

IMPORTANT NOTICE

The Listing of Products & Pesticides

There has been no attempt in this bulletin to list the registered pesticides on the basis of most effective to least effective. We do not have effectiveness information for all the pesticides listed and have decided to list them in alphabetical order. Thus, pesticides in this bulletin are not listed in order of effectiveness.

Table 2. ORNAMENTALS

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
AJUGA	Twospotted spider mite	(see GENERAL PESTS: Spider Mites)			
ALDER	European alder leafminer (Hymenopterous)	treat when mines are first seen and repeat as needed. (see GENERAL PESTS: Leafminers)			
	Woolly alder aphid	(see GENERAL PESTS: Aphids)			
ARBORVITAE	Aphids	(see GENERAL PESTS: Aphids)	AND: Dibrom 8 Emulsive Dimethoate 2.67EC Dimethoate 400	8 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	1 qt 50 oz 35 oz
	Arborvitae leafminer (Lepidopterous)	Spray in early May and again 2 weeks later, then again in early August for the new generation. (see GENERAL PESTS: Leafminer)			
	Bagworm	(see GENERAL PESTS: Bagworm)	AND: Dimethoate 2.67EC Dimethoate 400	2.67 lb/gal EC 4 lb/gal EC	50 oz 35 oz
	Fletcher scale	Use oil as a dormant treatment in spring. Use any one of other materials against crawlers from late June to early July and repeat in early September. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	2 qt
	Spruce spider mite	(see GENERAL PESTS: Spider mites)	AND: Dimethoate 2.67EC Dimethoate 400	2.67 lb/gal EC 4 lb/gal EC	50 oz 35 oz
	Tip dwarf mite (Eriophyid)	Treat about mid-May and repeat as needed. (see GENERAL PESTS: Eriophyid mites)	AND: Dimethoate 2.67EC Metasystox R	2.67 lb/gal EC 2 lb/gal EC	50 oz 1-2 pt/acre (nursery & Christmas trees only)
	Twospotted spider mite	(see GENERAL PESTS: Spider mites)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt
	Aphid	(see GENERAL PESTS: Aphids)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt
	Ash flower gall mite (Eriophyid)	Use oil as dormant treatment. Use any one of the others when first blossoms begin to form. (see GENERAL PESTS: Eriophyid mites)			
	Ash sawflies	Treat when larvae are present, usually late May. (See GENERAL PESTS: Sawflies)	Isotox IV Soaps (fatty acid salts)	8.5%EC (see ALTERNATIVE PRODUCTS)	4.69 qt
Banded ash clearwing	Treat trunk and large branches in late-July in southern Ohio and 2 weeks later in northern Ohio.	Astro	3.2 lb/gal EC	1-2 qt (landscape only)	
		Chlorpyrifos Pro 2	2 lb/gal EC	2 qt (nursery only)	
		Chlorpyrifos Pro 4	4 lb/gal EC	1 qt (nursery only)	
		Demon TC	2.0 lb/gal EC	4 gal (trunks only)	
		Dursban Pro	2 lb/gal EC	2 qt (nursery only)	
		Dursban 50W	50% WSP	2 lb (nursery only)	
		Pemethrin Pro	3.2 lb/gal EC	1-2 qt (landscapes only)	
SPECIAL INFORMATION					
Clearwing borer traps can be used to pinpoint adult emergence to aid in proper timing of sprays. Traps should be deployed about 3 weeks before normal treatment time. See timing listed for specific pest and calculate proper time to deploy traps.					
Elm spanworm	Treat when larvae are seen in early to mid-June. (see GENERAL PESTS: caterpillars)	Carbaryl 2L	2 lb/gal F	2 qt	
		Carbaryl 4L	4 lb/gal F	1 qt	
		Carbaryl 50WP	50% WP	2 lb	
		Chlorpyrifos Pro 2	2 lb/gal EC	1-2 pt (nursery only)	
		Chlorpyrifos Pro 4	4 lb/gal EC	8-16 oz (nursery only)	
		Confirm T/O	2 lb/gal F	4-16 oz/acre	
		Decathlon 20WP	20% WP	1.3 oz	
		DeltaGard GC	0.42 lb/gal F	4-8 oz	
		DeltaGard T&O	0.42 lb/gal F	4-8 oz (landscape only)	
		Dimilin 4L	4 lb/gal EC	2-4 oz/acre	
		Dursban Pro	2 lb/gal EC	1-2 pt (nursery only)	
		Dursban 50W	50% WSP	0.5 lb (nursery only)	
		Mimic 2LV	2 lb/gal F	4-8 oz/acre (nursery & forests only)	
		Resmethrin EC26	2 lb/gal EC	1 qt (named plants only)	
		Sevin 50W	50% WP	2 lb	

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
ASH (cont'd)	Elm spanworm (cont'd)		Suspend SC	0.42 lb/gal F	4.8 oz (landscape only)
			Tempo 20WP	20% WP	1.8 oz (landscape only)
			Tempo SC Ultra	1 lb/gal EC	1.5-5.4 oz (landscape only)
			Tempo Ultra WP	10% WP	1.9-6.7 oz (landscape only)
	Fall webworm	(see GENERAL PESTS: Caterpillars & Fall Webworm)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt
	Flatheaded apple tree borer	Treat trunk in late May and repeat after 4 weeks.	Astro Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Demon TC Dursban Pro Dursban 50W Permethrin Pro Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid) 1.47% EC	3.2 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2.0 lb/gal EC 2 lb/gal EC 50% WSP 3.2 lb/gal EC	1-2 qt (landscape only) 2 qt (nursery only) 1 qt (nursery only) 4 gal (trunks only) 2 qt (nursery only) 2 lb (nursery only) 1-2 qt (landscapes only) mix & pour (see label)
	Forest tent caterpillar	(see GENERAL PESTS: Caterpillars & Forest Tent Caterpillar)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt
	Leafhoppers	(see GENERAL PESTS: Leafhoppers)			
	Leafroller	Treat when the first leaves are seen folded together. (see GENERAL PESTS: Leafrollers & Caterpillars)	Acephate Pro 75 "BT" (kurstaki) Decathlon 20WP Orthene Orthene Sevin 50W	75% SP various 20% WP 75% SP 97% SP 50% WP	0.33 lb (nursery only) various 1.9 oz 0.33 lb 0.25 lb 2 lb
	May/June beetles	Treat when adults are first seen and repeat as necessary.	Battle GC Carbaryl 5D Carbaryl 10D Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Decathlon 20WP DeltaGard GC DeltaGard T&O Demand CS Dursban Pro Dursban 50W Sevin 50W Suspend SC Tempo 20WP Tempo SC Ultra Tempo Ultra WP	0.88 lb/gal F 5% D 10% D 2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 20% WP 0.42 lb/gal F 0.42 lb/gal F 9.7% EC 2 lb/gal EC 50% WSP 50% WP 0.42 lb/gal F 20% WP 1 lb/gal EC 10% WP	1.5-5 fl oz (landscape & golf course only) N/A N/A 2 qt 1 qt 2 lb 1 qt (nursery only) 1 pt (nursery only) 1.9 oz 4.8 oz 4.8 oz (landscape only) 1.5-5 fl oz (landscape only) 1 qt (nursery only) 1-2 lb (nursery only) 2 lb 4.8 oz (landscape only) 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)
	Oystershell scale	Apply any one of materials against crawlers about late May and again in 10 days in southern Ohio; 2 weeks later in northern Ohio. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1 qt
	Plant/leaf bugs	Treat when young bugs (nymphs) appear in early spring and repeat as needed. (see GENERAL PESTS: Plant/leaf Bugs)	Ortho Systemic Insect Killer	8%+0.5% EC	3 T/gal (landscape only)
	Putnam scale	Use oil as dormant treatment in spring. Use one of the other materials against crawlers in late May. (see GENERAL PESTS: Scales)			
	Scurfy scale	Use oil as dormant treatment. Use any one of the other materials against crawlers early May to June (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1.5 qt
	AZALEA	Azalea bark scale	Treat when crawlers are present, which is in late June or early July (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC
Azalea lace bug	Treat when first lace bugs are seen and repeat as needed to protect new foliage. (see GENERAL PESTS: Lace Bugs)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	2 qt 25 oz 17.5 oz	
Azalea leafminer (Lepidopterous)	Treat when larvae are present, which is about early-June. (see GENERAL PESTS: Leafminers)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Cygon 2E Dimethoate 2.67EC Dimethoate 400 Sevin 50W	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC 50% WP	2 qt 1 qt 2 lb 2 qt 25 oz 17.5 oz 2 lb	

Table 2. ORNAMMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
AZALEA (cont'd)	Azalea mite (Eriophyid)	Begin treatment in May when mites appear and apply a second treatment in 10 days. Repeat this procedure as needed. (see GENERAL PESTS: Eriophyid mites)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400 Metasystox R	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC 2 lb/gal EC	2 qt 25 oz 17.5 oz 1-2 pt/acre (nursery & Christmas trees only)
	Azalea whitefly	Treat when adults are first seen and repeat at 5-day intervals until infestation is checked. Repeat same procedure as needed. (see GENERAL PESTS: Whiteflies)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	2 qt 25 oz 17.5 oz
	Black vine weevil	(see GENERAL PESTS: Black Vine Weevil)			
Rhododendron borer	Treat trunk and larger branches in mid-May for southern Ohio and early June in northern Ohio.		Astro Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Demon TC Dursban Pro Dursban 50W Permethrin Pro	3.2 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2.0 lb/gal EC 2 lb/gal EC 50% WSP 3.2 lb/gal EC	1-2 qt (landscape only) 2 qt (nursery only) 1 qt (nursery only) 4 gal (trunks only) 2 qt (nursery only) 2 lb (nursery only) 1-2 qt (landscapes only)
SPECIAL INFORMATION					
Clearwing borer traps can be used to pinpoint adult emergence to aid in proper timing of sprays. Traps should be deployed about 3 weeks before normal treatment time. See timing listed for specific pest and calculate proper time to deploy traps.					
	Southern red mite	(see GENERAL PESTS: Spider Mites)	AND: Dimethoate 2.67EC Dimethoate 400	2.67 lb/gal EC 4 lb/gal EC	25 oz 17.5 oz
BALD- CYPRESS	Bagworm	(see GENERAL PESTS: Bagworm)			
	Bald-cypress mite (Eriophyid)	Treat in early spring when foliage is fully out, then as needed. (see GENERAL PESTS: Eriophyid mites)	AND: Metasystox R	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)
BARBERRY	Barberry aphid	(see GENERAL PESTS: Aphids)			
	Barberry looper (Barberry caterpillar)	Treat in late May and then as needed. There are three generations per year. (see GENERAL PESTS: Caterpillars)	AND: Resmethrin EC26	2 lb/gal EC	1 qt (named plants only)
	Barberry scale	Spray when crawlers are present. (see GENERAL PESTS: Scales)			
	Barberry webworm	Treat in late July when larvae appear. (see: GENERAL PESTS: Caterpillars)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Decathlon 20WP DeltaGard GC DeltaGard T&O Diazinon 50W Diazinon 2E & 25% Diazinon 4E & AG500 Dimilin 4L Dylox Sevin 50W	2 lb/gal F 4 lb/gal F 50% WP 20% WP 0.42 lb/gal F 0.42 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 4 lb/gal EC 4 lb/gal EC 80% SP 50% WP	2 qt 1 qt 2 lb 1.3 oz 4.8 oz 4.8 oz (landscape only) 1 lb 1 qt 1 qt 1-2 oz/acre 20-30 oz 2 lb
BIRCH	Aphid	(see GENERAL PESTS: Aphids)	AND: Cygon 2E Dibrom 8 Emulsive Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 8 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	1 qt 1 qt 12.5 oz 17.5 oz
	Bagworm	(see GENERAL PESTS: Bagworm)			
	Birch beadgall mite (Eriophyid)	Treat in early spring as foliage is expanding, then as needed. (see GENERAL PESTS: Eriophyid mites)	AND: Metasystox R	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)
	Birch leafminer (Hymenopterous)	Use any one of the materials listed when adults are present in mid-May and again in late June. Use systemic insecticides after mines are evident. (see GENERAL PESTS: Leafminers)	AND: Acephate Pro 75 Astro Carbaryl 5D Carbaryl 10D Carbaryl 2L Carbaryl 4L Carbaryl 40L Carbaryl 50WP Cygon 2E Dibrom 8 Emulsive Dimethoate 2.67EC Dimethoate 400 Di-Syston Imidan 70W & 70WSB Isotox IV Malathion 57 Orthene Orthene	75% SP 3.2 lb/gal EC 5% D 10% D 2 lb/gal F 4 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 8 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC 15% G 70% WP 8.5% EC 5 lb/gal EC 75% SP 97% SP	0.33 lb (nursery only) 4.8 fl oz (landscape only) N/A N/A 2 qt 1 qt 2 lb 1 qt (see paint method on label) 1 qt 12.5 oz 17.5 oz 2.5 oz/inch trunk diameter 0.75-1 lb 4.69 qt 2 qt 0.33 lb 0.25 lb

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water		
BIRCH (cont'd)	Birch leafminer (cont'd)		Ortho Systemic Insect Killer	8%+0.5% EC	3 T/gal (landscape only)		
			Rose Pride Systemic Rose & Flower Care (Ortho) w/Disulfoton	1% G	see label		
			2-in-1 Systemic Rose & Flower Care (Bayer) w/Disulfoton	1% G	(see label)		
	Bronze birch borer	Treat entire tree, especially the upper part of the tree in late May. Retreat in early July if season is cooler than normal.		Astro	3.2 lb/gal EC	1-2 qt (landscape only)	
				Chlorpyrifos Pro 2	2 lb/gal EC	2 qt (nursery only)	
				Chlorpyrifos Pro 4	4 lb/gal EC	1 qt (nursery only)	
				Demon TC	2.0 lb/gal EC	4 gal (trunks only)	
				Dursban Pro	2 lb/gal EC	2 qt (nursery only)	
				Dursban 50W	50% WSP	2 lb (nursery only)	
				Pemethrin Pro	3.2 lb/gal EC	1-2 qt (landscapes only)	
Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)				1.47% EC	mix & pour (see label)		
Fall webworm	(see GENERAL PESTS: Caterpillars & Fall Webworm)						
Forest tent caterpillar	(see GENERAL PESTS: Caterpillars & Forest Tent Caterpillar)						
Japanese beetle	(see GENERAL PESTS: Japanese Beetle)						
Leafhopper	(see GENERAL PESTS: Leafhopper)						
Oystershell scale	Apply any one of the materials against crawlers about late May and again in 10 days in southern Ohio; 2 weeks later in northern Ohio. (see GENERAL PESTS: Scales)	AND:	Malathion 57	5 lb/gal EC	1 qt		
BITTERSWEET	Euonymus scale	Use oil as a dormant treatment in spring. Use any one of the other materials in late May and/or late June. Apply treatment when crawlers are present and repeat 10-14 days later. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1.5 qt		
BOXELDER	Boxelder bug	Direct spray against bugs in early summer.	Accephate Pro 75	75% SP	1.0 lb (nursery only)		
			Battle GC	0.88 lb/gal F	1.5-5 fl oz (landscape golf course only)		
			BioNEEM	0.09%EC	3.2 gal		
			Demon TC	2.0 lb/gal EC	4 gal (trunks only)		
			Carbaryl 5D	5% D	N/A		
			Carbaryl 10D	10% D	N/A		
			Carbaryl 2L	2 lb/gal F	2 qt		
			Carbaryl 4L	4 lb/gal F	1 qt		
			Carbaryl 50WP	50% WP	2 lb		
			Chlorpyrifos Pro 2	2 lb/gal EC	1-2 pt (nursery only)		
			Chlorpyrifos Pro 4	4 lb/gal EC	8-16 oz (nursery only)		
			Decathlon 20WP	20% WP	1.9 oz		
			DeltaGard GC	0.42 lb/gal F	4-8 oz		
			DeltaGard T&O	0.42 lb/gal F	4-8 oz (landscape only)		
			Demand CS	9.7% EC	1.5-5 fl oz (landscape only)		
			Dursban Pro	2 lb/gal EC	1-2 pt (nursery only)		
			Dursban 50W	50% WSP	0.5 lb (nursery only)		
			Malathion 50	4.4 lb/gal EC	1.5 qt		
			Orthene	75% SP	1.0 lb		
			Orthene	97% SP	0.75 lb		
			Scimitar CS	0.88 lb/gal EC	1.5-5 fl oz (landscape only)		
			Scimitar GC	0.88 lb/gal EC	1.5-5 fl oz (golf course & landscape only)		
			Scimitar WP	9.52% WP	1.2-4.8 oz (landscape only)		
Sevin 50W	50% WP	2 lb					
Suspend SC	0.42 lb/gal F	4-8 fl oz (landscape only)					
Tempo 20WP	20% WP	1.8 oz (landscape only)					
Tempo SC Ultra	1 lb/gal EC	1.5-5.4 oz (landscape only)					
Tempo Ultra WP	10% WP	1.9-6.7 oz (landscape only)					
BOXWOOD	Boxwood leafminer (Dipterous)	Use any one of these materials in early May when adults are active. Use systemics when larvae are present in mines in June. (see GENERAL PESTS: Leafminers)	Ambush	2 lb/gal EC	6.4-12.8 oz (nursery only)		
			Ambush 25W	25% WP	6.4-12.8 oz (nursery only)		
			Avid	0.15 lb/gal EC	8 oz		
			Carbaryl 5D	5% D	N/A		
			Carbaryl 10D	10% D	N/A		
			Carbaryl 2L	2 lb/gal F	2 qt		
			Carbaryl 4L	4 lb/gal F	1 qt		
			Carbaryl 50WP	50% WP	2 lb		
			Cygon 2E	2 lb/gal EC	2 qt		
			Dimethoate 2.67EC	2.67 lb/gal EC	25 oz		
			Dimethoate 400	4 lb/gal EC	17.5 oz		
			Dylox	80% SP	20-30 oz		
			Malathion 57	5 lb/gal EC	2 qt		
			Sevin 5 Dust	5% D	1-1.25 lb/1000 sq.ft.		
			Sevin 50W	50% WP	2 lb		
			Boxwood spider mite	Treat when mites are present and make a second application 7-10 days later. Repeat same procedure as needed. (see GENERAL PESTS: Spider Mites)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	2 qt 25 oz 17.5 oz
			Boxwood psyllid	Treat when young psyllids are present, which is in early May, and repeat treatment as needed. (see GENERAL PESTS: Psyllids)			

