

Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
ASH			
Aphids	Arena 0.25G		
	Ultra-Pure Oil	2.0-4.0 gallons/100 gallons	
	Distance IGR	6.0-8.0 ounces/100 gallons	
	Flagship	2.0-4.0 ounces or 4.0-8.0 ounces/100 gallons	
	Orthene TTO/75S	4.0 ounces/100 gallons	Treat foliage when aphids appear; repeat at 7-to 10-day intervals, if needed.
		5.3 ounces/100 gallons	
	Meridian 25WG	2.0-8.5 ounces/100 gallons	
	Talstar 10WP	1.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	
	Merit 75WP	1.0 teaspoon/10.0 gallons or 3.5 tablespoons/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Zenith 75	1.6 ounces/300 gallons	
	Insecticidal soap		Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Borers	Acelepryn	4.0-32.0 ounces/100 gallons	Selected borers.
	Permethrin SFR	2.0-5.0 quarts/100 gallons	
	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	2.0-5.0 quarts/100 gallons	
Emerald ash borer	Tree-Age	Follow Label	Trunk injection, mid- to late spring after trees have leafed out; follow directions for tree size.
	Imicide	Follow Label	Trunk injection, mid- to late spring after trees have leafed out; follow directions for tree size.
	Merit 2F	Follow Label	Soil injection or drench, early to mid-spring or mid-fall.
	Merit 75WP	Follow Label	Soil injection or drench, early to mid-spring or mid-fall.
	Xytect 2F	Follow Label	Soil injection or drench, early to mid-spring or mid-fall.
	Xytect 75WSP	Follow Label	Soil injection or drench, early to mid-spring or mid-fall.
	Astro	Follow Label	Trunk, branch and foliage spray; two applications at 4 week intervals; first spray at 45-55 F degree-days.
	Onyx	Follow Label	Trunk, branch and foliage spray; two applications at 4 week intervals; first spray at 45-55 F degree-days.
	Tempo SC Ultra	Follow 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	Follow Label	Soil drench, early to mid-spring; available to homeowners.
	Optrol	Follow Label	Soil drench, early to mid-spring; available to homeowners.

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

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Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	°Confirm	2.0-8.0 ounces/acre	
	°Conserve SC	0.06 ounce/gallon	
	(Spinosad)	6.0 ounces/100 gallons	
	°Condor XL	0.75-1.75 pints/acre	Caterpillars only.
	Dylox 80%SP	20.0-30.0 ounces/100 gallons	
	(Proxol) LS	2.0-3.0 pints/100 gallons or 2.0-3.0 teaspoons/gallon	
	Ultra-Pure Oil	2.0-4.0 gallons/100 gallons	
	°Crymax	0.5-1.5 pounds/acre	Caterpillars only.
	Marlate 50WP	2.0-3.0 pounds/100 gallons or 2.0 teaspoons/gallon	
	Orthene 97S/TTO	8.0 ounces/100 gallons	
	75S/TTO	10.5 ounces/100 gallons	
	°Bacillus thuringiensis (B.t.)		Javelin, Biobit, Thuricide, Foray 48B, Condor, Xentari, and Dipel; follow label.
	°Spintor 2	3.0-8.0 ounces/acre	
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gal	
	°Dipel	1.0 teaspoon/gal	Use or repeat as needed.
	Imidan 70%	0.75-1.0 pound/100 gallons	Adjust pH to 5.5.
Scales	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Ultra-Pure Oil	2.0-4.0 gallons/100 gallons	
	Flagship	4.0-8.0 ounces/100 gallons	
	Superior oil (60%-70%)	2.0 gallons/100 gallons or 5.0 tablespoons/gal	
	Zenith 75	1.6 ounces/300 gallons	
	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	2.0-5.0 gallons/100 gallons	Dormant in summer.
	Distance IGR	8.0-12.0 ounces/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gal	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gal	
	Orthene TTO/75S	10.5 ounces/100 gallons	
	97S	8.0 ounces/100 gallons	
	*Supracide 2E	2.0 pints/100 gallons	
		2.0-4.0 pounds/acre 8-16 (4 ounce packets)	
	Insecticidal soap		Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
BEECH			
Aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Ultra-Pure Oil	0.7-1.0 gallon/100 gallons	

