricultural Resources

11:10 AM – 12:10 PM: Dealing with the Asian Tiger Mosquito: Incorporating an Invasive Species into an Existing Mosquito Control Program, Priscilla Matton, Superintendent, Bristol County Mosquito Control Project

For more information and to register, visit: <https://ag.umass.edu/landscape/events/tick-mosquito-education-days> ([/landscape/events/tick-mosquito-education-days](https://ag.umass.edu/landscape/events/tick-mosquito-education-days))

Insects and Other Arthropods

- **Deer Tick/Blacklegged Tick: Check out the archived FREE TickTalk with TickReport webinars available here:** <https://ag.umass.edu/landscape/education-events/webinars> ([/landscape/education-events/webinars](https://ag.umass.edu/landscape/education-events/webinars))

**Ixodes scapularis* adults have been active all winter, as they typically are from October through May, and “quest” or search for hosts at any point when daytime temperatures are above freezing. Engorged females survive the winter and will lay 1,500+ eggs in the forest leaf litter beginning around Memorial Day (late May). For images of all deer tick life stages, along with an outline of the diseases they carry, visit: http://www.tickencounter.org/tick_identification/deer_tick (http://www.tickencounter.org/tick_identification/deer_tick).

Anyone working in the yard and garden should be aware that there is the potential to encounter deer ticks. The deer tick or blacklegged tick can transmit Lyme disease, human babesiosis, human anaplasmosis, and other diseases. Preventative activities, such as daily tick checks, wearing appropriate clothing, and permethrin treatments for clothing (according to label instructions) can aid in reducing the risk that a tick will become attached to your body. If a tick cannot attach and feed, it will not transmit disease. For more information about personal protective measures, visit: http://www.tickencounter.org/prevention/protect_yourself (http://www.tickencounter.org/prevention/protect_yourself).

The UMass Laboratory of Medical Zoology is currently unable to accept samples for tick testing at this time. The Center for Agriculture, Food, and the Environment provides a list of potential tick identification and testing alternatives here: <https://ag.umass.edu/resources/tick-testing-resources> ([/resources/tick-testing-resources](https://ag.umass.edu/resources/tick-testing-resources))

*Note that deer ticks (*Ixodes scapularis*) are not the only disease-causing tick species found in Massachusetts. The American dog tick (*Dermacentor variabilis*) and the lone star tick (*Amblyomma americanum*) are also found throughout MA. Each can carry their own complement of diseases,

including others not mentioned above. Anyone working or playing in tick habitats (wood-line areas, forested areas, and landscaped areas with ground cover) should check themselves regularly for ticks while practicing preventative measures.

Woody ornamental insect and non-insect arthropod pests to consider, *a selected few*:

Invasive Insects & Other Organisms Update:

- **Spotted Lanternfly:** (*Lycorma delicatula*, SLF) is not known to be established in Massachusetts landscapes at this time. However, due to the great ability of this insect to hitchhike using human-aided movement, it is important that we remain vigilant in Massachusetts and report any suspicious findings. Spotted lanternfly reports can be sent here: <https://massnrc.org/pests/slfreport.aspx> (<https://massnrc.org/pests/slfreport.aspx>).

The Massachusetts Department of Agricultural Resources has recently released spotted lanternfly Best Management Practices for Nurseries and

Landscapers: <https://massnrc.org/pests/linkedddocuments/MANurseryBMPs.pdf>
(<https://massnrc.org/pests/linkedddocuments/MANurseryBMPs.pdf>)

And Best Management Practices for Moving Companies and the Moving

Industry: <https://massnrc.org/pests/linkedddocuments/SLFChecklistMovingIndustryMA.pdf>
(<https://massnrc.org/pests/linkedddocuments/SLFChecklistMovingIndustryMA.pdf>)

Now is a great time to provide copies of these BMP's to employees, customers, family, and friends! The more eyes we have out there looking for spotted lanternfly, the better. **Spotted lanternfly egg masses overwinter, and are laid by these insects on just about any flat surface. Use the above BMP's as a guide to help you inspect certain items coming from CT, DE, MD, NC, NJ, NY, OH, PA, WV, and VA.**

UMass Extension is teaming up with UMass Amherst's Department of Environmental Conservation, the USDA APHIS, and the Massachusetts Department of Agricultural Resources to monitor for the spotted lanternfly in Massachusetts. A team including members of UMass Extension's Landscape, Nursery, and Urban Forestry Program, Extension's Fruit Program, Stockbridge School of Agriculture, and the Department of Environmental Conservation at UMass, Amherst are undertaking a nine-month integrated research and extension project to develop effective tools to detect the spotted lanternfly.

The researchers associated with this project (Dr. Joseph Elkinton, Dr. Jeremy Andersen and Dr. Jaime Pinero) will be working with Dr. Miriam Cooperband of the USDA APHIS lab on Cape Cod to identify and evaluate airborne attractants that can improve the ability to detect SLF in traps. Dr. Cooperband has identified several attractant lures released from host plants of SLF. She is currently working on pheromones produced by SLF that may be much more attractive. The UMass team will help her conduct field tests of these new lures, while also assisting the Massachusetts Department of Agricultural Resources (MDAR) in monitoring for SLF in Massachusetts. UMass Extension Entomologist, Tawny Simisky, will periodically report on progress made during the course of this project. For more information, please visit: <https://ag.umass.edu/cafe/news/looking-for-spotted-lanternfly-recent-invasive-arrival> ([/cafe/news/looking-for-spotted-lanternfly-recent-invasive-arrival](https://ag.umass.edu/cafe/news/looking-for-spotted-lanternfly-recent-invasive-arrival))

This insect is a member of the Order Hemiptera (true bugs, cicadas, hoppers, aphids, and others) and the Family Fulgoridae, also known as planthoppers. The spotted lanternfly is a non-native species first detected in the United States in Berks County, Pennsylvania and confirmed on September 22, 2014.

