



Forest and Shade Tree Early Season Guide to Pest Management in Maine

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The following table should assist you in the early season planning process. **Remember that this is just a guide** and that conditions will vary. Many pests may be managed with several other suitable products not listed here, but also registered for use in Maine. This chart reflects those products that should be readily available and effective, *but not to the exclusion of others that may be suitable*. Information on any entry preceded by an * may be available on our website or can be requested by calling or writing to the Insect and Disease Laboratory, 168 State House Station, Augusta, Maine 04333-0168, Phone (207) 287-2431, Fax (207) 287-2432.

Insect or Disease	Cultural Controls	Chemical Controls
Ash Anthracnose	Before budbreak, remove any fallen leaves not raked last autumn. Compost the leaves well away from ash trees.	Propiconazole (Banner), Chlorothalonil (Bravo, Daconil, Mainsail WDG) at budbreak, and again 10 to 14 days later.
Ash Leaf Rust	None which are practical and effective.	Mancozeb, chlorothalonil (Daconil), or Thiophanate methyl (T-Methyl), applied at budbreak and repeated 2 to 3 times at 10-day intervals.
*Balsam Gall Midge		Diazinon** or chlorpyrifos (Lorsban**) late May to early June.
*Balsam Shootboring Sawfly		Chlorpyrifos (Lorsban 4E**) or Diazinon AG500** 3 times at 5 day intervals during the 2 weeks following the observation of activity of adults (mid-late April) or in the two weeks prior to normal balsam twig aphid spray dates.
*Balsam Twig Aphid		Diazinon** or chlorpyrifos (Lorsban**) at bud break.
Black Knot of Peach, Plum, and Cherry	Prune and destroy knotted twigs and branches.	Thiophanate methyl (T-Methyl or Fungo Flo) or chlorothalonil (Daconil) when trees are dormant and twice again at three week intervals after budbreak.
*Browntail Moth	Clipping of overwintering webs is only effective prior to the time larvae beginning actively feeding on emerging foliage (April).	The use of pesticides is a complex issue requiring professional assistance and there are restrictions on treating near water. Call for more information.
*Bruce Spanworm		Emerges early as buds begin to swell on northern hardwoods, especially beech. Larvae bore into buds. Controls not usually recommended.
Diplodia Tip Blight	<i>see Sphaeropsis Shoot Blight</i>	<i>see Sphaeropsis Shoot Blight</i>
Dothistroma Needle Blight		Copper sulfate (Kocide) or Thiophanate methyl (T-Methyl)
Dogwood Anthracnose	Remove any fallen leaves not raked last autumn; fertilize trees; prune out dead twigs and suckers; plant Chinese or Japanese dogwood instead of native flowering dogwood.	Chlorothalonil (Daconil), Thiophanate methyl (T-Methyl, Fungo Flo), Propiconazole (Banner), or Mancozeb (Dithane, Fore) at bud break and again three times at three week intervals.
Dutch Elm Disease	Plant disease resistant elms; eliminate all potential beetle breeding elm material within 700 feet of trees to be protected.	Bifenthrin (Talstar) or chlorpyrifos (Lorsban**) for beetle vector control on the lower 9' of trunk.

NOTE: These recommendations are not a substitute for pesticide labeling. Read the label before applying any pesticide. Pesticide recommendations are contingent on continued EPA and Maine Board of Pesticides Control registration and are subject to change.

Caution: For your own protection and that of the environment, apply the pesticide only in strict accordance with label directions and precautions.

