

Trees - Forest, Shade and Christmas

Table 1. Ash

Pest	Pesticide	Rate	Remarks
Aphids	Arena 0.25G	See label	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Ultra-Pure Oil	0.5-3.0 gallons/100 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Distance IGR	6.0-12.0 ounces/100 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Flagship 25WG	2.0-8.0 ounces/100 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Orthene TTO/75S	4.0-12.0 ounces/100 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Orthene 97S	8.0-16.0 ounces/100 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Meridian 25WG	2.0-8.0 ounces/100 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Talstar 10WP	5.4-10.8 ounces/100 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Malathion 57% EC	1.0-2.0 pints/100 gallons or 1.5 teaspoons/gallon	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Merit 75WP	0.5 ounces/100 gallons or 3 tablespoons and 1 teaspoon/100 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
	Zenith 75	1.6 ounces/300 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.	

Pest	Pesticide	Rate	Remarks
Borers	Acelepryn	4.0-32.0 ounces/100 gallons	Selected borers.
	Permethrin SFR	1.0-5.35 quarts/100 gallons	Follow label.
	Phaser 50WP	1.0-2.0 pounds/100 gallons	Apply in spring when buds begin to break; repeat in 10-14 days; materials may be injected into tunnels and sealed in with mud or clay.
	Astro	1.0-5.3 quarts/100 gallons	Cover trunks and stems up to 10 ft from ground
Emerald ash borer	ACE-jet	See label.	Trunk injection, early to mid-spring
	Azaguard / Lalgard AZA / Treeazin	See label.	Trunk injection, early to mid-spring through mid-fall
	Bifen XTS / GCS / Binfentrin/ Onyx Pro	See label.	Apply to bark and foliage prior to or during adult emergence
	Safari / Transect / Zylam	See label.	Soil drench or trunk spray early-spring
	ArborMectin / Boxer / Mectinite / Tree Mec / Tree-Age G4 / Tree-Age R10	See label.	Trunk injection, mid- to late spring after trees have leafed out, through early fall; follow directions for tree size.
	Merit 2F / Merit 75 WP / Merit 75 WSP	See label.	Soil injection or drench, early to mid-spring or mid-fall.
	Mallet 2f / Mallet 75 WSP	See label.	Soil injection or drench, early to mid-spring or mid-fall.
	Xytect 2F / Xytect 75WSP	See label.	Soil injection or drench, early to mid-spring or mid-fall.
	IMA-jet / IMA-jet 10 / Imicide / Imicide HP / Pointer	See label.	Trunk injection, mid- to late spring after trees have leafed out; follow directions for tree size.
	Astro		Trunk, branch and foliage spray; two applications at 4-week intervals; first spray at 45-55 F degree-days.
	Onyx	See label.	Trunk, branch and foliage spray; two applications at 4-week intervals; first spray at 45-55 F degree-days.
	Tempo SC Ultra	See label.	Trunk, branch and foliage spray; two applications at 4-week intervals; first spray at 45-55 F degree-days.
	Bayer Advanced Tree and Shrub Insect Control	See label.	Soil drench, early to mid-spring; available to homeowners.
Optrol	See label.	Soil drench, early to mid-spring; available to homeowners.	

Pest	Pesticide	Rate	Remarks
Caterpillars	Acelepryn	2.0-16.0 fl ounces/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	°Confirm	2.0-16.0 ounces/acre	Read label for maximum application rates
	°Conserve SC	0.06 fluid ounces/gallon	Follow label.
	Spinosad (Entrust SC)	3.3-6.0 fluid ounces/acre	Follow label.
	°Condor XL	0.75-1.75 pints/acre	Caterpillars only.
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	2.0-4.0 gallons/100 gallons	Follow label.
	°Crymax	0.5-2.0 pounds/acre	Caterpillars only.
	Orthene 97S/TT0	4.0-8.0 ounces/100 gallons	Follow label.
	Orthene 75S/TT0	5.3-10.67 ounces/100 gallons	Check label as application rates may vary based upon target pest
	° <i>Bacillus thuringiensis</i> (B.t.)	See label	Javelin, Biobit, Thuricide, Foray 48B, Condor, Xentari, and Dipel
	°SpinTor 2SC	4.0-10.0 ounces/acre	Follow label.
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gal	Follow label.
	°Dipel	0.75-2.0 pounds/100 gallons	Use or repeat as needed.
Imidan 70W	0.75-1.0 pound/100 gallons	Up to 4.25 lbs/acre for heavy infestations; Adjust pH must be adjusted to be below 7 for greatest efficacy.	

Pest	Pesticide	Rate	Remarks
Scales	Arena 50 WDG	4.0-8.3 grams/1000 sq ft	Follow label.
	Ultra-Pure Oil	1.5-2.0 gallons/100 gallons	Follow label.
	Flagship 25WG	4.0-8.5 ounces/100 gallons	Follow label.
	Superior oil (60%-70%)	1.0-3.0 gallons/100 gallons or 5.0 tablespoons/gal	Follow label.
	Zenith 75	1.6 ounces/300 gallons	Follow label.
	Malathion 57% EC	1.0-1.5 pints/100 gallons or 1.0 teaspoon/gal	Apply when crawlers appear; repeat in 10 days.
	Ultra-Fine Oil	2.0-8.0 gallons/100 gallons	Dormant in summer; Check label for application rates on different species of plants
	Distance IGR	8.0-12.0 ounces/100 gallons	Follow label.
	Carbaryl 4L	1 quart/acre	Follow label.
	Carbaryl 50WP	2.0 pounds/100 gallons	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Follow label.
	Orthene TTO/75S	10.5 ounces/100 gallons	Follow label.
	Orthene 97S	8.0 ounces/100 gallons	Follow label.
	*Supracide 2E	2.0 pints/100 gallons	Follow label.
Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.	