For a map of known, established populations of SLF as well as detections outside of these areas where individual finds of spotted lanternfly have occurred (but no infestations are present), visit: <https://nysipm.cornell.edu/environment/invasive-species-exotic-pests/spotted-lanternfly/> (<https://nysipm.cornell.edu/environment/invasive-species-exotic-pests/spotted-lanternfly/>).

The spotted lanternfly is considered native to China, India, and Vietnam. It has been introduced as a non-native insect to South Korea and Japan, prior to its detection in the United States. In South Korea, it is considered invasive and a pest of grapes and peaches. The spotted lanternfly has been reported feeding on over 103 species of plants, according to new research (Barringer and Ciafré, 2020) and when including not only plants on which the insect feeds, but those that it will lay egg masses on, this number rises to 172. This includes, but is not limited to, the following: tree of heaven (*Ailanthus altissima*) (preferred host), apple (*Malus* spp.), plum, cherry, peach, apricot (*Prunus* spp.), grape (*Vitis* spp.), pine (*Pinus* spp.), pignut hickory (*Carya glabra*), sassafras (*Sassafras albidum*), serviceberry (*Amelanchier* spp.), slippery elm (*Ulmus rubra*), tulip poplar (*Liriodendron tulipifera*), white ash (*Fraxinus americana*), willow (*Salix* spp.), American beech (*Fagus grandifolia*), American linden (*Tilia americana*), American sycamore (*Platanus occidentalis*), big-toothed aspen (*Populus grandidentata*), black birch (*Betula lenta*), black cherry (*Prunus serotina*), black gum (*Nyssa sylvatica*), black walnut (*Juglans nigra*), dogwood (*Cornus* spp.), Japanese snowbell (*Styrax japonicus*), maple (*Acer* spp.), oak (*Quercus* spp.), and paper birch (*Betula papyrifera*).

The adults and immatures of this species damage host plants by feeding on sap from stems, leaves, and the trunks of trees. **In the springtime in Pennsylvania (late April - mid-May) nymphs (immatures) are found on smaller plants and vines and new growth of trees and shrubs.** Third and fourth instar nymphs migrate to the tree of heaven and are observed feeding on trunks and branches. Trees may be found with sap weeping from the wounds caused by the insect's feeding. The sugary secretions (excrement) created by this insect may coat the host plant, later leading to the growth of sooty mold. Insects such as wasps, hornets, bees, and ants may also be attracted to the sugary waste created by the lanternflies, or sap weeping from open wounds in the host plant. Host plants have been described as giving off a fermented odor when this insect is present.

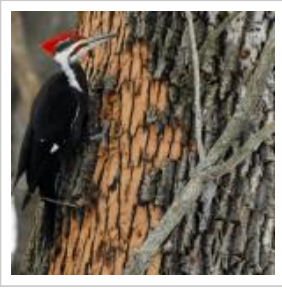
Adults are present by the middle of July in Pennsylvania and begin laying eggs by late September and continue laying eggs through late November and even early December in that state. Adults may be found on the trunks of trees such as the tree of heaven or other host plants growing in close proximity to them. Egg masses of this insect are gray in color and look similar in some ways to gypsy moth egg masses.

Host plants, bricks, stone, lawn furniture, recreational vehicles, and other smooth surfaces can be inspected for egg masses. Egg masses laid on outdoor residential items such as those listed above may pose the greatest threat for spreading this insect via human aided movement.

For more information about the spotted lanternfly, visit this fact sheet:

<https://ag.umass.edu/landscape/fact-sheets/spotted-lanternfly/> (<https://ag.umass.edu/landscape/fact-sheets/spotted-lanternfly/>).

- (/sites/ag.umass.edu/files/pest-alerts/images/content/eab_blonding_woodpecker_lee_ma_2_13_2021_cindy_packard.jpg) (/sites/ag.umass.edu/files/pest-alerts/images/content/eab_blonding_woodpecker_feeding_lee_ma_2_13_2021_cindy_packard.jpg)
Emerald Ash Borer: (*Agilus planipennis*, EAB) Since the New Year, the Massachusetts Department of Conservation and Recreation has confirmed at least 22 new community detections of emerald ash borer in Massachusetts. To date, 11 out of the 14 counties in



Massachusetts have confirmed emerald ash borer. (The remaining counties where EAB has yet to be detected are Barnstable, Dukes, and Nantucket counties.) A map of these locations and others previously known across the state may be found here: <https://ag.umass.edu/fact-sheets/emerald-ash-borer> ([/fact-sheets/emerald-ash-borer](https://ag.umass.edu/fact-sheets/emerald-ash-borer)).

This wood-boring beetle readily attacks ash (*Fraxinus* spp.) including white, green, and black ash and has also been found developing in white fringe tree (*Chionanthus virginicus*) and has been reported in cultivated olive (*Olea europaea*). Adult insects of this species will not be present at this time of year. Signs of an EAB infested tree may include (at this time) D-shaped exit holes in the bark (from adult emergence in previous years), “blonding” or lighter coloration of the ash bark from woodpecker feeding (chipping away of the bark as they search for larvae beneath), and serpentine galleries visible through splits in the bark, from larval feeding beneath. **Blonding on EAB infested ash has been particularly noticeable this winter in certain areas of Hampshire and Berkshire counties. Trees have been so heavily fed upon by woodpeckers that this change in the color of ash tree bark can be seen even while driving. (Monitoring for EAB this way is not recommended while operating your vehicle.) Particularly striking photos of blonding on ash caused by pileated woodpeckers were shared with UMass Extension from Lee, MA, courtesy of Cindy Packard on 2/13/2021.** It is interesting to note that woodpeckers are capable of eating 30-95% of the emerald ash borer larvae found in a single tree (Murphy et al. 2018). Unfortunately, despite high predation rates, EAB populations continue to grow.

For further information about this insect, please visit: <https://ag.umass.edu/fact-sheets/emerald-ash-borer> ([/fact-sheets/emerald-ash-borer](https://ag.umass.edu/fact-sheets/emerald-ash-borer)). If you believe you have located EAB-infested ash trees, particularly in an area of Massachusetts not identified on the map provided, please report here: <https://massnrc.org/pests/eabreport.htm> (<https://massnrc.org/pests/eabreport.htm>) (<https://massnrc.org/pests/eabreport.htm>).

