

Growing Degree Days: Insect Pests of Connecticut

By Vickie Wallace, Alyssa Siegel-Miles, Klaudia Sowizral, and Sara Tomis, UConn Extension

Based on a base 50 GDD model unless otherwise specified.

Name of Insect - Common Name	Name of Insect - Botanical Name	Host - Commonly Affected Landscape Plants	Optimal timing of control application	Egg Hatch	First Generation	Egg laying	Second Generation	Third Generation	Fourth Generation	Adult Emergence	Other Key Growth Phase	Most Susceptible Life stage	Phenological Indicator - Plants in bloom or fruit
Arborvitae leaf miner	<i>Argyresthia thuiella</i>	Arborvitae, Juniper	245-360 ^f		245-360 ^a		533-700 ^a	1700-2100 ^a		533-700 ⁱ			LARVA/ADULT STAGE (245-360): In bloom: Kousa dogwood, cranberry bush, beautybush. ADULT STAGE (350-600): In bloom: Ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark. ADULT STAGE (533-700): In bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn. MOTH STAGE (1200 approx.): In bloom: <i>Abelia</i> , golden rain tree, sourwood ^q
Bagworm	<i>Thyridopteryx ephemeraeformis</i>	Juniper, arborvitae, spruce, pine, cedar ^e	600-900 ^f	602 ^g									LARVAL STAGE (600-900): In bloom: Mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn, <i>Rhododendron maximum</i> , <i>Spiraea bumalda</i> , <i>Philadelphus</i> ^q
Banded ash clearwing borer	<i>Podosesia aureocincta</i>	Green and White Ash; can attack closely related plants as well								1800- 2200 ^a			
Beech scale	<i>Cryptococcus fagisuga</i>	American beech, common beech			1250 ^a	800 ^a							
Birch leafminer [®]	<i>Fenusa pusilla</i>	Gray birch, paper birch, European white birch	190-290 ^b		175-215 ^a	275-375 ^a	600- 700 ^a			189 ^c			LARVAL STAGE (190-290): In bloom: Redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle. ADULT STAGE (190-290): In bloom: Kousa dogwood, cranberry bush, beautybush. ADULT STAGE (530-700): In bloom: Mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn ^q
Black pineleaf scale	<i>Nuculaspis californica</i>	Mexican pinyon pine, lodgepole pine, shortleaf pine, Jeffery pine, sugar pine, ponderosa pine, Monterey pine, pitch pine, Digger pine, Douglas fir, White fir				1068 ^a							
Bronze birch borer	<i>Agrius anxius</i>	Paper birch, European white birch, gray birch, European white weeping birch	440-800 ^b			400- 600 ^a				400- 600 ^a			ADULT STAGE (440-800): In bloom: Kousa dogwood, cranberry bush, beautybush, mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn ^q
Boxwood leafminer	<i>Monarthropalpus flavus</i>	Boxwood	448-707 ^b							300-650 ^p			ADULT STAGE (350-600): In bloom: Kousa dogwood, cranberry bush, beautybush, mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn. LARVAL STAGE (1200-2400): In bloom: New Jersey tea (<i>Ceanothus americanus</i>), <i>Clematis x jackmanii</i> , littleleaf linden (<i>Tilia cordata</i>), <i>Abelia</i> , golden rain tree, sourwood, butterfly bush, <i>Clethra alnifolia</i> , false spirea, <i>Hydrangea paniculata</i> . In fruit: Mountain ash, cranberry bush. ^q
Cankerworm	<i>Alsophila pometaria</i>	Ash, basswood, beech, black cherry, red maple, red oak, white oak, apple, birch, boxelder, dogwood, elm, hickory, linden	148-290 ^b		Youngs caterpillars at 100-200 ^a								LARVAL STAGE (148-290): In bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry, redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle, ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark ^q
Cooley spruce gall adelgid	<i>Gilletteella cooleyi</i>	Colorado blue spruce, Douglas fir	22-92, 1500-1775 ^b	308 ^c	25-120 (Spruce control target), 90-180 (Douglas fir) ^a		1500- 1600 ^a						200- 310 first galls visible- Spruce. 1st Nymphs at 90-150, 2nd nymphs at 600-1000 ^a