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
BOXWOOD (cont'd)	European fruit lecanium scale	Use oil as a dormant spray in fall or spring. Treat when crawlers are present, which is usually in early June. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	2.5 qt
BUCKTHORN (Tallhedge)	Bagworm	(see GENERAL PESTS: Bagworm)			
	Japanese beetle	(see GENERAL PESTS: Japanese Beetle)			
CARNATION	Aphids	(see GENERAL PESTS: Aphids)	AND: Cygon 2E	2 lb/gal EC	2 qt
	Leafminer (dipterous)	(see GENERAL PESTS: Leafminers)			
	Spider Mites	(see GENERAL PESTS: Spider Mites)	AND: Cygon 2E	2 lb/gal EC	2 qt
	Thrips	(see GENERAL PESTS: Thrips)	AND: Cygon 2E	2 lb/gal EC	2 qt
CATALPA	Catalpa sphinx	Treat when larvae are small. (see GENERAL PESTS: Caterpillars)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Isotox IV Ortho Systemic Insect Killer Sevin 50W	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 8.5%EC 8%+0.5% EC 50% WP	2 qt 1 qt 2 lb 1-2 pt (nursery only) 8-16 oz (nursery only) 1-2 pt (nursery only) 0.5 lb (nursery only) 4.69 qt 3 T/gal (landscape only) 2 lb
	Japanese beetle	(see GENERAL PESTS: Japanese Beetle)			
CHESTNUT (ornamental)	Asiatic oak weevil	Treat when adults are feeding.	Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50WSP	2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP	2 qt (nursery only) 1 qt (nursery only) 2 qt (nursery only) 1 lb (nursery only)
	Leafhopper	(see GENERAL PESTS: Leafhopper)			
CHRYSANTHEMUM (perennial)	Aphid	(see GENERAL PESTS: Aphids)			
	Beet armyworm	(see GENERAL PESTS: Caterpillar)	AND: Astro Azatin XL Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Confim T/O Diazinon 20WP Dursban Pro Dursban 50W Isotox IV Ortho Systemic Insect Killer Pedestal Sevin 50W Talstar F Talstar GC Talstar Lawn & Tree Talstar Nursery	3.2 lb/gal EC 0.265 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2 lb/gal F 20% WP 2 lb/gal EC 50% WSP 8.5%EC 8%+0.5% EC 0.83 lb/gal EC 50% WP 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F	4-8 fl oz (landscape only) 12-16 fl oz 1 qt (nursery only) 1 pt (nursery only) 4-16 oz/acre 1.3 oz 1 qt (nursery only) 0.5 lb (nursery only) 4.69 qt 3 T/gal (landscape only) 6-8 fl oz (nursery only) 2 lb 10.8-21.7 fl oz (landscapes only) 10-20 fl oz (landscapes & golf courses) 10.8-21.7 fl oz/acre (landscape only) 8-20 fl oz (nursery only)
	Cabbage looper	Treat at first sign of feeding damage or when caterpillars are seen. (see GENERAL PESTS: Caterpillars)	Astro "Bt" (kurstaki) Isotox IV Resmethrin EC26	3.2 lb/gal EC various 8.5%EC 2 lb/gal EC	4-8 fl oz (landscape only) various 4.69 qt 1 qt (named plants only)
	Corn earworm	(see GENERAL PESTS: Caterpillars)			
	Leafhopper	(see GENERAL PESTS: Leafhoppers)			
	Leafminer (Dipterous)	Treat when mining of leaves is first detected and repeat as needed. (see GENERAL PESTS: Leafminers)	Ambush Ambush 25W Avid Diazinon 50W Diazinon 2E & 25% Diazinon 4E & AG500 Dylox	2 lb/gal EC 25% WP 0.15 lb/gal EC 50% WP 2 lb/gal EC 4lb/gal EC 80% SP	6.4-12.8 oz (nursery only) 6.4-12.8 oz (nursery only) 4 oz 1 lb 1 qt 1 qt 20-30 oz

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
CHRYSANTHEMUM					
(cont'd)	Omnivorous leafroller	(see GENERAL PESTS: Leafrollers & Caterpillars)			
	Twospotted spider mite	(see GENERAL PESTS: Spider Mites)			
	Thrips	(see GENERAL PESTS: Thrips)			
	Whitefly (Greenhouse)	Treat at first sign of adults on underside of leaves and repeat at 10-14 day intervals as needed. (see GENERAL PESTS: Whiteflies)	AND: Phaser	3 lb/gal EC	0.67 qt (nursery only)
COLUMBINE					
	Leafminer (Dipterous)	Treat when mining of leaves is first detected and repeat as needed. (see GENERAL PESTS: Leafminers)	AND: Avid Dylox	0.15 lb/gal EC 80% SP	4 oz 20-30 oz
	Sawfly	Adults lay eggs as flower buds elongate. Spray small larvae in early to mid-May. (see GENERAL PESTS: Sawflies)			
COTONEASTER					
	Aphids	(see GENERAL PESTS: Aphids)			
	Hawthorn lace bug	Treat when young lace bugs are seen and repeat as needed to protect young foliage. (see GENERAL PESTS: Lace Bugs)			
	Leafhoppers	(see GENERAL PESTS: Leafhoppers)			
	Pear slug (sawfly)	Spray foliage about 2 weeks after the petals fall and again in 2 weeks. (see GENERAL PESTS: Sawflies)	Diazinon 50W Diazinon 2E & 25% Diazinon 4E & AG500	50% WP 2 lb/gal EC 4lb/gal EC	3 lb 1 qt 3 qt
	San Jose scale	Use oil as a dormant treatment in spring. Use any one of the other materials against crawlers in late June and apply at least 2 treatments at 10-day intervals. (see GENERAL PESTS: Scales)	Distance Talstar F Talstar GC Talstar Lawn & Tree Talstar Nursery	0.86 lb/gal EC 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F	8-12 oz (nursery only) 10.8-21.7 fl oz (landscapes only) 10-20 fl oz (landscapes & golf course only) 10.8-21.7 fl oz/acre (landscape only) 8-20 fl oz/acre (nursery only)
	Two-spotted spider mites	(see GENERAL PESTS: Spider Mites)			
	Webworm	Treat when larvae are present. (see GENERAL PESTS: Caterpillars)	AND: Astro Carbaryl 2L Carbaryl 4L Carbaryl 50WP Decathlon 20WP DeltaGard GC DeltaGard T&O Diazinon 50W Diazinon 2E & 25% Diazinon 4E & AG500 Dimilin 4L Dylox Sevin Liquid Sevin 50W Tempo 20WP Tempo SC Ultra Tempo Ultra WP	3.2 lb/gal EC 2 lb/gal F 4 lb/gal F 50% WP 20% WP 0.42 lb/gal F 0.42 lb/gal F 50% WP 2 lb/gal EC 4lb/gal EC 4 lb/gal EC 80% SP 2 lb/gal F 50% WP 20% WP 1 lb/gal EC 10% WP	4-8 fl oz (landscape only) 2 qt 1 qt 2 lb 1.3 oz 4-8 oz 4-8 oz (landscape only) 1 lb 1 qt (named plants only) 1 qt 1-2 oz/acre 20-30 oz 2 qt 2 lb 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)
CRAPEMYRTLE					
	Aphids	(see GENERAL PESTS: Aphids)			
DAISY					
(perennial)	Aphids	(see GENERAL PESTS: Aphids)			
	Cucumber Beetles		Bug-B-Gon (Diazinon) Insect Killer Bug-B-Gon (Esfenvalerate) Multi-Purpose	0.075% RTU	RTU RTU
DAY LILY					
	Aphids	(see GENERAL PESTS: Aphids)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	4 qt 50 oz 35 oz
	Slugs	(see GENERAL PESTS: Snails & Slugs)			
	Thrips	(see GENERAL PESTS: Thrips)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	4 qt 50 oz 35 oz
	Twospotted spider mite	(see GENERAL PESTS: Spider Mites)			

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water		
DEUTZIA	Aphids	(see GENERAL PESTS: Aphids)					
	Lilac leafminer (Lepidopterous)	Treat when first mines are seen and repeat as needed. (see GENERAL PESTS: Leafminers)	AND: Dursban 50W Isotox IV	50% WSP 8.5%EC	2 lb (nursery only) 4.69 qt		
DOGWOOD	Dogwood borer	Treat trunk and lower branches in mid-May.	Astro	3.2 lb/gal EC	1-2 qt (landscape only)		
			Chlorpyrifos Pro 2	2 lb/gal EC	2 qt (nursery only)		
			Chlorpyrifos Pro 4	4 lb/gal EC	1 qt (nursery only)		
			Demon TC	2.0 lb/gal EC	4 gal (trunks only)		
			Dursban Pro	2 lb/gal EC	2 qt (nursery only)		
			Dursban 50W	50% WSP	2 lb (nursery only)		
			Pemethrin Pro	3.2 lb/gal EC	1-2 qt (landscapes only)		
			Phaser	3 lb/gal EC	0.67-1.5 qt (nursery only)		
			Dogwood club gall (midge)	Treat about the time leaves are expanding in the spring.	Carbaryl 2L Carbaryl 4L Carbaryl 50WP Sevin 50W	2 lb/gal F 4 lb/gal F 50% WP 50% WP	2 qt 1 qt 2 lb 2 lb
			Leafhopper	(see GENERAL PESTS: Leafhoppers)			
DOGWOOD	Oystershell scale	Treat crawlers about late May and again in 10 days in southern Ohio; 2 weeks later in northern Ohio. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1 qt		
	Red-headed flea beetle	Treat when feeding damage to leaves is observed. Repeat as needed.	Battle GC Bug-B-Gon (Diazinon) Insect Killer Carbaryl 5D Carbaryl 10D Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Decathlon 20WP DeltaGard GC DeltaGard T&O Demand CS Diazinon 50W Diazinon 2E & 25% Diazinon 4E & AG500 Dursban Pro Dursban 50W Mavrik Aquaflow Scimitar CS Scimitar GC Scimitar WP Sevin Liquid Sevin 50W Suspend SC Talstar F Talstar Lawn & Tree Talstar Nursery Tempo 20WP Tempo SC Ultra Tempo Ultra WP	0.88 lb/gal F 0.075% RTU 5% D 10% D 2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 20% WP 0.42 lb/gal F 0.42 lb/gal F 9.7% EC 50% WP 2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 2 lb/gal F 0.88 lb/gal EC 0.88 lb/gal EC 9.52% WP 2 lb/gal F 50% WP 0.42 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 20% WP 1 lb/gal EC 10% WP	1.5-5 fl oz (landscape & golf course only) RTU N/A N/A 2 qt 1 qt 2 lb 1-2 qt (nursery only) 1-2 pt (nursery only) 1.9 oz 4-8 oz 4-8 oz (landscape only) 1.5-5 fl oz (landscape only) 1 lb 1 qt 1 qt 1-2 qt (nursery only) 0.5 lb (nursery only) 4-10 oz 1.5-5 fl oz (landscape only) 1.5-5 fl oz (golf course & landscape only) 1.2-4.8 oz (landscape only) 2 qt 2 lb 4-8 fl oz (landscape only) 10.8-21.7 fl oz (landscapes only) 10.8-21.7 fl oz/acre (landscape only) 8-20 fl oz (nursery only) 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)		
DOUGLAS-FIR	Aphids	(see GENERAL PESTS: Aphids)	AND: Dibrom 8 Emulsive Lorsban 4E	8 lb/gal EC 4 lb/gal EC	1 qt 1 qt (Christmas trees only)		
	Bagworm	(see GENERAL PESTS: Bagworm)					
DOUGLAS-FIR	Cooley spruce gall adelgid (aphid)	Apply early in spring, at budbreak, or anytime during the summer when crawlers are active.	Carbaryl 2L	2 lb/gal F	2 qt		
			Carbaryl 4L	4 lb/gal F	1 qt		
			Carbaryl 50WP	50% WP	2 lb		
			Chlorpyrifos Pro 2	2 lb/gal EC	1-2 pt (nursery only)		
			Chlorpyrifos Pro 4	4 lb/gal EC	8-16 oz (nursery only)		
			DeltaGard GC	0.42 lb/gal F	4-8 oz		
			DeltaGard T&O	0.42 lb/gal F	4-8 oz (landscape only)		
			Dursban Pro	2 lb/gal EC	1-2 pt (nursery only)		
			Dursban 50W	50% WSP	0.5 lb (nursery only)		
			Lorsban 4E	4 lb/gal EC	1 qt (Christmas trees only)		
			Marathon 1G	1% G	15 oz/1000 sq.ft. (nursery only)		
			Marathon II	2 lb/gal F	(nursery only) (see label for rates & app methods)		
			Marathon 60WP	60WP	20 oz/3000 sq.ft. (nursery only)		
			Merit 2	2 lb/gal F	1.5 oz (landscape only) (see label for soil inject)		
			Merit 2.5G	2.5% G	(landscape only) (see label for rates)		
			Merit 75WP	75% WP	3.3 T (landscape only) (see label for soil inject)		
			Merit 75WSP	75% WP	1.6 oz/300 gal (see label for soil inject)		
			Metasystox R	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)		
			MSR Spray Concentrate	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)		
			Oils, dormant (see ALTERNATIVE PRODUCTS)				
Oils, horticultural, summer (see ALTERNATIVE PRODUCTS)							
Sevin 50W	50% WP	2 lb					