- **Winter Moth:** (*Operophtera brumata*) data since 2017 has indicated that the winter moth population in eastern Massachusetts has been on the decline while the percent of winter moth pupae parasitized by *Cyzenis albicans* has increased! This is excellent news, as it is data supporting the evidence that winter moth populations have decreased while the parasitic fly, *C. albicans*, has become established at many locations in New England. Dr. Joseph Elkinton’s laboratory at UMass Amherst has released this biological control of winter moth since 2005 and conducted the rigorous sampling required to determine where the insect has established and what its impact on the winter moth population has been at multiple sites in eastern MA. More information about the Elkinton Lab’s research and the biological control of winter moth can be found here: https://www.fs.fed.us/foresthealth/technology/pdfs/FHAAST-2018-03_Biology_Control_Winter-Moth.pdf (https://www.fs.fed.us/foresthealth/technology/pdfs/FHAAST-2018-03_Biology_Control_Winter-Moth.pdf)

The take-home point? Do not worry about winter moth this spring! In fact, management of this insect in landscaped settings will likely not be necessary in most locations. In recent years, it is worth-while to note that some areas on the Cape and other locations in eastern MA have reported noticeable cankerworm populations in the spring, which are often confused for winter moth. Read more about cankerworms in the spring scouting list below.

For blueberry growers in eastern Massachusetts concerned about winter moth, please visit this recent update from Heather Faubert, University of Rhode Island:

<https://web.uri.edu/ipm/2021/04/april-22-winter-moth-update/>
(<https://web.uri.edu/ipm/2021/04/april-22-winter-moth-update/>)

- **Gypsy Moth:** (*Lymantria dispar*) thanks to the gypsy moth caterpillar killing fungus, *Entomophaga maimaiga*, **the recent outbreak of gypsy moth in Massachusetts has come to an end! Most locations in Massachusetts will not see damaging or even noticeable populations of this insect in 2021.** Gypsy moth has been in Massachusetts since the 1860's. This invasive insect from Europe often goes unnoticed, thanks to population regulation provided by the entomopathogenic fungus, *E. maimaiga*, as well as a NPV virus specific to gypsy moth caterpillars. (And to a lesser extent many other organisms, including other insects, small mammals, and birds who feed on gypsy moth.) However, if environmental conditions do not favor the life cycle of the fungus, outbreaks of gypsy moth caterpillars are possible. (Such as most recently from 2015-2018, with a peak in the gypsy moth population in 2017 in Massachusetts.)

Check out Episode 1 of **InsectXaminer** to reminisce about the 2015-2018 outbreak of this insect:
<https://ag.umass.edu/landscape/education-events/insectxaminer> ([/landscape/education-events/insectxaminer](https://ag.umass.edu/landscape/education-events/insectxaminer))

- **Asian Longhorned Beetle:** (*Anoplophora glabripennis*, ALB) Look for signs of an ALB infestation which include perfectly round exit holes (about the size of a dime), shallow oval or round scars in the bark where a female has chewed an egg site, or sawdust-like frass (excrement) on the ground nearby host trees or caught in between branches. Be advised that other, native insects may create perfectly round exit holes or sawdust-like frass, which can be confused with signs of ALB activity.

The regulated area for Asian longhorned beetle is 110 miles² encompassing Worcester, Shrewsbury, Boylston, West Boylston, and parts of Holden and Auburn. If you believe you have seen damage caused by this insect, such as exit holes or egg sites, on susceptible host trees like maple, please call the Asian Longhorned Beetle Eradication Program office in Worcester, MA at **508-852-8090** or **toll free at 1-866-702-9938**.

To report an Asian longhorned beetle find online or compare it to common insect look-alikes, visit: <http://massnrc.org/pests/albreport.aspx> (<http://massnrc.org/pests/albreport.aspx>) or <https://www.aphis.usda.gov/pests-diseases/alb/report> (<https://www.aphis.usda.gov/pests-diseases/alb/report>) .

- **White Spotted Pine Sawyer (WSPS):** *Monochamus scutellatus* adults can emerge in late May throughout July, depending on local temperatures. This is a native insect in Massachusetts and is usually not a pest. Larvae develop in weakened or recently dead conifers, particularly eastern white pine (*Pinus strobus*). However, the white spotted pine sawyer looks very similar to the invasive **Asian Longhorned Beetle**, *Anoplophora glabripennis*, ALB. ALB adults do not emerge in Massachusetts until July and August. Beginning in July, look for the key difference between WSPS and ALB adults, which is a white spot in the top center of the wing covers (the scutellum) on the back of the beetle. White spotted pine sawyer **will have** this white spot, whereas Asian longhorned beetle **will not**. Both insects can have other white spots on the rest of their wing covers; however, the difference in the color of the scutellum is a key characteristic. See the Asian longhorned beetle entry above for more information about that non-native insect.
- **Jumping Worms:** In recent years, public concern about *Amyntas* spp. earthworms, collectively referred to as “jumping or crazy or snake” worms, has dramatically increased. University researchers and Extension groups in many locations in the US are finding that these species cause not only forest ecosystem disturbances, but may also negatively impact soil structure and reduce plant growth in

gardens and managed landscapes. They do this by voraciously devouring the organic layer of the soil while feeding very close to the soil surface, unlike other species of earthworms. In woodland areas, they can quickly eat all of the leaf litter on the forest floor. Jumping worms also leave a distinct grainy soil full of worm castings. The soil becomes granular and may look like dried coffee grounds.

