Landscape Pest Growing Degree Day Table

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
American plum borer	*Euzophera semifuneralis*	adult flight, egg laying	245 - 440	250, 300, 350, 400, 450	245 - 440	250, 300, 350, 400, 450
		2nd generation	1375 - 1500	1350, 1400, 1450, 1500		
Arborvitae leafminers	*Argyresthia spp.*	larvae in mines, 1st generation	245 - 360	250, 300, 350	150 - 260	150, 200, 250, 300
		2nd generation	533 - 700	500, 550, 600, 650, 700	533 - 700	500, 550, 600, 650, 700
		3rd generation	1700 - 2100	1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050, 2100	1800 - 2200	1800, 1850, 1900, 1950, 2000, 2050, 2100, 2150, 2200
Azalea leafminer	*Caloptilia azaleela*	larvae			450 - 800	450, 500, 550, 600, 650, 700, 750, 800
		larvae			1260 - 1500	1250, 1300, 1350, 1400, 1450, 1500
Azalea whitefly	*Pealius azaleae*	adults, nymphs			448 - 700	450, 500, 550, 600, 650, 700
		adults, nymphs			1250 - 1500	1250, 1300, 1350, 1400, 1450, 1500
		adults, nymphs			2032 - 2150	2000, 2050, 2100, 2150
Bagworm	*Thyridopteryx ephemeraeformis*	larvae			600 - 900	600, 650, 700, 750, 800, 850, 900
Balsam gall midge	*Paradiplosis tumifex*	adults laying eggs	150 - 300	150, 200, 250, 300	120 - 299	100, 150, 200, 250, 300
		galls apparent	550 - 700	550, 600, 650, 700		

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Balsam twig aphid	*Mindarus abietinus*	egg hatch	60 - 100	50, 100	58 - 120	50, 100, 150
		stem mothers present (control target)	100 - 140	100, 150		
Beech scale	*Cryptococcus fagisuga*	eggs present	800	800	N/A	
		egg hatch, first crawlers	1250	1250		
Birch leafminer	*Fenusa pusilla*	1st adult emergence	175 - 215	150, 200, 250	190 - 290	200, 250, 300
		adults laying eggs	275 - 375	250, 300, 350, 400		
		larvae and pupae	375 - 500	350, 400, 450, 500	530 - 700	500, 550, 600, 650, 700
		adults and egg laying, 2nd generation	600 - 700	600, 650, 700		
Birch skeletonizer	*Buccalatrix canadensisella*	N/A			1266 - 1580	1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600
Black vine weevil	*Otiorhynchus sulcatus*	adult			148 - 400	150, 200, 250, 300, 350, 400
Boxwood leafminer	*Monarthropalpus buxi*	adult			350 - 600	350, 400, 450, 500, 550, 600
		larvae			1200 - 2400	1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050, 2100, 2150, 2200, 2250, 2300, 2350, 2400
Boxwood mite	*Eurytetranychus buxi*	nymphs and adults			245 - 600	250, 300, 350, 400, 450, 500, 550, 600