Cottony maple scale	<i>Pulvinaria innumerabilis</i>	Silver maple, boxelder, basswood, white ash, dogwood, locust, hackberry, sycamore, birch, elm, willow, poplar	802-1265 ^b	930 ^c						802-1200 ^a			IMMATURE STAGE (7-68): In bloom: Boxelder, star magnolia, periwinkle, Norway maple. IMMATURE STAGE (68-178): In bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry. EGG/CRAWLER STAGE (802-1265): In bloom: <i>Abelia</i> , <i>Ceanothus americanus</i> , <i>Clematis x jackmanii</i> , Golden rain tree, <i>Philadelphus</i> , <i>Rhododendron maximum</i> , Sourwood, <i>Spiraea bumalda</i> , <i>Tilia cordata</i> ^q
Dogwood borer	<i>Oberea tripunctata</i>	Dogwood, cherry, chestnut, apple, mountain-ash, hickory, pecan, willow, birch, barberry, oak, hazel, myrtle, loquat	148-700 ^b							350- 850 (Adults, eggs, caterpillars) ^a			MOTH/EGG STAGE (148-700): In bloom: Redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle, Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry, Kousa dogwood, cranberry bush, beautybush, mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn ^q
Eastern spruce gall adelgid	<i>Adelges abietis</i>	Norway spruce, white spruce		250-310 ^a	25-100 ^a		1500-1600 ^a				Egg hatch and galls begin forming 250-310 ^a		IMMATURE STAGE (170-?): In bloom: Redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle. ADULT/IMMATURE (Not available): In flower: <i>Hydrangea paniculata</i> . ADULT/LARVA (Not available): In fruit: Mountain ash, cranberry bush ^q
Eastern tent caterpillar	<i>Malacosoma americanum</i>	Malus, prunus, crabapples, cherry trees	90-190 ^b	45-100 ^a							Tents apparent at 150, pupation at 450 ^a		LARVAL STAGE (90-190): In bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry ^q
Elongate hemlock scale	<i>Fiorinia externa Ferris</i>	Fir, hemlock, spruce, Douglas-fir, pine	7-120, 360-700, 2515-2625 ^b		360-700 ^o								CRAWLER STAGE (360-700): In bloom: Ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark, Kousa dogwood, cranberry bush, beautybush, mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn. CRAWLER STAGE (700-?): In bloom: <i>Rhododendron maximum</i> , <i>Spiraea bumalda</i> , <i>Philadelphus</i> ^q
Emerald ash borer	<i>Agrius planipennis</i>	Ash, white fringetree								400-500, peak adult activity at 1000-1200 ^a			
Euonymus scale	<i>Unaspis euonymi</i>	Euonymus, English ivy, hibiscus, holly, honeysuckle, lilac, pachysandra	35-120, 533-820 ^b	575 ^c	400-575 ^a		1900-150 ^a						ADULT/CRAWLER STAGE (70-120): In bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry. CRAWLER STAGE (533-820): In bloom: Kousa dogwood, cranberry bush, beautybush, mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn ^q
European pine sawfly	<i>Neodiprion sertifer</i>	Scotch pine, red pine, mugo pine, jack pine, Austrian pine, white pine	34-121 ^b	144 ^c						1st larvae 100-195 ^a			LARVAL STAGE (35-145): In bloom: Boxelder, star magnolia, periwinkle, Norway maple ^q
Fall webworm	<i>Hyphantria cunea</i>	Hickory, pecan, walnut, elm, alder, willow, mulberry, sweetgum, poplar	1266-1795 ^b	850-900 ^a							Caterpillars feeding 1200-1800, tents apparent at 1850-2050 ^a		ADULT STAGE (1266-1795): In bloom: <i>Abelia</i> , golden rain tree, sourwood. LARVAL STAGE (1266-1795): In bloom: Butterfly bush, <i>Clethra alnifolia</i> , false spirea, <i>Hydrangea paniculata</i> . LARVAL STAGE (1695-?): In fruit: Mountain ash, cranberry bush ^q
Forest Tent Caterpillar ^d	<i>Malacosoma disstria</i>	Oak, basswood, gums, cherry, plum, trembling aspen, elm	192-363 ^b	125-250 ^a							Tachinid parasitic flies abundant 450-550, sarcophagid parasitic flies abundant at 750-850 ^a		LARVAL STAGE (192-363): In bloom: Redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle, ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark ^q
Gypsy moth	<i>Lymantria dispar dispar</i>	Alder, apple, big tooth aspen, trembling aspen, American beech, gray birch, paper, river birch, boxelder, crabapple, hawthorne, hazelnut, larch, linden, ash mountain, black oak, blackjack oak, bur, oak	91-246 ^b	145-200 ^a							Young caterpillars at 450, pupation at 900-1200 ^a		LARVAL STAGE (90-488): In bloom: Redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle, ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark ^q