Unfortunately, there are currently no research-based management options available for these earthworms. So prevention is essential – preventing their introduction and spread into new areas is the best defense against them. Adult jumping worms can be 1.5 – 8 inches or more in length. Their clitellum (collar-like ring) is roughly located 1/3 down the length of the worm (from the head) and is smooth and cloudy-white and constricted. These worms may also wiggle or jump when disturbed, and can move across the ground in an S-shape like a snake. While the exact timing of their life cycle in MA might not be completely understood, their life cycle may be expected to go (roughly) something like this: they hatch in the late spring in 1-4 inches of soil, mature into adults during the summer and adults lay eggs sometime in August, and it is thought that their cocoons overwinter. (Adults perish with frost.) *It is also worth noting here that jumping worms do not directly harm humans or pets.*

For more information, listen to Dr. Olga Kostromytska's presentation here:

<https://ag.umass.edu/landscape/education-events/invasive-insect-webinars> (/landscape/education-events/invasive-insect-webinars)

Additional resources can also be found here:

University of Minnesota Extension: <https://extension.umn.edu/identify-invasive-species/jumping-worms> (<https://extension.umn.edu/identify-invasive-species/jumping-worms>)

Cornell Cooperative Extension: <http://ulster.cce.cornell.edu/environment/invasive-pests/jumping-worm> (<http://ulster.cce.cornell.edu/environment/invasive-pests/jumping-worm>)

UNH Extension: <https://extension.unh.edu/blog/invasive-spotlight-jumping-worms> (<https://extension.unh.edu/blog/invasive-spotlight-jumping-worms>)

Spring Scouting & Preparation for Upcoming Tree & Shrub Insects & Mites:

- **Bagworm:** *Thyridopteryx ephemeraeformis* is a native species of moth whose larvae construct bag-like coverings over themselves with host plant leaves and twigs. This insect overwinters in the egg stage, within the bags of deceased females from last season. Eggs may hatch and young larvae are observed feeding around mid-June, or roughly between 600-900 GDD's. Now is the time to scout for and remove and destroy overwintering bags. In certain areas across MA in 2020, increased populations of bagworms were observed and reported, particularly in urban forest settings and managed landscapes. More information can be found here: <https://ag.umass.edu/landscape/fact-sheets/bagworm> (/landscape/fact-sheets/bagworm)
- **Balsam Twig Aphid:** *Mindarus abietinus* overwinters as a silvery colored egg on host plant twigs. Eggs hatch just prior to budbreak and nymphs feed for a period of time on the undersides of last season's needles before molting into a wingless stem mother. Stem mothers move to buds just as they open and give "live birth" to second generation nymphs. These second generation nymphs are the most damaging, feeding on new needles as they elongate, causing distortion and stunting. Excessive amounts of honeydew may be produced and cause needles to stick together. Foliar applications, if needed, may be made between 30-100 GDD's, base 50°F on warm days before budcaps loosen. Inspect the twigs, near the base of needles of Balsam fir, Fraser fir, and other true firs for overwintering eggs and eventually the needles for feeding nymphs. This insect may be most problematic in Christmas tree production. In landscapes, many natural enemies can provide adequate management of this insect.

- **Boxwood Leafminer:** *Monarthropalpus flavus* partly grown fly larvae overwinter in the leaves of susceptible boxwood. Yellowish mines may be noticeable on the undersides of leaves. This insect grows rapidly in the spring, transforming into an orange-colored pupa. After pupation, adults will emerge and white colored pupal cases may hang down from the underside of leaves where adults have emerged. Adults may be observed swarming hosts between 300-650 GDD's, or roughly the end of May through June. Most cultivars of *Buxus sempervirens* and *B. microphylla* are thought to be susceptible. If installing new boxwoods this spring, resistant cultivars such as 'Vardar Valley' and 'Handsworthiensis' are good choices at sites where this insect has been a problem.
- **Boxwood Mite:** *Eurytetranychus buxi* overwinter as tiny eggs on boxwood leaves and hatch mid-spring. These mites are tiny (about the size of a period) and difficult to detect. Feeding may cause plants to appear off-color. If management is deemed necessary, the timing for treatment may be between 245-600 GDD's or roughly the beginning of May.
- **Boxwood Psyllid:** *Psylla buxi* feeding can cause cupping of susceptible boxwood leaves. Leaf symptoms/damage may remain on plants for up to two years. English boxwood may be less severely impacted by this pest. Eggs overwinter, buried in bud scales, and hatch around budbreak of boxwood. Eggs may hatch around 80 GDD's. Foliar applications may be made between 290-440 GDD's. However, the damage caused by this insect is mostly aesthetic. Therefore, no management may be necessary.
- **Cankerworms:** *Alsophila pometaria* (fall cankerworm) and *Paleacrita vernata* (spring cankerworm) are often confused for winter moth (*Operophtera brumata*). Cankerworm populations in eastern MA, particularly on areas of Cape Cod, were confused for winter moth in 2019. Spring cankerworm adults are active in February and March, and fall cankerworm adults are active in late November into early December. During these times, both species lay eggs. These native insects most commonly utilize elm, apple, oak, linden, and beech. Eggs of both species hatch as soon as buds begin to open in the spring. Caterpillars occur in mixed populations and are often noticeable by mid-May in MA. Young larvae will feed on buds and unfolding leaves. There are two color forms (light green and dark) for caterpillars of both species. Like winter moth, they will drop to the soil to pupate. This usually occurs in June. Fall cankerworm larvae have three pairs of prolegs (one of which is small so it is sometimes referred to as ½) and spring cankerworm have two pairs. (Winter moth caterpillars also have 2 pairs of prolegs.) If populations are large and damage is noticeable on hosts, reduced risk insecticides such as *Bacillus thuringiensis* Kurstaki or spinosad may target larvae between 148-290 GDD's.
- **Cooley Spruce Gall Adelgid:** *Adelges cooleyi* is a native insect that has a complex life cycle. It has at least five different morphological forms, and requires 2 years and two hosts to complete its normal life cycle. Galls (pineapple shaped/cone-like and at the tips of twigs) are produced on Colorado blue spruce, Engelmann, Sitka, and Oriental spruce and cause needle injury (yellow spots and distortion) to Douglas-fir. Immature females overwinter on spruce near twig terminals. In the early spring, females mature into stem mothers and lay hundreds of eggs on lateral terminals. Upon egg hatch, nymphs migrate to new spring growth and feed at the base of growing needles. Immatures can be targeted on spruce between 22-81 GDD's (mid-late April). On Douglas-fir, dormant oil applications should be made immediately before budbreak to avoid phytotoxicity. Follow all label instructions.
- **Dogwood Borer:** *Synanthedon scitula* is a species of clearwing moth whose larvae bore not only into dogwood (*Cornus*), but hosts also include flowering cherry, chestnut, apple, mountain ash, hickory, pecan, willow, birch, bayberry, oak, hazel, myrtle, and others. Kousa dogwood appear to be resistant to this species. Signs include the sloughing of loose bark, brown frass, particularly near bark cracks and wounds, dead branches, and adventitious growth. The timing of adult emergence can be expected when dogwood flower petals are dropping and weigela begins to bloom. Adult moth flights continue from then until September. Emergence in some hosts (ex. apple) appears to be delayed, but this differs depending upon the location in this insect's range. Eggs are laid singly, or in small groups, on smooth and rough bark. Female moths preferentially lay eggs near wounded bark. After