**Restricted-use pesticide may be purchased and used only by certified applicators.

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*Eastern Tent Caterpillar	Prune out egg masses on twigs prior to hatch; remove and destroy small tents as they develop (late April-early May)	<i>Bt</i> (Dipel or Thuricide), spinosad (Conserve or Entrust) or carbaryl (Sevin) on warm days when larvae leave tents to feed.
*Emerald Ash Borer	Emerald ash borer has not been found in Maine. It is not too soon to think about which trees threatening infrastructure will be protected and which will be removed. Consider beginning removal of ash in poor health or larger ash that will not be protected near roads, homes and other infrastructure.	It is too soon to treat trees with chemicals to manage the threat of emerald ash borer. Treatment is appropriate only after the beetle has been detected within 10 miles of the target ash.
*Fall Cankerworm		<i>Bt</i> (Dipel or Thuricide), spinosad (Conserve or Entrust) or carbaryl (Sevin) applied while larvae are small (late May-early June on boxelder in Aroostook County). Early to mid May on elm and oak in southern Maine.
*Gypsy Moth	Scrape egg clusters from tree boles and larger branches into a container and destroy them. Complete before egg hatch (late April).	<i>Bt</i> (Dipel or Thuricide), spinosad (Conserve or Entrust) or carbaryl (Sevin) or diflubenzuron (Dimilin**) when larvae are actively feeding (early June).
Hawthorn Leaf Spot Mt. Ash Leaf Spot	Remove any fallen leaves not raked last autumn; plant resistant varieties such as <i>Crataegus crus-galli</i> .	Thiophanate methyl (T-Methyl or Fungo Flo), chlorothalonil (Bravo, Daconil) or Mancozeb (Dithane, Fore) as leaves unfold and at two week intervals until dry weather.
*Hemlock Shoot Blight	Check shoot tips in late winter, early spring for browning and curling. Pruning (shearing and shaping) can be done during late summer or fall to remove blighted tips.	Two applications of chlorothalonil (Daconil), as shoots elongate in mid-spring (late May through June)
*Hemlock Woolly Adelgid	Watch for signs of infestation and report new finds.	Call for information.
Heterobasidion irregulare (= <i>H. annosum</i> ; <i>Fomes annosus</i>) Red Pine Root Rot	Restrict thinning operations to between December and February, when spore dispersal is minimal.	Disodium octaborate tetrahydrate (Cellu-Treat) applied to freshly cut stumps (within three days of tree felling).
Horse Chestnut Leaf Blotch	Remove any fallen leaves not raked last autumn.	Thiophanate methyl (Fungo Flo) or chlorothalonil (Bravo) at bud break and twice more at 14 day intervals.
*Larch Casebearer		Carbaryl (Sevin) or cyfluthrin (Tempo) applied after most cases have moved to the expanding needle clusters (late April to early May).
Maple Anthracnose	Before budbreak, remove any fallen leaves not raked last autumn. Compost the leaves well away from maples.	Thiophanate methyl (Fungo Flo) at bud break and twice again at 10-14 day intervals.
Peach Leaf Curl		Chlorothalonil (Bravo) or Ferbam (Carbamate) or Ziram applied as full coverage spray when trees are dormant.
*Pear Thrips		Controls and timing not well understood. Thrips are active on expanding maple.
Pine-Pine Gall Rust of Jack and Scotch Pine	Prune rust galls from lightly infected trees; rogue heavily infected trees from plantations before May 1. Use disease free planting stock.	None at this time.
*Satin Moth		Treat infested poplars and willow in mid to late May with <i>Bt</i> (Dipel or Thuricide), carbaryl (Sevin) or cyfluthrin (Tempo).

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Sirococcus Shoot Blight of Spruces	Prune out affected twig tips by mid-summer, and destroy.	Chlorothalonil (Daconil, Bravo), at bud break and again 10 to 14 days later. Apply second application sooner if wet weather conditions prevail.
Sphaeropsis Shoot Blight of Red, Scotch, and Austrian Pines	Use disease free planting stock; remove non-crop-tree hard pines from area. Prune and burn lower, heavily infected and dead branches.	Chlorothalonil (Bravo), copper sulfate (Kocide), or Thiophanate methyl (T-Methyl, Topsin) at bud break and again when shoots are half grown.
*Spruce Gall Adelgids	Prune off and destroy new developing galls in mid to late June.	Treat infested trees just prior to bud break with dormant oil, carbaryl (Sevin) chlorpyrifos (Lorsban**) or imidacloprid (Merit). Controls can also be applied in the fall.
Spruce Needlecast of White and Colorado Blue Spruce (Rhizosphaera kalkhoffii)	Prune, remove, and destroy the most heavily infected, lower branches on larger trees.	Chlorothalonil (Bravo, Daconil), or copper sulfate (Bordeaux mix) as buds break and again 10 days to two weeks later.
*Ticks	Watch for ticks throughout the field season (April-November). Avoid high risk areas if possible, inspect yourself daily and remove ticks and use repellents as directed.	Compounds containing DEET can be used as repellents. Those containing the toxicant permethrin (Repel) can be used on clothing as directed.
*Viburnum Leaf Beetle	Where possible, prune off any twigs with scabby, egg-filled holes prior to May 1st.	Watch in mid - late May) for developing larvae and treat with carbaryl (Sevin), bifenthrin (Talstar) or imidacloprid (Merit).
*White Pine Blister Rust	Prune cankered lateral branches from trees and excise stem cankers by removing bark at least four inches above and below and two inches either side of discolored bark. Remove (uproot or apply herbicide) Ribes from within 1000 feet of white pine forests or plantations. Surveying for Ribes plants is most effective from mid- April through early May.	Herbicides for controlling native Ribes include Glypho 41, Accord XRT II, Roundup Pro, Roundup 2K, and Roundup Original II.
*White Pine Weevil	Refrain from planting white pine or spruce for reforestation in open areas, on heavy clay soils, or on heavily sodded fields. Correctively prune damaged trees to establish new leaders.	Apply control in the spring once there have been several days above 60 degrees Fahrenheit. Use, permethrin (Astro), bifenthrin (Talstar) or Dibrom 8** at 14-20 day intervals until June. <u>Commercial Forest and Christmas Tree Plantations:</u> diflubenzuron (Dimilin**) or chlorpyrifos (Lorsban**).
*Winter Moth	Do not move soil or plants from under infested trees to un-infested areas – cocoons in ground from June-December.	Horticultural oil in very early spring. Bt (Biobit) on young larvae. For older larvae use a spinosad product (Conserve or Entrust) or permethrin (Astro).

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