Table 2. Beech

Pest	Pesticide	Rate	Remarks
Aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Follow label.
	Ultra-Pure Oil	0.7-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Distance IGR	6.0-8.0 ounces/100 gallons	Follow label.
	Flagship	2.0-4.0 ounces/100 gallons	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
	Talstar 10 WP	1.0 tablespoon/gallon or 3.0-8.0 tablespoons/10 gallons	Follow label.
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gal	Follow label.
	Meridian 25WG	2.0-8.5 ounces/100 gallons	Follow label.
	Merit 75WP	1.0 teaspoon/10.0 gallons or 3.5 tablespoons/100 gallons	Follow label.
	Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Lace bugs	Acelepryn	Variable with plant size	Follow label.
	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Follow label.
	Ultra-Pure Oil	2.0-4.0 gallons/100 gallons	Follow label.
	Ultra-Fine Oil	2.0-5.0 gallons/100 gallons	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gal	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Follow label.
	Malathion 57% EC	1.0 pint/100 gallons or 1.0 tablespoons/gallon	Follow label.
	Merit 75WP	1.0 teaspoon/10.0 gallons or 3.5 tablespoons/100 gallons	Follow label.
	*Disyston 15G	25.0-27.0 ounces/tree or 2.5 ounces/ inch of trunk diameter	Follow label.

Pest	Pesticide	Rate	Remarks
Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	2.0-4.0 gallons/100 gallons	Follow label.
	Ultra-Fine Oil	2.0-5.0 gallons/100 gallons	Follow label.
	Confirm 2F	2.0-8.0 ounces/acre	Follow label.
	°Conserve (Spinosad)	0.06 ounce/gal or 6.0 ounces/100 gallons	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	8.0 ounces/100 gallons	Follow label.
	°Spintor 2	3.0-8.0 ounces/acre	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	Follow label.
	Imidan 70WP	0.75-1 pound/100 gallons	Follow label.
	°Crymax	0.5-1.5 pounds/acre	Follow label.
	°Condor XL	0.75-1.75 pounds/acre	Follow label.
Scales	Ultra-Pure Oil	2.0-4.0 gallons/100 gallons	Follow label.
	Ultra-Fine Oil	2.0-5.0 gallons/100 gallons	Follow label.
	Distance IGR	8.0-12.0 ounces/100 gallons	Follow label.
	Flagship	4.0-8.0 ounces/100 gallons	Follow label.
	Superior oil	2.0 gallons/100 gallons or	Follow label.
	60%-70%	5.0 tablespoons/gal	Follow label.
	Malathion 57% EC	1.0-1.5 pints/100 gallons	Apply when crawlers appear and repeat in 10 days.
	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gal	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Follow label.
	Orthene TTO/75S	10.5 ounces/100 gallons	Follow label.
	Orthene 97S	8.0 ounces/100 gallons	Follow label.
Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.	

Table 3. River Birch

Pest	Pesticide	Rate	Remarks
Aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Treat foliage when aphids appear.
	Ultra-Fine Oil	0.7-1.0/gallon	Treat foliage when aphids appear.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Treat foliage when aphids appear.
	Distance IGR	6.0-8.0 ounces/100 gallons	Treat foliage when aphids appear.
	Flagship	2.0-4.0 ounces/100 gallons	Treat foliage when aphids appear.
	Orthene TTO/75S	5.3 ounces/100 gallons	Treat foliage when aphids appear.
	Orthene 97S	4.0 ounces/100 gallons	Treat foliage when aphids appear.
	Talstar 10WP	1.0 teaspoon/gallon or 3.0-8.0 tablespoons/10 gallons	Treat foliage when aphids appear.
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	Treat foliage when aphids appear.
	Meridian 25WG	2.0-8.5 ounces/100 gallons	Treat foliage when aphids appear.
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Treat foliage when aphids appear.
	Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Scales	Same as ash.	Same as ash.	Same as ash.
Bronze birch borers	Same as ash.	Same as ash.	Same as ash.
Sawflies	Orthene	5.3 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Merit 74WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.
	°Spinosad	2.0 ounces/gallon or 22.0 ounces/100 gallons	Follow label.
Leafminers	Acelepryn	Variable	Follow label.
	°Conserve SC	0.2 ounce/gallon or 22.0 ounces/ 100 gallons	Follow label.
	Malathion 57% EC	1.0 quart/100 gallons or 2.0 tablespoons/gal	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
	°Spintor 2	3.0-8.0 ounces/acre	Follow label.
Eastern tent caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.

Pest	Pesticide	Rate	Remarks
Yellowneck caterpillars	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Tempo 2	1.0-2.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Spray foliage and tent as needed in the spring.
	50WP	2.0 tablespoons/gallon	Follow label.
	Confirm 2F	2.0-8.0 ounces/acre	Follow label.
	°Conserve (Spinosad)	0.06 ounce/gallon or 6.0 ounces/100 gallons	Follow label.
	Malathion	2.0 pints/100 gallons or 2.0 teaspoons gallons	Follow label.
	°Spintor 2	3.0-8.0 ounces/acre	Follow label.
	Imidan 70WP	0.75-1.0 pound/100 gallons	Adjust pH to 5.5.
	°B.t.	See label.	Javelin, Foray, Biobit, Thuricide, Dipel, Crymax, Condor XL; follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Spray as needed.
Orthene 97S	4.0 ounces/100 gallons	Follow label.	