hatch, larvae wander until they find a suitable entrance point into the bark. This includes wounds, scars, or branch crotches. This insect may also be found in twig galls caused by other insects or fungi. Larvae feed on phloem and cambium. Fully grown larvae are white with a light brown head and approx. ½ inch long. Pheromone traps and lures are useful for determining the timing of adult moth emergence and subsequent management.

- **Eastern Spruce Gall Adelgid:** *Adelges abietis* is a pest of Norway spruce primarily, but occasionally damages other spruce species such as Colorado blue, white, and red spruce. This adelgid overwinters as a partially grown female, often referred to as a stem mother. This overwintering individual matures around bud break and lay 100-200 eggs. The eastern spruce gall adelgid may be targeted for management between 22-170 GDD's, base 50°F (mid-April to early-May). This insect is non-native, and was introduced into the United States from Europe before 1900. Galls are small, sometimes pineapple shaped/variable, but produced on the basal portion of the shoots, such that the twig extends beyond the gall. Twig dieback may occur.
- **Eastern Tent Caterpillar:** *Malacosoma americanum* eggs overwinter on host plant twigs. Egg hatch typically occurs when wild cherry leaves begin to unfold and young caterpillars may emerge by late-April through the first two weeks in May (90-190 GDD's). Susceptible hosts include cherry and crabapple. Other host plants whose leaves are fed upon by this native insect can include apple, ash, birch, willow, maple, oak, poplar, and witch-hazel. Prune off and remove egg masses from ornamental host plants by early spring. Eastern tent caterpillars are native to Massachusetts and have many associated natural enemies (parasites and predators) that help regulate populations. Unless these caterpillars are actively defoliating specimen trees in a landscaped setting, we can coexist with this particular herbivore native to our forests.
- **Elongate Hemlock Scale:** *Fiorinia externa* is found on eastern, Carolina, and Japanese hemlock, as well as yew, spruce, and fir. The elongate hemlock scale may overwinter in various life stages, and overlap of many developmental stages at any given time can be observed throughout much of the season. Dormant oil applications for this pest can occur according to label instructions in April, roughly between 7-120 GDD's. Treatments for the crawler, or mobile, stage of this insect may be made in late May through mid-June, or between 360-700 GDD's, base 50°F. Nitrogen fertilizer applications may make elongate hemlock scale infestations worse.
- **Euonymus Scale:** *Unaspis euonymi* is an armored scale that can be found on euonymus, holly, bittersweet, and pachysandra. This insect can cause yellow spotting on leaves, dieback, and distorted bark. Dormant oil applications can be made between 35-120 GDD's or roughly from mid-April to early-May. For crawlers, early June timing is suggested between 533-820 GDD's. (Eggs begin to hatch in early June.)
- **European Pine Sawfly: *Neodiprion sertifer*** overwinters in the egg stage. Eggs are laid by females the previous season by cutting slits in needles using their ovipositors and depositing 6-8 eggs in each of 10-12 needles. Egg hatch occurs from late-April to mid-May and caterpillars become active roughly between 78-220 GDD, base 50°F. The primary host in MA is Mugo pine but it can be found on Scots, red, jack, and Japanese red pine. It is also found on white, Austrian, ponderosa, shortleaf, and pitch pine when planted near the aforementioned species. This dark colored caterpillar feeds in tight groups and small numbers can be pruned or plucked out of host plants and destroyed. Spinosad products can be used whenever the caterpillars are actively feeding, usually by mid-May and when caterpillars are still small. *Bacillus thuringiensis* kurstaki is not effective against sawflies.
- **Fletcher Scale: *Parthenolecanium fletcheri* is a soft scale pest of yew, juniper, and arborvitae. Feeding scales, especially on yew, result in honeydew and sooty mold, needle yellowing, and at times, premature needle drop. There is one generation per year. Overwintered second instar nymphs can be targeted between 38-148 GDD's, base 50°F. Nymphs develop and adult females lay eggs (on average 500-600) in May that hatch by June. Dead females conceal egg**

masses beneath. Crawlers migrate short distances to branches and may be concentrated on certain branches of a particular plant.