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
DOUGLAS-FIR (cont'd)	Cooley spruce gall adelgid (aphid) (cont'd)		Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS) Suspend SC Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	(see ALTERNATIVE PRODUCTS) 0.42 lb/gal F 1.47% EC	4-8 fl oz (landscape only) mix & pour (see label)
ELM	Bark beetles (native) Note: Malathion 57% EC may cause slight injury to elm foliage.		Astro Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Demon TC Dursban Pro Dursban 50W Permethrin Pro	3.2 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2.0 lb/gal EC 2 lb/gal EC 5.0% WSP 3.2 lb/gal EC	1-2 qts (landscape only) 4 gal (nursery only) 2 gal (nursery only) 4 gal (trunks only) 4 gal (nursery only) 8.33 lb (nursery only) 1-2 qt (landscapes only)
		Control of Dutch elm disease vectors is a highly specialized task. For further information write to Forest Sciences Laboratory, 359 Main Rd., Delaware Ohio 43015. To reduce overwintering survival, treat in early fall. Spray basal 9 feet of trunk until wet but not to runoff. Make application in spring and early summer to tree crown. Spray thoroughly to minimize inoculations.			
	Cankerworms Note: Do not use Isotox IV or Orthene on American elm as foliage damage may occur.	(see GENERAL PESTS: Cankerworms & Caterpillars)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt
	Elm leaf beetle Note: Do not use Isotox IV or Orthene on American elm as foliage damage may occur.	Treat when larvae first appear, about when leaves are fully expanded and again in July.	Acephate Pro 75 Battle GC BioNEEM "Bt" (tenebrionis) (see ALTERNATIVE PRODUCTS) Demon TC Carbaryl 5D Carbaryl 10D Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Conserve SC Decathlon 20WP DeltaGard GC DeltaGard T&O Demand CS Dibrom 8 Emulsive Di-Syston Dursban Pro Dursban 50W Imidan 70W & 70WSB Isotox IV KnoxOut 2FM Mavrik Aquaflo Merit 2 Merit 2.5G Merit 75WP Merit 75WSP Metasystox R MSR Spray Concentrate Oils, horticultural, summer (see ALTERNATIVE PRODUCTS) (larvae) Orthene Orthene Ortho Systemic Insect Killer Power Force Multi-Insect Killer Concentrate (Bayer) Resmethrin EC26 Scimitar CS Scimitar GC Scimitar WP Sevin 5 Dust Sevin 50W Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS) Suspend SC Talstar F Talstar GC Talstar Lawn & Tree Talstar Nursery Tempo 20WP Tempo SC Ultra Tempo Ultra WP Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid) 2-in-1 Systemic Rose & Flower Care (Bayer) w/Disulfoton	75% SP 0.88 lb/gal F 0.09%EC 2.0 lb/gal EC 5% D 10% D 2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 1 lb/gal F 20% WP 0.42 lb/gal F 0.42 lb/gal F 9.7% EC 8 lb/gal EC 15% G 2 lb/gal EC 50% WSP 70% WP 8.5% EC 2 lb/gal Encapsule 2 lb/gal F 2 lb/gal F 2.5% G 75% WP 75% WP 2 lb/gal EC 2 lb/gal EC 75% SP 97% SP 8%+0.5% EC 0.75% EC 2 lb/gal EC 0.88 lb/gal EC 0.88 lb/gal EC 9.52% WP 5% D 50% WP 0.42 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 20% WP 1 lb/gal EC 10% WP 1.47% EC 1% G	1.33 lb (nursery only) 1.5-5 fl oz (landscape & golf course only) 3.2 gal 4 gal (trunks only) N/A N/A 2 qt 1 qt 2 lb 1-2 qt (nursery only) 1-2 pt (nursery only) 6 fl oz 1.9 oz 4.8 oz 4-8 oz (landscape only) 1.5-5 fl oz (landscape only) 1 qt 2.5 oz/inch trunk diameter 1-2 qt (nursery only) 1-2 lb (nursery only) 0.75-1 lb 4.69 qt 3-6 pt (landscape only) 4-10 oz 1.5 oz (landscape only) (see label for soil inject) (landscape only) (see label for rates) 3.3 T (landscape only) (see label for soil inject) 1.6 oz/300 gal (see label for soil inject) soil injection - see label (landscapes only) soil injection - see label (landscapes only) 1.33 lb 1 lb 3 T/gal (landscape only) 1 T/gal 1 qt (named plants only) 1.5-5 fl oz (landscape only) 1.5-5 fl oz (golf course & landscape only) 1.2-4.8 oz (landscape only) 1-1.25 lb/1000 sq.ft. 2 lb 4.8 fl oz (landscape only) 5.4-10.8 fl oz (landscapes only) 5-10 fl oz (landscapes & golf courses) 5.4-10.8 fl oz/acre (landscape only) 8-20 fl oz (nursery only) 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only) mix & pour (see label) (see label)
	Elm leafminer (Hymenopterous) Note: Do not use Orthene on American elm as foliage damage may occur.	Treat when mines are seen, in early May for the first generation and early June for the second generation. (see: GENERAL PESTS: Leafminers)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt
	Elm spanworm	(see: GENERAL PESTS: Caterpillars, Cankerworms)	AND: Bug-B-Gon (Permethrin) Multi Purpose	2.5% hose end sprayer	hose end sprayer

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water	
ELM (cont'd)	European elm scale	Use oil as a dormant treatment in the spring.	AND:			
		Use one of other materials against crawlers in late June.	Di-Syston	15% G	2.5 oz/inch trunk diameter	
		(see GENERAL PESTS: Scales)	Metasystox R	2 lb/gal EC	soil injection - see label (landscapes only)	
	Note: Do not use Isotox IV or Orthene on American elm as foliage damage may occur.		MSR Spray Concentrate	2 lb/gal EC	soil injection - see label (landscapes only)	
	Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars)				
	Note: Do not use Isotox IV or Orthene on American elm as foliage damage may occur.					
Japanese beetle	(see GENERAL PESTS: Japanese Beetle)					
Note: Do not use Isotox IV or Orthene on American elm as foliage damage may occur.						
Leafhoppers	(see GENERAL PESTS: Leafhoppers)					
Note: Do not use Isotox IV or Orthene on American elm as foliage damage may occur.						
Woolly aphid	(see GENERAL PESTS: Aphids)					
Treat in early May when leaves are expanding.						
Note: Malathion 57% EC may cause slight injury to elm foliage.						
Note: Do not apply Isotox IV or Orthene to American elm as injury to foliage may occur.						
EUONYMUS	Aphids	(see GENERAL PESTS: Aphids)	AND:			
			Cygon 2E	2 lb/gal EC	2 qt	
			Dimethoate 2.67EC	2.67 lb/gal EC	50 oz	
			Dimethoate 400	4 lb/gal EC	35 oz	
	Bagworm	(see GENERAL PESTS: Bagworm)				
	Black vine weevil	(see GENERAL PESTS: Black Vine Weevil)				
	Euonymus scale	Use oil as a dormant spray in late fall or early spring. Use any one of other materials against the crawlers in late May, early June, mid-June. Apply first treatment in May and then apply two more at 10-day intervals. Repeat this procedure as needed. (see GENERAL PESTS: Scales)	AND:			
			Cygon 2E	2 lb/gal EC	2 qt	
			Dimethoate 2.67EC	2.67 lb/gal EC	50 oz	
			Dimethoate 400	4 lb/gal EC	35 oz	
Malathion 57	5 lb/gal EC	1.5 qt				
Leafhoppers	(see GENERAL PESTS: Leafhoppers)					
Twospotted spider mite	(see GENERAL PESTS: Spider Mites)					
Winged euonymus scale	Use oil as a dormant treatment in the spring Use any one of other materials against crawlers in early June and again in late July. (see GENERAL PESTS: Scales)					
FICUS (Cuban Laurel)	Thrips	Treat when thrips are first seen and repeat as needed. (see GENERAL PESTS: Thrips)	AND:			
			Dimethoate 400	4 lb/gal EC	17.5 oz	
			Ortho Systemic Insect Killer	8%+0.5% EC	3 T/gal (landscape only)	
FIR	Bagworm	(see GENERAL PESTS: Bagworm)				
	Black vine weevil	(see GENERAL PESTS: Black Vine Weevil)				
	Balsam twig aphid	(see GENERAL PESTS: Aphids)	Treat when first aphids are seen, about May 1.	AND:		
				Asana XL	0.66 lb/gal EC	5.8-9.6 oz (nursery only)
				Lorsban 4E	4 lb/gal EC	1 qt (Christmas trees only)
	Balsam woolly adelgid			Asana XL	0.66 lb/gal EC	5.8-9.6 oz (nursery only)
				Bug-B-Gon (Esfenvalerate)		
				Multi-Purpose	0.0033% RTU	RTU
				Chlorpyrifos Pro 2	2 lb/gal EC	1-2 pt (nursery only)
				Chlorpyrifos Pro 4	4 lb/gal EC	8-16 oz (nursery only)
				DeltaGard GC	0.42 lb/gal F	4-8 oz
				DeltaGard T&O	0.42 lb/gal F	4-8 oz (landscape only)
				Dursban Pro	2 lb/gal EC	1-2 pt (nursery only)
Dursban 50W				50% WSP	0.5 lb (nursery only)	
Lorsban 4E				4 lb/gal EC	1 qt (Christmas trees only)	
Marathon 1G				1% G	15 oz/1000 sq.ft. (nursery only)	
Marathon II				2 lb/gal F	(nursery only) (see label for rates & app methods)	
Marathon 60WP				60WP	20 oz/3000 sq.ft. (nursery only)	
Merit 2				2 lb/gal F	1.5 oz (landscape only) (see label for soil inject)	
Merit 2.5G	2.5% G	(landscape only) (see label for rates)				
Merit 75WP	75% WP	3.3 T (landscape only) (see label for soil inject)				
Merit 75WSP	75% WP	1.6 oz/300 gal (see label for soil inject)				
Metasystox R	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)				
MSR Spray Concentrate	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)				
Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS)						
Suspend SC	0.42 lb/gal F	4-8 fl oz (landscape only)				
Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	1.47% EC	mix & pour (see label)				
Spruce spider mite	(see GENERAL PESTS: Spider Mites)					
Pales weevil	Protect young trees by treating in mid-April/mid-May and again in August. (see PINES: Pales Weevil)	Lorsban 4E	4 lb/gal EC	1 qt (Christmas trees only) (adult weevils)		
		Lorsban 4E	4 lb/gal EC	3 qt (Christmas trees only) (stump treatments)		

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
FIR (cont'd)	Pine needle scale	Use oil as a fall dormant treatment. Use one of other materials against crawlers in late April or early May. Second generation of crawlers can be treated in mid-July. (see GENERAL PESTS: Scales) Note: Oil will injure Douglas-fir flower buds.	AND: Lorsban 4E	4 lb/gal EC	1 qt (Christmas trees only)
			Malathion 57	5 lb/gal EC	1.5 qt
			Metasystox R	2 lb/gal EC	2 pt/acre (nursery & Christmas trees only)
			Talstar F	0.67 lb/gal F	10.8-21.7 fl oz (landscapes only)
			Talstar GC	0.67 lb/gal F	10-20 fl oz (landscapes & golf course only)
			Talstar Lawn & Tree	0.67 lb/gal F	10.8-21.7 fl oz/acre (landscape only)
			Talstar Nursery	0.67 lb/gal F	8-20 fl oz/acre (nursery only)
FIRETHORN (Pyracantha)	Aphids	(see GENERAL PESTS: Aphids)			
	Black vine weevil	(see GENERAL PESTS: Black Vine Weevil)			
	Hawthorn lace bug	Treat when first lace bugs are seen and repeat as needed to protect new foliage. (see GENERAL PESTS: Lace Bugs)			
FLOWERING FRUIT TREES (ornamental) (crab apple) (cherry) (quince) (apricot) (peach) (plum) (pear)	Aphids	(see GENERAL PESTS: Aphids) Note: Do not use Isotox IV or Orthene on flowering crabapple as injury to foliage may occur.			
	Apple & Thorn Skeletonizer	(see GENERAL PESTS: Caterpillars)	AND: Bug-B-Gon (Diazinon)		
			Insect Killer	0.075% RTU	RTU
			Demand CS	9.7% EC	1.5-5 fl oz (landscape only)
	Bagworm	(see GENERAL PESTS: Bagworm) Note: Do not use Isotox IV or Orthene on flowering crabapple as injury to foliage may occur.			
	Borers (flatheaded)	Treat trunk in late May and late June.	Astro	3.2 lb/gal EC	1-2 qt (landscape only)
			Permethrin Pro	3.2 lb/gal EC	1-2 qt (landscapes only)
			Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	1.47% EC	mix & pour (see label)
	Clearwing borers (dogwood)	Treat trunk, especially at graft junctions, in late May and again a month later. (also see: peach tree and lesser peach tree borers below)	AND: Astro	3.2 lb/gal EC	1-2 qt (landscape only)
			Chlorpyrifos Pro 2	2 lb/gal EC	2 qt (nursery only)
			Chlorpyrifos Pro 4	4 lb/gal EC	1 qt (nursery only)
			Demon TC	2.0 lb/gal EC	4 gal (trunks only)
			Dursban Pro	2 lb/gal EC	2 qt (nursery only)
			Dursban 50W	50% WSP	2 lb (nursery only)
			Permethrin Pro	3.2 lb/gal EC	1-2 qt (landscapes only)
SPECIAL INFORMATION					
Clearwing borer traps can be used to pinpoint adult emergence to aid in proper timing of sprays. Traps should be deployed about 3 weeks before normal treatment. See timing listed for specific pest and calculate proper time to deploy traps.					
	Eastern tent caterpillar	(see GENERAL PESTS: Eastern Tent Caterpillar & Caterpillars) Note: Do not use Isotox IV or Orthene on flowering crabapple as injury to foliage may occur.			
	Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars) Note: Do not use Isotox IV or Orthene on flowering crabapple as injury to foliage may occur.			
	Japanese beetle	(see GENERAL PESTS: Japanese Beetle) Note: Do not use Isotox IV or Orthene on flowering crabapple as injury to foliage may occur.			
	Leafhoppers	(see GENERAL PESTS: Leafhoppers) Note: Do not use Isotox IV or Orthene on flowering crabapple as injury to foliage may occur.			
	Lesser peach tree borer	In southern Ohio, apply the first spray early May; in northern Ohio, mid-May. Apply the second spray about the first of July; the third spray in mid-August. Direct the spray to thoroughly cover injured bark and scaffold branches.	Astro	3.2 lb/gal EC	1-2 qt (landscape only)
			Chlorpyrifos Pro 2	2 lb/gal EC	2 qt (nursery only)
			Chlorpyrifos Pro 4	4 lb/gal EC	1 qt (nursery only)
			Demon TC	2.0 lb/gal EC	4 gal (trunks only)
			Dursban Pro	2 lb/gal EC	2 qt (nursery only)
			Dursban 50W	50% WSP	2 lb (nursery only)
			Permethrin Pro	3.2 lb/gal EC	1-2 qt (landscapes only)
	Mites	(see GENERAL PESTS: Spider mites) Note: Do not use Isotox IV or Orthene on flowering crabapple as injury to foliage may occur.			
	Peach tree borer	Spray trunk in late June to early July.	Astro	3.2 lb/gal EC	1-2 qt (landscape only)
			Chlorpyrifos Pro 2	2 lb/gal EC	2 qt (nursery only)
			Chlorpyrifos Pro 4	4 lb/gal EC	1 qt (nursery only)
			Demon TC	2.0 lb/gal EC	4 gal (trunks only)
			Dursban Pro	2 lb/gal EC	2 qt (nursery only)
			Dursban 50W	50% WSP	6 lb (nursery only)
			Permethrin Pro	3.2 lb/gal EC	1-2 qt (landscapes only)
	Pear slug (sawfly)	Treat larvae when first detected, usually mid-May, and again in July if needed. (see GENERAL PESTS: Sawflies)	AND: Diazinon 50W	50% WP	3 lb
			Diazinon 2E & 25%	2 lb/gal EC	1 qt
			Diazinon 4E & AG500	4lb/gal EC	3 qt
	Pear psylla	Apply dormant oil for pear psylla during dormant season. (see GENERAL PESTS: Psyllids) Spray foliage about 2 weeks after the petals fall and again in 2 weeks.			

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
FLOWERING FRUIT TREES (cont'd)	Scales	Use oil as a dormant treatment in spring. Use any one of other materials against crawlers when they are present. (see GENERAL PESTS: Scales)			
	Spring cankerworm	(see GENERAL PESTS: Cankerworms & Caterpillars) Note: Do not use Isotox IV or Orthene on flowering crabapple as injury to foliage may occur.			
	Woolly aphids	(see GENERAL PESTS: aphids) Apply first spray about June 10 and then repeat as needed. This aphid forms bluish-white threads of cottony material around itself and can be recognized by the threads. Note: Do not use Isotox IV or Orthene on flowering crabapple as injury to foliage may occur.			
FORSYTHIA	Red-headed flea beetle	Treat when feeding damage to leaves is observed. Repeat as needed.	Battle GC	0.88 lb/gal F	1.5-5 fl oz (landscape & golf course only)
			Carbaryl 2L	2 lb/gal F	2 qt
			Carbaryl 4L	4 lb/gal F	1 qt
			Carbaryl 50WP	50% WP	2 lb
			Chlorpyrifos Pro 2	2 lb/gal EC	1-2 qt (nursery only)
			Chlorpyrifos Pro 4	4 lb/gal EC	1-2 pt (nursery only)
			Decathlon 20WP	20% WP	1.9 oz
			DeltaGard GC	0.42 lb/gal F	4-8 oz
			DeltaGard T&O	0.42 lb/gal F	4-8 oz (landscape only)
			Demand CS	9.7% EC	1.5-5 fl oz (landscape only)
			Diazinon 50W	50% WP	1 lb
			Diazinon 2E & 25%	2 lb/gal EC	1 qt
			Diazinon 4E & AG500	4lb/gal EC	1 qt
			Dursban Pro	2 lb/gal EC	1-2 qt (nursery only)
			Dursban 50W	50% WSP	1-2 lb (nursery only)
			Mavrik Aquaflow	2 lb/gal F	4-10 oz
			Scimitar CS	0.88 lb/gal EC	1.5-5 fl oz (landscape only)
			Scimitar GC	0.88 lb/gal EC	1.5-5 fl oz (golf course & landscape only)
			Scimitar WP	9.52% WP	1.2-4.8 oz (landscape only)
			Sevin Liquid	2 lb/gal F	2 qt
			Sevin 50W	50% WP	2 lb
			Suspend SC	0.42 lb/gal F	4-8 fl oz (landscape only)
			Talstar F	0.67 lb/gal F	10.8-21.7 fl oz (landscapes only)
			Talstar GC	0.67 lb/gal F	10.8-21.7 fl oz (golf and landscapes only)
			Talstar Lawn & Tree	0.67 lb/gal F	10.8-21.7 fl oz/acre (landscape only)
			Talstar Nursery	0.67 lb/gal F	8-20 fl oz (nursery only)
			Tempo 20WP	20% WP	1.8 oz (landscape only)
Tempo SC Ultra	1 lb/gal EC	1.5-5.4 oz (landscape only)			
Tempo Ultra WP	10% WP	1.9-6.7 oz (landscape only)			
	Spider mites	(see GENERAL PESTS: Spider Mites)			
GLADIOLUS	Aphids		AND: Dimethoate 2.67	2.67 lb/gal EC	
	Thrips				
GOLDEN RAIN TREE	Leafhoppers	(see GENERAL PESTS: Leafhoppers)			
HACKBERRY	Hackberry nipplegall psyllid	Treat in early May. (see GENERAL PESTS: Psyllids)	AND: Dimethoate 400	4 lb/gal EC	Soil injection: use a 1:3 dilution, inject 1 fl oz of dilution for each 0.5 inch of trunk diameter.
	Lace bugs	Treat when small nymphs appear in mid-May. (see GENERAL PESTS: Lace Bugs)			
	Putnam scale	Use oil as a dormant treatment in spring. Use any one of other materials against crawlers in late May. (see GENERAL PESTS: Scales)			
HAWTHORN	Aphids	(see GENERAL PESTS: Aphids)			
	Bagworm	(see GENERAL PESTS: Bagworm)			
	Eastern tent caterpillars	(see GENERAL PESTS: Eastern Tent Caterpillar & Caterpillars)			
	European red mite	(see GENERAL PESTS: Spider Mites)			
	Fall cankerworm	(see GENERAL PESTS: Cankerworms & Caterpillars)			
	Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars)			
	Japanese beetle	(see GENERAL PESTS: Japanese Beetle)			
	Lace bug	Treat when small nymphs appear, usually in mid-May. (see GENERAL PESTS: Lace Bugs)			
	Leafhopper	(see GENERAL PESTS: Leafhoppers)			
	Leafminer (Hymenopterous)	Treat when leaves are fully expanded or at first sign of browning about early to mid-May. (see GENERAL PESTS: Leafminers)			