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	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Distance IGR	6.0-8.0 ounces/100 gallons	
	Flagship	2.0-4.0 ounces/100 gallons	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
	Talstar 10 WP	1.0 tablespoon/gallon or 3.0-8.0 tablespoons/10 gallons	
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gal	
	Meridian 25WG	2.0-8.5 ounces/100 gallons	
	Merit 75WP	1.0 teaspoon/10.0 gallons or 3.5 tablespoons/100 gallons	
	Insecticidal soap		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	
	Ultra-Pure Oil	2.0-4.0 gallons/100 gallons	
	Ultra-Fine Oil	2.0-5.0 gallons/100 gallons	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gal	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gal	
	Malathion 57% EC	1.0 pint/100 gallons or 1.0 tablespoons/gal	
	Merit 75WP	1.0 teaspoon/10.0 gallons or 3.5 tablespoons/100 gallons	
	*Disyston 15G	25.0-27.0 ounces/tree or 2.5 ounces/ inch of trunk diameter	
Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	
	Ultra-Pure Oil	2.0-4.0 gallons/100 gallons	
	Ultra-Fine Oil	2.0-5.0 gallons/100 gallons	
	Confirm 2F	2.0-8.0 ounces/acre	
	°Conserve (Spinosad)	0.06 ounce/gal	
		6.0 ounces/100 gallons	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	8.0 ounces/100 gallons	
	°Spintor 2	3.0-8.0 ounces/acre	
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gal	
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gal	
	Imidan 70WP	0.75-1 pound/100 gallons	
	°Crymax	0.5-1.5 pounds/acre	
	°Condor XL	0.75-1.75 pounds/acre	
Scales	Ultra-Pure Oil	2.0-4.0 gallons/100 gallons	

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	Ultra-Fine Oil	2.0-5.0 gallons/100 gallons	
	Distance IGR	8.0-12.0 ounces/100 gallons	
	Flagship	4.0-8.0 ounces/100 gallons	
	Superior oil	2.0 gallons/100 gallons or	
	60%-70%	5.0 tablespoons/gal	
	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	
	Carbaryl 50WP	2.0 tablespoons/gal	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gal	
	Orthene TTO/75S	10.5 ounces/100 gallons	
	97S	8.0 ounces/100 gallons	
	Insecticidal soap		Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
RIVER BIRCH			
Aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Ultra-Fine Oil	0.7-1.0/gal	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Distance IGR	6.0-8.0 ounces/100 gallons	
	Flagship	2.0-4.0 ounces/100 gallons	
	Orthene TTO/75S	5.3 ounces/100 gallons	Treat foliage when aphids appear.
	97S	4.0 ounces/100 gallons	
	Talstar 10WP	1.0 teaspoon/gallon or 3.0-8.0 tablespoons/10 gallons	
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gal	
	Meridian 25WG	2.0-8.5 ounces/100 gallons	
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
	Insecticidal soap		Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Scales			Same as ash.
Bronze birch borers			Same as ash.
Sawflies	Orthene	5.3 ounces/100 gallons	
	Ultra-Pure Oil	0.75-1 gallon/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Merit 74WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
	°Spinosad	2.0 ounces/gallon or 22.0 ounces/100 gallons	
Leafminers	Acelepryn	Variable	Follow label.
	°Conserve SC	0.2 ounce/gallon or 22.0 ounces/ 100 gallons	
	Malathion 57% EC	1.0 quart/100 gallons or 2.0 tablespoons/gal	
	Orthene TTO/75S	5.3 ounces/100 gallons	