- **Forest Tent Caterpillar:** *Malacosoma disstria* egg hatch occurs between 192-363 GDD's, base 50°F, by mid-late May and caterpillars may be active for at least 5-6 weeks following. Susceptible hosts whose leaves are fed on by this insect include oak, birch, ash, maple, elm, poplar, and basswood. This native insect has many natural enemies, including some very effective pathogens that typically regulate populations. However, outbreaks of this insect can occur on occasion.
- **Hemlock Looper:** Two species of geometrid moths in the genus *Lambdina* are native insects capable of defoliating eastern hemlock, balsam fir, and white spruce. Adult moths lay their eggs on the trunk and limbs of hosts in September and October, and eggs will hatch by late May or early June. (*L. fiscellaria* caterpillars may be active between 448-707 GDD's.) Monitor susceptible hosts for small, inch-worm like caterpillars. Where populations are low, no management is necessary. Hemlock loopers have several effective natural enemies.
- **Hemlock Woolly Adelgid:** *Adelges tsugae* is present on eastern and Carolina hemlock. The overwintering hemlock woolly adelgid generation (sistens) is present through mid-spring and produces the spring generation (progrediens) which will be present from early spring through mid-summer. HWA, unlike many other insects, does most of its feeding over the winter. Eggs may be found in woolly masses at the base of hemlock needles beginning in mid-March. Each woolly mass is created by a female who may then lay 50-300 eggs. Eggs hatch and crawlers may be found from mid-March through mid-July. Infested trees may be treated with foliar sprays in late April to early May, using Japanese quince as a phenological indicator. Systemic applications may be made in the spring and fall, or when soil conditions are favorable for translocation to foliage. Nitrogen fertilizer applications may make hemlock woolly adelgid infestations worse.
- **Honeylocust Plant Bug:** *Diaphnocoris chlorionis* feeding results in tiny yellowish-brownish spots on leaves, leaf distortion, and in some cases, defoliation. (There are at least 7 species of plant bugs that feed on honeylocust, *Gleditsia triacanthos*.) There is one generation per year. Immatures and adults feed on foliage and light to moderately damaged foliage may persist throughout the growing season. Honeylocust plant bugs overwinter as eggs laid just beneath the bark surface of 2 and 3-year old twigs. Eggs hatch just after vegetative buds of the host begin to open. Young nymphs crawl to the opening leaflets and begin feeding and the most significant damage occurs at that time, when the insect is hidden from view. Nymphs develop into adults around May-July. This insect can be targeted between 58-246 GDD's, base 50°F.
- **Imported Willow Leaf Beetle:** *Plagioderia versicolora* adult beetles overwinter near susceptible hosts. Adult beetles will chew holes and notches in the leaves of willow once they become available. Females lay yellow eggs in clusters on the undersides of leaves. Larvae are slug-like and bluish-green in color. They will feed in clusters and skeletonize the leaves. Most plants can tolerate the feeding from this insect, and foliage will appear brown. Repeated yearly feeding can be an issue, in which case management of the young larvae may be necessary. Take care with treatment in areas near water.

Check out Episode 4 of **InsectXaminer** to see the imported willow leaf beetle in action:

[https://ag.umass.edu/landscape/education-events/insectxaminer \(/landscape/education-events/insectxaminer\)](https://ag.umass.edu/landscape/education-events/insectxaminer (/landscape/education-events/insectxaminer))

- **Lecanium Scales (Oak):** *Parthenolecanium quercifex* overwinters as a second instar nymph on oak twigs. Females will begin feeding and mature in the spring, from mid-April to early May and eggs may be laid between late May and into June. Eggs hatch in June or early July and crawlers migrate to host plant leaves where they spend the summer and migrate as second instars back to host plant twigs in the fall. Mid-April to early-May (35-145 GDD's) for dormant oil applications.

- **Lilac Borer:** *Podosesia syringae* is a clearwing moth pest of lilac, privet, fringetree, and ash. (It is also known as the ash borer, not to be confused with the emerald ash borer.) Adults mimic paper wasps. Larvae are wood-boring, and signs and symptoms include branch dieback, holes, and occasionally, sawdust-like frass accumulated on bark. Larvae bore into stems, trunks, and branches, chewing an irregularly shaped entrance hole. Peak adult moth flights may occur in the northern portion of this insect's range in June and is usually over by August 1st. Pheromone traps can be used to time adult emergence. Adult females lay flattened, oval, and tan eggs that are deposited singly or in clusters on bark crevices, ridges, and sometimes smooth bark; but usually laid in or near wounds in the bark. On average, 395 eggs are laid by each female. After hatch, larvae chew into the bark and feed laterally and then vertically in phloem tissue. Larvae overwinter in tunnels in the final instar and resume feeding in the spring. Adults emerge through a round exit hole (4-5 mm. in diameter). This insect may be targeted between 200-299 GDD's, base 50°F.
- **Lily Leaf Beetle:** *Lilioceris lili* adults overwinter in sheltered places. As soon as susceptible hosts such as *Lilium* spp. (Turk's cap, tiger, Easter, Asiatic, and Oriental lilies) and *Fritillaria* spp. break through the ground, the adult lily leaf beetles are known to feed on the new foliage. (Note: daylilies are not hosts.) Typically, in May, mating will occur and each female will begin to lay 250-450 eggs in neat rows on the underside of the foliage. If there are only a few plants in the garden, hand picking and destroying overwintering adults can help reduce local garden-level populations at that time.

Check out Episode 3 of **InsectXaminer** to see the lily leaf beetle in action:

[https://ag.umass.edu/landscape/education-events/insectxaminer \(/landscape/education-events/insectxaminer\)](https://ag.umass.edu/landscape/education-events/insectxaminer (/landscape/education-events/insectxaminer))

- **Magnolia Scale:** *Neolecanium cornuparvum* overwinters as first instar nymphs which are elliptical, and dark slate gray in color and can usually be found on the undersides of 1 and 2-year old twigs. Nymphs may molt by late April or May and again by early June at which time the scales may be purple in color. Eventually nymphs secrete a white powdery layer of wax over their bodies. Dormant oils can be applied between 7-35 GDD's targeting the overwintering nymphs. Avoid applications to opening buds or blooms.
- **Pine Bark Adelgid:** *Pineus strobi* overwinters as an immature which begins feeding during the first days of warm weather in the spring and begins secreting white wax over itself, which can eventually coat the entire trunk of infested trees. Egg laying may begin in April. This insect can be found on the trunk, branches, twigs, and the base of needles on new shoots. Spruce is a secondary host but this adelgid can repeatedly reproduce itself on pine. Wash off bark with a strong jet of water. If necessary, dormant oil applications can be made in mid-late April between 22-58 GDDs. Hosts include eastern white, Scots, and Austrian pines. This insect does little damage to healthy trees and can often be tolerated.
- **Snowball Aphid:** *Neoceruraphis viburnicola* eggs overwinter on viburnum twigs and buds. Eggs hatch and this aphid becomes active on certain species of viburnum roughly between 148-298 GDD's or around redbud bloom. This insect is particularly noticeable on *V. opulus*, *V. prunifolium*, and *V. acerifolia*. Stem mothers, appearing blueish-white, can be found in curled up and distorted foliage. Damage caused by this insect pest is mostly aesthetic.
- **Spruce Bud Scale:** *Physokermes piceae* is a pest of Alberta and Norway spruce, among others. Immatures overwinter on the undersides of spruce needles, dormant until late March. By April, females may move to twigs to complete the rest of their development. Dormant oil applications may be made between 22-121 GDDs. Follow all label instructions, as oil may remove the bluish color from certain conifers. Mature scales are reddish brown, globular, 3 mm. in diameter, and found in clusters of 3-8 at the base of new twig growth. They closely resemble buds and are often overlooked. Crawlers are present around June.

