

| Projected GDD50 Accumulation as of July 13 2022 |                   |         |        |       |       | Note: 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 truthed. |
|---|-------------------|---------|--------|-------|-------|--|
| Region  | Location          | Station | 13-Jul | 1-Aug | 1-Sep |  |
| South   | Upper Deerfield   | NJ50    | 1598   | 2115  | 2905  |  |
| Central   | Howell / Freehold | NJ10    | 1383   | 1871  | 2594  |  |
| North   | High Point        | NJ59    | 1132   | 1541  | 2138  |  |

Forecast: NOAA NCEP Coupled Forecast System model version 2 (CFSv2) forecast system (3.5 months) (USPEST.ORG)

### BORER Insect Activity for 1000-2500 GDD (~ July)

| Crop type         | Common Name                  | Scientific Name              | GDD Min (50F) | GDD Max (95F) | Reference | Developmental / Target Stage |
|-------------------|------------------------------|------------------------------|---------------|---------------|-----------|------------------------------|
| Many              | Roundheaded appletree borer  | <i>Saperda candida</i>       | 802           | 1129          | RU        | Adults                       |
| Ash               | Emerald ash borer            | <i>Agrilus planipennis</i>   | 1000          | 1200          | 4         | Peak adult activity          |
| Many              | Roundheaded apple tree borer | <i>Saperda candida</i>       | 1514          | 1798          | 5         | Typical treatment window     |
| Conifer           | Nantucket tip moth           | <i>Rhyacionia frustrana</i>  | 1514          | 1917          | RU        | Adults 2nd generation        |
| Maple             | Sugar maple borer            | <i>Glycobius speciosus</i>   | 2032          | 2375          | 5         | Typical treatment window     |
| Locust            | Locust borer                 | <i>Magacyllene robiniae</i>  | 2271          | 2805          | 5         | Typical treatment window     |
| Poplar and Willow | Poplar and willow borer      | <i>Crytorhynchus lapathi</i> | 2271          | 2806          | 5         | Typical treatment window     |