Table 4. Boxelder

Pest	Pesticide	Rate	Remarks
Boxelder aphids	Malathion 57% EC	1.5 pints/1,000 gallons or 1.5 teaspoons/gallon	Treat when insects are present.
Boxelder bugs	Carbaryl	2.0 pounds/100 gallons	Primarily a house pest during warm days in fall, winter and spring; spraying tree trunks and young insects when they appear before home invasion reduces the nuisance.
	Carbaryl 50WP	2.0 tablespoons/gallon	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	

Table 5. Cedar

Pest	Pesticide	Rate	Remarks
Bagworms	Acelepryn	1.0-2.0 ounces/100 gallons	Spray foliage in early June when bags are small; repeat in 10 days; handpick older larvae; spray in late afternoon.
	Orthene TTO/75S	1/3 pound/100 gallons	
	Orthene 97S	4.0 ounces/100 gallons	
	Scimitar GS, CS	1.5-5.0 ounces/100 gallons	
	°Spintor 2	3.0-8.0 ounces/acre	
	Battle WP	1.2-4.8 ounces/100 gallons	
	°B.t.	See label.	
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gallon	
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	
Mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	°Conserve SC(Spinosad)	0.2 fluid ounce/gallon or 22.0 ounces/100 gallons	Follow label.
	*Judo	2.0-4.0 ounces/100 gallons	Follow label.
	MesuroI 75WP	0.5-1.0 pound/acre	Follow label.
	*Dicofol 35% WP (Kelthane)	1.0-1 1/3 pounds/100 gallons or 1.5 tablespoons/gallon	Follow label.
	Talstar 10WP	1.0-2.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	Follow label.

Table 6. Cherry

Pest	Pesticide	Rate	Remarks
Eastern tent caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	Spray when webs first appear; cut webs out, if practical.
	Carbaryl	2.0 pounds/100 gallons	Spray when webs first appear; cut webs out, if practical.
	Carbaryl 50WP	2.0 tablespoons/gallon	Spray when webs first appear; cut webs out, if practical.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Spray when webs first appear; cut webs out, if practical.
	Confirm 2F	2.0-8.0 ounces/acre	Spray when webs first appear; cut webs out, if practical.
	°Conserve (Spinosad)	0.06 ounce/gal or 6.0 ounces/100 gallons	Spray when webs first appear; cut webs out, if practical.
	Orthene TTO/75S	1/3 pound/100 gallons	Spray when webs first appear; cut webs out, if practical.
	Orthene 97S	4.0 ounces/100 gallons	Spray when webs first appear; cut webs out, if practical.
	°Spintor 2	3.0-8.0 ounces/acre	Spray when webs first appear; cut webs out, if practical.
Fall webworms	Confirm 2F	2.0-8.0 ounces/acre	Follow label.
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	Follow label.
	°Spintor 2 (Spinosad)	3.0-8.0 ounces/acre	Follow label.
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	Follow label.
	°B.t.	See label.	Same as ash.

Table 7. Chinaberry

Pest	Pesticide	Rate	Remarks
Scales	Same as ash.	Same as ash.	Same as ash.
Whiteflies	Forbid 4F	2.0-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Safari	4.0-8.0 ounces/100 gallons or 12-24 ounces/100 gallons water drench	Follow label.
	Flagship	4.0-8.0 ounces/100 gallons	Follow label.
	Distance 0.86 EC	6.0-8.0 ounces/100 gallons	Follow label.
	Meridian 25WG	2.0-8.5 ounces/100 gallons	Follow label.
	Orthene TTO/75S	10.5 ounces/100 gallons	Follow label.
	Orthene 97S	8.0 ounces/100 gallons	Follow label.
	Talstar 10WP	1.0-2.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	Follow label.
	*Merit 75 WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.

Table 8. Cypress

Pest	Pesticide	Rate	Remarks
Scales	Same as ash.	Same as ash.	Same as ash.
Mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Judo	2.0-4.0 ounces/100 gallons	Follow label.
	(Dicofol)	1.5 tablespoons/gallon	Follow label.
	Talstar 10WP	1.0-2.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	Follow label.
	*MesuroI 75WP	0.5-1.5 pounds/acre	Follow label.

Table 9. Dogwood

Pest	Pesticide	Rate	Remarks
Webworms	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	Sevin 4F	1.0 quart/100 gallons	Follow label.
	Orthene TTO/75S	10.5 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
	*Imidan 70WP	0.75-1.0 pound/100 gallons	Adjust pH to 5.5.
Dogwood borers, dogwood twig borers	Same as ash.	Same as ash.	Same as ash.

Table 10. Elm

Pest	Pesticide	Rate	Remarks
Aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Distance IGR	6.0-8.0 ounces/100 gallons	Follow label.
	Flagship	2.0-4.0 ounces/100 gallons	Follow label.
	Talstar 10WP	1.0-2.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	Follow label.
	Meridian 25WG	2.0-8.5 ounces/100 gallons	Follow label.
	Zenith 75	1.6 ounces/300 gallons water	Follow label.
	Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.

