

Early Season Conifer Pest Scouting - Growing Degree-day Ranges					Starting: (0-300 GDD50)	
Common name	Scientific name	GDD50 Range		GDD50 Reference	Developmental / Target Stage	Extension & Industry Resources
		min: 50°F	max: 95°F			
Conifer rust mites	<i>Eriophyidae</i>	7	22	4	Overwintering eggs hatch	https://www.cornell.edu/news/2018/02/05/conifer-rust-mites https://extension.psu.edu/conifer-rust-mites-in-ohio https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Eastern pine weevil	<i>Pissodes nemorensis</i>	7	58	RU	Overwintering adults become active / prevent egg laying	https://extension.psu.edu/eastern-pine-weevil https://www.cornell.edu/news/2018/02/05/conifer-rust-mites
Taxus mealybug	<i>Dysmicoccus wistariae</i>	7	91	2	Spring control of overwintering stage	https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Cottony taxus scale	<i>Pulvinaria floccifera</i>	7	91	6	Spring control of overwintering stage	https://extension.psu.edu/cottony-taxus-scale https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Elongate hemlock scale	<i>Fiorinia externa</i>	7	120	2	Spring control of overwintering stage	https://extension.psu.edu/elongate-hemlock-scale https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Spruce spider mite	<i>Oligonychus ununguis</i>	7	121	RU	Overwintering eggs hatch	https://extension.psu.edu/spruce-spider-mite https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Pales weevil	<i>Hylobius pales</i>	7	121	RU	Overwintering adults become active / prevent egg laying	https://extension.psu.edu/pales-weevil https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
White pine aphid	<i>Cinara strobil</i>	22	91	RU	Spring control of overwintering stage	https://extension.psu.edu/white-pine-aphid https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Pine bark adelgid	<i>Pineus strobil</i>	22	58	2	Spring control of overwintering stage	https://extension.psu.edu/pine-bark-adelgid https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Spruce bud scale	<i>Physokermes piceae</i>	22	120	2	Spring control of overwintering stage	https://www.cornell.edu/news/2018/02/05/conifer-rust-mites https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Juniper scale	<i>Carulaspis juniperi</i>	22	148	2	Spring control of overwintering stage	https://extension.psu.edu/juniper-scale https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Eastern spruce gall adelgid	<i>Adelges abietis</i>	25	100	3	spring control of overwintering stage	https://extension.psu.edu/eastern-spruce-gall-adelgid https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Northern pine weevil	<i>Pissodes approximatus</i>	25	100	4	1st adults active	https://web.extension.illinois.edu/2018/02/05/conifer-rust-mites https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Zimmerman pine moth	<i>Dioryctria zimmermani</i>	25	100	3	1st larvae active	https://extension.psu.edu/zimmerman-pine-moth https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	25	120	3	Spring control of overwintering stage	https://extension.psu.edu/cooley-spruce-gall-adelgid https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
White pine weevil	<i>Pissodes strobil</i>	25	220	4	1st adults active	https://extension.psu.edu/white-pine-weevil https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
European pine sawfly	<i>Neodiprion sertifer</i>	35	145	1	Spring control of overwintering stage	https://extension.psu.edu/european-pine-sawfly https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Fletcher scale	<i>Parthenolecanium fletcheri</i>	35	148	2	Spring control of overwintering stage	https://extension.psu.edu/fletcher-scale https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
European pine shoot moth / borer	<i>Rhyacionia buolana</i>	50	220	4	1st larvae active	https://extension.psu.edu/european-pine-shoot-moth https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Pine tortoise scale	<i>Toumeyella parvicornis</i>	58	148	2	Crawler activity	https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Pine bark adelgid	<i>Pineus strobil</i>	58	618	2	Spring control of overwintering stage	https://extension.psu.edu/pine-bark-adelgid https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Balsam twig aphid	<i>Mindarus abietinus</i>	60	100	4	Egg hatch	https://extension.psu.edu/balsam-twigs-aphid https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Eastern pine shoot borer	<i>Eucosma glariola</i>	75	200	4	1st adults active	https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	90	180	4	1st adults active - Douglas fir	https://extension.psu.edu/cooley-spruce-gall-adelgid https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Balsam twig aphid	<i>Mindarus abietinus</i>	100	150	4	Stem mothers present (control target)	https://extension.psu.edu/balsam-twigs-aphid https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Pine engraver (lps bark beetle)	<i>Ips spp.</i>	100	150	4	1st adults active	https://extension.psu.edu/pine-engraver-beetles https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
European pine sawfly	<i>Neodiprion sertifer</i>	100	195	4	1st larvae active	https://extension.psu.edu/european-pine-sawfly https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Larch casebearer	<i>Coleophora laricella</i>	120	150	4	Egg hatch	https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Nantucket pine tip moth	<i>Rhyacionia frustrana</i>	121	448	RU	1st generation egg hatch	https://extension.psu.edu/nantucket-pine-tip-moth https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Gypsy moth	<i>Lymantria dispar</i>	145	200	4	Egg hatch, 1st larvae	https://extension.psu.edu/gypsy-moth https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Spruce spider mite	<i>Oligonychus ununguis</i>	150	175	4	1st egg hatch	https://extension.psu.edu/spruce-spider-mite https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Spruce needleminer	<i>Endothenia abalinea</i>	150	200	4	1st larvae active	https://extension.psu.edu/spruce-needleminer https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Balsam gall midge	<i>Paradiplosis tumifex</i>	150	300	4	Adults laying eggs	https://extension.psu.edu/balsam-gall-midge https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Spruce budworm	<i>Choristoneura fumiferana</i>	200	300	4	1st larvae active	https://extension.psu.edu/spruce-budworm https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	200	310	4	1st galls visible - Spruce	https://extension.psu.edu/cooley-spruce-gall-adelgid https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Arborvitae leafminer	<i>Argyresthia thuella</i>	245	360	4	Larvae in mines; 1st generation	https://extension.psu.edu/arborvitae-leafminer https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Eastern spruce gall adelgid	<i>Adelges abietis</i>	250	310	4	Egg hatch, galls begin forming	https://extension.psu.edu/eastern-spruce-gall-adelgid https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Pine needle scale	<i>Chionaspis pinifoliae</i>	498	448	4	1st generation egg hatch	https://extension.psu.edu/pine-needle-scale https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Pine root collar weevil	<i>Hylobius radialis</i>	300	350	4	1st adults active	https://extension.psu.edu/pine-root-collar-weevil https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
Turpentine beetle	<i>Dendroctonus terebrans</i>	300	350	4	Parent beetles colonizing brood material	https://extension.psu.edu/turpentine-beetle https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441 https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
References					1	Rutgers Cooperative Extension - IPM Notes
					2	http://centropids.org/resources/Using_a_Growing_Degree_Day_for_insect_management
					3	https://extension.psu.edu/ipm-basics-for-christmas-tree-selection
					4	https://www.cornell.edu/news/2018/02/05/conifer-rust-mites
					5	https://www.ars.usda.gov/ARS/Handlers/Download.aspx?id=15441
					6	https://extension.und.edu/ipm/pest-prediction-calendar/lands/capacity