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
HAWTHORN (cont'd)	Oystershell scale	(see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1.5 qt
	Pear slug (sawfly)	Spray foliage about 2 weeks after the petals fall and again in 2 weeks. (see GENERAL PESTS: Sawflies)	AND: Diazinon 50W Diazinon 2E & 25% Diazinon 4E & AG500	50% WP 2 lb/gal EC 4lb/gal EC	3 lb 1 qt (named plants only) 1 qt
	Scurfy scale	Use oil as a dormant treatment. Use any one of other materials against crawlers in late May. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1.5 qt
	Terapin scale	Use oil as a dormant treatment in spring. Use any one of other materials when crawlers are on leaves in June. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	2.5 qt
HEMLOCK	Bagworm	(see GENERAL PESTS: Bagworm)			
	Black vine weevil	(see GENERAL PESTS: Black Vine Weevil)			
	Hemlock looper	Treat when worms are first seen, about August 1. (see GENERAL PESTS: Caterpillars)	AND: Dimilin 4L Resmethrin EC26	4 lb/gal EC 2 lb/gal EC	2-4 fl oz/acre 1 qt (named plants only)
	Hemlock scale	Use oil as a dormant treatment in spring. Use any one of other materials when crawlers are present, about mid-July. (see GENERAL PESTS: Scales)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	2 qt 25 oz 17.5 oz
	Hemlock rust mite (Eriophyid)	Treat in early spring after leaves are expanded and then as needed. (see GENERAL PESTS: Eriophyid mites)	Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	2 qt 25 oz 17.5 oz
	Hemlock Woolly Adelgid	Treat in May to June when first generation of crawlers hatch.	Bug-B-Gon (Diazinon) Insect Killer Merit 2 Merit 2.5G Merit 75WP Merit 75WSP Metasystox R MSR Spray Concentrate Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	0.075% RTU 2 lb/gal F 2.5% G 75% WP 75% WP 2 lb/gal EC 2 lb/gal EC 1.47% EC	RTU 1.5 oz (landscape only) (see label for soil inject) (landscape only) (see label for rates) 3.3 T (landscape only) (see label for soil inject) 1.6 oz/300 gal (see label for soil inject) 1-2 pt/acre (nursery & Christmas trees only) 1-2 pt/acre (nursery & Christmas trees only) mix & pour (see label)
	Pine needle scale	Use oil as a dormant treatment in fall. Use any one of other materials when crawlers are present, usually early May and again in mid-July. (see GENERAL PESTS: Scales)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400 Malathion 57 Metasystox R MSR Spray Concentrate	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC 5 lb/gal EC 2 lb/gal EC 2 lb/gal EC	2 qt 25 oz 17.5 oz 1.5 qt 1-2 pt/acre (nursery & Christmas trees only) 1-2 pt/acre (nursery & Christmas trees only)
	Spruce spider mite	(see GENERAL PESTS: Spider Mites)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	2 qt 25 oz 17.5 oz
	Strawberry root weevil	Treat foliage and soil around infested plants in the middle of June and twice more at 3-week intervals. (see GENERAL PESTS: Black Vine Weevil)	Acephate Pro 75 Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Orthene Orthene Mavrik Aquaflow	75% SP 2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 75% SP 97% SP 2 lb/gal F	1.0 lb (nursery only) (adults) 1 qt (nursery only) 1 pt (nursery only) 1 qt (nursery only) 1 lb (nursery only) 1.0 lb (adults) 0.75 lb 6.4-10 oz
	Thrips	(see GENERAL PESTS: Thrips)			
HICKORY	Caterpillars	(see GENERAL PESTS: Caterpillars)			
Elm spanworm	Treat when larvae are seen in early to mid-June. (see GENERAL PESTS: Caterpillars)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Confim T/O Decathlon 20WP DeltaGard GC DeltaGard T&O Dimilin 4L Dursban Pro Dursban 50W Mimic 2LV Resmethrin EC26 Sevin 50W Suspend SC Tempo 20WP Tempo SC Ultra Tempo Ultra WP	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 2 lb/gal F 20% WP 0.42 lb/gal F 0.42 lb/gal F 4 lb/gal EC 2 lb/gal EC 50% WSP 2 lb/gal F 2 lb/gal EC 50% WP 0.42 lb/gal F 20% WP 1 lb/gal EC 10% WP	2 qt 1 qt 2 lb 1-2 pt (nursery only) 8-16 oz (nursery only) 4-16 oz/acre 1.3 oz 4.8 oz 4.8 oz (landscape only) 2.4 oz/acre 1-2 pt (nursery only) 0.5 lb (nursery only) 4.8 oz/acre (nursery & forests only) 1 qt (named plants only) 2 lb 4.8 fl oz (landscape only) 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)	

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water						
HICKORY (cont'd)	Hickory petiole gall adelgid (phylloxera)	Use oil in the spring as a dormant treatment against overwintering eggs. Apply any one of the other materials after eggs have hatched, which should be about late May or early June.	Chlorpyrifos Pro 2	2 lb/gal EC	1-2 pt (nursery only)						
			Chlorpyrifos Pro 4	4 lb/gal EC	8-16 oz (nursery only)						
			DeltaGard GC	0.42 lb/gal F	4-8 oz						
			DeltaGard T&O	0.42 lb/gal F	4-8 oz (landscape only)						
			Dursban Pro	2 lb/gal EC	1-2 pt (nursery only)						
			Dursban 50W	50% WSP	0.5 lb (nursery only)						
			Marathon 1G	1% G	15 oz/1000 sq.ft. (nursery only)						
			Marathon II	2 lb/gal F	(nursery only) (see label for rates & app methods)						
			Marathon 60WP	60WP	20 oz/3000 sq.ft. (nursery only)						
			Merit 2	2 lb/gal F	1.5 oz (landscape only) (see label for soil inject)						
			Merit 2.5G	2.5% G	(landscape only) (see label for rates)						
			Merit 75WP	75% WP	3.3 T (landscape only) (see label for soil inject)						
			Merit 75WSP	75% WP	1.6 oz/300 gal (see label for soil inject)						
			Metasystox R	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)						
			MSR Spray Concentrate	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)						
	Oils, dormant (see ALTERNATIVE PRODUCTS)										
	Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS)										
	Suspend SC	0.42 lb/gal F	4-8 fl oz (landscape only)								
	Hickory shuckworm	Winter is spent as a larva inside the shucks of fallen nuts. Gathering and destroying infested nuts during the winter is helpful in control.									
HOLLY	Black vine weevil	(see GENERAL PESTS: Black Vine Weevil)									
			Holly bud moth	Bug-B-Gon (Diazinon)	Insect Killer	0.075% RTU	RTU				
						Carbaryl 2L	2 lb/gal F	2 qt			
						Carbaryl 4L	4 lb/gal F	1 qt			
						Carbaryl 50WP	50% WP	2 lb			
						Chlorpyrifos Pro 2	2 lb/gal EC	1 qt (nursery only)			
						Chlorpyrifos Pro 4	4 lb/gal EC	1 pt (nursery only)			
						Diazinon 50W	50% WP	1 lb			
						Diazinon 4E & AG500	4lb/gal EC	1 qt			
						Dursban Pro	2 lb/gal EC	1 qt (nursery only)			
						Dursban 50W	50% WSP	1 lb (nursery only)			
						Sevin 50W	50% WP	2 lb			
						Holly leafminer (Dipterous)	Use a non-systemic insecticide on the foliage about May 15 to control the adults. Use one of the systemic materials in late May for control of larvae in leaves. (see GENERAL PESTS: Leafminers)	AND:	Ambush	2 lb/gal EC	6.4-12.8 oz (nursery only)
									Ambush 25W	25% WP	6.4-12.8 oz (nursery only)
									Carbaryl 2L	2 lb/gal F	2 qt
Carbaryl 4L	4 lb/gal F	1 qt									
Carbaryl 50WP	50% WP	2 lb									
Cygon 2E	2 lb/gal EC	2 qt (not on Burford holly)									
Diazinon 50WP	50% WP	1 lb									
Diazinon 2E & 25%	2 lb/gal EC	1 qt									
Diazinon 4E & AG500	4lb/gal EC	1 qt									
Dimethoate 2.67EC	2.67 lb/gal EC	25 oz (not Burford Holly)									
Dimethoate 400	4 lb/gal EC	17.5 oz (not Burford Holly)									
Di-Syston	15% G	2.5 oz/inch trunk diameter									
Dylox	80% SP	20-30 oz									
Isotox IV	8.5% EC	4.69 qt									
Ortho Systemic Insect Killer	8%+0.5% EC	3 T/gal (landscape only)									
Rose Pride Systemic Rose & Flower Care (Ortho) w/Disulfoton	1% G	see label									
Sevin 50W	50% WP	2 lb									
2-in-1 Systemic Rose & Flower Care (Bayer) w/Disulfoton	1% G	(see label)									
Southern red mite	(see GENERAL PESTS: Spider Mites)	AND:	Cygon 2E	2 lb/gal EC	2 qt (not Burford Holly)						
			Dimethoate 2.67EC	2.67 lb/gal EC	25 oz (not Burford Holly)						
			Dimethoate 400	4 lb/gal EC	17.5 oz (not Burford Holly)						
HONEYSUCKLE	Bagworm	(see GENERAL PESTS: Bagworm)									
			Cottony maple scale	A dormant oil spray may be used before growth starts in the spring. Spray infested trees thoroughly with one of the other materials about July 10 and again in 20 days. Be sure to cover lower leaf surface with spray. New information indicates that a spray applied as late as late July and during September should control scale found on the undersides of leaves. (see GENERAL PESTS: Scales)							
					Honeylocust spider mite	(see GENERAL PESTS: Spider mites)	Treat when mites are present and again in 10 days and then repeat the same procedure as needed.				
Honeylocust plant bug	Treat when leaves first appear. (see GENERAL PESTS: Plant Bugs)										

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
HONEYLOCUST (cont'd)	Honeylocust pod gall midge	Treat growing tips as growth starts in the spring and re-treat at 10-day intervals until infestation is cleaned up.	Carbaryl 2L	2 lb/gal F	2 qt
			Carbaryl 4L	4 lb/gal F	1 qt
			Carbaryl 50WP	50% WP	2 lb
			Conserve SC	1 lb/gal F	11 fl oz
			Precision	25% WP	2-4 ox.
	Sevin 50W	50% WP	2 lb		
	Honeylocust scale	Use oil in dormant season. Use any one of the other materials when crawlers are present. (see GENERAL PESTS: Scales)			
	Honeylocust stunt mite (Eriophyid)	Treat when mites are present in early spring and then as needed. (see GENERAL PESTS: Eriophyid Mites)	AND: Metasystox R	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)
	Leafhoppers	(see GENERAL PESTS)			
	Mimosa webworm	Treat at the first sign of foliage browning, which is mid-June for the first generation and late July, early August for the second generation. (see GENERAL PESTS: Caterpillars)	AND: Acephate Pro 75 Bug-B-Gon (Diazinon) Insect Killer	75% SP 0.075% RTU	0.67 lb (nursery only) RTU
			Carbaryl 2L	2 lb/gal F	2 qt
			Carbaryl 4L	4 lb/gal F	1 qt
			Carbaryl 50WP	50% WP	1 lb
			Chlorpyrifos Pro 2	2 lb/gal EC	1 qt (nursery only)
			Chlorpyrifos Pro 4	4 lb/gal EC	1 pt (nursery only)
			Decathlon 20WP	20% WP	1.3 oz
			DeltaGard GC	0.42 lb/gal F	4.8 oz
			DeltaGard T&O	0.42 lb/gal F	4.8 oz (landscape only)
			Diazinon 50W	50% WP	1 lb
			Diazinon 2E & 25%	2 lb/gal EC	1 qt
			Diazinon 4E & AG500	4 lb/gal EC	1 qt
			Dimilin 4L	4 lb/gal EC	1-2 fl oz/acre
			Di-Syston	15% G	2.5 oz/inch trunk diameter
			Dursban Pro	2 lb/gal EC	1 qt (nursery only)
			Dursban 50W	50% WSP	1 lb (nursery only)
			Dylox	80% SP	20-30 oz
			Isotox IV	8.5% EC	4.69 qt
			Orthene	75% SP	0.67 lb
			Orthene	97% SP	0.5 lb
			Ortho Systemic Insect Killer	8%+0.5% EC	3 T/gal (landscape only)
			Resmethrin EC26	2 lb/gal EC	1 qt (named plants only)
			Rose Pride Systemic Rose & Flower Care (Ortho) w/Disulfoton	1% G	see label
			Suspend SC	0.42 lb/gal F	4.8 fl oz (landscape only)
			Tempo 20WP	20% WP	1.8 oz (landscape only)
			Tempo SC Ultra	1 lb/gal EC	1.5-5.4 oz (landscape only)
			Tempo Ultra WP	10% WP	1.9-6.7 oz (landscape only)
			2-in-1 Systemic Rose & Flower Care (Bayer) w/Disulfoton	1% G	(see label)
	Oystershell scale	Treat crawlers about late May and again in 10 days in southern Ohio; 2 weeks later in northern Ohio. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1.5 qt
HONEYSUCKLE	Aphids	(see GENERAL PESTS: Aphids)	AND: Dimethoate 400	4 lb/gal EC	Soil Injection: use a 1:3 dilution. Inject 1.24 fl. oz of dilution for each 0.5 inch of trunk diameter.
	Honeysuckle leafminer (Lepidopterous)	Apply to foliage at first sign of mines in leaves or about June 1. (see GENERAL PESTS: Leafminers)			
	Spider Mites	(see GENERAL PESTS: Spider Mites)			
	Tataricacae aphid	Treat when buds show green in early April and again in about 14 days when leaves are expanded. (see GENERAL PESTS: Aphids)	AND: Dimethoate 400	4 lb/gal EC	Soil Injection: use a 1:3 dilution. Inject 1.24 fl. oz of dilution for each 0.5 inch of trunk diameter.
HORNBEAM	Bagworm	(see GENERAL PESTS: Bagworm)			
	Leafhoppers	(see GENERAL PESTS: Leafhoppers)			
HOSTA	Slugs	(see GENERAL PESTS: Snails & Slugs)			
	Twospotted spider mite	(see GENERAL PESTS: Spider Mites)			
INKBERRY (Holly)	Inkberry leafminer (Dipterous)	Use a non-systemic insecticide on the foliage in early May to control the adults. Use one of the systemic materials in early June for control of the larvae in the leaf mines. Second generation adults are active in mid-July. Third generation adults are active in mid-October. (see GENERAL PESTS: Leafminers) (see HOLLY - Leafminer)			
	Southern red mite	(see GENERAL PESTS: Spider Mites)			