Pest	Pesticide	Rate	Remarks
Elm bark beetles	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	°Conserve SC	0.06 ounce/gallon or 6.0 ounces/ 100 gallons	Follow label.
Elm leaf beetles	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Spray foliage when larvae first appear about the time leaves are fully expanded; repeat in 2 weeks.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gallon	
	Carbaryl 4F	1.0 quart/100 gallons	
	Scimitar GS, CS	1.5-5.0 ounces/100 gallons	
	Battle WP	1.2-4.8 ounces/100 gallons	
	*Merit 75WP	1.0 teaspoon/gallon or 3.5 tablespoons/100 gallons	
	Zenith 75	1.6 ounces/300 gallons	
	Orthene TTO/75S	10.5 ounces/100 gallons	Do not spray on American elm.
	Orthene 97S	8.0 ounces/100 gallons	Do not spray on American elm.
Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	Spray foliage and web when web is first noticed.
	Carbaryl	2.0 pounds/100 gallons	Spray foliage and web when web is first noticed.
	Carbaryl 50WP	2.0 tablespoons/gallon	Spray foliage and web when web is first noticed.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Spray foliage and web when web is first noticed.
	Confirm 2F	2-8 ounces/acre	Spray foliage and web when web is first noticed.
	°Conserve (Spinosad)	0.06 ounce/gallon or 6 ounces/100 gallons	Spray foliage and web when web is first noticed.
	Orthene TTO/75S	10.5 ounces/100 gallons	Spray foliage and web when web is first noticed.
	Orthene 97S	8.0 ounces/100 gallons	Spray foliage and web when web is first noticed.
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	Spray foliage and web when web is first noticed.
	°B.t.	See label.	Spray foliage and web when web is first noticed.
	*Ficam W	11.0 ounces/100 gallons	Spray foliage and web when web is first noticed.
	Tempo 2	1.0-2.0 ounces/100 gallons	Spray foliage and web when web is first noticed.
	*Imidan 70WP	0.75-1.0 pound/100 gallons	Spray foliage and web when web is first noticed.
	Scimitar GS, CS	1.5-5.0 ounces/100 gallons	Spray foliage and web when web is first noticed.
	°Spintor 2 (Spinosad)	3.0-8.0 ounces/acre	Spray foliage and web when web is first noticed.
Battle WP	1.2-4.8 ounces/100 gallons	Spray foliage and web when web is first noticed.	

Pest	Pesticide	Rate	Remarks
Scales	Same as ash.	Same as ash.	Same as ash.

Table 11. Gum

Pest	Pesticide	Rate	Remarks
Scales	Same as ash.	Same as ash.	Same as ash.
Caterpillars	Same as elm.	Same as elm.	Same as elm.

Table 12. Hawthorn

Pest	Pesticide	Rate	Remarks
Aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Safari	4.0-8.0 ounces/100 gallons	Follow label.
	Distance IGR	6.0-8.0 ounces/100 gallons	Follow label.
	Flagship	2.0-4.0 ounces/gal	Follow label.
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	Follow label.
	Meridian 25WG	2.0-8.5 ounces/100 gallons	Follow label.
	Thiodan 2EC	1.0 quart/100 gallons or 2.0 tablespoons/3 gallons	Do not use near home or treat birch.
	Orthene TTO/75S	5.3 ounces/gallon or 4.0 ounces/100 gallons	Follow label.
	Meridian 25 WG	2.0-8.5 ounces/100 gallons	Follow label.
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.
	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.
	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.	

Pest	Pesticide	Rate	Remarks
Aphids, Cont.	Carbaryl	2.0 pounds/100 gallons	Treat when small nymphs appear (May through September); repeat at 7- to 10-day intervals, if needed.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Follow label.
	Malathion 57% EC	1.0 pint/100 gallons or 1.0 teaspoon/gal	Follow label.
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.
	*Disyston 15G	25.0-27.0 ounces/tree or 2.5 ounces/inch of trunk diameter	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
	Zenith 75	1.6 ounces/300 gallons	Follow label.
	Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Spider mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Judo	2.0-4.0 ounces/100 gallons	Follow label.
	Conserve SC	0.2 ounce/gallon or 22.0 ounces/ 100 gallons	Follow label.
	*Dicofol 35% WP	1.0-1 1/3 pounds/100 gallons	Treat when mites are present; repeat at 7- to10-day intervals, if needed.
	Floramite	2.0-4.0 ounces/100 gallons	Follow label.
	*MesuroI 75WP	0.5-1.5 pounds/acre	Follow label.
	Avid 0.15EC	8.0 ounces/100 gallons	Follow label.
	Tetram 5WDG	16.0-32.0 ounces/acre or 8.0-16.0 ounces	Does not affect adults but will cause sterilization; effective against young mites; can only be used two times a year; to control adults use adulticide; for use in greenhouse, lath and shade house only.

Table 13. Hickory

Pest	Pesticide	Rate	Remarks
Twig girdler	Sanitation	See label	Gather and destroy all severed branches in fall or winter.
Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Treat when larvae are present.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Follow label.
	°Conserve SC	0.06 ounce/gallon or 6.0 ounces/ 100 gallons	Follow label.
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	Follow label.
	Tempo 2	1.0-2.0 ounces/100 gallons	Follow label.
	*Imidan 70WP	0.75-1.0 pound/100 gallons	Adjust water pH to 5.5.
	°B.t.	See label	Same as ash.
	Scimitar GS, CS	1.5-5.0 ounces/100 gallons	Follow label.
	°Spintor 2	3.0-8.0 ounces/acre	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
Eriophyid mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	*Judo	2.0-4.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoon/gallon	Follow label.
	Talstar	0.25-0.5 ounce/1,000 square feet or 10.0-20.0 ounces/acre	Follow label.