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	97S	4.0 ounces/100 gallons	
	°Spintor 2	3.0-8.0 ounces/acre	
Eastern tent caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	
Yellowneck caterpillars			
	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Tempo 2	1.0-2.0 ounces/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	Spray foliage and tent as needed in the spring.
	50WP	2.0 tablespoons/gal	
	Confirm 2F	2.0-8.0 ounces/acre	
	°Conserve (Spinosad)	0.06 ounce/gallon	
		6.0 ounces/100 gallons	
	Malathion	2.0 pints/100 gallons or 2.0 teaspoons gallons	
	°Spintor 2	3.0-8.0 ounces/acre	
	Imidan 70WP	0.75-1.0 pound/100 gallons	Adjust pH to 5.5.
	°B.t.		Javelin, Foray, Biobit, Thuricide, Dipel, Crymax, Condor XL; follow label.
	Orthene TTO/75S	5.3 ounces/100 gallons	Spray as needed.
	97S	4.0 ounces/100 gallons	
BOXELDER			
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	
CEDAR			
Bagworms	Acelepryn	1.0-2.0 ounces/100 gallons	
	Orthene TTO/75S	1/3 pound/100 gallons	Spray foliage in early June when bags are small; repeat in 10 days; handpick older larvae; spray in late afternoon.
	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.		Same as ash.
	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	

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	LS	2.0-3.0 pints/100 gallons or 2.0-3.0 teaspoons/gal	
Mites	Forbid 4F	1.4-4.0 ounces/100 gallons	
	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	°Conserve SC(Spinosad)	0.2 fluid ounce/gallon	
		22.0 ounces/100 gallons	
	*Judo	2.0-4.0 ounces/100 gallons	
	Mesuroil 75WP	0.5-1.0 pound/acre	
	*Dicofol 35% WP (Kelthane)	1.0-1 1/3 pounds/100 gallons	
		1.5 tablespoons/gallon	
	Talstar 10WP	1.0-2.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	
CHERRY			
Eastern tent caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	Spray when webs first appear; cut webs out, if practical.
	Carbaryl 50WP	2.0 tablespoons/gallon	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	
	Confirm 2F	2.0-8.0 ounces/acre	
	°Conserve (Spinosad)	0.06 ounce/gal	
		6.0 ounces/100 gallons	
	Orthene TTO/75S	1/3 pound/100 gallons	
	97S	4.0 ounces/100 gallons	
	°Spintor 2	3.0-8.0 ounces/acre	
Fall webworms	Confirm 2F	2.0-8.0 ounces/acre	
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	
	(Proxol) LS	2.0-3.0 pints/100 gallons or 2.0-3.0 teaspoons/gallon	
	°Spintor 2 (Spinosad)	3.0-8.0 ounces/acre	
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	
	°B.t.		Same as ash.
CHINABERRY			
Scales			Same as ash.
Whiteflies	Forbid 4F	2.0-4.0 ounces/100 gallons	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Safari	4.0-8.0 ounces/100 gallons	Drench 12-24 ounces/100 gallons water.
	Flagship	4.0-8.0 ounces/100 gallons	
	°Distance 0.86 EC	6.0-8.0 ounces/100 gallons	
	Meridian 25WG	2.0-8.5 ounces/100 gallons	

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	Orthene TTO/75S	10.5 ounces/100 gallons	
	97S	8.0 ounces/100 gallons	
	Talstar 10WP	1.0-2.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	
	*Merit 75 WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
CYPRESS			
Scales			Same as ash.
Mites	Forbid 4F	1.4-4.0 ounces/100 gallons	
	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Judo	2.0-4.0 ounces/100 gallons	
	*Kelthane 35% WP	1.0-1 1/3 pounds/100 gallons	
	(Dicofol)	1.5 tablespoons/gallon	
	Talstar 10WP	1.0-2.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	
	*Mesuroil 75WP	0.5-1.5 pounds/acre	
DOGWOOD			
Webworms	Acelepryn	1.0-2.0 ounces/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gal	
	Sevin 4F	1.0 quart/100 gallons	
	Orthene TTO/75S	10.5 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
	*Imidan 70WP	0.75-1.0 pound/100 gallons	Adjust pH to 5.5.
Dogwood borers, dogwood twig borers			Same as ash.
ELM			
Aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Distance IGR	6.0-8.0 ounces/100 gallons	
	Flagship	2.0-4.0 ounces/100 gallons	
	Talstar 10WP	1.0-2.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gal	
	Meridian 25WG	2.0-8.5 ounces/100 gallons	
	Zenith 75	1.6 ounces/300 gallons water	
	Insecticidal soap		Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Elm bark beetles	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	

