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New Jersey Agricultural Experiment Station

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Nursery & Landscape Pest Scouting
Scouting with growing degree-days

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Nursery and Landscape Pest Scouting Guide

~beta-version 2022~

Timing is everything in pest management! You must obtain your local growing degree-day accumulation values to use this pest scouting guide. Degree-day models allow us to predict when to scout for pests and when to target vulnerable life stages of pest development (egg hatch, adult emergence, crawler activity, adult flight). Growing degree-days (GDD_{50}) refer to the accumulation of heating units, which are the average air temperature over a 24h period minus the minimum temperature threshold. A 'growing' degree-day, means the **min. (or base) temperature threshold is 50°F,** whereas the **max. temperature threshold is most often set to 95°F**. Growing degree-days are not exact and should be viewed as *ranges,* i.e. begin scouting prior to GDD_{50} expectations for any given pest. Blind pesticide applications, without ground-truthing the pest's development stage, may not deliver desired outcomes in terms of control or ecological impacts on beneficials or wildlife. Please alert twaller@njaes.rutgers.edu if pest observations differ from those listed here.

Approximate 2021 Growing Degree-days as reference - Differ from region to region, year to year

Region	Location	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	1-Jul	1-Aug	1-Sep	1-Oct	1-Nov	1-Dec
Southern	Upper Deerfield (NJ50)	0	0	0	75	229	591	1294	2100	2937	3495	3721	3725
Central	Howell / Freehold (NJ10)	0	0	0	67	153	440	1090	1838	2622	3134	3316	3316
Northern – West	High Point (NJ59)	0	0	0	21	92	353	910	1519	2195	2582	2649	2649
Northern – Metro	Oakland (D6302)	0	0	0	45	160	488	1140	1867	2621	3100	3207	3207

Compiled using USPEST.ORG (Base 50, Degree-day calculator(general purpose), Simple average/growing dds (min. 50F - Max. 95F))

Pest Scouting – Growing Degree-day Ranges | 0 – 25 GDD50

Crop Type	Common Name	*Scientific Name*	GDD Min (50F)	GDD Max (95F)	Ref.	Developmental / Target Stage
Many	**Aphids**	*Aphidoidea*	7	120	2	Spring control of overwintering stage
Conifer	**Conifer rust mites**	*Eriophyidae*	7	22	4	Overwintering eggs hatch
Deciduous, Yew	**Cottony camellia / taxus scale**	*Pulvinaria floccifera*	7	91	5	Spring control of overwintering stage
Conifer	**Elongate hemlock scale**	*Fiorinia externa*	7	120	2	Spring control of overwintering stage
Pomes, Stone fruit	**European red mite**	*Panonychus ulmi*	7	58	2	1st adults active
Oaks	**Golden oak scale**	*Asterolecanium variolosum*	7	121	5	Spring control of overwintering stage
Oaks	**Kermes oak scales**	*Kermes spp.*	7	91	2	Spring control of overwintering stage
Deciduous	**Oystershell scale**	*Lepidosaphes ulmi*	7	91	2	Spring control of overwintering stage
Conifer	**Pales weevil**	*Hylobius pales*	7	121	RU	Overwintering adults become active / prevent egg laying
Many	**Southern red mite**	*Oligonychus ilicis*	7	91	5	Overwintering eggs hatch
Conifer	**Spruce spider mite**	*Oligonychus ununguis*	7	121	RU	Overwintering eggs hatch
Conifer	**Taxus mealybug**	*Dysmicoccus wistariae*	7	91	2	Spring control of overwintering stage
Conifer	**White pine weevil**	*Pissodes strobi*	7	58	RU	Overwintering adults become active / prevent egg laying
Magnoliaceae	**Tuliptree scale**	*Toumeyella liriodendri*	12	121	2	Spring control of overwintering stage
Rhododendron, Azalea	**Azalea lacebug**	*Stephanitis pyrioides*	18	372	RU	Spring control of overwintering stage
Conifer	**Juniper scale**	*Carulaspis juniperi*	22	148	2	Spring control of overwintering stage
Magnoliaceae	**Magnolia scale**	*Neolecanium cornuparvum*	22	91	2	Spring control of overwintering stage
Conifer	**Pine bark adelgid**	*Pineus strobi*	22	58	2	Spring control of overwintering stage
Conifer	**Spruce bud scale**	*Physokermes piceae*	22	120	2	Spring control of overwintering stage
White and Scotch Pine	**White pine aphid**	*Cinara strobi*	22	91	RU	Spring control of overwintering stage

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See final page for additional resources, including how to obtain your local degree-days