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
IRIS	Aphids	Make applications as flower buds emerge. Use surfactant to assist in penetrating foliage. (see GENERAL PESTS: Aphids)			
	Iris borer	Cut and burn leaves in fall after frost. Treat leaves in spring when they are about 5-9 inches tall, then as needed to kill larvae in them.	Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	2 qt 50 oz 35 oz
	Thrips	Make applications just as flowers open and repeat if damage continues. (see GENERAL PESTS: Thrips)			
IVY	Aphids	(see GENERAL PESTS: Aphids)			
	Japanese beetle	(see GENERAL PESTS: Japanese Beetle) (Sevin injures Boston ivy and Virginia creeper.)	AND: Isotox IV	8.5% EC	6.25 qt
	Leafhoppers	(see GENERAL PESTS: Leafhoppers)			
	Scale	Treat when crawlers are present, usually May. (see GENERAL PESTS: Scales)			
JUNIPER	Bagworm	(see GENERAL PESTS: Bagworm)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	4 qt 50 oz 35 oz
	Juniper midge	Treat foliage in mid-May when adults are present and/or drench soil under infested plants in late April.	Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	4 qt 50 oz 35 oz
	Juniper scale	Use oil as a dormant treatment in the early spring. Use any one of other materials from mid-May to to late June. Two or 3 treatments may be needed be needed at 10-day intervals to clean up an infestation. Repeat same procedure as needed. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	2 qt
	Juniper tip midge	Treat foliage about May 15 and again June 20, August 5 and September 15, if needed.	Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	4 qt 50 oz 35 oz
	Juniper webworm	Treat in mid-April or early May and again in late September, if needed. (see GENERAL PESTS: Caterpillars)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Decathlon 20WP DeltaGard GC DeltaGard T&O Diazinon 50W Diazinon 2E & 25% Diazinon 4E & AG500 Dibrom 8 Emulsive Dimilin 4L Dursban Pro Dursban 50W Dylox Sevin Liquid Sevin 50W Suspend SC Tempo 20WP Tempo SC Ultra Tempo Ultra WP	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 20% WP 0.42 lb/gal F 0.42 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 8 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 80% SP 2 lb/gal F 50% WP 0.42 lb/gal F 20% WP 1 lb/gal EC 10% WP	2 qt 1 qt 2 lb 1-2 pt (nursery only) 8-16 oz (nursery only) 1.3 oz 4-8 oz 4-8 oz (landscape only) 1 lb 1 qt 1 qt 1 qt 1-2 oz/acre 1-2 pt (nursery only) 0.5 lb (nursery only) 20-30 oz 2 qt 2 lb 4-8 fl oz (landscape only) 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)
	Spruce spider mite	(see GENERAL PESTS: Spider Mites)	AND: Cygon 2E Dibrom 8 Emulsive Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 8 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	4 qt 1 qt 50 oz 35 oz
	Tip dwarf mite (Eriophyid)	Apply any one of the materials about June 1 and as needed. Use dormant oil in late November and March or horticultural oil in early spring and late fall. (see GENERAL PESTS: Eriophyid mites)	AND: Cygon 2E Metasystox R	2 lb/gal EC 2 lb/gal EC	4 qt 1-2 pt/acre (nursery & Christmas trees only)
LARCH	Bagworm	(see GENERAL PESTS: Bagworm)			
	Larch casebearer	Treat in early May when larvae are feeding or in late June when new generation is present. (see GENERAL PESTS: Caterpillars)			
	Woolly larch adelgid	Treat in early May when crawlers first appear	Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 DeltaGard GC DeltaGard T&O Dursban Pro Dursban 50W Marathon 1G	2 lb/gal EC 4 lb/gal EC 0.42 lb/gal F 0.42 lb/gal F 2 lb/gal EC 50% WSP 1% G	1-2 pt (nursery only) 8-16 oz (nursery only) 4-8 oz 4-8 oz (landscape only) 1-2 pt (nursery only) 1 lb (nursery only) 15 oz/1000 sq.ft. (nursery only)

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water			
LARCH (cont'd)	Woolly larch adelgid (cont'd)		Marathon II	2 lb/gal F	(nursery only) (see label for rates & app methods)			
			Marathon 60WP	60WP	20 oz/3000 sq.ft. (nursery only)			
			Merit 2	2 lb/gal F	1.5 oz (landscape only) (see label for soil inject)			
			Merit 2.5G	2.5% G	(landscape only) (see label for rates)			
			Merit 75WP	75% WP	3.3 T (landscape only) (see label for soil inject)			
			Merit 75WSP	75% WP	1.6 oz/300 gal (see label for soil inject)			
			Metasystox R	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)			
			MSR Spray Concentrate	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)			
			Oils, dormant (see ALTERNATIVE PRODUCTS)					
			Oils, horticultural, summer (see ALTERNATIVE PRODUCTS)					
			Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS)					
Suspend SC	0.42 lb/gal F	4-8 fl oz (landscape only)						
Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	1.47% EC	mix & pour (see label)						
LILAC	Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars)						
Lilac (=Ash) borer	Treat trunk and large branches in mid-May in southern Ohio and early June in northern Ohio.		Astro	3.2 lb/gal EC	1-2 qt (landscape only)			
			Chlorpyrifos Pro 2	2 lb/gal EC	2 qt (nursery only)			
			Chlorpyrifos Pro 4	4 lb/gal EC	1 qt (nursery only)			
			Demon TC	2.0 lb/gal EC	4 gal (trunks only)			
			Dursban Pro	2 lb/gal EC	2 qt (nursery only)			
			Dursban 50W	50% WSP	2 lb (nursery only)			
			Permethrin Pro	3.2 lb/gal EC	1-2 qt (landscapes only)			
			Phaser	3 lb/gal EC	0.67-1.5 qt (nursery only)			
			SPECIAL INFORMATION					
			Clearing borer traps can be used to pinpoint adult emergence to aid in proper timing of sprays. Traps should be deployed about 3 weeks before normal treatment time. See timing listed for specific pest and calculate proper time to deploy traps.					
Lilac leafminer (Lepidopterous)	Treat at first sign of mining in leaves. (see GENERAL PESTS: Leafminers)	AND: Ortho Systemic Insect Killer	8%+0.5% EC	3 T/gal (landscape only)				
Oystershell scale	(see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1 qt				
LINDEN	Aphids	(see GENERAL PESTS: Aphids)						
Bagworm	(see GENERAL PESTS: Bagworm)							
Basswood lace bugs	Treat at first sign of feeding damage or when the bugs are present. (see GENERAL PESTS: Lace Bugs)							
Borers (usually flatheaded apple tree borer)	Treat about early May and again in 4 weeks.		Astro	3.2 lb/gal EC	1-2 qt (landscape only)			
			Chlorpyrifos Pro 2	2 lb/gal EC	2 qt (nursery only)			
			Chlorpyrifos Pro 4	4 lb/gal EC	1 qt (nursery only)			
			Demon TC	2.0 lb/gal EC	4 gal (trunks only)			
			Dursban Pro	2 lb/gal EC	2 qt (nursery only)			
			Dursban 50W	50% WSP	2 lb (nursery only)			
			Permethrin Pro	3.2 lb/gal EC	1-2 qt (landscapes only)			
			Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	1.47% EC	mix & pour (see label)			
			Cottony maple scale	A dormant oil spray may be used before growth starts in the spring. Be sure to follow the manufacturer's recommendations. As a foliar treatment, spray infested trees thoroughly with one of these materials about July 1 and again in 10 days. Be sure to cover lower leaf surface with spray. (see GENERAL PESTS: Scales)				
Fall and spring cankerworms	(see GENERAL PESTS: Cankerworms & Caterpillars)							
Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars)							
Japanese beetle	(see GENERAL PESTS: Japanese Beetle)	AND: Isotox IV	8.5% EC	6.25 qt				
Linden leaf beetle	Spray trees at first sign of beetles and feeding injury, which should be in late June or early July.		Mavrik Aquaflow	2 lb/gal F	4-10 oz			
			Merit 2	2 lb/gal F	1.5 oz (landscape only) (see label for soil inject)			
			Merit 2.5G	2.5% G	(landscape only) (see label for rates)			
			Merit 75WP	75% WP	3.3 T (landscape only) (see label for soil inject)			
			Merit 75WSP	75% WP	1.6 oz/300 gal (see label for soil inject)			
			Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS)					
Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	1.47% EC	mix & pour (see label)						
Scurfy scale	Use oil as a dormant treatment. Use any one of other materials against crawlers in late May. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1.5 qt				

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water		
LOCUST (Black)	Locust borer	Spray tree trunks thoroughly in early September (when goldenrod is blooming).	Astro	3.2 lb/gal EC	1-2 qt (landscape only)		
			Chlorpyrifos Pro 2	2 lb/gal EC	2 qt (nursery only)		
			Chlorpyrifos Pro 4	4 lb/gal EC	1 qt (nursery only)		
			Demon TC	2.0 lb/gal EC	4 gal (trunks only)		
			Carbaryl 2L	2 lb/gal F	2 qt		
			Carbaryl 4L	4 lb/gal F	1 qt		
			Carbaryl 50WP	50% WP	2 lb		
			Dursban Pro	2 lb/gal EC	2 qt (nursery only)		
			Dursban 50W	50% WSP	2 lb (nursery only)		
			Permethrin Pro	3.2 lb/gal EC	1-2 qt (landscapes only)		
			Sevin 50W	50% WP	2 lb		
			Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid) 1.47% EC		mix & pour (see label)		
			Leafhopper	(see GENERAL PESTS: Leafhoppers)			
			Locust leafminer (Coleopterous)	Treat when foliage is developing and again in early June. (see GENERAL PESTS: Leafminers)	AND: Conserve SC Dibrom 8 Emulsive	1 lb/gal F 8 lb/gal EC	6 fl oz (adults) 1 qt
			MAGNOLIA	Leafminer (Coleopterous)	Treat when mines are first seen and repeat as needed. (see GENERAL PESTS: Leafminers)	AND: Dibrom 8 Emulsive	8 lb/gal EC
Magnolia scale	Use dormant oil as fall or spring treatment. Treat with any one of the other materials when crawlers are active in August and September. Repeat treatment as needed. An April spray may also effect some scale mortality. (see GENERAL PESTS: Scales)	AND: Malathion 57		5 lb/gal EC	2 qt		
Yellow poplar weevil	Treat foliage when adults first appear, which should be in late June or early July.	Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Sevin 50W		2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 50% WP	2 qt 1 qt 2 lb 1 qt (nursery only) 1 pt (nursery only) 1 qt (nursery only) 1 lb (nursery only) 2 lb		
MAHONIA	Barberry aphid	(see GENERAL PESTS: Aphids)					
	Barberry looper (Barberry caterpillar)	Treat in late May and then as needed. There are three generations per year. (see GENERAL PESTS: Caterpillars)	AND: Suspend SC	0.42 lb/gal F	4-8 oz (landscape only)		
	Barberry webworm	Treat when larvae are present. (see GENERAL PESTS: Caterpillars)	AND: Astro Carbaryl 2L Carbaryl 4L Carbaryl 50WP Decathlon 20WP DeltaGard GC DeltaGard T&O Diazinon 50W Diazinon 2E & 25% Diazinon 4E & AG500 Dylox Sevin Liquid Sevin 50W Suspend SC Tempo 20WP Tempo SC Ultra Tempo Ultra WP	3.2 lb/gal EC 2 lb/gal F 4 lb/gal F 50% WP 20% WP 0.42 lb/gal F 0.42 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 80% SP 2 lb/gal F 50% WP 0.42 lb/gal F 20% WP 1 lb/gal EC 10% WP	4-8 fl oz (landscape only) 2 qt 1 qt 2 lb 1.3 oz 4-8 oz 4-8 oz (landscape only) 1 lb 1 qt 1 qt 20-30 oz 2 qt 2 lb 4-8 oz (landscape only) 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)		
MAPLE	Aphids	(see GENERAL PESTS: Aphids)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt		
		Note: Malathion may cause slight injury to maple. Note: Do not apply Isotox IV or Orthene to red or sugar maples.					
	Bagworm	(see GENERAL PESTS: Bagworm) Note: Do not apply Isotox IV or Orthene to red or sugar maples.					
	Borers (bark beetles & flatheaded)	Treat trunk and lower branches in late May, June and July.	Astro Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid) 1.47% EC	3.2 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP	1-2 qt (landscape only) 2 qt (nursery only) 1 qt (nursery only) 2 qt (nursery only) 2 lb (nursery only)		
	Cottony maple scale	A dormant oil spray may be used before growth starts in the spring. Be sure to follow the manufacturer's recommendations. Some varieties of maple are susceptible to oil injury. Spray infested trees thoroughly with one of the standard materials about July 1 and again in 10 days. Be sure to cover lower leaf surfaces with spray. New information indicates that a spray applied as late as late-July and during September should control scale found on the undersides of leaves. (see GENERAL PESTS: Scales) Note: Do not apply Isotox IV or Orthene to red or sugar maples.					

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water	
MAPLE (cont'd)	Erineum mites (Eriophyid)	Treat infested trees in early spring about time buds are starting to open or at first sign of red or yellow patches on under surface of the leaves. (see GENERAL PESTS: Eriophyid mites)	AND: Metasystox R	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)	
	Fall cankerworm	(see GENERAL PESTS: Cankerworms & Caterpillars)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt	
	Note: Do not apply Isotox IV or Orthene to red or sugar maples.					
	Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt	
	Note: Do not apply Isotox IV or Orthene to red or sugar maples.					
	Forest tent caterpillar	(see GENERAL PESTS: Forest Tent Caterpillar & Caterpillars)	Note: Do not apply Isotox IV or Orthene to red or sugar maples.			
	Greenstriped mapleworm	Treat in late May or early June. (see GENERAL PESTS: Caterpillars)	AND: DeltaGard GC DeltaGard T&O	0.42 lb/gal F 0.42 lb/gal F	4-8 oz 4-8 oz (landscape only)	
	Japanese beetle	(see GENERAL PESTS: Japanese Beetle)	Note: Do not apply Isotox IV or Orthene to red or sugar maples.			
	Leafhoppers	(see GENERAL PESTS: Leafhoppers)	Note: Do not apply Isotox IV or Orthene to red or sugar maples.			
	Lecanium scales	Treat when crawlers are first seen, which is usually mid to late June. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	2.5 qt	
	Note: Do not apply Isotox IV or Orthene to red or sugar maples.					
	Maple bladdergall mite (Eriophyid)	Dormant oil may reduce overwintering populations. Use any one of the standard materials when the leaves are about 1/4 expanded and again in 10 days. Cover lower leaf surface with spray. (see GENERAL PESTS: Eriophyid mites)	AND: Metasystox R	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)	
	Maple petiole borer (Hymenopterous)	Nothing is registered for this pest. Leaf drop will not damage trees. Larva stays in petiole stem on plant, so raking leaves will not help in control.				
	Maple shoot moths	Treat in early May and repeat as needed.	Isotox IV Ortho Systemic Insect Killer Talstar F Talstar GC Talstar Lawn & Tree Talstar Nursery	8.5% EC 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F	4.69 qt 3 T/gal (landscape only) 10.8-21.7 fl oz (landscapes only) 10.8-21.7 fl oz (landscapes & golf courses) 10.8-21.7 fl oz/acre (landscape only) 12-20 fl oz	
	Note: Do not apply Isotox IV or Orthene to red or sugar maples.					
	Oystershell scale	Treat crawlers about late May and again in 10 days in southern Ohio; 2 weeks later in northern Ohio. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1 qt	
	Note: Some maples are susceptible to oil injury. See label. Note: Do not apply Isotox IV or Orthene to red or sugar maples.					
Spider mites	(see GENERAL PESTS: Spider Mites)	Note: Do not apply Isotox IV or Orthene to red or sugar maples.				
Spring cankerworm	(see GENERAL PESTS: Cankerworms & Caterpillars)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt		
Note: Do not apply Isotox IV or Orthene to red or sugar maples.						
MOCK ORANGE	Aphids	(see GENERAL PESTS: Aphids)				
	Leafminers	(see GENERAL PESTS: Leafminers)				
MOUNTAIN ASH	European red mite	(see GENERAL PESTS: Spider Mites)				
	Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars)				
	Japanese beetle	(see GENERAL PESTS: Japanese Beetle)				
	Lace bugs	Treat in mid-May. Make two applications spaced about 10 days apart. (see GENERAL PESTS: Lace Bugs)				
	Mountain ash sawfly	Spray foliage about 2 weeks after the petals fall and again in 2 weeks. (see GENERAL PESTS: Sawflies)				
	Woolly aphids	Spray in early May. (see GENERAL PESTS: Aphids)				