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	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	°Conserve SC	0.06 ounce/gallon or 6.0 ounces/ 100 gallons	
Elm leaf beetles	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	Spray foliage when larvae first appear about the time leaves are fully expanded; repeat in 2 weeks.
	Carbaryl 50WP	2.0 tablespoons/gal	
	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.
	97S	8.0 ounces/100 gallons	
Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	Spray foliage and web when web is first noticed.
	Carbaryl 50WP	2.0 tablespoons/gallon	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	
	Confirm 2F	2-8 ounces/acre	
	°Conserve (Spinosad)	0.06 ounce/gallon or 6 ounces/ 100 gallons	
	Marlate	2.0 tablespoons/gallon	
	Orthene TTO/75S	10.5 ounces/100 gallons	
	97S	8.0 ounces/100 gallons	
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	
	LS	2.0-3.0 pints/100 gallons or 2.0-3.0 teaspoons/gal	
	°B.t.		Same as ash; follow label.
	*Ficam W	11.0 ounces/100 gallons	
	Tempo 2	1.0-2.0 ounces/100 gallons	
	*Imidan 70WP	0.75-1.0 pound/100 gallons	
	Scimitar GS, CS	1.5-5.0 ounces/100 gallons	
	°Spintor 2 (Spinosad)	3.0-8.0 ounces/acre	
	Battle WP	1.2-4.8 ounces/100 gallons	
Scales			Same as ash.
GUM			
Scales			Same as ash.
Caterpillars			Same as elm.
HAWTHORN			
Aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	

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	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Safari	4.0-8.0 ounces/100 gallons	
	Distance IGR	6.0-8.0 ounces/100 gallons	
	Flagship	2.0-4.0 ounces/gal	
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gal	
	Meridian 25WG	2.0-8.5 ounces/100 gallons	
	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	
	Meridian 25 WG	2.0-8.5 ounces/100 gallons	
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
	Acelepryn	1.0-2.0 ounces/100 gallons	
	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	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	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	
	Malathion 57% EC	1.0 pint/100 gallons or 1.0 teaspoon/gal	
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
	*Disyston 15G	25.0-27.0 ounces/tree or 2.5 ounces/inch of trunk diameter	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
	Zenith 75	1.6 ounces/300 gallons	
	Insecticidal soap		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	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Judo	2.0-4.0 ounces/100 gallons	
	Conserve SC	0.2 ounce/gallon or 22.0 ounces/ 100 gallons	
	*Dicofol 35% WP	1.0-1 1/3 pounds/100 gallons	Treat when mites are present; repeat at 7- to 10-day intervals, if needed.
	(Kelthane)	1.5 tablespoons/gal	
	Floramite	2.0-4.0 ounces/100 gallons	
	*Mesurol 75WP	0.5-1.5 pounds/acre	
	Avid 0.15EC	8.0 ounces/100 gallons	

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	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.
HICKORY			
Twig girdler	Sanitation		Gather and destroy all severed branches in fall or winter.
Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	Treat when larvae are present.
	Carbaryl 50WP	2.0 tablespoons/gallon	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gal	
	°Conserve SC	0.06 ounce/gallon or 6.0 ounces/ 100 gallons	
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	
	Tempo 2	1.0-2.0 ounces/100 gallons	
	*Imidan 70WP	0.75-1.0 pound/100 gallons	Adjust water pH to 5.5.
	°B.t.		Same as ash. Follow label.
	Scimitar GS, CS	1.5-5.0 ounces/100 gallons	
	°Spintor 2	3.0-8.0 ounces/acre	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
Eriophyid mites	Forbid 4F	1.4-4.0 ounces/100 gallons	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	*Judo	2.0-4.0 ounces/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	
	Talstar	0.25-0.5 ounce/1,000 square feet or 10.0-20.0 ounces/acre	
HOLLY			
Southern red Spider mites	Forbid 4F	1.4-4.0 ounces/100 gallons	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Judo	2.0-4.0 ounces/100 gallons	
	Avid 0.15EC	8.0 ounces/100 gallons	
	Conserve SC	0.2 ounce/gallon or 22.0 ounces/ 100 gallons	
	Floramite	1/3-2/3 teaspoon/gallon or 2.0-4.0 ounces/100 gallons	
	*Mesuroil 75WP	0.5-1.5 pounds/acre	
	Citation	2.66 ounces/100 gallons	