Pest Scouting – Growing Degree-day Ranges						25 – 150 GDD50
Crop Type	**Common Name**	***Scientific Name***	**GDD Min (50F)**	**GDD Max (95F)**	**Ref.**	**Developmental / Target Stage**
Conifer	**Cooley spruce gall adelgid**	*Adelges cooleyi*	25	120	3	Spring control of overwintering stage
Conifer	**Eastern spruce gall adelgid**	*Adelges abietis*	25	100	3	spring control of overwintering stage
Conifer	**Northern pine weevil**	*Pissodes approximatus*	25	100	4	1st adults active
Conifer	**White pine weevil**	*Pissodes strobi*	25	220	4	1st adults active
Conifer	**Zimmerman pine moth**	*Dioryctria zimmermani*	25	100	3	1st larvae
Many, evergreen	**Euonymus scale**	*Unaspis euonymi*	35	120	2	Spring control of overwintering stage
Shade trees	**European fruit lecanium**	*Parthenolecanium corni*	35	145	2	Spring control of overwintering stage
Conifer	**European pine sawfly**	*Neodiprion sertifer*	35	145	1	Hatched larvae
Conifer	**Fletcher scale**	*Parthenolecanium fletcheri*	35	148	2	Spring control of overwintering stage
Conifer	**European pine shoot moth / borer**	*Rhyacionia buoiana*	50	220	4	1st larvae active
Honeylocust	**Honeylocust plant bug**	*Diaphnocoris chlorionis*	58	246	2	Nympths / adults active
Maples	**Maple bladdergall mite**	*Vasates quadripedes*	58	148	2	Spring control of overwintering stage
Conifer	**Pine bark adelgid**	*Pineus strobi*	58	618	2	Spring control of overwintering stage
Conifer	**Pine tortoise scale**	*Toumeyela parvicornis*	58	148	2	Cralwer activity
Conifer	**Balsam twig aphid**	*Mindarus abietinus*	60	100	4	Egg hatch
Many	**Southern red mite**	*Oligonychus ilicis*	69	157	RU	Spring hatch
Conifer	**Eastern pine shoot borer**	*Eucosma gloriola*	75	200	4	1st adults active
Conifer	**Cooley spruce gall adelgid**	*Adelges cooleyi*	90	180	4	1st adults active - Douglas fir
Malus, Prunus, many	**Eastern tent caterpillar**	*Malacosoma americanum*	90	190	2	Larvae treatment before tents apparent
Many	**Gypsy moth**	*Lymantria dispar*	90	448	RU	Larvae treatment (early instars)
Conifer	**Balsam twig aphid**	*Mindarus abietinus*	100	150	4	Stem mothers present (control target)
Conifer	**European pine sawfly**	*Neodiprion sertifer*	100	195	4	1st larvae active
Conifer	**Pine engraver (Ips bark beetle)**	*Ips spp.*	100	150	4	1st adults active
Pieris	**Andromeda lace bug**	*Stephanitis takeyai*	115	279	RU	Nymphs (1st generation)
Azalea	**Azalea lace bug**	*Stephanitis pyrioides*	118	372	RU	Nymphs (1st generation)
Conifer	**Larch casebearer**	*Coleophora laricella*	120	150	4	Egg hatch
Elm, Service berry	**Woolly elm aphid**	*Eriosoma americana*	121	246	2 (6)	Control target
Birch	**Birch leafminer**	*Fenusa pusilla*	123	290	RU	Adults - egg laying
Many	**Gypsy moth**	*Lymantria dispar*	145	200	4	Egg hatch, 1st larvae
Holly	**Holly leaf miner**	*Phytomyza ilicis*	147	265	RU	Adults - egg laying
Yews, Rhododendrons, many	**Black Vine Weevil**	*Otiorhynchus sulcatus*	148	400	2	Pupation / Adult emergence
Many	**Cankerworms, inch-worms, loopers**	*(many)*	148	290	2	Larvae treatment
Dogwood, many	**Dogwood Borer**	*Synanthedon scitula*	148	700	2	Adult activity
Lilac, ash, privet, many	**Lilac / Ash Borer**	*Podosesia syringae*	148	299	2	Adult flight