- **Spruce Spider Mite:** *Oligonychus ununguis* is a cool-season mite that becomes active in the spring from tiny eggs that have overwintered on host plants. Hosts include spruce, arborvitae, juniper, hemlock, pine, Douglas-fir, and occasionally other conifers. This particular species becomes active in the spring and can feed, develop, and reproduce through roughly June. When hot, dry summer conditions begin, this spider mite will enter a summer-time dormant period (aestivation) until cooler temperatures return in the fall. This particular mite may prefer older needles to newer ones for food. When damaging spruce spider mite populations are known from last season, dormant oil applications can be made (when temperatures are appropriate according to label instructions) between 7-121 GDD's, base 50°F (April). Magnification is required to view spruce spider mite eggs. Tapping host plant branches over white paper may be a useful tool when scouting for spider mite presence. (View with a hand lens.) Spider mite damage may appear on host plant needles as yellow stippling and occasionally fine silk webbing is visible.

Spruce spider mite populations may again build (with subsequent generations) in mid-late May (192-363 GDD's) and again in late August to mid-September (2375-2806 GDD's). Continue to scout for spruce spider mites by tapping branches over a white piece of paper or other white surface, then viewing them with a hand lens or other magnification. A general rule of thumb is that if 10 or more spruce spider mites are found *per branch* (in the absence of predatory mites), chemical management might be necessary (if you are also seeing roughly 10% of the foliage with stippling/discoloration). However, if you are finding light-colored and tear-drop shaped and fast-moving predatory mites, at a ratio of approximately 1 predatory mite: 10 spruce spider mites, these beneficial insect relatives may be able to help naturally keep spruce spider mite populations below damaging levels. It is important to also scout for predatory mites and beneficial insects (hoverfly larvae, lacewing larvae, and lady beetle larvae and adults) while scouting for spruce spider mites, because knowledge of the presence of these beneficial predators will impact your management decisions. Broad spectrum insecticides should not be used to manage spruce spider mites on host plants where predatory mites are present as these chemicals could kill the predatory mites and lead to a subsequent surge in spruce spider mite populations.

- **Viburnum Leaf Beetle:** *Pyrrhalta viburni* is a beetle in the family Chrysomelidae that is native to Europe, but was found in Massachusetts in 2004. Viburnum leaf beetle overwinters as eggs laid in capped pits on the newest growth of susceptible viburnum branches. Scout for overwintered eggs and prune out and destroy before they hatch. Egg hatch occurs in late-April to early-May as temperatures warm and foliage becomes available. Monitor for larvae in mid-May (80-120 GDD's). This beetle feeds exclusively on many different species of viburnum, which includes, but is not limited to, susceptible plants such as *V. dentatum*, *V. nudum*, *V. opulus*, *V. propinquum*, and *V. rafinesquianum*. Some viburnum have been observed to have varying levels of resistance to this insect, including but not limited to *V. bodnantense*, *V. carlesii*, *V. davidii*, *V. plicatum*, *V. rhytidophyllum*, *V. setigerum*, and *V. sieboldii*. More information about viburnum leaf beetle may be found at <http://www.hort.cornell.edu/vlb/> (<http://www.hort.cornell.edu/vlb/>).
- **White Pine Weevil:** *Pissodes strobi* adults overwinter in sheltered locations in the leaf litter and become active very early in the spring, when daytime temperatures reach 50°F and before the bloom of forsythia (between 7-58 GDDs). Hosts include eastern white pine, Norway spruce, scotch, pitch, and red pine, blue spruce, and white spruce are also susceptible to white pine weevil damage. Adults will begin feeding on bark 7-10 inches below dormant terminal buds. Females will deposit eggs in terminal growth bark, and developing larvae will feed in leaders until they mature in July when pupation occurs in pupal chambers made of wood chips. Management in nurseries or Christmas tree production may be necessary. Target adults between 7-58 GDD's.
- **Woolly Elm Aphid:** *Eriosoma americanum* females lay a single egg in the cracks and crevices of elm bark, where the egg overwinters. Eggs hatch on elm in the spring as leaves are unfolding. Aphids

may be active from 121-246 GDD's, base 50°F on elm. A young, wingless female hatched from the egg feeds on the underside of leaf tissue. This female aphid matures and gives birth to 200 young, all females, without mating. These aphids feed, and the elm leaf curls around them and protects them. By the end of June, winged migrants mature and find serviceberry hosts. Another set of females is produced. These new females crawl to and begin feeding on the roots of serviceberry. Multiple generations occur on the roots of serviceberry through the summer.

Concerned that you may have found an invasive insect or suspicious damage caused by one? Need to report a pest sighting? If so, please visit the Massachusetts Introduced Pests Outreach Project:

(<http://massnrc.org/pests/pestreports.htm>)<http://massnrc.org/pests/pestreports.htm>
(<http://massnrc.org/pests/pestreports.htm>) .