Hemlock Woolly Adelgid ^d	<i>Adelges tsugae</i>	Hemlock, eastern hemlock, Carolina hemlock		227 ^c									EGG/ADULT STAGE: In bloom: silver maple, Cornelian cherry, pussy willow. EGG/CRAWLER STAGE: In bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry, boxelder, star magnolia, periwinkle, Norway maple. EGG/NYMPH STAGE: In bloom: Redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle. NYMPH STAGE: In bloom: <i>Abelia</i> , golden rain tree, sourwood ^q
Honey locust plant bug	<i>Blepharidopterus chlorionis</i>	Honey locust	58-246 ^e	220-250 ^a									NYMPH STAGE (58-246): In bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry, boxelder, star magnolia, periwinkle, Norway maple in bloom during nymph stage ^q
Honey locust spider mite	<i>Platytetranychus multigituli</i>	Honey locust	912-1514 ^b	220-250 ^a									
Introduced pine sawfly	<i>Diprion similis</i>	Pine, white pine, scots pine, jack pine, red pine	246-1388 ^b	144 ^c	400-600 ^a								
Japanese beetle	<i>Popillia japonica</i>	Japanese maple, Norway maple, horse chestnut, hollyhock, gray birch, American chestnut, rose of Sharon, black walnut, crabapple, London planetree, Lombardy poplar, cherry, roses, sassafras, American mountain ash, American linden, American elm, English elm, grape	1029-2154 ^b							950-2150 ^a			ADULT STAGE (1029-2154): In bloom: <i>Ceanothus americanus</i> , <i>Clematis x jackmanii</i> , <i>Tilia cordata</i> , <i>Abelia</i> , golden rain tree, sourwood, Butterfly bush, <i>Clethra alnifolia</i> , false spirea. In flower: <i>Hydrangea paniculata</i> . In fruit: Mountain ash, cranberry bush ^q
Juniper scale	<i>Carulaspis juniperi</i>	Juniper, Eastern red cedar, Leyland cypress		550-700 ^a							Adult/egg: 22-148 ^q		CRAWLER STAGE (707-1260): In bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn, <i>Rhododendron maximum</i> , <i>Spiraea bumalda</i> , <i>Philadelphus</i> , <i>Ceanothus americanus</i> , <i>Clematis x jackmanii</i> , <i>Tilia cordata</i> ^q
Lace Bugs ^d	<i>Corythucha</i> spp.	Alder, ash, azalea, black cherry, black walnut, birch, <i>Ceanothus</i> , hickory, <i>Photinia</i> , poplar, sycamore, willow ^l	239-363, 1266-1544 ^b	206 ^c		25 ^h					Nymphs active at 1,000 GDD ^h		IMMATURE STAGE (239-363): In bloom: Redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle, Ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark. ADULT/IMMATURE STAGE (239-363): In bloom: Ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark. ADULT/IMMATURE STAGE (448-618): In bloom: Kousa dogwood, cranberry bush, beautybush. EGG/IMMATURE STAGE (448-618): In bloom: Kousa dogwood, cranberry bush, beautybush. IMMATURE/ADULT STAGE (618+): In bloom: <i>Rhododendron maximum</i> , <i>Spiraea bumalda</i> , <i>Philadelphus</i> . IMMATURE STAGE (802-1029): In bloom: <i>Rhododendron maximum</i> , <i>Spiraea bumalda</i> , <i>Philadelphus</i> . IMMATURE/ADULT STAGE (1266-1544): In bloom: <i>Abelia</i> , golden rain tree, sourwood ^q
Lilac borer	<i>Podosesia syringae</i>	Lilac, ash, mountain ash, privet	148-299 ^b	324 ^c						325-350 ^a			ADULT (MOTH) STAGE (148-299): In bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry, redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle, ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark. ADULT (MOTH) STAGE (400 approx.): In bloom: Kousa dogwood, cranberry bush, beautybush, mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn ^q
Oystershell scale	<i>Lepidosaphes ulmi</i>	Aspen, ash, maples, willow, lilac, apple, crab apple	7-91, 298-912 ^b	350-500 ^a									CRAWLER STAGE (363-707): In bloom: Ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark, Kousa dogwood, cranberry bush, beautybush, mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn. SETTLED CRAWLER STAGE (363-707): In bloom: Kousa dogwood, cranberry bush, beautybush, mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn ^q