Pest Scouting – Growing Degree-day Ranges						150 – 250 GDD50
Crop Type	**Common Name**	***Scientific Name***	**GDD Min (50F)**	**GDD Max (95F)**	**Ref.**	**Developmental / Target Stage**
Conifer	**Balsam gall midge**	*Paradiplosis tumifex*	150	300	4	Adults laying eggs
Conifer	**Hemlock Woolly Adelgid**	*Adelges tsugae*	150	150	RU	Eggs and 10% hatch
Conifer	**Spruce needleminer**	*Endothenia albolineana*	150	200	4	1st larvae active
Conifer	**Spruce spider mite**	*Oligonychus ununguis*	150	175	4	1st egg hatch
Conifer	**Spruce spider mite**	*Oligonychus ununguis*	150	175	4	1st egg hatch
Witchhazel, River birch	**Spiny witchhazel gall aphid**	*Hamamelistes spinosus*	171	-	6	Control target
Birch	**Birch Leafminer**	*Fenusa pusilla*	175	215	4	1st adults active
Birch	**Birch leafminer**	*Fenusa pusilla*	190	290	RU	Larvae (1st generation)
Conifer	**Spruce spider mite**	*Oligonychus ununguis*	190	363	RU	Immatures/Adults
Holly	***Native holly leafminer**	*Phytomyza ilicicola*	192	298	2	Egg hatch
Andromeda	**Andromeda lacebug**	*Stephanitis takeyai*	192	303	RU	Adults
Holly	**Holly leafminer**	*Phytomyza ilicis*	192	290	RU	Egg hatch
Honeylocust	**Honeylocust pod gall midge**	*Dasineura gleditchiae*	192	229	RU	Larvae
Willows, Cottonwood, Poplar	**Imported willow leaf beetle**	*Plagiodera versicolora*	192	448	RU	Larvae/Adults
Larch	**Larch sawfly**	*Pristophora erichsonii*	192	299	2	Typical treatment window
Privet	**Privet thrips**	*Dendrothrips ornatus*	192	618	2	Typical treatment window
Rhododendron	**Rhododendron borer**	*Synanthedon rhododendri*	192	298	2	Typical treatment window
Rhododendron	**Rhododendron gall midge**	*Clinodiplosis rhododendri*	192	363	RU	Larvae
Conifer	**Cooley spruce gall adelgid**	*Adelges cooleyi*	200	310	4	1st galls visible - Spruce
Conifer	**Douglas fir needle midge**	*Contarinia pseudotsugae*	200	400	3	Adults emerge from soil
Lilac, ash, privet, many	**Lilac / Ash Borer**	*Podosesia syringae*	200	299	RU	Adults - 1st Treatment
Spruce	**Spruce budworm**	*Choristoneura fumiferana*	200	300	5	Larvae
Elm	**Elm leafminer**	*Fenusa ulmi*	215	240	5	Adult emergence
Wild and cultivated roses	**Roseslug sawfly**	*Endelomyia aethiops*	230	-	6	Egg hatch / early instars
Deciduous, many	**Hawthorn lacebug**	*Corythucha cydoniae*	239	363	RU	Nymphs/Adults
Many	**Redheaded flea beetle**	*Systena frontalis*	242	600	Unv. Del	First control target - egg hatch / larval activity
Prunus	**American plum borer**	*Euzophera semifuneralis*	245	440	5	Adult flight, egg laying
Conifer	**Arborvitae leafminer**	*Argyresthia thuiella*	245	360	RU	Larvae Treatments (1st generation)
Boxwood	**Boxwood mites**	*Eurytetranychus buxi*	245	600	RU	All Stages
Holly	**Holly leafminer**	*Phytomyza ilicis*	246	448	RU	Larvae Treatment
Lilac	**Lilac leafminer**	*Caloptilia syringella*	246	363	5	Larvae Treatments
Conifer	**Pine sawflies (Red-headed)**	*Neodiprion lecontei*	246	1388	RU	Larvae (1st generation)
Yew	**Taxus mealybug**	*Dysmicoccus wistariae*	246	618	RU	Adults/Crawlers
Boxwood	**Boxwood leafminer**	*Monarthropalpusi flavus*	249	-	6	Adult emergence