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Boxwood psyllid	*Psylla buxi*	nymph			290 - 440	300, 350, 400, 450
Bronze birch borer	*Agrilus anxius*	adults, eggs, new grubs	400 - 600	400, 450, 500, 550, 600	440 - 800	450, 500, 550, 600, 650, 700, 750, 800
Cankerworms (fall & spring)	*Alsophila pometaria* and *Paleacrita vernata*	young caterpillars	100 - 200	100, 150, 200	148 - 290	150, 200, 250, 300
Cooley spruce gall adelgid (Douglas fir)	*Adelges cooleyi*	1st adults active	90 - 180	100, 150, 200	120 - 190	100, 150, 200
		1st nymphs (control target)	90 - 150	100, 150		
		2nd nymphs (control target)	600 - 1000	600, 650, 700, 750, 800, 850, 900, 950, 1000	1500 - 1775	1500, 1550, 1600, 1650, 1700, 1750, 1800
Cooley spruce gall adelgid (Spruce)	*Adelges cooleyi*	1st adults active (control target)	25 - 120	50, 100, 150	22 - 92	50, 100
		1st galls visible	200 - 310	200, 250, 300	1850 - 1950	1850, 1900, 1950
Cooley spruce gall adelgid	*Adelges cooleyi*	2nd adults active	1500 - 1600	1500, 1550, 1600	1500 - 1775	1500, 1550, 1600, 1650, 1700, 1750, 1800
Cottony maple scale	*Pulvinaria innumerabilis*	adults and yellow crawlers on leaf veins	802 - 1200	800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200	802 - 1265	800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250
Cottony maple leaf scale	*Pulvinaria acericola*	crawlers			802 - 1265	800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Cottony taxus scale	*Pulvinaria floccifera*	nymph (dormant treatment)			7 - 91	50, 100
		crawler			802 - 1388	800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400
Dogwood borer	*Synanthedon scitula*	adults, eggs, caterpillars	350 - 850	350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850	148 - 700	150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700
Dogwood sawfly	*Macremphytus tarsatus*	N/A			1151 - 1500	1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500
Eastern pine shoot borer	*Eucosma gloriola*	1st adults active	75 - 200	50, 100, 150, 200	N/A	
Eastern spruce gall adelgid	*Adelges abietis*	1st adults active (control target)	25 - 100	50, 100	22 - 170	50, 100, 150, 200
		egg hatch, galls begin forming	250 - 310	250, 300, 350		
		2nd adults active (control target)	1500 - 1600	1500, 1550, 1600		
Eastern tent caterpillar	*Malacosma americanum*	egg hatch	45 - 100	50, 100	90 - 190	50, 100, 150, 200
		tents apparent	150	150		
		pupation	450	450		
Elm bark beetles	*Scolytus spp.; Hylurgopinus spp.*	N/A			7 - 120	50, 100, 150
Elm casebearer	*Coleophora ulmifoliella*	N/A			300 - 533	300, 350, 400, 450, 500, 550

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Elm leaf aphid	*Tinocallis ulmifolii*	N/A			710 - 1500	700, 750, 800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500
Elm leaf beetle	*Xanthogaleruca luteola*	1st generation	400 - 600	400, 450, 500, 550, 600	363 - 912	350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950
		2nd generation	1300	1300		
Elm leafminer	*Fenusa ulmi*	adult emergence	215 - 240	200, 250	363 - 530	350, 400, 450, 500, 550
		1st generation larvae	365 - 530	350, 400, 450, 500, 550		
Elongate hemlock scale	*Fiorinia externa*	adult (dormant treatment)			7 - 120	50, 100
		crawlers			360 - 700	350, 400, 450, 500, 550, 600, 650, 700
					2515 - 2625	2500
Emerald ash borer	*Agrilus planipennis*	1st adult emergence	400 - 500	400, 450, 500	N/A	
		peak adult activity	1000 - 1200	1000, 1050, 1100, 1150, 1200		

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Euonymus scale	*Unaspis euonymi*	egg hatch, 1st generation	400 - 575	400, 450, 500, 550, 600	35 - 120	50, 100, 150
		egg hatch, 2nd generation	1900 - 2050	1900, 1950, 2000, 2050	533 - 820	500, 550, 600, 650, 700, 750, 800, 850
					1150 - 1388	1150, 1200, 1250, 1300, 1350, 1400
European elm scale	*Gossyparia spuria*	N/A			1029 - 1388	1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400
European fruit lecanium	*Parthenolecanium corni*	nymph			35 - 145	50, 100, 150
		crawler			1266 - 1645	1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650
European pine sawfly	*Neodiprion sertifer*	1st larvae	100 - 195	100, 150, 200	78 - 220	50, 100, 150, 200, 250
European pine shoot moth	*Rhyacionia buoliana*	1st larvae	50 - 220	50, 100, 150, 200, 250	34 - 121	50, 100, 150
		adults active	700 - 800	700, 750, 800	480 - 710	450, 500, 550, 600, 650, 700, 750
		egg hatch	900 - 1000	900, 950, 1000		
European red mite	*Panonychus ulmi*	eggs (dormant treatment)			7 - 58	50
		eggs, larvae, nymphs			240 - 810	250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Fall webworm	*Hyphantria cunea*	egg hatch	850 - 900	850, 900	1266 - 1795	1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800
		caterpillars feeding	1200 - 1800	1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800		
		tents become apparent	1850 - 2050	1850, 1900, 1950, 2000, 2050		
Fletcher scale	*Parthenolecanium fletcheri*	egg hatch	850 – 900	850, 900	38 - 148	50, 100, 150
					1029 - 1388	1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400
					2515 - 2800	2500
Fruitree leafroller	*Archips argyrospilus*	larvae			300 - 618	300, 350, 400, 450, 500, 550, 600
Forest tent caterpillar	*Malacosoma disstria*	egg hatch	125 - 250	100, 150, 200, 250	192 - 363	200, 250, 300, 350, 400
		pupation	450	450		
		tachinid parasitic flies abundant	450 - 550	450, 500, 550		
		sarcophagid parasitic flies abundant	750 - 850	750, 800, 850		