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water	
MOUNTAIN LAUREL	Azalea bark scale	Treat when crawlers are present, which usually is June. A second spray in 10 days may be needed. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	2 qt	
	Azalea leafminer (Lepidopterous)	Treat when mines are first seen and repeat as needed to protect new growth. (see GENERAL PESTS: Leafminers)	AND: Sevin 50W	50% WP	2 lb	
	Lace bug	Treat in early June. (see GENERAL PESTS: Lace Bugs)				
	Rhododendron borer	Treat trunk and large branches in mid-late May.	Astro Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Permethrin Pro	3.2 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 3.2 lb/gal EC	1-2 qt (landscape only) 2 qt (nursery only) 1 qt (nursery only) 2 qt (nursery only) 2 lb (nursery only) 1-2 qt (landscapes only)	
OAK	Aphids	(see GENERAL PESTS: Aphids)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt	
	Asatic oak weevil		Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W	2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP	1 qt (nursery only) 1 pt (nursery only) 1 qt (nursery only) 1 lb (nursery only)	
	Bagworm	(see GENERAL PESTS: Bagworm)				
	Borers	Spray trunks thoroughly in mid-June and July.	Astro Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Demon TC Dursban Pro Dursban 50W Permethrin Pro	3.2 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2.0 lb/gal EC 2 lb/gal EC 50% WSP 3.2 lb/gal EC	1-2 qt (landscape only) 2 qt (nursery only) 1 qt (nursery only) 4 gal (trunks only) 2 qt (nursery only) 2 lb (nursery only) 1-2 qt (landscapes only)	
	Clearwing borer in pin oak	Pin oak borer flies during odd numbered years. Flight begins in mid-May in northeastern Ohio. Apply spray in late May.	Astro Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Demon TC Dursban Pro Dursban 50W Permethrin Pro	3.2 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2.0 lb/gal EC 2 lb/gal EC 50% WSP 3.2 lb/gal EC	1-2 qt (landscape only) 2 qt (nursery only) 1 qt (nursery only) 4 gal (trunks only) 2 qt (nursery only) 2 lb (nursery only) 1-2 qt (landscapes only)	
	SPECIAL INFORMATION					
	Clearwing borer traps can be used to pinpoint adult emergence to aid in proper timing of sprays. Traps should be deployed about 3 weeks before normal treatment time. See timing listed for specific pest and calculate proper time to deploy traps.					
	Elm spanworm	Treat when larvae are seen in early to mid-June. (see GENERAL PESTS: Caterpillars)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Confirm T/O Decathlon 20WP DeltaGard GC DeltaGard T&O Dimilin 4L Dursban Pro Dursban 50W Mimic 2LV Resmethrin EC26 Sevin 50W Suspend SC Tempo 20WP Tempo SC Ultra Tempo Ultra WP	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 2 lb/gal F 20% WP 0.42 lb/gal F 0.42 lb/gal F 4 lb/gal EC 2 lb/gal EC 50% WSP 2 lb/gal F 2 lb/gal EC 50% WP 0.42 lb/gal F 20% WP 1 lb/gal EC 10% WP	2 qt 1 qt 2 lb 1-2 pt (nursery only) 8-16 oz (nursery only) 4-16 oz/acre 1.3 oz 4-8 oz 4-8 oz (landscape only) 2-4 oz/acre 1-2 pt (nursery only) 0.5 lb (nursery only) 4-8 oz/acre (nursery & forests only) 1 qt (named plants only) 2 lb 4-8 oz (landscape only) 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)	
	Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt	
	Forest tent caterpillar	(see GENERAL PESTS: Forest Tent Caterpillar & Caterpillars)				
Galls (Hymenopterous)	Chemical control recommended only in special cases because galls rarely harm trees. Stem and twig galls should be pruned and destroyed while they are still green to reduce further infestation. Adult gall wasps are usually active when the new leaves and shoots are expanding.	Carbaryl 2L Carbaryl 4L Carbaryl 50WP Sevin 50W	2 lb/gal F 4 lb/gal F 50% WP 50% WP	2 qt 1 qt 2 lb 2 lb		
Golden oak scale	Use oil as a dormant treatment in the spring. Use any one of other materials against crawlers beginning about mid-May and apply 2 or 3 applications spaced about 10 days apart. (see GENERAL PESTS: Scales)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	4 qt 50 oz 35 oz		
Gypsy moth	(see GENERAL PESTS: Gypsy Moth & Caterpillars)					
Japanese beetle	(see GENERAL PESTS: Japanese Beetle)					

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
OAK (cont'd)	Leafhoppers	(see GENERAL PESTS: Leafhoppers)			
	Leafminers (Lepidopterous)	Treat when adults are present, which should be when the leaves are about half expanded. Repeat treatment for second generation on white oak only. Cover upper leaf surface with spray. (see GENERAL PESTS: Leafminers)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Dibrom 8 Emulsive Sevin 50W	2 lb/gal F 4 lb/gal F 50% WP 8 lb/gal EC 50% WP	2 qt 1 qt 2 lb 1 qt 2 lb
	Lecanium scales	Treat when crawlers are present, usually mid to late June. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	2.5 qt
	May/June beetles	Spray when foliage is being eaten, which should be in June. Beetles feed at night.	Battle GC Carbaryl 5D Carbaryl 10D Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Decathlon 20WP DeltaGard GC DeltaGard T&O Demand CS Dursban Pro Dursban 50W Scimitar CS Scimitar GC Scimitar WP Sevin 50W Suspend SC Tempo 20WP Tempo SC Ultra Tempo Ultra WP	0.88 lb/gal F 5% D 10% D 2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 20% WP 0.42 lb/gal F 0.42 lb/gal F 9.7% EC 2 lb/gal EC 50% WSP 0.88 lb/gal EC 0.88 lb/gal EC 9.52% WP 50% WP 0.42 lb/gal F 20% WP 1 lb/gal EC 10% WP	1.5-5 oz (landscape & golf course only) N/A N/A 2 qt 1 qt 2 lb 1-2 qt (nursery only) 1-2 qt (nursery only) 1.9 oz 4-8 oz 4-8 oz (landscape only) 1.5-5 fl oz (landscape only) 1-2 qt (nursery only) 1-2 lb (nursery only) 1.5-5 oz (landscape only) 1.5-5 oz (golf course & landscape only) 1.2-4.8 oz (landscape only) 2 lb 4-8 oz (landscape only) 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)
	Oak kermes scale	Use oil as a dormant treatment in the spring. Use any one of other materials against crawlers in mid-May and apply 2 or 3 applications at 10-day intervals. Repeat treatment in late July. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	2 qt
	Oak lace bug	Treat when bugs are first seen, usually in early to mid-May, and repeat as needed. (see GENERAL PESTS: Lace Bugs)			
	Obscure oak scale	Apply superior oil before growth starts. Use any of the foliar sprays about mid- to late July. (see GENERAL PESTS: Scales)			
	Orangestriped oakworm	Treat in late May or in June. (see GENERAL PESTS: Caterpillars)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 DeltaGard GC DeltaGard T&O Dimilin 4L Dursban Pro Dursban 50W Isotox IV Sevin 50W Suspend SC	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 0.42 lb/gal F 0.42 lb/gal F 4 lb/gal EC 2 lb/gal EC 50% WSP 8.5% EC 50% WP 0.42 lb/gal F	2 qt 1 qt 2 lb 1-2 pt (nursery only) 8-16 oz (nursery only) 4-8 oz 4-8 oz (landscape only) 2-4 oz/acre 1-2 pt (nursery only) 0.5 lb (nursery only) 4.69 qt 2 lb 4-8 oz (landscape only)
	Pin oak sawfly	Treat when larval feeding is seen. (see GENERAL PESTS: Sawflies)	AND: Acephate Pro 75 Orthene Orthene	75% SP 75% SP 97% SP	1.0 lb (nursery only) 1.0 lb 0.75 lb
	Skeletonizers (Lepidopterous)	Treat when damage is first seen; about mid-June and again in August. (see GENERAL PESTS: Caterpillars)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Decathlon 20WP DeltaGard GC DeltaGard T&O Demand CS Sevin 50W Tempo 20WP Tempo SC Ultra Tempo Ultra WP	2 lb/gal F 4 lb/gal F 50% WP 20% WP 0.42 lb/gal F 0.42 lb/gal F 9.7% EC 50% WP 20% WP 1 lb/gal EC 10% WP	2 qt 1 qt 2 lb 1.9 oz 4-8 oz 4-8 oz (landscape only) 1.5-5 fl oz (landscape only) 2 lb 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)
	Spider mites	(see GENERAL PESTS: Spider Mites)			
	Spring cankerworm	(see GENERAL PESTS: Cankerworms & Caterpillars)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt
	Tent caterpillars	(see GENERAL PESTS: Tent Caterpillars & Caterpillars)			

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water	
OAK (cont'd)	Twig pruner	Chemical control is not practical. Rake and destroy fallen twigs before late May.	Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Talstar F Talstar GC Talstar Lawn & Tree Talstar Nursery	2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F	2 qt (nursery only) 1 qt (nursery only) 2 qt (nursery only) 2 lb (nursery only) 10.8-21.7 fl oz (landscapes only) 10.8-21.7 fl oz (landscapes & golf courses) 10.8-21.7 fl oz/acre (landscape only) 12-20 fl. oz	
	Twolined chestnut borer	Treat in late May and again late June.	Astro Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Demon TC Dursban Pro Dursban 50W Permethrin Pro Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	3.2 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2.0 lb/gal EC 2 lb/gal EC 50% WSP 3.2 lb/gal EC 1.47% EC	1-2 qt (landscape only) 2 qt (nursery only) 1 qt (nursery only) 4 gal (trunks only) 2 qt (nursery only) 2 lb (nursery only) 1-2 qt (landscapes only) mix & pour (see label)	
PACHYSANDRA	Euonymus scale	Treat when crawlers are present, late May and early June. Apply at least 3 treatments spaced about 10 days apart and repeat the same procedure as needed. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1.5 qt	
	Oystershell scale	(see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1 qt	
	Twospotted spider mite	(see GENERAL PESTS: Spider Mites)				
PHLOX	Twospotted spider mite	(see GENERAL PESTS: Spider Mites)				
PIERIS (Japanese andromeda)	Andromeda lace bug	Treat in mid- to late-May. Make two applications (see GENERAL PESTS: Lace Bugs)	AND: Resmethrin EC26	2 lb/gal EC	1 qt (named plants only)	
	Southern red mite	(see GENERAL PESTS: Spider Mites)				
PINE	Allegheny mound ant	Treat in early April by thoroughly spraying the ant mounds.	Dursban Pro Dursban 50W Lorsban 4E	2 lb/gal EC 50% WSP 4 lb/gal EC	2 qt/acre (nursery only) 2 lb (nursery only) 1 qt (Christmas trees only)	
	Aphids	(see GENERAL PESTS: Aphids)	AND: Lorsban 4E Cygon 2E Dibrom 8 Emulsive Dimethoate 2.67EC	4 lb/gal EC 2 lb/gal EC 8 lb/gal EC 2.67 lb/gal EC	1 qt (Christmas trees only) 4 qt 1 qt 50 oz	
	Bagworm	(see GENERAL PESTS: Bagworm)	AND: Cygon 2E Dimethoate 2.67EC	2 lb/gal EC 2.67 lb/gal EC	4 qt 50 oz	
	Bark beetles	Spray all trunk surfaces when adults are active. Engraver beetles (<i>Ips</i> species) may require several, seasonal sprays. Healthy trees are usually not attacked.	Astro Bug-B-Gon (Permethrin) Multi-Purpose Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Demon TC Carbaryl 4L Carbaryl 50WP Dursban Pro Dursban 50W Permethrin Pro Sevin 50W	3.2 lb/gal EC 2.5% hose end sprayer 2 lb/gal EC 4 lb/gal EC 2.0 lb/gal EC 4 lb/gal F 50% WP 2 lb/gal EC 50% WP 3.2 lb/gal EC 50% WP	1-2 qt (landscape only) hose end sprayer 4 gal (nursery only) 2 gal (nursery only) 4 gal (trunks only) 4 gal. (named beetles only) 40 lb (named beetles only) 4 gal. (nursery only) 16.5 lb (nursery only) 1-2 qt (landscapes only) 40 lb (named beetles only)	
	Black pine leaf scale	(see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	2 qt	
	Eastern pineshoot borer (<i>Eucosma gloriola</i>) (white pine only)	Moths appear in May and larvae feed inside terminal and lateral shoots. Treat in early May and again in 10 days or prune out brown, wilted or distorted shoots. (see Pine Shoot Moths)				
	Eriophyid mites	The mites can be controlled best when new growth is 3-5" long (early June). (see GENERAL PESTS: Eriophyid mites) Note: Oils will remove glaucous (blue) bloom from tree foliage.	AND: Cygon 2E Metasystox R	2 lb/gal EC 2 lb/gal EC	4 qt 1-2 pt/acre (nursery & Christmas trees only)	
	European pine	Treat new growth from June through August in areas	DeltaGard GC DeltaGard T&O Demand CS Talstar F Talstar GC Talstar Lawn & Tree Talstar Nursery Suspend SC	0.42 lb/gal F 0.42 lb/gal F 9.7% EC 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 0.67 lb/gal F 0.42 lb/gal F	4-8 oz 4-8 oz (landscape only) 1.5-5 fl oz (landscape only) 21.7-43.5 fl oz (landscapes only) 21.7-43.5 oz (landscapes & golf courses) 21.7-43.5 oz/acre (landscape only) 20-40 fl oz/acre 4-8 oz (landscape only)	
	shoot beetle (adults)	where beetle is known to have successfully bred in old pine stumps, cut pine trees, etc.				

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water		
PINE (cont'd)	European pine shoot moth	Treat terminal growth thoroughly in mid-April and again about late June. Pruning off infested terminals before June will help.	Battle GC	0.88 lb/gal F	1.5-5 oz (landscape & golf course only)		
			Bug-B-Gon (Diazinon) Insect Killer	0.075% RTU	RTU		
			Carbaryl 2L	2 lb/gal F	2 qt		
			Carbaryl 4L	4 lb/gal F	1 qt		
			Carbaryl 50WP	50% WP	2 lb		
			Chlorpyrifos Pro 2	2 lb/gal EC	1 qt (nursery only)		
			Chlorpyrifos Pro 4	4 lb/gal EC	1 pt (nursery only)		
			Confirm 2F	2 lb/gal F	8 oz/acre (Christmas trees only)		
			Confirm T/O	2 lb/gal F	4-16 oz/acre		
			Cygon 2E	2 lb/gal EC	4 qt		
			Decathlon 20WP	20% WP	1.3 oz		
			DeltaGard GC	0.42 lb/gal F	4-8 oz		
			DeltaGard T&O	0.42 lb/gal F	4-8 oz (landscape only)		
			Demand CS	9.7% EC	1.5-5 fl oz (landscape only)		
			Diazinon 50W	50% WP	1 lb		
			Diazinon 4E & AG500	4lb/gal EC	1 qt		
			Dimethoate 2.67EC	2.67 lb/gal EC	50 oz		
			Dimilin 4L	4 lb/gal EC	2-4 oz/acre		
			Dursban Pro	2 lb/gal EC	1 qt (nursery only)		
			Dursban 50W	50% WSP	1 lb (nursery only)		
			Imidan 70W & 70WSB	70% WP	1.3 lb (nursery & Christmas trees only)		
			Lorsban 4E	4 lb/gal EC	1 qt (Christmas trees only)		
			Malathion 57	5 lb/gal EC	1.5 qt		
			Mimic 2LV	2 lb/gal F	4-8 oz/acre (nursery & forests only)		
			Sevin 50W	50% WP	2 lb		
			Talstar F	0.67 lb/gal F	10.8-21.7 fl oz (landscapes only)		
			Talstar GC	0.67 lb/gal F	10.8-21.7 fl oz (landscapes & golf courses)		
			Talstar Lawn & Tree	0.67 lb/gal F	10.8-21.7 fl oz (landscape only)		
			Talstar Nursery	0.67 lb/gal F	10-20 oz (nursery only)		
			Tempo 20WP	20% WP	1.8 oz (landscape only)		
			Tempo SC Ultra	1 lb/gal EC	1.5-5.4 oz (landscape only)		
			Tempo Ultra WP	10% WP	1.9-6.7 oz (landscape only)		
			2-in-1 Systemic Rose & Flower Care (Bayer) w/Disulfoton	1% G	(see label)		
			Nantucket pine tip moth	Treat in April through May and again from mid-July to early August as needed.	Acephate Pro 75	75% SP	1.0 lb (nursery only)
					Ambush	2 lb/gal EC	6.4-12.8 oz (Christmas trees only)
					Ambush 25W	25% WP	6.4-12.8 oz (Christmas trees only)
					Asana XL	0.66 lb/gal EC	5.8-9.6 oz (nursery only)
					Astro	3.2 lb/gal EC	4-8 fl oz (landscape only)
					Battle GC	0.88 lb/gal F	1.5-5 fl oz (landscape & golf course only)
					Carbaryl 2L	2 lb/gal F	2 qt
					Carbaryl 4L	4 lb/gal F	1 qt
					Carbaryl 50WP	50% WP	2 lb
Chlorpyrifos Pro 2	2 lb/gal EC	1 qt (nursery only)					
Chlorpyrifos Pro 4	4 lb/gal EC	1 pt (nursery only)					
Confirm 2F	2 lb/gal F	8 oz/acre (Christmas trees only)					
Confirm T/O	2 lb/gal F	4-16 oz/acre					
Conserve SC	1 lb/gal F	22 oz					
Cygon 2E	2 lb/gal EC	4 qt					
Decathlon 20WP	20% WP	1.3 oz					
DeltaGard GC	0.42 lb/gal F	4-8 oz					
DeltaGard T&O	0.42 lb/gal F	4-8 oz (landscape only)					
Demand CS	9.7% EC	1.5-5 fl oz (landscape only)					
Dimethoate 2.67EC	2.67 lb/gal EC	50 oz					
Dimethoate 400	4 lb/gal EC	60 oz					
Dimilin 4L	4 lb/gal EC	1-2 oz/acre					
Di-Syston	15% G	2.5 oz/inch trunk diameter					
Dursban Pro	2 lb/gal EC	1 qt (nursery only)					
Dursban 50W	50% WSP	1 lb (nursery only)					
Imidan 70W & 70WSB	70% WP	1.3 lb (nursery & Christmas trees only)					
Isotox IV	8.5% EC	4.69 qt					
Mimic 2LV	2 lb/gal F	4-8 oz/acre (nursery & forests only)					
Orthene	75% SP	1.0 lb					
Orthene	97% SP	0.75 lb					
Ortho Systemic Insect Killer	8%+0.5% EC	3 T/gal (landscape only)					
Pounce 3.2EC	3.2 lb/gal EC	4-8 oz/acre (nursery only)					
Pounce 25WP	25% WP	6.4-12.8 oz/acre (nursery only)					
Rose Pride Systemic Rose & Flower Care (Ortho) w/Disulfoton	1% G	see label					
Scimitar CS	0.88 lb/gal EC	1.5-5 fl oz (landscape only)					
Scimitar GC	0.88 lb/gal EC	1.5-5 fl oz (golf course & landscape only)					
Scimitar WP	9.52% WP	1.2-4.8 oz (landscape only)					
Sevin 50W	50% WP	2 lb					
Suspend SC	0.42 lb/gal F	4-8 fl oz (landscape only)					
Systemic Rose Care	1% G	see label					
Talstar F	0.67 lb/gal F	10.8-21.7 fl oz (landscapes only)					
Talstar GC	0.67 lb/gal F	10-20 fl oz (landscapes & golf courses)					
Talstar Lawn & Tree	0.67 lb/gal F	10.8-21.7 fl oz (landscape only)					
Talstar Nursery	0.67 lb/gal F	8-20 fl oz (nursery only)					
Tempo 20WP	20% WP	1.8 oz (landscape only)					
Tempo SC Ultra	1 lb/gal EC	1.5-5.4 oz (landscape only)					
Tempo Ultra WP	10% WP	1.9-6.7 oz (landscape only)					
2-in-1 Systemic Rose & Flower Care (Bayer) w/Disulfoton	1% G	(see label)					