Pine needle scale	<i>Chionaspis pinifoliae</i>	Scotch pine, spruce, douglas-fir, eastern red cedar	298-448, 1388-1917^b	250-400^a	350-400^a		1250-1350^a				Eggs, females 22-58 ^a	CRAWLER STAGE (298-448): In bloom: Ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark. CRAWLER/IMMATURE STAGE (298-448): In bloom: Kousa dogwood, cranberry bush, beautybush. CRAWLER STAGE (1388-1917): In bloom: Kousa dogwood, cranberry bush, beautybush ^a
Redheaded Flea Beetle^d	<i>Systema frontalis</i>	Many common ornamental shrubs (e.g., Forsythia, Hydrangea, Hibiscus, Highbush blueberry, Ilex, Itea, Rosa, Weigela); perennials/annuals (e.g., Asters, Coreopsis, Salvia, Veronica, Zinnia); and vegetables (e.g., cabbage, beans, beets, corn, potatoes)									1st larvae 400-600^a	
Rhododendron Gall Midge^d	<i>Clinodiplosis rhododendri</i>	Rhododendron	192-363^b									
Spruce Gall Adelgids^d	<i>Adelges cooleyi</i>	Norway white black red and blue spruce, Douglas-fir	22-92, 1500-1775^b	283^c							Immature: 22-91 ^a	IMMATURE/ADULT STAGE and NYMPH STAGE (22-91): In bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry. ADULT/IMMATURE STAGE (1500-1775): In bloom: Butterfly bush, <i>Clethra alnifolia</i> , false spirea. In flower: <i>Hydrangea paniculata</i> ^a
Spotted Lantern Fly^d	<i>Lycorma delicatula</i>	Almonds, Apples, Apricots, Beech, Black and paper birch, Black gum, Cherry trees and cherries, Dogwood, Elm, Grapes, Hops, Linden, Maple, Nectarines, Oak, Peaches, Pignut and shagbark hickory, Pine, Plums, Poplar, Sassafras, Serviceberry, Sycamore, Tulip poplar, Walnut, White ash, Willow^m			240-1174^l		615-1586^l	1020-1837^l	1329-2208^l	1696-3232^l		
Spruce spider mite	<i>Oligonychus ununguis</i>	Spruce, arborvitae, juniper, hemlock, pine, Douglas-fir, dwarf Alberta spruce	7-121, 192-363, 2375-2806^b	162^c								IMMATURE/ADULT STAGE (192-250): In bloom: Redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle. ADULT/IMMATURE (192-364 and/or 292-363): In bloom: Redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle, ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark, Kousa dogwood, cranberry bush, beautybush. ADULT/IMMATURE and IMMATURE/ADULT (363-?): Kousa dogwood, cranberry bush, beautybush. IMMATURE/ADULT (2375-2806): In fruit or flower: <i>Viburnum dentatum</i> , sweet autumn clematis, <i>Polygonum aubertii</i> . ADULT/EGG (2375-2806): In flower: witchhazel ^h
Viburnum Leaf Beetle^d	<i>Viburnum sp.</i>	European cranberry bush viburnum, arrowwood viburnum, Sargent viburnum		100^k								LARVAL STAGE (60-120): In bloom: Redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle. ADULT STAGE (800-?): In bloom: <i>Ceanothus americanus</i> , <i>Clematis x jackmanii</i> , <i>Tilia cordata</i> , Butterfly bush, <i>Clethra alnifolia</i> , false spirea. In flower: <i>Hydrangea paniculata</i> ^a
White pine weevil	<i>Pissodes strobi</i>	Eastern white pine, jack pine, Norway spruce, foxtail pine, Japanese pine, limber pine, James western white pine	7-58^b		25-220^a		1200-1400^a				110^c	ADULT STAGE (7-58): In bloom: silver maple, Cornelian cherry, pussy willow, boxelder, star magnolia, periwinkle, Norway maple. ADULT STAGE (GDD Not Available): In bloom: Ruby horsechestnut, <i>Laburnum alpinum</i> , black locust, ninebark, Kousa dogwood, cranberry bush, beautybush, mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn, <i>Rhododendron maximum</i> , <i>Spiraea bumalda</i> , <i>Philadelphus</i> ^a
Prunicola scale, white	<i>Pseudaulacaspis prunicola</i>	Acer, Alnus, Aucuba, Buxus, Forsythia, Ilex, Ligustrum, Malus, Prunus, Rhododendron, Syringa^a	707-1151^b				2314-3586^a					EGG STAGE (35-145): In bloom: Boxelder, star magnolia, periwinkle, Norway maple, Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry. CRAWLER STAGE (707-1151): In bloom: Mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn, <i>Rhododendron maximum</i> , <i>Spiraea bumalda</i> , <i>Philadelphus</i> , <i>Ceanothus americanus</i> , <i>Clematis x jackmanii</i> , <i>Tilia cordata</i> ^a