Table 14. Holly

Pest	Pesticide	Rate	Remarks
Southern red Spider mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Judo	2.0-4.0 ounces/100 gallons	Follow label.
	Avid 0.15EC	8.0 ounces/100 gallons	Follow label.
	Conserve SC	0.2 ounce/gallon or 22.0 ounces/ 100 gallons	Follow label.
	Floramite	1/3-2/3 teaspoon/gallon or 2.0-4.0 ounces/100 gallons	Follow label.
	*Mesurol 75WP	0.5-1.5 pounds/acre	Follow label.
	Citation	2.66 ounces/100 gallons	Follow label.
Leafminers	Permethrin SFR	4.0-8.0 ounces/100 gallons	Apply to leaves when new growth begins; a common pest of American holly sometimes occurring on English holly.
	Avid 0.15EC	0.5 teaspoon/gallon or 8.0 ounces/100 gallons	
	*Merit 75WP	1.0 teaspoon/10 gallons water or 3.5 tablespoons/100 gallons	
	°Conserve (Spinosad)	0.2 ounce/gallon or 22.0 ounces/100 gallons	
	Zenith 75	1.6 ounces/300 gallons	

Table 15. Juniper

Pest	Pesticide	Rate	Remarks
Bagworms	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.
	Permethrin SFR	4.0-8.0 ounces/100 gallons	Follow label.
	Confirm	2.0-8.0 ounces/acre	Follow label.
	°Condor XL	0.75-1.75 pints/acre	Follow label.
	°Dipel	2.0-4.0 tablespoons/gallon	Follow label.
	Orthene TTO/75SP	1/3 pound/100 gallons	Follow label.
	Orthene 97SP	4.0 ounces/100 gallons	Follow label.
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	Follow label.
	°Spintor 2	3.0-8.0 ounces/acre	Follow label.
	Scimitar GS, CS	1.5-5.0 ounces/100 gallons	Follow label.
	Battle WP	1.2-4.8 ounces/100 gallons	Follow label.
	°Crymax	0.5-1.5 pounds/acre	Follow label.
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	Follow label.
Spider mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	°Conserve SC	0.2 ounce/gallon or 22.0 ounces/ 100 gallons	Follow label.
	Malathion 57%EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	Follow label.
	°MesuroI 75WP	0.5-1.5 pounds/acre or 0.5-1.0 teaspoon/gallon	Follow label.
	Tetram 5WDG	16.0-32.0 ounces/acre or 8.0-16.0 ounces	Does not affect adults but will cause sterilization; effective against young mites; can be used only two times a year; to control adults use adulticide; for use in greenhouse, lath and shade house only.
	Judo	2-4 ounces/100 gallons	Follow label.
	Vendex 50WP	1.0 quart/100 gallons or 0.5-1.0 teaspoon/gallon	Follow label.
Leafminers	°Spintor (Conserve)	0.2 ounce or 6.0 milliliters/gallon	Follow label.
	°Citation-IGR	2.66 ounces/100 gallons/acre	Dipterous (fly) leafminers.
	Merit 75WP	1.0 teaspoon/10 gallons water or 3.5 tablespoons/100 gallons	Follow label.
	°Precision-IGR	6.0-8.0 ounces/100 gallons water	Lepidopterous leafminers (azalea-citrus).

Pest	Pesticide	Rate	Remarks
Locust Borers	Same as ash.	Same as ash.	Same as ash.
Locust leafminers	°Conserve SC	0.2 ounce or 6 milliliters/gallon	Follow label.
	Malathion 57%EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	Follow label.
	Merit 75WP	1.0 teaspoon/10 gallons water or 3.5 tablespoons/100 gallons	Follow label.

Table 16. Locust (Honey)

Pest	Pesticide	Rate	Remarks
Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.
	*Imidan 70WP	0.75-1.0 ounces/100 gallons	Apply as a foliar spray when adults first appear (early summer); repeat twice at 4- to 5-week intervals; adjust water pH to 5.5.
	Orthene TTO/75S	10.5 ounces/100 gallons	Follow label.
	Orthene 97S	8.0 ounces/100 gallons	Follow label.
	°Spintor 2	3.0-8.0 ounces/acre	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gal	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Follow label.
	°B.t.	See label.	Same as ash. Follow label.
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	Follow label.
Scimitar	1.5-5.0 ounces/100 gallons water	Follow label.	

Table 17. Magnolia

Pest	Pesticide	Rate	Remarks
Scales	Same as ash.	Same as ash.	Same as ash.
Leafminer weevils	Imidan 70WP	2.0 pounds/100 gallons water	Water pH 5.5*

Table 18. Maple

Pest	Pesticide	Rate	Remarks
Aphids	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Zenith 75	1.6 ounces/300 gallons	Follow label.
	Safari	4.0-8.0 ounces/100 gallons	Follow label.
	Flagship	2.0-4.0 ounces/100 gallons	Follow label.
	Talstar 10WP	1.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	Malathion may injure sugar maple. Treat when aphids appear. Repeat at 7- to 10-day intervals if needed. Do not use near home or treat birch.
	Meridian 25WG	2.0-8.5 ounces/100 gallons	Follow label.
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.
	Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Bladder gall mites or eriophid mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Spray trees at bud break and repeat at 10- to 14-days for three sprays.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
Borers	Same as ash.	Same as ash.	Same as ash.