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
PINE (cont'd)	Northern pine weevil &	STUMP TREATMENT Pull and destroy stumps before late June or treat stumps before late April or after trees are cut and the temperature is above 50°F. Kerosene or fuel oil is often used as a carrier.	Asana XL Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Imidan 70W & 70WSB Lorsban 4E Lorsban 4E	0.66 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 70% WP 4 lb/gal EC 4 lb/gal EC	5.8-9.6 oz (nursery only) (stump only) 8 gal (nursery only) 4 gal (nursery only) 6 qt (nursery only) 1 lb (nursery only) 1.3 lb (nursery & Christmas trees only) 1 qt (Christmas trees only) (adults only) 3 qt (Christmas trees only) (stump treatment)
	Pales weevil	FOLIAR TREATMENT Seedlings and young twigs can be protected by spraying with in mid-April to early May and again in August.	Lorsban 4E	4 lb/gal EC	3 qt (Christmas trees only) (stump treatment)
	Pine bark adelgid	Use oil in spring as a dormant treatment. Use any one of other materials when crawlers are active, usually about mid-May. A fast stream of water can be used to wash many adelgids from your trees.	Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 DeltaGard GC DeltaGard T&O Dursban Pro Dursban 50W Lorsban 4E Marathon 1G Marathon II Marathon 60WP Merit 2 Merit 2.5G Merit 75WP Merit 75WSP Metasystox R MSR Spray Concentrate Oils, dormant (see ALTERNATIVE PRODUCTS) Oils, horticultural, summer (see ALTERNATIVE PRODUCTS) Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS) Suspend SC Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	2 lb/gal EC 4 lb/gal EC 0.42 lb/gal F 0.42 lb/gal F 2 lb/gal EC 50% WSP 4 lb/gal EC 1% G 2 lb/gal F 60WP 2 lb/gal F 2.5% G 75% WP 75% WP 2 lb/gal EC 2 lb/gal EC Oils, dormant (see ALTERNATIVE PRODUCTS) Oils, horticultural, summer (see ALTERNATIVE PRODUCTS) Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS) 0.42 lb/gal F 1.47% EC	1-2 pt (nursery only) 8-16 oz (nursery only) 4-8 oz 4-8 oz (landscape only) 1-2 pt (nursery only) 0.5 lb (nursery only) 1 qt (Christmas trees only) 15 oz/1000 sq.ft. (nursery only) (nursery only) (see label for rates & app methods) 20 oz/3000 sq.ft. (nursery only) 1.5 oz (landscape only) (see label for soil inject) (landscape only) (see label for rates) 3.3 T (landscape only) (see label for soil inject) 1.6 oz/300 gal (see label for soil inject) 1-2 pt/acre (nursery & Christmas trees only) 1-2 pt/acre (nursery & Christmas trees only) 4-8 oz (landscape only) mix & pour (see label)
	Pine needle midge		Asana XL Lorsban 4E	0.66 lb/gal EC 4 lb/gal EC	5.8-9.6 oz (nursery only) 1 qt (Christmas trees only)
	Pine needle scale	Dormant oil sprays are not very effective. Use any one of other materials against crawlers in late April and mid-July. (see GENERAL PESTS: Scales)	AND: Bug-B-Gon (Permethrin) Multi-Purpose Lorsban 4E Malathion 57 Metasystox R MSR Spray Concentrate Talstar Nursery	2.5% hose end sprayer 4 lb/gal EC 5 lb/gal EC 2 lb/gal EC 2 lb/gal EC 0.67 lb/gal F	hose end sprayer 1 qt (Christmas trees only) 4 qt 1-2 pt/acre (nursery & Christmas trees only) 1-2 pt/acre (nursery & Christmas trees only) 8-20 fl oz (nursery only)
	Pine root collar weevil	Apply the 1st spray about mid-May, the 2nd spray about mid-August and a 3rd spray in early September.	Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Imidan 70W & 70WSB	2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 70% WP	8 gal (nursery only) 4 gal (nursery only) 8 gal (nursery only) 1 lb (nursery only) 1.3 lb (nursery & Christmas trees only)
	Pine tortoise scale	Use oil as a dormant treatment in spring. Use any one of other materials against crawlers in mid-June through July. (see GENERAL PESTS: Scales)	AND: Lorsban 4E	4 lb/gal EC	1 qt (Christmas trees only)
	Pine tube moth	Treat in early May and again in mid-July. (see GENERAL PESTS: Caterpillars)			
	Pine webworm	Treat when larvae are seen, usually in mid-July and mid-August. (see GENERAL PESTS: Caterpillars)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Decathlon 20WP DeltaGard GC DeltaGard T&O Diazinon 50W Diazinon 2E & 25% Diazinon 4E & AG500 Dimilin 4L Dylox Sevin Liquid Sevin 50W Suspend SC Tempo 20WP Tempo SC Ultra Tempo Ultra WP	2 lb/gal F 4 lb/gal F 50% WP 20% WP 0.42 lb/gal F 0.42 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 4 lb/gal EC 80% SP 2 lb/gal F 50% WP 0.42 lb/gal F 20% WP 1 lb/gal EC 10% WP	2 qt 1 qt 2 lb 1.3 oz 4-8 oz 4-8 oz (landscape only) 1 lb 1 qt 1 qt 1-2 oz/acre 20-30 oz 2 qt 2 lb 4-8 oz (landscape only) 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)
	Sawflies	Treat when larvae first appear and feeding is seen, in early May for most species of sawflies. (Sawflies may be present from late April through September.) (see GENERAL PESTS: Sawflies)	AND: Acephate Pro 75 Asana XL Astro Bug-B-Gon (Esfenvalerate) Multi-Purpose Imidan 70W & 70WSB Isotox IV Lorsban 4E Orthene Orthene	75% SP 0.66 lb/gal EC 3.2 lb/gal EC 0.0033% RTU 70% WP 8.5% EC 4 lb/gal EC 75% SP 97% SP	1.0 lb (nursery only) 5.8-9.6 oz (named sawflies only) 4-8 fl oz (landscape only) RTU 1.3 lb (nursery & Christmas trees only) 4.69 qt 1 qt (Christmas trees only) 1.0 lb 0.75 lb

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water		
PINE (cont'd)	Spittlebugs	Treat when bugs appear and spittle mass is evident, usually about mid-May to July. (see GENERAL PESTS: Spittlebugs)	AND:				
			Asana XL	0.66 lb/gal EC	5.8-9.6 oz (nursery only)		
			Decathlon 20WP	20% WP	1.9 oz		
			Dibrom 8 Emulsive	8 lb/gal EC	1 qt		
			Isotox IV	8.5% EC	4.69 qt		
			Lorsban 4E	4 lb/gal EC	1 qt (Christmas trees only)		
			Resmethrin EC26	2 lb/gal EC	1 qt (named plants only)		
			Sevin 50W	50% WP	2 lb		
			Tempo 20WP	20% WP	1.8 oz (landscape only)		
			Tempo SC Ultra	1 lb/gal EC	1.5-5.4 oz (landscape only)		
			Tempo Ultra WP	10% WP	1.9-6.7 oz (landscape only)		
			Spruce spider mite	(see GENERAL PESTS: Spider mites)			
			White pine weevil	Spray leaders in spring when beetles appear, about mid-April.	Dimilin 4L	4 lb/gal EC	2-4 fl oz/acre
					Metasystox R	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)
					MSR Spray Concentrate	2 lb/gal EC	1-2 pt/acre (nursery & Christmas trees only)
Zimmerman pine moth	Spray in mid-April and/or in late August for larval control.	Astro	3.2 lb/gal EC	4.8 fl oz (landscape only)			
		Chlorpyrifos Pro 2	2 lb/gal EC	2 qt (nursery only)			
		Chlorpyrifos Pro 4	4 lb/gal EC	1 qt (nursery only)			
		Confim T/O	2 lb/gal F	4-16 oz/acre			
		Cygon 2E	2 lb/gal EC	4 qt			
		Dibrom 8 Emulsive	8 lb/gal EC	1 qt			
		Dimethoate 2.67EC	2.67 lb/gal EC	50 oz			
		Dimethoate 400	4 lb/gal EC	35 oz			
		Dimilin 4L	4 lb/gal EC	2-4 fl oz/acre			
		Dursban Pro	2 lb/gal EC	2 qt (nursery only)			
		Dursban 50WSP	50% WSP	1 lb (nursery only)			
		Mimic 2LV	2 lb/gal F	4-8 oz/acre (nursery & forests only)			
		Permethrin Pro	3.2 lb/gal EC	4-8 oz (landscapes only)			
		Phaser	3 lb/gal EC	1 qt (nursery only)			
		POPLAR	Forest tent caterpillar	(see GENERAL PESTS: Caterpillars)			
Oystershell scale	(see GENERAL PESTS: Scales)		AND:				
			Malathion 57	5 lb/gal EC	1 qt		
Note: Do not apply Orthene to lombardy poplar.							
Poplar tent-maker	Treat when larvae are first seen, usually from May to October, as needed. (see GENERAL PESTS: Caterpillars)		AND:				
		Chlorpyrifos Pro 2	2 lb/gal EC	1-2 pt (nursery only)			
		Chlorpyrifos Pro 4	4 lb/gal EC	8-16 oz (nursery only)			
		BioNEEM	0.3%EC	2.5-5 qt			
		Dursban Pro	2 lb/gal EC	1-2 pt			
		Dursban 50WSP	50% WSP	0.5 lb			
		Isotox IV	8.5% EC	4.69 qt			
PRIMROSE	Twospotted spider mite	(see GENERAL PESTS: Spider Mites)					
PRIVET	Privet rust mite (Eriophyid)	Treat when mites are first seen in May and repeat as needed. (see GENERAL PESTS: Eriophyid mites)	AND:				
			Diazinon 50W	50% WP	1 lb		
			Diazinon 2E & 25%	2 lb/gal EC	1 qt		
			Diazinon 4E & AG500	4 lb/gal EC	1 qt		
Privet thrips	Treat at first sign of a thrips infestation. (see GENERAL PESTS: Thrips)						
White peach scale	Treat when crawlers are present, about June 1. (see GENERAL PESTS: Scales)						
PYRACANTHA (See Firethorn)							
REDBUD	Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars)					
	Leafhoppers	(see GENERAL PESTS: Leafhoppers)					
	Note: Do not apply Isotox IV or Orthene to redbud as foliar injury may occur.						
	Redbud leafier	Treat at first sign of leaves being webbed together. (see GENERAL PESTS: Caterpillars)					
	Thornbugs	Treat after foliage has expanded in mid-May.	Carbaryl 2L	2 lb/gal F	2 qt		
Carbaryl 4L			4 lb/gal F	1 qt			
Carbaryl 50WP			50% WP	2 lb			
Chlorpyrifos Pro 2			2 lb/gal EC	1-2 pt (nursery only)			
Chlorpyrifos Pro 4			4 lb/gal EC	8-16 oz (nursery only)			
Dursban Pro			2 lb/gal EC	1-2 pt (nursery only)			
Dursban 50W			50% WSP	0.5 lb (nursery only)			
Sevin 50W			50% WP	2 lb			
RHODODENDRON							
Azalea bark scale	Treat when crawlers are present in June. (see GENERAL PESTS: Scales)	AND:					
		Malathion 57	5 lb/gal EC	2 qt			
Black vine weevil	(see GENERAL PESTS: Black Vine Weevil)						

Table 2. ORNAMMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
RHODODENDRON (cont'd)	Rhododendron borer	Treat trunk and branches in mid-May for southern Ohio and early June in northern Ohio.	Astro Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Demon TC Dursban Pro Dursban 50W Permethrin Pro	3.2 lb/gal EC 2 lb/gal EC 4 lb/gal EC 2.0 lb/gal EC 2 lb/gal EC 50% WSP 3.2 lb/gal EC	1-2 qt (landscape only) 2 qt (nursery only) 1 qt (nursery only) 4 gal (trunks only) 2 qt (nursery only) 2 lb (nursery only) 1-2 qt (landscapes only)
	Rhododendron lace bug	Treat when lace bugs first appear (about mid-May) and repeat as needed to protect new growth. (see GENERAL PESTS: Lace Bugs)	AND:		
	Southern red mite	(see GENERAL PESTS: Spider Mites)			
ROSE	Aphids	(see GENERAL PESTS: Aphids)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	2 qt 1 qt 17.5 oz
	Japanese beetle	(see GENERAL PESTS: Japanese Beetle)			
	Leafhoppers	(see GENERAL PESTS: Leafhoppers)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400 Malathion 50	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC 4.4 lb/gal EC	2 qt 1 qt 17.5 oz 1.5 qt
	Leafminers	(see GENERAL PESTS: Leafminers)			
	Omnivorous leafroller	Treat when first leaves are noticed being folded, usually in mid-May. Retreat as needed. (see GENERAL PESTS: Leafrollers & Caterpillars)	AND: "Bt" (kurstaki) Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Diazinon 50W Diazinon 4E & AG500 Decathlon 20WP Dursban Pro Dursban 50W Sevin Liquid Sevin 50W	various 2 lb/gal EC 4 lb/gal EC 50% WP 4lb/gal EC 20% WP 2 lb/gal EC 50% WSP 2 lb/gal F 50% WP	various 1-2 pt (nursery only) 8-16 oz (nursery only) 1 lb 1 qt 1.9 oz 1-2 pt (nursery only) 0.5 lb (nursery only) 2 qt 2 lb
	Rose Chafer	Treat when first adults are noted, usually in late June, and again as needed.	Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Sevin Liquid Sevin 50W	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 2 lb/gal F 50% WP	2 qt 1 qt 2 lb 1-2 pt (nursery only) 8-16 oz (nursery only) 1-2 pt (nursery only) 0.5 lb (nursery only) 2 qt 2 lb
	Rose midge	Cut and destroy infested buds to destroy maggots. Treat as soon as affected buds are noticed, usually in early May, are retreat as needed.	Orthenex	RTU	RTU (landscapes only)
	Rose slugs (Hymenopterous) (sawflies)	Treat when skeletonized leaves are first noticed in early May. Retreat as needed. (see GENERAL PESTS: Sawflies)	AND: Carbaryl 5D Carbaryl 10D Carbaryl 2L Oils, horticultural, summer Resmethrin EC26	5% D 10% D 2 lb/gal F (see ALTERNATIVE PRODUCTS) 2 lb/gal EC	N/A N/A 2 qt 1 qt
	Spider mites	(see GENERAL PESTS: Spider Mites)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	2 qt 1 qt 17.5 oz
	Thrips	Treat when thrips are seen and repeat as needed. (see GENERAL PESTS: Thrips)			
SERVICEBERRY (Amelanchier)	Aphids	(see GENERAL PESTS: Aphids)			
	Hawthorn lace bug	Treat when bugs are beginning to build up, usually mid- to late-May. Then treat as needed throughout the summer. (see GENERAL PESTS: Lace Bugs)			
	Japanese beetle	(see GENERAL PESTS: Japanese Beetle)			
Pear slug (sawfly)	Treat when skeletonizing of the leaves is seen. (see GENERAL PESTS: Sawflies)	AND: Diazinon 50W Diazinon 2E & 25% Diazinon 4E & AG500	50% WP 2 lb/gal EC 4lb/gal EC	3 lb 1 qt 3 qt	
SPIREA	Aphids	(see GENERAL PESTS: Aphids)			
	Spirea leaflier	Treat when the first leaves are seen folded together. (see GENERAL PESTS: Caterpillars)	Orthenex	RTU	RTU (landscapes only, named plants)