Pest Scouting – Growing Degree-day Ranges						250 – 448 GDD50
Crop Type	**Common Name**	***Scientific Name***	**GDD Min (50F)**	**GDD Max (95F)**	**Ref.**	**Developmental / Target Stage**
Conifer	**Eastern spruce gall adelgid**	*Adelges abietis*	250	310	5	egg hatch, galls begin forming (not a control target)
Many	**Spotted Lantern Fly**	*Lycorma delicatula*	250	1000	PA Dept. Ag	1st-4th Instar (nymphs) - control target
Birch	**Birch Leafminer**	*Fenusa pusilla*	275	375	4	Adults laying eggs
Boxwood	**Boxwood Psyllid**	*Cacopsylla busi*	290	440	RU	Nymphs
Oaks	**Kermes oak scale**	*Allokermes spp.*	298	912	5	Typical treatment window
Locust	**Locust leafminer**	*Odontota dorsalis*	298	533	5	Typical treatment window
Conifer	**Pine eriophyid mites**	*Eriophyidae*	298	533	5	Typical treatment window
Conifer	**Pine Needle Scale**	*Chionaspis pinifoliae*	298	448	RU	Crawlers (1st generation) - control target
Privet	**Privet Rust Mites**	*Aculus ligustri*	298	802	RU	All stages
Malus	**Redbanded leafroller**	*Argyrotaenia velutinana*	298	618	5	Typical treatment window
Conifer	**Pine root collar weevil**	*Hylobius radicis*	300	350	4	1st adults active
Conifer	**Turpentine beetle**	*Dendroctonus terebrans*	300	350	4	Parent beetles colonizing brood material
Spirea	**Spirea aphid**	*Aphis spiraecola*	326	-	6	Adults/nymphs
Rhododendron	**Azalea Lacebug**	*Stephanitis pyrioides*	350	646	RU	Adults (1st generation)
Dogwood, apple, pecan, elm, hickory, willow	**Dogwood borer**	*Synanthedon scitula*	350	850	4	adults, eggs, caterpillars
Conifer	**Hemlock Woolly Adelgid**	*Adelges tsugae*	350	350	RU	Eggs and 50% hatch
Malus, Prunus, many	**Lesser peach tree borer**	*Synanthedon pictipes*	350	375	4	Adult flight, egg laying
Conifer	**Elongate Hemlock Scale**	*Fiorinia externa*	360	700	RU	Crawlers (1st generation)
Elm	**Elm Leaf Beetle**	*Xanthogaleruca luteola*	363	530	RU	Larvae treatment (1st generation)
Conifer	**Larch casebearer**	*Coleophora laricella*	363	618	2,4	Nymphs active - typical treatment window
Many	**Oystershell Scale**	*Lepidosaphes ulmi*	363	707	RU	Crawlers
Walnut	**Walnut blister mite**	*Eriophyes erinea*	363	707	5	Typical treatment window
Beech	**Woolly beech aphids**	*Grylloprociphilus imbricator & Phyllaphis fagi*	363	7070	5	Typical treatment window
Yews, Rhododendrons, many	**Black Vine Weevil**	*Otiorhynchus sulcatus*	400	2800	RU	Adults treatment
Conifer	**Pine needle midge**	*Thecodiplosis brachynteroides*	400	500	7	Adults (1st generation)
Conifer	**Pine tortoise scale**	*Toumeyella parvicornis*	400	1000	4	Crawlers
Conifer	**Striped pine scale**	*Toumeyella sp.*	400	500	3	Crawlers (1st generation)
Basswood	**Basswood lacebug**	*Gargaphia tiliae*	415	-	6	Adults/nymphs
MANY	**Fourlined plant bug**	*Poecilocapsus lineatus*	435	-	6	Egg hatch / early instars
Many	**Two-Spotted Mite**	*Tetranychus urticae*	437	997	RU	Adults (build-up activity)
Birch	**Bronze Birch Borer**	*Agrilus anxius*	440	880	RU	Adults (egg laying)
Rhododendron	**Azalea whitefly**	*Pealius azaleae*	448	700	5	Adults/nymphs