Reported by Tawny Simisky, Extension Entomologist, UMass Extension Landscape, Nursery, & Urban Forestry Program

Additional Resources

Pesticide License Exams - The MA Dept. of Agricultural Resources (MDAR) is now holding exams online. For more information and how to register, go to: <https://www.mass.gov/pesticide-examination-and-licensing> (<https://www.mass.gov/pesticide-examination-and-licensing>).

To receive immediate notification when the next Landscape Message update is posted, [join our e-mail list \(/landscape/email-list\)](#) or follow us on [Facebook \(http://www.facebook.com/pages/UMass-Extension-Landscape-Nursery-and-Urban-Forestry/519809748159819\)](#) and [Twitter \(https://twitter.com/umasslandscape\)](#).

For a complete listing of upcoming events, see our **upcoming educational events** <https://ag.umass.edu/landscape/upcoming-events> (</landscape/upcoming-events>).

For commercial growers of greenhouse crops and flowers - Check out UMass Extension's [Greenhouse Update \(/greenhouse-floriculture/greenhouse-updates\)](#) website

For professional turf managers - [Check out Turf Management Updates \(/turf/management-updates\)](#)

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

Diagnostic Services

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 Diagnostic Laboratory \(/services/plant-diagnostics-laboratory\)](#).

Soil and Plant Nutrient Testing - The University of Massachusetts Soil and Plant Nutrient Testing Laboratory is located on the campus of The University of Massachusetts at Amherst. Testing services are available to all. The lab provides test results and recommendations that lead to the wise and economical use of soils and soil amendments. For more information, visit the [UMass Soil and Plant Nutrient Testing Laboratory \(/services/soil-plant-nutrient-testing-laboratory\)](https://services/soil-plant-nutrient-testing-laboratory) web site. **Routine soil analysis** and **particle size analysis ONLY** (no other types of soil analyses available at this time). *Turnaround time: Please plan for the fact that date of receipt in the lab is affected by weekends, holidays, shipping time, and time for UMass Campus Mail to deliver samples to the lab. Campus Mail delivery only takes place on Monday, Wednesday, and Friday due to pandemic restrictions.*

Tick Testing - The UMass Center for Agriculture, Food, and the Environment provides a list of potential tick identification and testing options at: [https://ag.umass.edu/resources/tick-testing-resources \(/resources/tick-testing-resources\)](https://ag.umass.edu/resources/tick-testing-resources).

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Center for Agriculture, Food, and the Environment (/)



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Mass. Agricultural Experiment Station (</research/mass-agricultural-experiment-station>)

UMass Extension (</extension-outreach>)

UMass Research and Education Center Farms (</farms-facilities>)

UMass Cranberry Station (</cranberry>)

Water Resources Research Center (<http://wrrc.umass.edu/>)

Interest Areas

Agriculture (</about/research-outreach-interest-areas#agriculture>)

Commercial Horticulture (/about/research-outreach-interest-areas#commercial_horticulture)

Energy (</about/research-outreach-interest-areas#energy>)

Environmental Conservation (/about/research-outreach-interest-areas#environmental_conservation)

Food Science (/about/research-outreach-interest-areas#food_science)

Nutrition (</about/research-outreach-interest-areas#nutrition>)

Water (</about/research-outreach-interest-areas#water>)

Services

Pesticide Education (<https://www.umass.edu/pested/>)

Plant Diagnostics Laboratory (</services/plant-diagnostics-laboratory>)

Soil and Plant Nutrient Testing Laboratory (</services/soil-plant-nutrient-testing-laboratory>)

Hot Water Seed Treatment (</services/hot-water-seed-treatment>)

Water Testing / Environmental Analysis Laboratory (</services/environmental-analysis-laboratory>)

Projects

Conservation Assessment Prioritization System (CAPS) (<http://umasscaps.org>)

Extension Risk Management/Crop Insurance Education (</risk-management>)

Mass. Envirothon (<https://massenvirothon.org/>)

Mass. Herp Atlas (<http://massherpatlas.org>)

Mass. Keystone (<http://masskeystone.net>)

MassWoods (<http://masswoods.net>)

North American Aquatic Connectivity Collaborative (<http://streamcontinuity.org>)

RiverSmart (<http://extension.umass.edu/riversmart>)

UMass Design Center in Springfield (<http://designcenter.umass.edu>)

Resources

UMass Extension Bookstore (<https://umassextensionbookstore.com/>)

Agriculture & Commercial Horticulture Resources (</resources/agriculture-resources>)

Community & Economic Vitality (</resources/community-economic-vitality>)

Disaster Preparedness (</resources/disaster-preparedness>)

Food Safety (</resources/food-safety>)

Home Lawn & Garden (</resources/home-lawn-garden>)

Land Conservation Tools (</resources/land-conservation-tools>)

Pollinators (</resources/pollinators>)

Tick testing (</resources/tick-testing-resources>)

Resources for Faculty and Staff (</faculty-staff-resources/overview>)

Extension Outreach Programs

4-H Youth Development (</mass4h>)

Clean Energy (</clean-energy>)

Crops, Dairy, Livestock and Equine (</crops-dairy-livestock-equine>)

Food Science (</food-science>)

[Fruit \(/fruit\)](#)

[Greenhouse Crops and Floriculture \(/greenhouse-crops-floriculture\)](#)

[Integrated Pest Management \(IPM\) \(/integrated-pest-management\)](#)

[Landscape, Nursery and Urban Forestry \(/landscape\)](#)

[Nutrition Education \(/nutrition\)](#)

[Pesticide Education \(http://www.umass.edu/pested\)](http://www.umass.edu/pested)

[Turf \(/turf\)](#)

[Value-Added Food \(/value-added-food\)](#)

[Vegetable \(/vegetable\)](#)

[NetId Login](https://ag.umass.edu/Shibboleth.sso/Login?target=https%3A%2F%2Fag.umass.edu%2F%3Fq%3Dshib_login%2Fnode%2F22172) (https://ag.umass.edu/Shibboleth.sso/Login?target=https%3A%2F%2Fag.umass.edu%2F%3Fq%3Dshib_login%2Fnode%2F22172)

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