Pest	Pesticide	Rate	Remarks
Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	Spray when caterpillars are small.
	Confirm	2.0-8.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	°B.t.	See label.	Same as ash.
	°Spintor 2	3.0-8.0 ounces/acre	Follow label.
	Tempo 2	1.0-2.0 ounces/100 gallons	Follow label.
	*Imidan 70WP	0.75-1.0 pound/100 gallons	Adjust water pH to 5.5.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.

Table 19. Mimosa

Pest	Pesticide	Rate	Remarks
Mimosa webworms	°Conserve SC	2.0 milliliters/gallon water or 6.0 ounces/100 gallons	Follow label.
	°Crymax	0.5-1.5 pounds/acre	Follow label.
	°Condor XL	0.75-1.75 pints/acre	Follow label.
	Orthene TTO/75S	10.5 ounces/100 gallons	Follow label.
	Orthene 97S	8.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Follow label.
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	Follow label.
	Tempo 2	1.0-2.0 ounces/100 gallons	Follow label.
Scales	Same as ash.	Same as ash.	Same as ash.

Table 20. Mulberry

Pest	Pesticide	Rate	Remarks
Lace bugs	Acelepryn	2.0-4.0 ounces/100 gallons	Follow label.
	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Follow label.
	Malathion 57% EC	1.0 pint/100 gallons or 1.0 tablespoons/gallon	Follow label.
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.
Mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	2.5-5.0 ounces/gallon, 1.0-2.0 gallons/100 gallons	Follow label.
Stinkbugs	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.

Table 21. Oak

Pest	Pesticide	Rate	Remarks
Aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Zenith 75	1.6 ounces/300 gallons	Follow label.
	Safari	4.0-8.0 ounces/100 gallons	Follow label.
	Flagship	2.0-4.0 ounces/100 gallons	Follow label.
	Talstar 10WP	1.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	Follow label.
	*Thiodan 2EC	1.0 quart/100 gallons or 2.0 tablespoons/3 gallons	Do not use around the home or on birch.
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	Follow label.
	Meridian 25WG	2.0-8.5 ounces/100 gallons	Follow label.
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.	

Pest	Pesticide	Rate	Remarks
Caterpillars (including buckmoth caterpillars)	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label
	Battle	5.0-10.0 ounces/acre	Follow label.
	Carbaryl	2.0 pounds/100 gallons or	Spray foliage and web when web is first noticed.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Follow label.
	Confirm 2F	2.0-8.0 ounces/acre	Follow label.
	*Imidan 70WP	0.75-1.0 pound/100 gallons	Adjust water pH to 5.5.
	Orthene TTO/75S	10.5 ounces/100 gallons	Follow label.
	Orthene 97S	8.0 ounces/100 gallons	Follow label.
	Tempo 2	1.0-2.0 ounces/100 gallons	Follow label.
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	Follow label.
	°B.t.	Same as Ash.	Follow label.
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	Follow label.
	Scimitar	1.5-5.0 ounces/100 gallons	Follow label.
Orange-striped oakworms	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.
	Battle	5.0-10.0 ounces/acre	Follow label.
	°Conserve SC	2.0 milliliters/gallon or 6.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons water	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon water	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons water or 1.0 tablespoons/gallon	Follow label.
	°Crymax	0.5-1.5 pounds/acre	Follow label.
	°Condor XL	0.75-1.75 pints/acre	Follow label.
Tent caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.
	Battle	5.0-10.0 ounces/acre	Follow label.
	Orthene TTO/75S	10.5 ounces/100 gallons	Follow label.
	Orthene 97S	8.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons water	Spray when webs are first seen. Repeat at 7- to 10-day intervals, if needed.
	Carbaryl 50WP	2.0 tablespoons/gallon water	Follow label.

Pest	Pesticide	Rate	Remarks
Tent caterpillars, Cont.	Carbaryl 4F	1.0 quart/100 gallons water or 1.0 tablespoon/gallon water	Follow label.
	Confirm 2F	2.0-8.0 ounces/acre	Follow label.
	°Condor XL	0.75-1.75 pints/acre	Follow label.
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	Follow label.
	°Crymax	0.5-1.5 pounds/acre	Follow label.
	°Dipel	0.5-1.0 teaspoon/gallon	Spray in early morning or late afternoon.
	°Spintor 2	3.0-8.0 ounces/acre	Follow label.
	Tempo 2	1.0-2.0 ounces/100 gallons	Follow label.
Gall wasps (Several species on stems and foliage)	Flagship	2.0-4.0 ounces/100 gallons	Follow label.
	Orthene TTO/75S	1 1/3 pounds/100 gallons	The use of systemic and residual materials early at bud break are suggested to prevent infestations. Sprays should be repeated at monthly intervals for three to four months.
	Orthene 97S	8.0 ounces/100 gallons	Follow label.
	Meridian 25WG	2.0-8.5 ounces/100 gallons	Follow label.
Lace bugs	Acelepryn	2.0-4.0 ounces/100 gallons	Follow label.
	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Follow label.
	Zenith 75	1.6 ounces/300 gallons	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons or	Treat when small nymphs appear (May through September); repeat at 7-to 10-day intervals if needed.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Follow label.
	Malathion 57% EC	1.0 pint/100 gallons or 1.0 teaspoon/gallon	Follow label.
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.