Pest Scouting – Growing Degree-day Ranges						448 –707 GDD50
Crop Type	**Common Name**	***Scientific Name***	**GDD Min (50F)**	**GDD Max (95F)**	**Ref.**	**Developmental / Target Stage**
Boxwood	**Boxwood Leafminer**	*Monarthropalpusi flavus*	448	700	RU	Larvae treatment
Conifer	**Hemlock looper**	*Lambdina fiscellaria*	448	707	5	Typical treatment window
Oak	**Oak skeletonizer**	*Bucculatrix ainsliella*	448	707	5	Typical treatment window
Many	**Gypsy moth**	*Lymanttria dispar*	450	900	4	Caterpillar to pupation - control target missed
Conifer	**Pine Chafer (Anomela Beetle)**	*Anomala oblivia*	450	600	7	Adults (1st generation)
Conifer	**Pine shoot beetle**	*Tomicus piniperda*	450	500	4	Adults emerge; begin shoot feeding - control target
Juniper	**Maskell scale**	*Lepidosaphes pallida*	470	-	6	Crawlers (1st generation)
Conifer	**European pine shoot moth**	*Rhyacionia buoliana*	480	710	5	Larvae Treatment
Malus, Prunus, many	**Peach Tree Borer**	*Synanthedon sp.*	500	600	RU	Adults - emerge (1st treatment both types)
Rhododendron	**Rhododendron Borer**	*Synanthedon rhododendri*	509	696	RU	Adults emerge
Many	**White prunicola scale**	*Psedaulacaspis prunicola*	513	-	6	Crawlers (1st generation)
Many	**Redheaded flea beetle**	*Systena frontalis*	517	1028	Unv. Del	Adults - feeding / laying eggs
Many	**Cottony camellia / taxus scale**	*Pulvinaria floccifera*	520	-	6	Crawlers (1st generation)
Birch	**Birch Leafminer**	*Fenusa pusilla*	530	700	RU	Larvae (2nd generation)
Conifer	**Arborvitae Leafminer**	*Argyresthia thuiella*	533	700	RU	Adults (egg laying) - larvae treatments
Euonymus	**Euonymus Scale**	*Unaspis euonymil*	533	820	RU	Crawlers (1st generation)
Maple	**Greenstriped mapleworm**	*Dryocampa rubicunda*	533	1645	5	Control target
Oak	**Oak blotch leafminers**	*Cameraria spp. ; Tisheria spp.*	533	912	5	Typical treatment window
Oak	**Oak blotch leafminers**	*Cameraria spp. ; Tisheria spp.*	533	912	5	Typical treatment window
Conifer	**Balsam gall midge**	*Paradiplosis tumifex*	550	700	4	Galls apparent
Conifer	**Juniper scale**	*Carulaspis juniperi*	550	700	7	Egg hatch
Malus, Prunus, many	**Greater peach tree borer**	*Synanthedon exitiosa*	575	710	4	Adult emergence
Conifer	**Bagworm**	*Thyridopteryx ephemeraeformis*	600	900	RU	Larvae (early instars) - ONLY CONTROL WINDOW
Conifer	**Cooley spruce gall adelgid**	*Adelges cooleyi*	600	1000	7	Nymphs active - Douglas fir (control target)
Conifer	**Cryptomeria scale**	*Aspidiotus cryptomeriae*	600	800	3	First crawler emergence
Conifer	**Cryptomeria scale**	*Aspidiotus cryptomeriae*	600	800	RU	Crawlers (1st generation)
Elm	**Elm leaf beetle**	*Xanthogaleruca luteola*	600	1300	7	Larvae (2nd generation)
Conifer	**Spruce budscale**	*Physokermes hemicryphus*	700	1150	4	Crawlers (1st generation)
Conifer	**Juniper scale**	*Carulaspis juniperi*	707	1260	RU	Crawlers (1st generation)

Pest Scouting – Growing Degree-day Ranges						707 – 1151 GDD50
Crop Type	**Common Name**	***Scientific Name***	**GDD Min (50F)**	**GDD Max (95F)**	**Ref.**	**Developmental / Target Stage**
Many	**White prunicola scale**	*Psedaulacaspis prunicola*	707	1151	RU	Crawlers (1st generation)
Many	**Calico scale**	*Eulecanium cerasorum*	714	-	6	Crawlers (1st generation)
Conifer	**Striped pine scale**	*Toumeyella pini*	750	800	4	Egg hatch
Turf	**Hairy cinch bug**	*Blissus leucopterus*	765	870	RU	1st generation (50% - 2nd instar)
Oak, hickory, birch, many	**Oak leacanium scale**	*Parthenolecanium quercifex*	789	-	6	Crawlers (1st generation)
Rhododendron	**Azalea Lacebug**	*Stephanitis pyrioides*	802	1029	RU	Eggs / Nymphs 3rd Generation
Acer	**Cottony maple leaf scale**	*Pulvinaria acericola*	802	1265	5	Crawlers (1st generation)
Many, shadetrees	**Cottony maple scale**	*Pulvinaria innumerabilis*	802	1265	RU	Crawlers (1st generation) - control target
Oaks	**Golden oak scale**	*Asterolecanium variolosum*	802	1266	5	Egg hatch
Oaks	**Oak spider mites**	*Oligonychus bicolor*	802	1265	RU	All Stages
Many	**Roundheaded appletree borer**	*Saperda candida*	802	1129	RU	Adults
Maples	**Japanese maple scale**	*Lopholeucaspis japonica*	829	-	6	Crawlers (1st generation)
Elm	**European elm scale**	*Gossyparia spuria*	831	1388	6,2	Crawlers (1st generation)
Mimosa, Honeylocust	**Mimosa webworm**	*Homadaula anisocentra*	880	-	RU	Larvae (1st generation)
Turf	**Bluegrass billbug**	*Sphenophorus parvulus*	884	1003	RU	Larvae 20%
Turf	**N. Masked chafer**	*Cyclocephala borealis*	898	905	RU	1st adults
Honeylocust	**Honeylocust mite**	*Eotetranychus multidigituli*	912	1514	2	All Stages
Honeylocust	**Honeylocust spider mite**	*Platytetranychus multidigituli*	912	1514	5	Typical treatment window
Shade trees	**European fruit lecanium**	*Parthenolecanium corni*	932	1645	6,RU	Crawlers - control target
Many	**Japanese beetle**	*Popillia japonica*	950	2150	7	Adult emergence and feeding
Ash	**Emerald ash borer**	*Agrilus planipennis*	1000	1200	4	Peak adult activity
Conifer	**Pine tortoise scale**	*Toumeyella parvicornis*	1000	1200	4	Egg hatch ends, last of crawlers
Many	**Redheaded flea beetle**	*Systena frontalis*	1028	1570	Unv. Del	2nd generation of un-hatched eggs
Yew, many conifers	**Fletcher Scale (Yew)**	*Parthenolecanium fletcheri*	1029	1388	RU	Crawlers (1st generation) - control target
Locust	**Locust leafminer**	*Odontota dorsalis*	1029	1388	RU	Adults
Juglandaceae	**Walnut Caterpillar**	*Datana integerrima*	1029	1514	2	Larvae Treatment
Turf	**Bluegrass billbug**	*Sphenophorus parvulus*	1094	1217	RU	Larvae (40%)
Many	**Indian wax scale**	*Ceroplastes ceriferus*	1145	-	6	Crawlers (1st generation)
Many	**Oriental Beetle**	*Anomala orientalis*	1147	-	6	Adult emergence
Euonymus	**Euonymus Scale**	*Unaspis euonymil*	1150	1388	5	2nd generation targeted treatments
Dogwood	**Dogwood sawfly**	*Macremphytus tarsatus*	1151	1500	RU	Larvae Treatment