^d Birch leaf miner no longer needs to be managed with insecticides, due to highly effective biological control.

^e Highly effective biological control for lily leaf beetle is rapidly developing with growing populations of parasitoid wasps. In order for biocontrol to become established and effective, a small amount of damage should be tolerated.

References

- ^a[GDD of Landscape Insects, Michigan State University](#)
^b[Using Growing Degree Days For Insect Management, University of New Hampshire](#)
^c[Using Growing Degree Days For Insect Management, The Ohio State University](#)
^d[UConn IPM Turf and Landscape Program, ipm.uconn.edu](#)
^e[Bagworms on Landscape Plants, University of Kentucky](#)
^f[Landscape Pest Growing Degree Day Table, nh.gov](#)
^g[Pest Predictive Calendar for Landscapes and Nurseries, University of Maryland](#)
^h[Pheno Forecasts, USA National Phenology Network](#)
ⁱ[Arborvitae Leafminer, University of Massachusetts](#)
^j[Lace Bugs, University of California](#)
^k[Viburnum Leaf Beetle - Hatching Out, Cornell University](#)
^l[Spotted Lanternfly Management Guide, Rainbow Treecare Scientific Advancements](#)
^m[The Spotted Lanternfly and Connecticut, ct.gov](#)
ⁿ[Landscape - White Prunicola Scale, University of Delaware](#)
^o[Elongate Hemlock Scales, PennState Extension](#)
^p[Boxwood Leafminer, University of Massachusetts](#)
^q[2021 Trees and Shrubs, Cornell University](#)

Additional Resources

- [Phenology Visualization Tool, USA National Phenology Network](#)
[Network for Environment and Weather Applications \(NEWA\), Cornell](#)
[About Degree Days, Cornell University](#)
[Online Phenology and Degree Day Models for the U.S., Oregon State University](#)



Funds to support the creation of this document were provided by the Crop Protection and Pest Management Extension Implementation Program (grant no. 2017-70006-27201/project accession no. 1013777) from the USDA National Institute of Food and Agriculture.



UConn Extension is committed to providing equal access and full participation for individuals with disabilities within all our programs and activities. UConn is an equal opportunity program provider and employer.

[Visit s.uconn.edu/accessibility for more resources.](https://www.uconn.edu/accessibility)
 © UConn Extension. All rights reserved.

For more information, contact:
Vickie Wallace, UConn Extension
 Extension Educator
 Sustainable Turf and Landscape
 Phone: (860) 885-2826
 Email: victoria.wallace@uconn.edu