Table 22. Pecan

Pest	Pesticide	Rate	Remarks
Aphids	*Merit (Provado)	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.
	Insecticidal soap	See label	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Phylloxera	Malathion 25WP	3.0 pounds/100 gallons	Follow label.
	*Merit (Provado)	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.
	Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Twig girdler	Sanitation	See remarks.	Gather and destroy all severed branches in fall or winter.
Fall webworm	*Merit (Provado)	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Caterpillars only.
Eriophid mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoon/gallon	Follow label.
Yellowneck caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	Follow label.
Walnut caterpillars	Confirm 2F	8.0-16.0 ounces/acre	Follow label.
	°Spintor 2	3.0-8.0 ounces/acre	Follow label.
Caterpillars	°Confirm	8.0-16.0 ounces/acre	Follow label.
	Carbaryl	2.0 pints/100 gallons	Follow label.
	Malathion 57% EC	2.0 teaspoons/gallon	Follow label.

Table 23. Southern Pine Plantations And Christmas Trees

Pest	Pesticide	Rate	Remarks
Nantucket pine tip moth	Orthene TTO/75S	1.0 pound/100 gallons	Chemical control is usually impractical under forest conditions due to high cost. Spray lawn and high-value trees to coincide with moth emergence.
	Orthene 97S	12.0 ounces/100 gallons	Follow label.
	°Spintor 2 (Spinosad)	1.0 tablespoons/gallon or 3.0-8.0 ounces/acre	Drench-spray the terminals with high- or low- pressure sprayer depending on size and number of trees; destroy infested tips where practical. Shear and spray Christmas trees one- to three- times at proper intervals to control the Nantucket pine tip moth.
	°Conserve SC	0.2 ounce/gallon or 22.0 ounces/100 gallons	Follow label.
	Dylox 80% SP	20.0 ounces/100 gallons	Follow label.
	Astro 3.2EC	4.0-8.0 ounces/100 gallons	Follow label.
	Confirm 2F	8.0 ounces/acre	Follow label.
	Pounce 3.2EC	4.0-8.0 ounces/acre	Use only late season to prevent scale buildup; Christmas trees only; pH 5.5.
	*Imidan 70WSB	1 1/3 pounds/acre	Follow label.
	°Dimilin 25W	4.0 ounces/acre	Apply at early stages of instar development preferably at beginning of first and second tip moth generation.
°Azatin XL	10.0-20.0 ounces/acre	Apply in sufficient water or uniform full coverage of foliage, 10-20 gallons water/acre. Protection of first-year seedling is important to getting straight stem.	
Pales weevils, pitch-eating weevils	Arctic 3.2EC	8.0 ounces/100 gallons	Site preparation in the spring prior to winter planting is recommended.
	*Imidan 70WSB	1 1/3 pounds/acre	Water pH 5.5.
	Permethrin SFR	2.0-5.0 quarts/100 gallons	Follow label.
	Duraguard ME	1.2 gallons/100 gallons	Follow label.
	Orthene TTO/Orthene 97S	12.0 ounces/100 gallons	Follow label.
Deodar weevils	*Imidan 70W	1 1/3-1.5 pounds/acre	Follow label.
	Permethrin SFR	2.0-5.0 quarts/100 gallons	Follow label.

Pest	Pesticide	Rate	Remarks
Coneworms	Orthene TTO/75S	2/3-3/4 pound/100 gallons	<ul style="list-style-type: none"> Coneworms can be a major problem in stressed or damaged Christmas trees. They attack wounds and breaks in the trunks and stems, girdling and killing trees.
	Orthene 97S	8.0 ounces/100 gallons	
	Duraguard ME	1.2 gallons/100 gallons	
	°Conserve SC	6.0 milliliters/gallon or 22.0 ounces/100 gallons	
	Astro 3.2 EC	4.0-8.0 ounces/100 gallons	
Pine bark aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Follow label.
	Safari	4.0-8.0 ounces/100 gallons	Follow label.
	Flagship	2.0-4.0 ounces/100 gallons	Follow label.
	Endeavor 50%	10.0 ounces/acre	Follow label.
	Talstar 10WP	1.0-3.0 tablespoons/gallon or 3.0-8.0 ounces/50 gallons	Follow label.
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	Follow label.
	Meridian 25WG	2.0-8.5 ounces/100 gallons	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.
	Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Pine needle Scales	Safari	8.0-12.0 ounces/100 gallons	Follow label.
	Flagship	4.0-8.0 ounces/100 gallons	Follow label.
	Malathion 57% EC	4.0 pints/100 gallons water or 4.0 teaspoons/gallon	Follow label.
	Duraguard ME	1.2 gallons/100 gallons	Follow label.
	Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.