*Professional use only, °Biological.

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Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
Leafminers	Permethrin SFR	4.0-8.0 ounces/100 gallons	
	Avid 0.15EC	0.5 teaspoon/gallon or 8.0 ounces/100 gallons	Apply to leaves when new growth begins; a common pest of American holly sometimes occurring on English holly.
	*Merit 75WP	1.0 teaspoon/10 gallons water or 3.5 tablespoons/100 gallons	
	°Conserve (Spinosad)	0.2/gallon	
		22.0 ounces/100 gallons	
	Zenith 75	1.6 ounces/300 gallons	
JUNIPER			
Bagworms	Acelepryn	1.0-2.0 ounces/100 gallons	
	Permethrin SFR	4.0-8.0 ounces/100 gallons	
	Confirm	2.0-8.0 ounces/acre	
	°Condor XL	0.75-1.75 pints/acre	
	°Dipel	2.0-4.0 tablespoons/gallon	
	Orthene TTO/75SP	1/3 pound/100 gallons	
	97SP	4.0 ounces/100 gallons	
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	
	LS	2.0-3.0 pints/100 gallons or 2.0-3.0 teaspoons/gallon	
	°Spintor 2	3.0-8.0 ounces/acre	
	Scimitar GS, CS	1.5-5.0 ounces/100 gallons	
	Battle WVP	1.2-4.8 ounces/100 gallons	
	°Crymax	0.5-1.5 pounds/acre	
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	
Spider mites	Forbid 4F	1.4-4.0 ounces/100 gallons	
	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	°Conserve SC	0.2 ounce/gallon or 22.0 ounces/ 100 gallons	
	Malathion 57%EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	
	°Mesurol 75WP	0.5-1.5 pounds/acre or 0.5-1.0 teaspoon/gallon	
	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	
	Vendex 50WP	1.0 quart/100 gallons or 0.5-1.0 teaspoon/gallon	
	Entex 4EC	1.0 quart/100 gallons or 2.0 teaspoons/gallon	
Leafminers	°Spintor (Conserve)	0.2 ounce or 6.0 milliliters/gallon	

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Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
	°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	
	°Precision-IGR	6.0-8.0 ounces/100 gallons water	Lepidopterous leafminers (azalea-citrus).
Locust Borers			Same as ash.
Locust leafminers	°Conserve SC	0.2 ounce or 6 milliliters/gallon	
	Malathion 57%EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	
	Merit 75WP	1.0 teaspoon/10 gallons water or 3.5 tablespoons/100 gallons	
LOCUST (HONEY)			
Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	
	*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	
	97S	8.0 ounces/100 gallons	
	°Spintor 2	3.0-8.0 ounces/acre	
	Carbaryl 50WP	2.0 tablespoons/gal	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	
	°B.t.		Same as ash. Follow label.
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	
	LS	2.0-3.0 pints/100 gallons or 2.0-3.0 teaspoons/gal	
	Scimitar	1.5-5.0 ounces/100 gallons water	
MAGNOLIA			
Scales			Same as ash.
Leafminer weevils	Imidan 70WP	2.0 pounds/100 gallons water	Water pH 5.5*
MAPLE			
Aphids	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Zenith 75	1.6 ounces/300 gallons	
	Safari	4.0-8.0 ounces/100 gallons	
	Flagship	2.0-4.0 ounces/100 gallons	
	Talstar 10WP	1.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
	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	
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	