Pest Scouting – Growing Degree-day Ranges						1151 – 1700 GDD50
Crop Type	**Common Name**	***Scientific Name***	**GDD Min (50F)**	**GDD Max (95F)**	**Ref.**	**Developmental / Target Stage**
Tulip	**Tuliptree aphid**	*Illinoia liriodendri*	1151	1514	RU	Nymphs / adults
Boxwood	**Boxwood leafminer**	*Monoarthropalpus flavus*	1200	1400	5	Larvae Treatment
Conifer	**Northern pine weevil**	*Pissodes nemorensis*	1200	1400	4	2nd generation adults active
Conifer	**Pales weevil**	*Hylobius pales*	1200	1400	4	Adults 2nd generation
Conifer	**Pine root collar weevil**	*Hylobius radicis*	1200	1400	4	2nd generation adults active
Conifer	**White pine weevil**	*Pissodes strobi*	1200	1400	4	2nd generation adults active
Rhododendron	**Azalea whitefly**	*Pealius azaleae*	1250	1500	5	Adults/nymphs
Rhododendron	**Azalea whitefly**	*Pealius azaleae*	1250	1500	5	Adults/nymphs (2nd generation)
Turf	**Bluegrass sod webworm**	*Parapediasia teterrella*	1250	1920	RU	Larvae
Conifer	**Pine Needle Scale**	*Chionaspis pinifoliae*	1250	1350	7	Crawlers (2nd generation)
Birch	**Birch Skeletonizer**	*Bucculatrix canadensisella*	1266	1580	5	Typical treatment window
Shade trees	**European fruit lecanium**	*Parthenolecanium corni*	1266	1645	5	Crawlers
Many	**Fall webworm**	*Hyphantria cunea*	1266	1795	2	Caterpillars present - larvae treatment
Many	**Lacebugs (on hawthorn)**	*Corythucha cydoniae*	1266	1544	RU	Nymphs / adults
Many	**Leafhoppers**	*Species within Cicadellidae*	1266	1544	RU	Nymphs / adults
Privet	**Privet rust mite**	*Aculus ligustri*	1266	1515	5	Second typical treatment window
Conifer	**Pine Needle Scale**	*Chionaspis pinifoliae*	1290	1917	3	Crawlers emerge (2nd generation)
Many	**Two spotted spider mite**	*Tetranychus urticae*	1300	2000	RU	Nymphs / adults
Turf	**N. Masked chafer**	*Cyclocephala borealis*	1377	1579	RU	Adults (90%)
Conifer	**Hemlock scale**	*Abgrallaspis ithacae*	1388	2154	5	Typical treatment window
Lilac	**Lilac leafminer**	*Caloptilia syringella*	1388	1644	5	Typical treatment window
Conifer	**Cooley spruce gall adelgid**	*Adelges cooleyi*	1500	1775	RU	Adults/nymphs (Douglas Fir)
Malus, Prunus, many	**Peachtree borer**	*Synanthedon sp.*	1500	1800	RU	Larvae Treatment
Conifer	**Pine Needle Scale**	*Chionaspis pinifoliae*	1500	-	4	Hyaline crawlers = treatment timing
Conifer	**Nantucket tip moth**	*Rhyacionia frustrana*	1514	1917	RU	Adults 2nd generation
Many	**Roundheaded apple tree borer**	*Saperda candida*	1514	1798	5	Typical treatment window
Many	**Redheaded flea beetle**	*Systena frontalis*	1570	1860	Udel.	2nd generation egg hatch
Many	**Japanese beetle**	*Popillia japonica*	1590	1925	RU	Adults (90%)
Many	**White prunicola scale**	*Pseudaulacaspis prunicola*	1637	-	6	Egg hatch / crawler (2nd generation)
Conifer	**Rust-mites**	*Nalepella and Setoptus spp.*	1644	2030	RU	Nymphs / adults
Many	**Two-banded Japanese weevil**	*Pseudocneorhinus bifasciatus*	1644	2271	RU	Adults
Willow	**Willow twig aphids**	*Lachnus spp.*	1644	2271	5	Typical treatment window
Conifer	**Juniper webworm**	*Dichomeris marginella*	1645	1917	RU	Larvae Treatment
Euonymus	**Euonymus Scale**	*Unaspis euonymil*	1700	-	RU	Continued 2nd generation treatments