Pest	Pesticide	Rate	Remarks
All pine sawflies	Zenith 75	1.6 ounces/300 gallons	<ul style="list-style-type: none"> • Apply when insects or their damage appears • Repeat weekly or as needed. • MAY BE PHYTOTOXIC ON SOME SPECIES OF PINE. READ LABEL!
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gallon	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoon/gallon	
	°Conserve SC	0.06 ounce/gallon or 6.0 ounces/100 gallons	
	°Spintor 2	3.0-8.0 ounces/acre	
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
	Orthene TTO/75S	10.5 ounces/100 gallons	
	Orthene 97S	8.0 ounces/100 gallons	
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon or 0.25-0.5 pounds/100 gallons	

Pest	Pesticide	Rate	Remarks
Southern pine beetles	Onyx	0.25-0.5 pounds/100 gallons	Keys to managing bark beetles are maintaining healthy trees and adequate spacing between trees. Trees spaced at least 20 feet apart are rarely attacked by bark beetles. Painting tree trunks white can disrupt their outline and prevent attraction of bark beetles to dark vertical silhouettes. Prompt removal or salvage harvest of infested trees reduces the number of beetles that can infest nearby trees.
	Astro	2.0-5.0 quarts/100 gallons	Follow label.
	Permethrin SFR	2.0-5.0 quarts/100 gallons	Insecticides are not a viable option for large infestations in forests, given the protection of immature beetles under the bark of trees and the short time that adults are exposed during dispersal. High-value trees in urban settings or parks can be protected by applying a medium spray of listed materials to the entire trunk, exposed roots and stumps until liquid runs down the trunk. Apply in early spring or when threat of attack exists to prevent infestation. Infested trees can be treated as above when damage occurs but before adult beetles begin to emerge; this treatment will reduce beetle populations and protect uninfested trees but may not save infested trees. Under forest conditions or where the spray will not fall on lawns or shrubbery, insecticide can be mixed in diesel oil instead of water; respray in 30 days as necessary. Failure to soak the entire bole reduces penetration and mortality to insects within the bark.
	Tree-Age	See label.	Trunk injection, mid- to late spring after trees have leafed out; follow directions for tree size.
Pine aphids	Zenith	1.6 ounces/300 gallons	Follow label.
	Flagship	2.0-4.0 ounces/100 gallons	Follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Follow label.
	Orthene 97S	4.0 ounces/100 gallons	Follow label.
	Endeavor 50%	10.0 ounces/acre	Follow label.
	Meridian 25WG	2.0-8.5 ounces/100 gallons	Follow label.
	Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.

Pest	Pesticide	Rate	Remarks
Mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	0.75-2.5 gallons/100 gallons	Follow label.
	Judo	2.0-4.0 ounces/100 gallons	Follow label.
	Avid 0.15EC	0.25 teaspoon/gallon or 4.0 ounces/100 gallons	Repeat at 7- to 10-day intervals as needed.
Pine colaspis	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	Treat when beetles appear usually in May and June.
	Carbaryl 50WP	0.5-1.0 pound/100 gallons or 2 tablespoons/gallon	Treat when beetles appear usually in May and June.
	Orthene TTO/75S	5.3-10.5 ounces/100 gallons	Treat when beetles appear usually in May and June.
	Orthene 97S	4.0-8.0 ounces/100 gallons	Treat when beetles appear usually in May and June.
Town ants	PTM	Liquid Injection As per label directions. 1gallon-2.6 ounces PTM/125 ounces water	Make 2% dilution in water and inject 1.5 fluid ounces 3 inches below ground in each town ant exit hole; no more than 21 fluid ounces PTM per acre.

Table 24. Red Bud

Pest	Pesticide	Rate	Remarks
Scales	Same as ash.	Same as ash.	Same as ash.
Caterpillars	Same as mimosa.	Same as mimosa.	Same as mimosa.

Table 25. Sycamore

Pest	Pesticide	Rate	Remarks
Lace bugs	Acelepryn	1.0-2.0 ounces/100 gallons	Treat when lace bugs are present.
	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	Repeat weekly as needed.
	Zenith	1.6 ounces/300 gallons	Follow label.
	Orthene OTTO	5.3 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	Follow label.
	Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	Follow label.

Table 26. Willow

Pest	Pesticide	Rate	Remarks
Aphids	Same as oak.	Same as oak.	Same as oak.
Fall webworms	Same as oak.	Same as oak.	Same as oak.
Tent caterpillars	Same as oak.	Same as oak.	Same as oak.
Leaf beetles	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.
Spider mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	Follow label.
	Ultra-Fine Oil	0.75-2.5 gallons/100 gallons	Follow label.
	°Conserve SC	6.0 milliliters/gallon or 22.0 ounces/100 gallons	Follow label.
	Tetram 5WDG	16.0-32.0 ounces/acre or 8.0-16.0 ounces	Does not affect adults but will cause sterilization; effective against young mites; can be used only two times a year; to control adults use adulticide; for use in greenhouse, lath and shade house only.
Eriophid mites	Forbid 4F	1.4-4.0 ounces/100 gallons	Follow label.
	Judo	2.0-4.0 ounces/100 gallons	Follow label.
	Carbaryl	2.0 pounds/100 gallons	Follow label.
	Carbaryl 50WP	2.0 tablespoons/gallon	Follow label.

Pest	Pesticide	Rate	Remarks
Scales	Same as oak.	Same as oak.	Same as oak.

Table 27. Yellow Poplar

Pest	Pesticide	Rate	Remarks
Tulip tree scales	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	<ul style="list-style-type: none"> Dormant in summer. Spray when crawlers are present in July or August. Repeat in 10 days if necessary.
	Ultra-Fine Oil	2.0-5.0 gallons/100 gallons	
	98% oil	0.75-2.5 gallons/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gallon	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	
	Superior oil	3.0 gallons/100 gallons	
	(60%-70%)	8.0 tablespoons/gal	
	Insecticidal soap	See label.	Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Leafminers	Imidan 70WP	1.5-2.0 pounds/100 gallons	Apply after initial feeding on new growth; water pH 5.5.

*Professional use only, °Biological.

Ultra-Fine Oil or Ultra-Pure Oil can be used with insecticides to enhance control of many tree insects and mites.