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Golden oak scale	*Asterolecanium variolosum*	egg hatch	680 – 700	650, 700	7 - 121	50, 100, 150
					802 - 1266	800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300
Greater peachtree borer	*Synanthedon exitiosa*	adult emergence	575 - 710	550, 600, 650, 700, 750	1500 - 1800	1500, 1550, 1600, 1650, 1700, 1750, 1800
Greenstriped maple worm	*Dryocampa rubicunda*	N/A			533 - 1645	500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650
Gypsy moth	*Lymantria dispar*	egg hatch, 1st larvae	145 - 200	150, 200	90 - 448	100, 150, 200, 250, 300, 350, 400, 450
		young caterpillars	450	450		
		pupation	900 - 1200	900, 950, 1000, 1050, 1100, 1150, 1200		
Hemlock eriophyid (rust) mite	*Nalepella tsugifolia*	N/A			7 - 450	50, 100, 150, 200, 250, 300, 350, 400, 450
Hemlock looper	*Lambdina fiscellaria*	N/A			448 - 707	450, 500, 550, 600, 650, 700

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Hemlock scale	*Abgrallaspis ithacae*	N/A			35 - 121	50, 100, 150
					1388 - 2154	1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050, 2100, 2150
Hickory leaf stem gall phylloxera	*Phylloxera carvaecaulis*	N/A			91 - 246	100, 150, 200, 250
Holly leafminer	*Phytomyza ilicis*	N/A			192 - 290	200, 250, 300
					246 - 448	250, 300, 350, 400, 450
Honeylocust mite	*Eotetranychus multidigituli*	egg hatch	220 - 250	200, 250	912 - 1514	900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550
Honeylocust plant bug	*Diaphnocoris chlorionis*	egg hatch	220 - 250	200, 250	58 - 246	50, 100, 150, 200, 250
Honeylocust pod gall midge	*Dasineura gleditschiae*	N/A			192 - 229	200, 250
Honeylocust spider mite	*Platytetranychus multidigituli*	egg hatch	220 - 250	200, 250	912 - 1514	900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550
Introduced pine sawfly	*Diprion similis*	1st larvae	400 - 600	400, 450, 500, 550, 600	N/A	

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Imported willow leaf beetle	*Plagiodera versicolora*	adults active	120 - 275	100, 150, 200, 250, 300	192 - 448	200, 250, 300, 350, 400, 450
Jack pine budworm	*Choristoneura pinus pinus*	young larvae feeding	300 - 350	300, 350	N/A	
		large larvae feeding-defoliation apparent	650 - 700	650, 700		
Jack pine sawfly	*Neodiprion banksianae*	eggs, young larvae	100 - 200	100, 150, 200	N/A	
		larger larvae consuming needles	275 - 500	250, 300, 350, 400, 450, 500		
Japanese beetle	*Popillia japonica*	adults emerge and feed	950 - 2150	950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050, 2100, 2150	1029 - 2154	1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050, 2100, 2150
Juniper scale	*Carulaspis juniperi*	egg hatch	550 - 700	550, 600, 650, 700	22 - 148	50, 100, 150
					707 - 1260	750, 800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250
Juniper webworm	*Dichomeris marginella*	N/A			1645 - 1917	1650, 1700, 1750, 1800, 1850, 1900, 1950

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Kermes oak scales	*Allokermes spp.*	N/A			7 - 91	50, 100
					298 - 912	300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950
Larch casebearer	*Coleophora laricella*	egg hatch	120 - 150	100, 150	363 - 618	350, 400, 450, 500, 550, 600, 650
					2375 - 2805	2350, 2400, 2450, 2500
Larch sawfly	*Pristophora erichsonii*	N/A			192 - 299	150, 200, 250, 300
Large aspen tortrix	*Choristoneura conflictana*	pupation	600 - 700	600, 650, 700	N/A	
Lesser peach tree borer	*Synanthedon pictipes*	adult flight	350 - 375	350, 400	N/A	
Lilac borer	*Podosesia syringae*	adult flight	325 - 350	300, 350	148 - 299	150, 200, 250, 300
Lilac leafminer	*Caloptilia syringella*	N/A			246 - 363	250, 300, 350, 400
					1388 - 1644	1350, 1400, 1450, 1500, 1550, 1600, 1650
Linden looper	*Erannis tiliaris*	N/A			192 - 363	150, 200, 250, 300, 350, 400
Locust borer	*Magacyllene robiniae*	N/A			2271 - 2805	2250, 2300, 2350, 2400, 2450, 2500