Pest Scouting – Growing Degree-day Ranges						1700 – 2800 GDD50
Crop Type	**Common Name**	***Scientific Name***	**GDD Min (50F)**	**GDD Max (95F)**	**Ref.**	**Developmental / Target Stage**
Conifer	**Cryptomeria scale**	*Aspidiotus cryptomeriae*	1750	2130	RU, 4	Crawlers emerge (2nd generation)
Many	**Obscure scale**	*Melanaspis obscura*	1774	-	6	Egg hatch / crawler
Oaks	**Oak skeletonizer**	*Bucculatrix ainsliella*	1798	2155	RU	Larvae
Conifer	**Arborvitae leafminer**	*Argyresthia thuiella*	1800	2200	RU	Larvae Treatment (3rd generation)
Mimosa, Honeylocust	**Mimosa webworm**	*Homadaula anisocentra*	1800	2100	RU	Larvae (2nd generation)
Conifer	**Cooley spruce gall adelgid**	*Adelges cooleyi*	1850	1950	RU	Galls open (Spruce)
Turf	**Hairy chinch bug**	*Blissus leucopterus*	1903	2160	RU	Second generation- 50%- 2nd instars
Mainly Oaks	**Orangestriped oakworm**	*Anisota senatoria*	1917	-	6	Egg hatch - early instars
Tulip	**Tuliptree aphid**	*Illinoia liriodendri*	1917	2033	RU	Nymphs
Conifer	**Zimmerman pine moth**	*Dioryctria zimmermani*	1917	2154	5	Treatment window (adult flight-1700 GDD)
Conifer	**White pine aphid**	*Cinara strobi*	1991	2271	RU	Adults
Rhododendron	**Azalea whitefly**	*Pealius azaleae*	2032	2150	5	Adults/nymphs (3rd generation)
Maple	**Sugar maple borer**	*Glycobius speciosus*	2032	2375	5	Typical treatment window
Conifer	**Maskell scale**	*lepidosaphes pallia*	2035	-	6	Egg hatch / crawler (2nd generation)
Mainly Tulip	**Tulip tree scale**	*Toumeyella liriodendri*	2037	2629	RU	Crawlers (1st generation)
Mainly Magnolia	**Magnolia scale**	*Neolecanium cornuparvum*	2155	2800	RU	Crawlers (1st generation)
Locust	**Locust borer**	*Magacyllene robiniae*	2271	2805	5	Typical treatment window
Poplar and Willow	**Poplar and willow borer**	*Crytorhynchus lapathi*	2271	2806	5	Typical treatment window
Conifer	**Spruce spider mite**	*Oligonychus ununguis*	2375	2806	5	Typical treatment window
Many	**Southern red mite**	*Oligonychus ilicis*	2500	2700	5	Typical treatment window
Maple	**Japanese maple scale**	*Lopholeucaspis japonica*	2508	-	6	Egg hatch / crawler (2nd generation)
Conifer	**Elongate hemlock scale**	*Fiorinia externa*	2515	2625	RU	Typical treatment window - fall activity
Yew, many conifers	**Fletcher Scale (Yew)**	*Parthenolecanium fletcheri*	2515	2800	RU	Fall control of overwintering stage
Hardwoods	**Fall webworm**	*Hyphantria cunea*	2793	-	6	Egg hatch / crawler (2nd generation)
Conifer	**Cooley spruce gall adelgid**	*Adelges cooleyi*	2800	3000	3	Fall control of overwintering stage
Conifer	**Eastern spruce gall adelgid**	*Adelges abietis*	2800	3000	3	Fall control of overwintering stage