### SCALE Insect Activity for 1000 - 2500 GDD (~ July)

| Crop type                 | Common Name                   | Scientific Name                   | GDD Min (50F) | GDD Max (95F) | Reference | Developmental / Target Stage                      |
|---------------------------|-------------------------------|-----------------------------------|---------------|---------------|-----------|---|
| Conifer                   | Cryptomeria scale             | <i>Aspidiotus cryptomeriae</i>    | 600           | 800           | 3         | First crawler emergence                           |
| Many                      | White prunicola scale         | <i>Pseudaulacaspis prunicola</i>  | 707           | 1151          | RU        | Crawlers (1st generation)                         |
| Conifer                   | Juniper scale                 | <i>Carulaspis juniperi</i>        | 707           | 1260          | RU        | Crawlers (1st generation)                         |
| Many                      | Calico scale                  | <i>Eulecanium cerasorum</i>       | 714           | -             | 6         | Crawlers (1st generation)                         |
| Conifer                   | Striped pine scale            | <i>Toumeyella pini</i>            | 750           | 800           | 4         | Egg hatch   |
| Oak, hickory, birch, many | Oak lecanium scale            | <i>Parthenolecanium quercifex</i> | 789           | -             | 6         | Crawlers (1st generation)                         |
| Acer                      | Cottony maple leaf scale      | <i>Pulvinaria acericola</i>       | 802           | 1265          | 5         | Crawlers (1st generation)                         |
| Many, shadetrees          | Cottony maple scale           | <i>Pulvinaria innumerabilis</i>   | 802           | 1265          | RU        | Crawlers (1st generation) - control target        |
| Oaks                      | Golden oak scale              | <i>Asterolecanium variolosum</i>  | 802           | 1266          | 5         | Egg hatch   |
| Maples                    | Japanese maple scale          | <i>Lopholeucaspis japonica</i>    | 829           | -             | 6         | Crawlers (1st generation)                         |
| Elm                       | European elm scale            | <i>Gossyparia spuria</i>          | 831           | 1388          | 6,2       | Crawlers (1st generation)                         |
| Shade trees               | European fruit lecanium scale | <i>Parthenolecanium corni</i>     | 932           | 1645          | 6,RU      | Crawlers - control target                         |
| Conifer                   | Pine tortoise scale           | <i>Toumeyella parvicornis</i>     | 1000          | 1200          | 4         | Egg hatch ends, last of crawlers                  |
| Yew, many conifers        | Fletcher Scale (Yew)          | <i>Parthenolecanium fletcheri</i> | 1029          | 1388          | RU        | Crawlers (1st generation) - control target        |
| Many                      | Indian wax scale              | <i>Ceroplastes ceriferus</i>      | 1145          | -             | 6         | Crawlers (1st generation)                         |
| Euonymus                  | Euonymus Scale                | <i>Unaspis euonymil</i>           | 1150          | 1388          | 5         | 2nd generation targeted treatments                |
| Shade trees               | European fruit lecanium scale | <i>Parthenolecanium corni</i>     | 1266          | 1645          | 5         | Crawlers  |
| Conifer                   | Pine Needle Scale             | <i>Chionaspis pinifoliae</i>      | 1290          | 1917          | 3         | Crawlers emerge (2nd generation) - control target |
| Conifer                   | Hemlock scale                 | <i>Abgrallaspis ithacae</i>       | 1388          | 2154          | 5         | Typical treatment window                          |
| Malus, Prunus, many       | Peachtree borer               | <i>Synanthedon sp.</i>            | 1500          | 1800          | RU        | Larvae Treatment                                  |
| Many                      | White prunicola scale         | <i>Pseudaulacaspis prunicola</i>  | 1637          | -             | 6         | Egg hatch / crawler (2nd generation)              |
| Euonymus                  | Euonymus Scale                | <i>Unaspis euonymil</i>           | 1700          | -             | RU        | Continued 2nd generation treatments               |
| Conifer                   | Cryptomeria scale             | <i>Aspidiotus cryptomeriae</i>    | 1750          | 2130          | RU, 4     | Crawlers emerge (2nd generation)                  |
| Many                      | Obscure scale                 | <i>Melanaspis obscura</i>         | 1774          | -             | 6         | Egg hatch / crawler                               |
| Conifer                   | Maskell scale                 | <i>Iepidosaphes pallia</i>        | 2035          | -             | 6         | Egg hatch / crawler (2nd generation)              |
| Mainly Tulip              | Tulip tree scale              | <i>Toumeyella liriodendri</i>     | 2037          | 2629          | RU        | Crawlers (1st generation)                         |
| Mainly Magnolia           | Magnolia scale                | <i>Neolecanium cornuparvum</i>    | 2155          | 2800          | RU        | Crawlers (1st generation)                         |
| Maple                     | Japanese maple scale          | <i>Lopholeucaspis japonica</i>    | 2508          | -             | 6         | Egg hatch / crawler (2nd generation)              |
| Conifer                   | Elongate hemlock scale        | <i>Fiorinia externa</i>           | 2515          | 2625          | RU        | Typical treatment window - fall activity          |
| Yew, many conifers        | Fletcher Scale (Yew)          | <i>Parthenolecanium fletcheri</i> | 2515          | 2800          | RU        | Fall control of overwintering stage               |

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Daily GDD50 =  
 (Max + Min temp.) / 2 - 50 (min temp. threshold)

#### References

|   |           |   |
|---|-----------|---|
| 1 | RU        | Rutgers Cooperative Extension - Landscape IPM Notes   |
| 2 |           | <a href="http://ccetompkins.org/resources/using-growing-degree-days-for-insect-management">http://ccetompkins.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. | Coorespondance with Dr. Kunkel (University of Delaware)-evalving GDD ranges   |

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