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

Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
	Insecticidal soap		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	
	Ultra-Pure Oil	0.75-1.0 gallons/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	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/gal	
Borers			Same as ash.
Caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	
	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	
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gallon	
	°B.t.		Same as ash.
	°Spintor 2	3.0-8.0 ounces/acre	
	Tempo 2	1.0-2.0 ounces/100 gallons	
	*Imidan 70WP	0.75-1.0 pound/100 gallons	Adjust water pH to 5.5.
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
MIMOSA			
Mimosa webworms	°Conserve SC	2.0 milliliters/gallon water or 6.0 ounces/100 gallons	
	°Crymax	0.5-1.5 pounds/acre	
	°Condor XL	0.75-1.75 pints/acre	
	Orthene TTO/75S	10.5 ounces/100 gallons	
	97S	8.0 ounces/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	
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	
	LS	2.0-3.0 pints/100 gallons or 2.0-3.0 teaspoons/gallon	
	Tempo 2	1.0-2.0 ounces/100 gallons	
Scales			Same as ash.
MULBERRY			
Lace bugs	Acelepryn	2.0-4.0 ounces/100 gallons	
	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Malathion 57% EC	1.0 pint/100 gallons or 1.0 tablespoons/gallon	
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	

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

Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
Mites	Forbid 4F	1.4-4.0 ounces/100 gallons	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	2.5-5.0 ounces/gallon, 1.0-2.0 gallons/100 gallons	
Stinkbugs	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gallon	
OAK			
Aphids	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	1.0-2.0 gallons/100 gallons	
	Zenith 75	1.6 ounces/300 gallons	
	Safari	4.0-8.0 ounces/100 gallons	
	Flagship	2.0-4.0 ounces/100 gallons	
	Talstar 10WP	1.0 tablespoons/gallon or 3.0-8.0 tablespoons/10 gallons	
	*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	
	Meridian 25WG	2.0-8.5 ounces/100 gallons	
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
	Insecticidal soap		Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Caterpillars (including buckmoth caterpillars)	Acelepryn	1.0-2.0 ounces/100 gallons	
	Battle	5.0-10.0 ounces/acre	
	Carbaryl	2.0 pounds/100 gallons or	Spray foliage and web when web is first noticed.
	Carbaryl 50WP	2.0 tablespoons/gallon	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	
	Confirm 2F	2.0-8.0 ounces/acre	
	*Imidan 70WP	0.75-1.0 pound/100 gallons	Adjust water pH to 5.5.
	Orthene TTO/75S	10.5 ounces/100 gallons	
	97S	8.0 ounces/100 gallons	
	Tempo 2	1.0-2.0 ounces/100 gallons	
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	
	°B.t.	Same as Ash.	
	Dylox 80% SP	20.0-30.0 ounces/100 gallons	
	LS	2.0-3.0 pints/100 gallons or 2.0-3.0 teaspoons/gallon	
	Scimitar	1.5-5.0 ounces/100 gallons	

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Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
Orange-striped oakworms	Acelepryn	1.0-2.0 ounces/100 gallons	
	Battle	5.0-10.0 ounces/acre	
	°Conserve SC	2.0 milliliters/gallon or 6.0 ounces/100 gallons	
	Carbaryl	2.0 pounds/100 gallons water	
	Carbaryl 50WP	2.0 tablespoons/gallon water	
	Carbaryl 4F	1.0 quart/100 gallons water or 1.0 tablespoons/gallon	
	°Crymax	0.5-1.5 pounds/acre	
	°Condor XL	0.75-1.75 pints/acre	
Tent caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	
	Battle	5.0-10.0 ounces/acre	
	Orthene TTO/75S	10.5 ounces/100 gallons	
	97S	8.0 ounces/100 gallons	
	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	
	Carbaryl 4F	1.0 quart/100 gallons water or 1.0 tablespoon/gallon water	
	Confirm 2F	2.0-8.0 ounces/acre	
	°Condor XL	0.75-1.75 pints/acre	
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	
	°Crymax	0.5-1.5 pounds/acre	
	°Dipel	0.5-1.0 teaspoon/gallon	Spray in early morning or late afternoon.
	°Spintor 2	3.0-8.0 ounces/acre	
	Dylox 80SP (Proxol)	20.0-30.0 ounces/100 gallons	
	Tempo 2	1.0-2.0 ounces/100 gallons	
Gall wasps (Several species on stems and foliage)	Flagship	2.0-4.0 ounces/100 gallons	
	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.
	97S	8.0 ounces/100 gallons	
	Meridian 25WG	2.0-8.5 ounces/100 gallons	
Lace bugs	Acelepryn	2.0-4.0 ounces/100 gallons	
	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Zenith 75	1.6 ounces/300 gallons	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
	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/gal	