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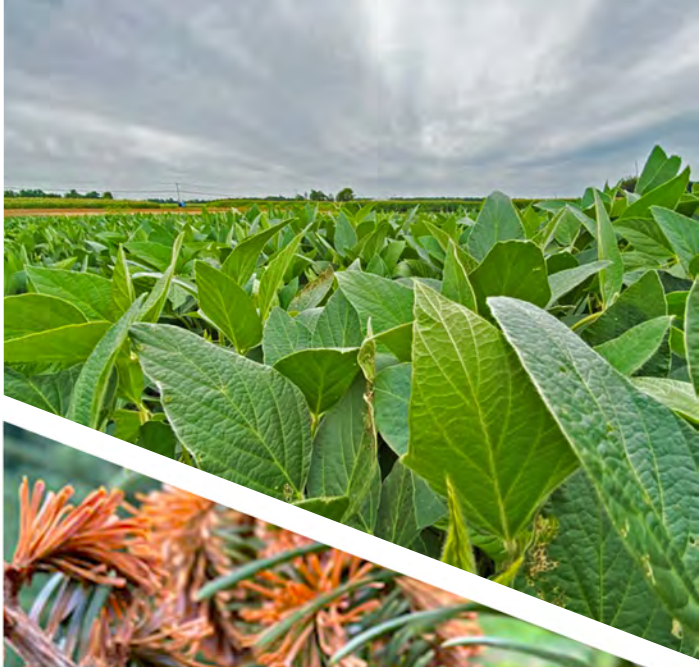

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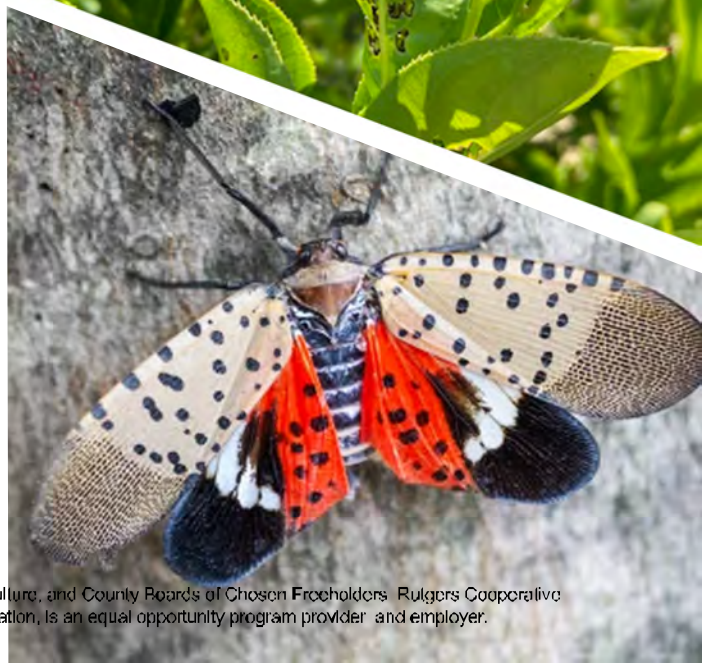

WE R HERE WHEN YOU NEED US

PLEASE VISIT THESE LINKS FOR MORE INFORMATION

(FOLLOW THE URL IN PDF FORMAT OR SCAN THE QR CODE IF HANDHELD)

Instructions on obtaining your local growing degree-days

https://plant-pest-advisory.rutgers.edu/?s=obtaining

NEWA
Growing degree-day calculator

https://newa.cornell.edu/degree-day-calculator

UPEST
Growing degree-day calculator

https://uspest.org/dd/model_app

Syngenta GreenCast
Growing degree-day calculator

https://www.greencastonline.com/growing-degree-days

Additional Growing Degree-day Resources and Source / Citation Information

1. http://ccetompkins.org/resources/using-growing-degree-days-for-insect-management
2. https://extension.psu.edu/ipm-basics-for-christmas-trees#section-2
3. www.canr.msu.edu/ipm/agriculture/christmas_trees/gdd_of_conifer_insects
4. www.agriculture.nh.gov/publications-forms/documents/landscape-pests.pdf
5. https://extension.umd.edu/ipm/pest-predictive-calendar-landscapenursery

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PEST SCOUTING NOTES

DATE	PEST/DISEASE	GDD_{50}	LIFESTAGE	NOTES