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Locust leafminer	*Odontota dorsalis*	N/A			298 - 533	300, 350, 400, 450, 500, 550
					1029 - 1388	1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400
Magnolia scale	*Neolecanium cornuparvum*	egg hatch	1925 - 1950	1900, 1950	22 - 91	50, 100
					246 - 448	250, 300, 350, 400, 450
					2155 - 2800	2150, 2200, 2250, 2300, 2350, 2400, 2450, 2500
Maple bladder gall mite	*Vasates quadripedes*	N/A			58 - 148	50, 100, 150
					98 - 155	100, 150
Maple trumpet skeletonizer	*Epinotia aceriella*	N/A			1388 - 2032	1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050
Mountain ash sawfly	*Pristiphora geniculata*	N/A			448 - 707	450, 500, 550, 600, 650, 700
Nantucket pine tip moth	*Rhyacionia frustrana*	N/A			121 - 448	100, 150, 200, 250, 300, 350, 400, 450
					1514 - 1917	1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Native holly leafminer	*Phytomyza iliciola*	N/A			192 - 298	200, 250, 300
					1029 - 1266	1000, 1050, 1100, 1150, 1200, 1250, 1300
Northern pine weevil	*Pissodes nemorensis*	1st adults active	25 - 100	50, 100	7 - 192	50, 100, 150, 200
		2nd adults active	1200 - 1400	1200, 1250, 1300, 1350, 1400		
Oak blotch leafminers	*Cameraria spp.; Tisheria spp.*	N/A			533 - 912	500, 550, 600, 650, 700, 750, 800, 850, 900, 950
Oak leaftier	*Croesia semipurpurana*	N/A			7 - 35	50
Oak skeletonizer	*Bucculatrix ainsliella*	N/A			448 - 707	450, 500, 550, 600, 650, 700
					1798 - 2155	1800, 1850, 1900, 1950, 2000, 2050, 2100, 2150
Oak spider mite	*Oligonychus bicolor*	N/A			802 - 1266	800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300
Oystershell scale	*Lepidosaphes ulmi*	egg hatch	350 - 500	350, 400, 450, 500	7 - 91	50, 100
					363 - 707	350, 400, 450, 500, 550, 600, 650, 700

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Pales weevil	*Hylobius pales*	1st adults active	25 - 100	50, 100	7 - 121	50, 100, 150
		2nd adults active	1200 - 1400	1200, 1250, 1300, 1350, 1400		
Pine bark adelgid	*Pineus strobi*	N/A			22 - 58	50
					58 - 618	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650
Pine engraver	*Ips sp.*	1st adults active	100 - 150	100, 150	N/A	
Pine eriophyid mites	*Eriophyidae*	N/A			298 - 533	300, 350, 400, 450, 500, 550
Pine needle miner	*Exoteleia pinifoliella*	N/A			448 - 802	450, 500, 550, 600, 650, 700, 750, 800
Pine needle scale	*Chionaspis pinifoliae*	1st generation, egg hatch	250 - 400	250, 300, 350, 400	298 - 448	300, 350, 400, 450
		1st generation, hyaline stage (control target)	400 - 500	400, 450, 500	1388 - 1917	1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950
		2nd generation, egg hatch	1250 - 1350	1250, 1300, 1350		
		2nd generation, hyaline stage (control target)	1500	1500		

