



**Conifer Pest Scouting Guide (Mid-season): (600-2200 GDD<sub>50</sub>)**

The information provided here gives **scouting ranges** for insect pests as well as forecasting of **GDD<sub>50</sub> accumulation predictions** to help time scouting and treatment efforts. This document supports scouting, *it does not replace it*. Keeping good notes on pest development will help dial in scouting and treatment efforts at your local level.

**Location specific GDD<sub>50</sub> models**

USPEST.org/dd/model\_app and <http://newa.cornell.edu/>

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Projected GDD50 accumulation as of 7/1/2021						
Region	Location	1-Jul	1-Aug	1-Sep	1-Oct	1-Nov
Southern	Upper Deerfield (NJ50)	1303	2145	2931	3477	3682
Central	Howell / Freehold (NJ10)	1102	1896	2630	3109	3249
Northern	High Point (NJ59)	884	1490	2045	2352	2384

*Forecast: NOAA NCEP Coupled Forecast System model version 2 (CFsv2) forecast system (3.5 months) (USPEST.ORG)*

Conifer Pest Scouting - Growing Degree-day Ranges						(600-2200 GDD50)		
CROP TYPE	Common Name	Scientific Name	GDD Min (50F)	GDD Max (95F)	Reference	Developmental / Target Stage		
Conifer	European pine shoot moth	<i>Rhyacionia buoliana</i>	480	710	5	Larvae Treatment		
Conifer	Arborvitae Leafminer	<i>Argyresthia thuarella</i>	533	700	RU	Adults (egg laying) - larvae treatments		
Conifer	Balsam gall midge	<i>Paradiplosis tumifex</i>	550	700	4	Galls apparent		
Conifer	Juniper scale	<i>Carulaspis juniperi</i>	550	700	7	Egg hatch		
Conifer	Cryptomeria scale	<i>Aspidiotus cryptomeriae</i>	600	800	3	First crawler emergence		
Conifer	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	600	1000	7	Nymphs active - Douglas fir (control target)		
Conifer	Bagworm	<i>Thyridopteryx ephemeraeformis</i>	600	900	RU	Larvae (early instars) - ONLY CONTROL WINDOW		
Conifer	Cryptomeria scale	<i>Aspidiotus cryptomeriae</i>	600	800	RU	Crawlers (1st generation)		
Conifer	Spruce budscale	<i>Physokermes hemicryphus</i>	700	1150	4	Crawlers (1st generation)		
Conifer	Juniper scale	<i>Carulaspis juniperi</i>	707	1260	RU	Crawlers (1st generation)		
Conifer	Striped pine scale	<i>Toumeyella pini</i>	750	800	4	Egg hatch		
Conifer	Pine tortoise scale	<i>Toumeyella parvicornis</i>	1000	1200	4	Egg hatch ends, last of crawlers		
Conifer	Northern pine weevil	<i>Pissodes nemorensis</i>	1200	1400	4	2nd generation adults active		
Conifer	Pine root collar weevil	<i>Hylobius radialis</i>	1200	1400	4	2nd generation adults active		
Conifer	White pine weevil	<i>Pissodes strobi</i>	1200	1400	4	2nd generation adults active		
Conifer	Pine Needle Scale	<i>Chionaspis pinifoliae</i>	1250	1350	7	Crawlers (2nd generation)		
Conifer	Northern pine weevil	<i>Pissodes nemorensis</i>	1200	1400	4	2nd generation adults active		
Conifer	Pales weevil	<i>Hylobius pales</i>	1200	1400	4	Adults 2nd generation		
Conifer	Pine root collar weevil	<i>Hylobius radialis</i>	1200	1400	4	2nd generation adults active		
Conifer	White pine weevil	<i>Pissodes strobi</i>	1200	1400	4	2nd generation adults active		
Conifer	Pine Needle Scale	<i>Chionaspis pinifoliae</i>	1290	1917	3	Crawlers emerge (2nd generation)		
Conifer	Hemlock scale	<i>Abgrallaspis ithacae</i>	1388	2154	5	Typical treatment window		
Conifer	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	1500	1775	RU	Adults/nymphs (Douglas Fir)		
Conifer	Pine Needle Scale	<i>Chionaspis pinifoliae</i>	1500	-	4	Hyaline crawlers = treatment timing		
Conifer	Nantucket tip moth	<i>Rhyacionia frustrana</i>	1514	1917	RU	Adults 2nd generation		
Conifer	Rust-mites	<i>Nalepella and Setoptus spp.</i>	1644	2030	RU	Nymphs / adults		
Conifer	Juniper webworm	<i>Dichomeris marginella</i>	1645	1917	RU	Larvae Treatment		
Conifer	Cryptomeria scale	<i>Aspidiotus cryptomeriae</i>	1750	2130	RU, 4	Crawlers emerge (2nd generation)		
Conifer	Arborvitae leafminer	<i>Argyresthia thuarella</i>	1800	2200	RU	Larvae Treatment (3rd generation)		
Conifer	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	1850	1950	RU	Galls open (Spruce)		
Conifer	Zimmerman pine moth	<i>Dioryctria zimmermani</i>	1917	2154	5	Treatment window (adult flight-1700 GDD)		
Conifer	White pine aphid	<i>Cinara strobi</i>	1991	2271	RU	Adults		
Conifer	Maskell scale	<i>lepidosaphes pallia</i>	2035	-	6	Egg hatch / crawler (2nd generation)		
Conifer	Spruce spider mite	<i>Oligonychus ununguis</i>	2375	2806	5	Typical treatment window		
<p><b>Note:</b> Growing degree-day values utilize daily average air temperatures with a minimum temperature threshold (a.k.a. 'base') of 50F = GDD50 (max. temp. threshold set at 95F). These values are accumulated from a biofix date, such as January or March 1st in the NE USA. Provided GDD50 are scouting ranges and should be trusted.</p> <p>Daily GDD50 = (Max + Min temp.) / 2 - 50 (min temp. threshold)</p>			<p><b>References</b></p>				RU	Rutgers Cooperative Extension - Landscape IPM Notes
							2	<a href="http://cctompkins.org/resources/using-growing-degree-days-for-insect-management">http://cctompkins.org/resources/using-growing-degree-days-for-insect-management</a>
							3	<a href="https://extension.psu.edu/ipm-basics-for-christmas-trees#section-2">https://extension.psu.edu/ipm-basics-for-christmas-trees#section-2</a>
							4	<a href="https://www.canr.msu.edu/ipm/agriculture/christmas_trees/gdd_of_conifer_insects">https://www.canr.msu.edu/ipm/agriculture/christmas_trees/gdd_of_conifer_insects</a>
							5	<a href="https://www.agriculture.nh.gov/publications-forms/documents/landscape-pests.pdf">https://www.agriculture.nh.gov/publications-forms/documents/landscape-pests.pdf</a>
							6	<a href="https://extension.umd.edu/ipm/pest-predictive-calendar-landscapenursery">https://extension.umd.edu/ipm/pest-predictive-calendar-landscapenursery</a>
							7	<a href="https://www.canr.msu.edu/ipm/agriculture/christmas_trees/gdd_of_landscape_insects">https://www.canr.msu.edu/ipm/agriculture/christmas_trees/gdd_of_landscape_insects</a>
			Unv. Del.	Corespondance with Dr. Kunkel (University of Delaware)-evolving GDD ranges				