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Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	
	Malathion 57% EC	1.0 pint/100 gallons or 1.0 teaspoon/gallon	
	*Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
PECAN			
Aphids	*Merit (Provado)	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
	Insecticidal soap		Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Phylloxera	Malathion 25WP	3.0 pounds/100 gallons	
	*Merit (Provado)	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
	Insecticidal soap		Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Twig girdler	Sanitation		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	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	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 or 1.0 tablespoon/gallon	
Yellowneck caterpillars	Acelepryn	1.0-2.0 ounces/100 gallons	
Walnut caterpillars	Confirm 2F	8.0-16.0 ounces/acre	
	°Spintor 2	3.0-8.0 ounces/acre	
Caterpillars	°Confirm	8.0-16.0 ounces/acre	
	Carbaryl	2.0 pints/100 gallons	
	Malathion 57% EC	2.0 teaspoons/gallon	
SOUTHERN PINE PLANTATIONS AND CHRISTMAS TREES			
Nantucket pine tip moth			Chemical control is usually impractical under forest conditions due to high cost. Spray lawn and high-value trees to coincide with moth emergence.
	Orthene TTO/75S	1.0 pound/100 gallons	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.
	97S	12.0 ounces/100 gallons	
	°Spintor 2 (Spinosad)	1.0 tablespoons/gallon or	

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Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
		3.0-8.0 ounces/acre	
	°Conserve SC	0.2 ounce/gallon or 22.0 ounces/100 gallons	
	Dylox 80% SP	20.0 ounces/100 gallons	
	LS	2.0 pints/100 gallons	
	Astro 3.2EC	4.0-8.0 ounces/100 gallons	
	Confirm 2F	8.0 ounces/acre	
	Proxol 80%SP	20.0 ounces/100 gallons	
	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	
	°Dimilin 25W	4.0 ounces/acre	Apply at early stages of instar development preferably at beginning of first and second tip moth generation.
Pales weevils, pitch-eating weevils	°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.
	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.
		4% dip for young trees	See label.
	Permethrin SFR	2.0-5.0 quarts/100 gallons	
	Duraguard ME	1.2 gallons/100 gallons	
Deodar weevils	Orthene TTO/97S	12.0 ounces/100 gallons	
Coneworms	*Imidan 70W	1 1/3-1.5 pounds/acre	
	Permethrin SFR	2.0-5.0 quarts/100 gallons	
	Orthene TTO/75S	2/3-3/4 pound/100 gallons	Coneworms can be a major problem in stressed or damaged Christmas trees.
	97S	8.0 ounces/100 gallons	
			They attack wounds and breaks in the trunks and stems, girdling and killing trees.
		1.0	
	Duraguard ME	1.2 gallons/100 gallons	
Pine bark aphids	°Conserve SC	6.0 milliliters/gallon or 22.0 ounces/100 gallons	
	Astro 3.2 EC	4.0-8.0 ounces/100 gallons	
	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Safari	4.0-8.0 ounces/100 gallons	
	Flagship	2.0-4.0 ounces/100 gallons	
	Endeavor 50%	10.0 ounces/acre	
	Talstar 10WVP	1.0-3.0 tablespoons/gallon or 3.0-8.0 ounces/50 gallons	
	Malathion 57% EC	1.5 pints/100 gallons or 1.5 teaspoons/gallon	
	Meridian 25WG	2.0-8.5 ounces/100 gallons	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
	*Merit 75WVP	1.0 teaspoon/10 gallons or	