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Pine root collar weevil	*Hylobius radicis*	1st adults active	300 - 350	300, 350	618 - 912	600, 650, 700, 750, 800, 850, 900, 950
		2nd adults active	1200 - 1400	1200, 1250, 1300, 1350, 1400		
Pine shoot beetle	*Tomicus piniperda*	optimal control window	450 - 500	450, 500	N/A	
		new adults emerge, begin shoot-feeding	500 - 550	500, 550		
Pine spittlebugs	*Aphrophora cribrata* and *Aphrophora saratogensis*	N/A			148 - 298	150, 200, 250, 300
Pine tortoise scale	*Toumeyella parvicornis*	egg hatch begins, 1st crawlers	400 - 500	400, 450, 500	58 - 148	50, 100, 150
		egg hatch ends, last of the crawlers	1000 - 1200	1000, 1050, 1100, 1150, 1200	618 - 1050	600, 650, 700, 750, 800, 850, 900, 950, 1000, 1050
Pine tube moth	*Argyrotaenia pinatubana*	Adults, egg laying, caterpillars	90 - 250	100, 150, 200, 250	91 - 246	100, 150, 200, 250
					1151 - 1514	1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550
Pine webworm	*Tetralopha robustella*	N/A			802 - 2000	800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Pitch twig moth	*Petrova comstockiana*	N/A			298 - 707	300, 350, 400, 450, 500, 550, 600, 650, 700
Poplar and willow borer	*Crytorhynchus lapathi*	N/A			2271 - 2806	2250, 2300, 2350, 2400, 2450, 2500
Privet rust mite	*Aculus ligustri*	N/A			298 - 802	300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800
					1266 - 1515	1250, 1300, 1350, 1400, 1450, 1500
Privet thrips	*Dendrothrips ornatus*	N/A			192 - 618	200, 250, 300, 350, 400, 450, 500, 550, 600, 650
					1029 - 1266	1000, 1050, 1100, 1150, 1200, 1250, 1300
Redbanded leafroller	*Argyrotaenia velutinana*	N/A			298 - 618	300, 350, 400, 450, 500, 550, 600, 650
Redheaded pine sawfly	*Neodiprion lecontei*	1st larvae	400 - 600	400, 450, 500, 550, 600	N/A	
Rhododendron borer	*Synanthedon rhododendri*	N/A			192 - 298	200, 250, 300
					533 - 707	500, 550, 600, 650, 700

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Rhododendron gall midge	*Clinodiplosis rhododendri*	N/A			192 - 363	200, 250, 300, 350, 400
Rhododendron stem borer	*Oberea myops*	N/A			298 - 802	300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800
Rose chafer	*Macrodactylus subspinosus*	N/A			448 - 802	450, 500, 550, 600, 650, 700, 750, 800
Roundheaded apple tree borer	*Saperda candida*	N/A			802 - 1029	800, 850, 900, 950, 1000, 1050
					1514 - 1798	1500, 1550, 1600, 1650, 1700, 1750, 1800
Rust mites	*Eriophyidae*	N/A			533 - 802	500, 550, 600, 650, 700, 750, 800
					1644 - 2033	1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050
Sassafrass weevil	*Odontopus calceatus*	N/A			363 - 618	350, 400, 450, 500, 550, 600, 650
Satin moth	*Leucoma salicis*	N/A			298 - 618	300, 350, 400, 450, 500, 550, 600, 650
					1917 - 2271	1900, 1950, 2000, 2050, 2100, 2150, 2200, 2250, 2300
Snowball aphid	*Neoceruraphis viburnicola*	N/A			148 - 298	150, 200, 250, 300

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Southern red mite	*Oligonychus ilicis*	N/A			7 - 91	50, 100
					246 - 363	250, 300, 350, 400
					618 - 802	600, 650, 700, 750, 800
					2500 - 2700	2500
Spotted tentiform leafminer	*Phyllonorycter crataegella*	N/A			121 - 192	100, 150, 200
					363 - 533	350, 400, 450, 500, 550
Spruce budscale	*Physokermes piceae*	egg hatch, 1st crawlers	700 - 1150	700, 750, 800, 850, 900, 950, 1000, 1050, 1100, 1150	22 - 121	50, 100, 150
					912 - 1388	900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400
Spruce budworm	*Choristoneura fumiferana*	1st larvae	200 - 300	200, 250, 300	N/A	
Spruce needle miner	*Endothenia albolineane*	1st larvae	150 - 200	150, 200	448 - 802	450, 500, 550, 600, 650, 700, 750, 800
Spruce spider mite	*Oligonychus ununguis*	1st egg hatch	150 - 175	150, 200	7 - 121	50, 100, 150
					192 - 363	200, 250, 300, 350, 400
					2375 - 2806	2350, 2400, 2450, 2500