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
SPRUCE	Aphids	(see GENERAL PESTS: Aphids)	AND: Dibrom 8 Emulsive Lorsban 4E	8 lb/gal EC 4 lb/gal EC	1 qt 1 qt (Christmas trees only)
	Black vine weevil	(see GENERAL PESTS: Black Vine Weevil)			
	Bagworm	(see GENERAL PESTS: Bagworm)			
	Balsam twig aphid	Treat when aphids are first present, usually late April or early May. (see GENERAL PESTS: Aphids)	AND: Asana XL Lorsban 4E	0.66 lb/gal EC 4 lb/gal EC	5.8-9.6 oz (nursery only) 1 qt (Christmas trees only)
	Cooley spruce gall adelgid (aphid)	Treat before buds start to break in the spring (late March to mid-April), or after the galls open in late July to mid-August. Note: Oils remove the glaucous (blue) bloom from trees.	Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 DeltaGard GC DeltaGard T&O Dursban Pro Dursban 50W Lorsban 4E Marathon 1G Marathon II Marathon 60WP Merit 2 Merit 2.5G Merit 75WP Merit 75WSP Metasystox R MSR Spray Concentrate Oils, dormant (see ALTERNATIVE PRODUCTS) Oils, horticultural, summer (see ALTERNATIVE PRODUCTS) Sevin 50W Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS) Suspend SC Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 0.42 lb/gal F 0.42 lb/gal F 2 lb/gal EC 50% WSP 4 lb/gal EC 1% G 2 lb/gal F 60WP 2 lb/gal F 2.5% G 75% WP 75% WP 2 lb/gal EC 2 lb/gal EC	2 qt 1 qt 2 lb 1-2 pt (nursery only) 8-16 oz (nursery only) 4-8 oz 4-8 oz (landscape only) 1-2 pt (nursery only) 0.5 lb (nursery only) 1 qt (Christmas trees only) 15 oz/1000 sq.ft. (nursery only) (nursery only) (see label for rates & app methods) 20 oz/3000 sq.ft. (nursery only) 1.5 oz (landscape only) (see label for soil inject) (landscape only) (see label for rates) 3.3 T (landscape only) (see label for soil inject) 1.6 oz/300 gal (see label for soil inject) 1-2 pt/acre (nursery & Christmas trees only) 1-2 pt/acre (nursery & Christmas trees only)
	Eastern spruce gall adelgid (aphid)	Treat before buds start to break in the spring (late March to mid-April), or after the galls open in mid-August to September. Note: Oils remove the glaucous (blue) bloom from trees.	Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 DeltaGard GC DeltaGard T&O Dursban Pro Dursban 50W Lorsban 4E Marathon 1G Marathon II Marathon 60WP Merit 2 Merit 2.5G Merit 75WP Merit 75WSP Metasystox R MSR Spray Concentrate Oils, dormant (see ALTERNATIVE PRODUCTS) Oils, horticultural, summer (see ALTERNATIVE PRODUCTS) Sevin 50W Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS) Suspend SC Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid)	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 0.42 lb/gal F 0.42 lb/gal F 2 lb/gal EC 50% WSP 4 lb/gal EC 1% G 2 lb/gal F 60WP 2 lb/gal F 2.5% G 75% WP 75% WP 2 lb/gal EC 2 lb/gal EC	2 qt 1 qt 2 lb 1-2 pt (nursery only) 8-16 oz (nursery only) 4-8 oz 4-8 oz (landscape only) 1-2 pt (nursery only) 0.5 lb (nursery only) 1 qt (Christmas trees only) 15 oz/1000 sq.ft. (nursery only) (nursery only) (see label for rates & app methods) 20 oz/3000 sq.ft. (nursery only) 1.5 oz (landscape only) (see label for soil inject) (landscape only) (see label for rates) 3.3 T (landscape only) (see label for soil inject) 1.6 oz/300 gal (see label for soil inject) 1-2 pt/acre (nursery & Christmas trees only) 1-2 pt/acre (nursery & Christmas trees only)
	Pine needle scale	Use any of the materials against crawlers in late April or early May. (see GENERAL PESTS: Scales)	AND: Lorsban 4E Malathion 57 Metasystox R MSR Spray Concentrate Resmethrin EC26	4 lb/gal EC 5 lb/gal EC 2 lb/gal EC 2 lb/gal EC 2 lb/gal EC	1 qt (Christmas trees only) 4 qt 1-2 pt/acre (nursery & Christmas trees only) 1-2 pt/acre (nursery & Christmas trees only) 1 qt
	Sawflies	Treat when larvae are small; in early spring. (see GENERAL PESTS: Sawflies)	AND: Acephate Pro 75 Isotox IV Orthene Orthene	75% SP 8.5% EC 75% SP 97% SP	0.33 lb (nursery only) 4.69 qt 1.0 lb 0.75 lb
	Spruce budworm	Treat in late April to early May when bud sheaths become loose. (see GENERAL PESTS: Caterpillars)	AND: Asana XL Bug-B-Gon (Permethrin) Multi-Purpose Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Confim 2F Confim T/O	0.66 lb/gal EC 2.5% hose end sprayer 2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 2 lb/gal F 2 lb/gal F	5.8-9.6 oz (nursery only) hose end sprayer 2 qt 1 qt 2 lb 1-2 pt (nursery only) 8-16 oz (nursery only) 4-8 oz/acre (Christmas trees only) 4-16 oz/acre

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water		
SPRUCE (cont'd)	Spruce budworm (cont'd)		Decathlon 20WP	20% WP	1.9 oz		
			Demand CS	9.7% EC	1.5-5 fl oz (landscape only)		
			Dibrom 8 Emulsive	8 lb/gal EC	1 qt		
			Dursban Pro	2 lb/gal EC	1-2 pt (nursery only)		
			Dursban 50W	50% WSP	0.5 lb (nursery only)		
			Lorsban 4E	4 lb/gal EC	1 qt (Christmas trees only)		
			Resmethrin EC26	2 lb/gal EC	1 qt		
			Sevin 50W	50% WP	2 lb		
			Tempo 20WP	20% WP	1.8 oz (landscape only)		
			Tempo SC Ultra	1 lb/gal EC	1.5-5.4 oz (landscape only)		
			Tempo Ultra WP	10% WP	1.9-6.7 oz (landscape only)		
			Spruce bud scale	Treat about July 1 when crawlers are present. (see GENERAL PESTS: Scales)			
			Spruce needleminer	Apply to foliage in early June and late July. (In northeastern Ohio, late April for overwintering larvae.)	Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Lorsban 4E Sevin 50W	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 4 lb/gal EC 50% WP	2 qt 1 qt 2 lb 2 qt (nursery only) 1 qt (nursery only) 2 qt (nursery only) 2 lb (nursery only) 1 qt (Christmas trees only) 2 lb
			Spruce spider mite	(see GENERAL PESTS: Spider Mites) Note: Oil will remove the blue color from Colorado blue spruce.	AND: Resmethrin EC26	2 lb/gal EC	1 qt
			White pine weevil	Spray leaders in spring when beetles appear in April.	Dimilin 4L Metasystox R	4 lb/gal EC 2 lb/gal EC	2-4 fl oz/acre 1-2 pt/acre (nursery & Christmas trees only)
SWEET GUM	Bagworm	(see GENERAL PESTS: Bagworm)					
	Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars)					
	Leafminer	Treat when mines first appear and repeat as needed. (see GENERAL PESTS: Leafminers)					
	Sweet gum pitmaking scale	Use the oil as a dormant treatment in the spring. Use other materials against crawlers on leaves in mid-June or September when young scales are seen on twigs and buds. (see GENERAL PESTS: Scales)					
	Sweet gum leaf tier	Treat when larvae are seen webbing leaves together. (see GENERAL PESTS: Caterpillars)					
	Twospotted spider mite	(see GENERAL PESTS: Spider Mites)					
	SYCAMORE	Aphids	(see GENERAL PESTS: Aphids)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt	
Bagworm		(see GENERAL PESTS: Bagworm)					
Fall webworm		(see GENERAL PESTS: Fall Webworm & Caterpillars)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt		
Japanese beetle		(see GENERAL PESTS: Japanese Beetle)					
Leaf folder		Treat when leaves are seen folded together. (see GENERAL PESTS: Caterpillars)					
Leafhopper		(see GENERAL PESTS: Leafhoppers)					
Sycamore lace bug		Treat in mid- to late-May. Make two applications spaced about 10 days apart. (see GENERAL PESTS: Lace Bugs)					
Terrapin scale		Use any one of the materials when crawlers are present on leaves in June. (see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	2.5 qt		
Whitemarked tussock moth		Treat when caterpillars are first seen and repeat as needed. (see GENERAL PESTS: Caterpillars)	AND: Battle GC Confirm T/O Decathlon 20WP Demand CS Dibrom 8 Emulsive Dimilin 4L	0.88 lb/gal F 2 lb/gal F 20% WP 9.7% EC 8 lb/gal EC 4 lb/gal EC	1.5-5 fl oz (landscape & golf course only) 4-16 oz/acre 1.9 oz 1.5-5 fl oz (landscape only) 1 qt 2-4 oz/acre		
TULIP TREE		Leafminer (Coleopterous)	Treat when mines first appear. (see GENERAL PESTS: Leafminers)				
		Tulip spot gall midge (<i>Thecabdoplosis liriodendri</i>)	Treat when mining of leaves starts, but before galls form, early summer.	Carbaryl 2L Carbaryl 4L Carbaryl 50WP Sevin 50W	2 lb/gal F 4 lb/gal F 50% WP 50% WP	2 qt 1 qt 2 lb 2 lb	

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water		
TULIP TREE (cont'd)	Tulip tree scale	Use oil as a dormant treatment in fall or spring. Use other materials when crawlers are present, usually in August. (see GENERAL PESTS: Scales)					
	Yellow poplar weevil	Use any one of the materials to control adults in early July.	Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Sevin 50W	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 50% WP	2 qt 1 qt 2 lb 1 qt (nursery only) 1 pt (nursery only) 1 qt (nursery only) 1 lb (nursery only) 2 lb		
	VIBURNUM	Aphids (see GENERAL PESTS: Aphids)					
		Spider mites (see GENERAL PESTS: Spider Mites)					
		Note: Malathion may injure <i>Viburnum</i> .					
	WALNUT	Aphids	(see GENERAL PESTS: Aphids) (If walnuts are to be eaten, check insecticide labels for days-waiting-time from last application to harvest.)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt	
			Note: Do not apply Diazinon after husks open.				
		European red mite	(see GENERAL PESTS: Spider Mites)				
		Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillars)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt	
		Leafhoppers	(see GENERAL PESTS: Leafhoppers)				
Twospotted spider mite		(see GENERAL PESTS: Spider Mites)					
		Note: Do not apply Diazinon after husks open.					
Walnut caterpillar		Treat when caterpillars are first seen; about late June. (see GENERAL PESTS: Caterpillars)	AND: Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Decathlon 20WP Dursban Pro Dursban 50WSP Sevin 50W Tempo 20WP Tempo SC Ultra Tempo Ultra WP	2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 20% WP 2 lb/gal EC 50% WSP 50% WP 20% WP 1 lb/gal EC 10% WP	2 qt 1 qt 2 lb 1-2 pt (nursery only) 8-16 oz (nursery only) 1.3 oz 1-2 pt (nursery only) 0.5 lb (nursery only) 2 lb 1.8 oz (landscape only) 1.5-5.4 oz (landscape only) 1.9-6.7 oz (landscape only)		
Walnut petiole gall mite (Eriophyid)		Treat in early spring about the time the leaves are half open or at first sign of mites on the leaf petioles. (see GENERAL PESTS: Eriophyid mites)					
WILLOW		Aphids	(see GENERAL PESTS: Aphids)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt	
	Bagworm	(see GENERAL PESTS: Bagworm)					
	Borers (beetles)	Apply thoroughly to the trunk area at monthly intervals from May to August.	Astro	3.2 lb/gal EC	1-2 qt (landscape only)		
	Fall webworm	(see GENERAL PESTS: Fall Webworm & Caterpillar)	AND: Dibrom 8 Emulsive	8 lb/gal EC	1 qt		
	Leaf beetles	Treat at first sign of leaf feeding and repeat as needed.	Carbaryl 5D Carbaryl 10D Carbaryl 2L Carbaryl 4L Carbaryl 50WP Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Conserve SC DeltaGard GC DeltaGard T&O Dursban Pro Dursban 50WSP Isotox IV Merit 2 Merit 2.5G Merit 75WP Merit 75WSP Ortho Systemic Insect Killer Sevin Liquid	5% D 10% D 2 lb/gal F 4 lb/gal F 50% WP 2 lb/gal EC 4 lb/gal EC 1 lb/gal F 0.42 lb/gal F 0.42 lb/gal F 2 lb/gal EC 50% WSP 8.5% EC 2 lb/gal F 2.5% G 75% WP 75% WP 8%+0.5% EC 2 lb/gal F	N/A N/A 2 qt 1 qt 2 lb 1-2 qt (nursery only) 1-2 pt (nursery only) 6 oz 4-8 oz 4-8 oz (landscape only) (imported leaf beetle) 1-2 qt (nursery only) 0.5 lb (nursery only) 4.69 qt 1.5 oz (landscape only) (see label for soil inject) (landscape only) (see label for rates) 3.3 T (landscape only) (see label for soil inject) 1.6 oz/300 gal (see label for soil inject) 3 T/gal (landscape only) 2 qt		

Table 2. ORNAMENTALS--(Continued)

Host	Pest	When to Treat	Labeled Pesticide	Formulation You Buy	Amount To Add To: 100 Gal. Water
WILLOW (cont'd)	Leaf beetles (cont'd)		Sevin 50W Soaps (fatty acid salts) (see ALTERNATIVE PRODUCTS) Tree & Shrub Insect Control Concentrate (Bayer) (imidacloprid) 1.47% EC	50% WP	2 lb mix & pour (see label)
	Oystershell scale	(see GENERAL PESTS: Scales)	AND: Malathion 57	5 lb/gal EC	1 qt
	Poplar tentmaker	Treat when larvae are first seen which can be from May to October or as needed. (see GENERAL PESTS: Caterpillars)	AND: Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Dursban Pro Dursban 50W Isotox IV	2 lb/gal EC 4 lb/gal EC 2 lb/gal EC 50% WSP 8.5% EC	1-2 pt (nursery only) 8-16 oz (nursery only) 1-2 pt (nursery only) 0.5 lb (nursery only) 4.69 qt
	Sawflies	Treat when larvae are small but before extensive leaf feeding is noted. (see GENERAL PESTS: Sawflies)	AND: Acephate Pro 75 Orthene Orthene	75% SP 75% SP 97% SP	1.0 lb (nursery only) 1.0 lb 0.75 lb
	Spider mites	(see GENERAL PESTS: Spider Mites)			
	Tent caterpillars	(see GENERAL PESTS: Tent Caterpillars & Caterpillars)			
WISTERIA	Leafhoppers	(see GENERAL PESTS: Leafhoppers)			
YEW (<i>Taxus</i>)	Black vine weevil	(see GENERAL PESTS: Black Vine Weevil)	AND: Phaser	3 lb/gal EC	1.33 qt (nursery only)
	Fletcher scale	Use oil as a dormant treatment in the spring. Use any one of the other materials against crawlers from late June to late July. (see GENERAL PESTS: Scales)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	4 qt 50 oz 35 oz
	Mealybug	Use oil as a dormant treatment in the spring. Treat with any one of the other materials when overwintering nymphs become active in mid-May and about June 1 and again in late July. Drench plants thoroughly. (see GENERAL PESTS: Mealybugs)	AND: Cygon 2E Dimethoate 2.67EC Dimethoate 400	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC	4 qt 50 oz 17.5 oz
	Taxus bud mite	Treat when mites are first seen and repeat in 10	Cygon 2E Dimethoate 2.67EC Dimethoate 400 Kelthane 35 Kelthane 50 Metasystox R Phaser	2 lb/gal EC 2.67 lb/gal EC 4 lb/gal EC 35% WP 50% WP 2 lb/gal EC 3 lb/gal EC	4 qt 50 oz 17.5 oz 1-1.3 lb (non-residential use only) 0.5-1 lb (non-residential use only) 1-2 pt/acre (nursery & Christmas trees only) 0.67 qt (nursery only)
YUCCA	Aphids	(see GENERAL PESTS: Aphids)			
	Scales	Treat when crawlers are first seen and repeat in 3 weeks. (see GENERAL PESTS: Scales)			