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Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
		3.5 tablespoons/100 gallons	
	Insecticidal soap		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	
	Flagship	4.0-8.0 ounces/100 gallons	
	Malathion 57% EC	4.0 pints/100 gallons water or 4.0 teaspoons/gallon	
	Duraguard ME	1.2 gallons/100 gallons	
	Insecticidal soap		Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
All pine sawflies	Zenith 75	1.6 ounces/300 gallons	
	Carbaryl	2.0 pounds/100 gallons	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 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	
	97S	8.0 ounces/100 gallons	
	Malathion 57% EC	2.0 pints/100 gallons or 2.0 teaspoons/gallon	
		0.25-0.5 pounds/100 gallons	
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.
			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,

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Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
			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.
	Astro	2.0-5.0 quarts/100 gallons	
	Permethrin SFR	2.0-5.0 quarts/100 gallons	
	Tree-Age	Follow 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	
	Flagship	2.0-4.0 ounces/100 gallons	
	Orthene TTO/75S	5.3 ounces/100 gallons	
	97S	4.0 ounces/100 gallons	
	Endeavor 50%	10.0 ounces/acre	
	Meridian 25WG	2.0-8.5 ounces/100 gallons	
	Insecticidal soap		Entire foliage or affected portion of tree must be soaked to ensure adequate coverage of insects.
Mites	Forbid 4F	1.4-4.0 ounces/100 gallons	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	0.75-2.5 gallons/100 gallons	
	Judo	2.0-4.0 ounces/100 gallons	
	Avid 0.15EC	0.25 teaspoon/gallon	Repeat at 7- to 10-day intervals as needed.
		4.0 ounces/100 gallons	
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	
	Orthene TTO/75S	5.3-10.5 ounces/100 gallons	
	97S	4.0-8.0 ounces/100 gallons	
Town ants	PTM	Liquid Injection	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.
		As per label directions.	
		1gallon-2.6 ounces PTM/125 ounces water	
RED BUD			
Scales			Same as ash.
Caterpillars			Same as mimosa.
SYCAMORE			
Lace bugs	Acelepryn	1.0-2.0 ounces/100 gallons	
	Arena 0.25G	3.0-3.6 pounds/1,000 square feet	
	Zenith	1.6 ounces/300 gallons	
	Orthene OTTO	5.3 ounces/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	Treat when lace bugs are present. Repeat weekly as needed.
	Carbaryl 50WP	2.0 tablespoons/gallon	
	Carbaryl 4F	1.0 quart/100 gallons or 1.0 tablespoons/gallon	

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Trees (Forest, Shade and Christmas)

Host and Pest	Pesticide	Rate	Remarks
	Merit 75WP	1.0 teaspoon/10 gallons or 3.5 tablespoons/100 gallons	
WILLOW			
Aphids			Same as oak.
Fall webworms			Same as oak.
Tent caterpillars			Same as oak.
Leaf beetles	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gallon	
Spider mites	Forbid 4F	1.4-4.0 ounces/100 gallons	
	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	0.75-2.5 gallons/100 gallons	
	°Conserve SC	6.0 milliliters/gallon or 22.0 ounces/100 gallons	
	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	
	Judo	2.0-4.0 ounces/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	
	Carbaryl 50WP	2.0 tablespoons/gallon	
Scales			Same as oak.
YELLOW POPLAR			
Tulip tree scales	Ultra-Pure Oil	0.75-1.0 gallon/100 gallons	
	Ultra-Fine Oil	2.0-5.0 gallons/100 gallons	Dormant in summer.
	(98%)	0.75-2.5 gallons/100 gallons	
	Carbaryl	2.0 pounds/100 gallons	Spray when crawlers are present in July or August. Repeat in 10 days if necessary.
	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		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.