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Sugar maple borer	*Glycobius speciosus*	N/A			2032 - 2375	2000, 2050, 2100, 2150, 2200, 2250, 2300, 2350, 2400
Taxus bud mite	*Cedidophyopsis psilaspis*	N/A			148 - 448	150, 200, 250, 300, 350, 400, 450
					707 - 912	700, 750, 800, 850, 900, 950
Taxus mealybug	*Dysmicoccus wistariae*	N/A			7 - 91	50, 100
					246 - 618	250, 300, 350, 400, 450, 500, 550, 600, 650
Tuliptree aphid	*Macrosiphum liriodendri*	N/A			1151 - 1514	1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550
					1917 - 2033	1900, 1950, 2000, 2050
Tuliptree scale	*Toumeyella liriodendri*	N/A			12 - 121	50, 100, 150
					2032 - 2629	2000, 2050, 2100, 2150, 2200, 2250, 2300, 2350, 2400, 2450, 2500
Turpentine beetle	*Dendroctonus spp.*	parent beetles colonizing brood material	300 - 350	300, 350	N/A	

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
Twobanded Japanese weevil	*Callirhopalus bifasciatus*	N/A			1644 - 2271	1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050, 2100, 2150, 2200, 2250, 2300
Twospotted spider mite	*Tetranychus urticae*	N/A			363 - 618	350, 400, 450, 500, 550, 600, 650
Walnut blister mite	*Eriophyes erinea*	N/A			363 - 707	350, 400, 450, 500, 550, 600, 650, 700
Walnut caterpillar	*Datana integerrima*	egg hatch, caterpillars	1600 - 1700	1600, 1650, 1700	N/A	
White-marked tussock moth	*Orgyia leucostigma*	N/A			192 - 298	200, 250, 300
					2145 - 2516	2150, 2200, 2250, 2300, 2350, 2400, 2450, 2500
White pine aphid	*Cinara strobi*	N/A			7 - 121	50, 100, 150
					121 - 246	100, 150, 200, 250
					1917 - 2271	1900, 1950, 2000, 2050, 2100, 2150, 2200, 2250, 2300
White pine weevil	*Pissodes strobi*	1st adults active	25 - 220	50, 100, 150, 200, 250	7 - 58	50
		2nd adults active	1200 - 1400	1200, 1250, 1300, 1350, 1400		

Common Name	Scientific Name	Insect Development & Behavior [1,2]			Typical Treatment Window [2,3]	
		Biological Event	Range	GDD Maps	Range	GDD Maps
White prunicola scale	*Pseudaulacaspis prinicola*	N/A			707 - 1151	700, 750, 800, 850, 900, 950, 1000, 1050, 1100, 1150
Willow flea weevil	*Rhynchaenus rufipes*	N/A			363 - 618	350, 400, 450, 500, 550, 600, 650
					707 - 1029	700, 750, 800, 850, 900, 950, 1000, 1050
Willow twig aphids	*Lachnus spp.*	N/A			1644 - 2271	1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050, 2100, 2150, 2200, 2250, 2300
Woolly beech aphids	*Grylloprociphilus imbricator & Phyllaphis fagi*	nymphs and adults			363 - 707	350, 400, 450, 500, 550, 600, 650, 700
Woolly elm aphid	*Erisoma americanum*	N/A			121 - 246	100, 150, 200, 250
Zimmerman pine moth	*Dioryctria zimmermani*	1st larvae	25 - 100	50, 100	121 - 246	100, 150, 200, 250
		adult flight	1700	1700	912 - 1917	900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950
					1917 - 2154	1900, 1950, 2000, 2050, 2100, 2150

[1] "Growing Degree Day Information" *Nathan W. Siegert, Deborah G. McCullough and Jeffrey A. Andresen*. Michigan State University, 2 October 2015. Web. 25 February 2016. http://www.ipm.msu.edu/agriculture/christmas_trees/growing_degree_day_information.
[2] "Using Growing Degree-Days for Insect Pest Management" *Thomas Kowalsick and Scott Clark.* Cornell Cooperative Extension in Suffolk County, March 2012. Web. 25 February 2016. https://s3.amazonaws.com/assets.cce.cornell.edu/attachments/1870/Using-Growing-Degree-Days-for-Insect-Pest-Management.pdf?1408019830.
[3] "Using Growing Degree Days for Insect Management" *Nancy E. Adams*. University of New Hampshire Cooperative Extension. Web, 25 February 2016. http://extension.unh.edu/Agric/GDDays/Docs/growch.pdf.