



DISEASE CONTROL Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca

Commercial Ornamentals: Disease Control—Woody Trees Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
INDIAN HAWTHORNE (Rhapiolepis)				
Anthracnose				
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	mancozeb JUNCTION	---	1.5 lb.	Apply at first sign of disease and repeat every 7 to 10 days.
Entomosporium Leaf Spot				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals. Occurs in late fall through early spring.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	copper sulfate pentahydrate PHYTON 27	---	15-30 fl.oz.	See Comments for copper hydroxide, above.
	mancozeb JUNCTION	---	1.5 lb.	Apply at first sign of disease and repeat every 7 to 10 days.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate methyl + flutolanil SYS STAR WDG	---	4-8 oz.	See Comments for copper hydroxide, above
Fireblight				
	copper sulfate pentahydrate PHYTON 27	---	20-40 fl. oz.	Apply every 5 to 7 days during bloom until petal fall. Prune blighted twigs. Avoid excess nitrogen fertilizer in spring. Plant resistant cultivars. See Cotoneaster: Fireblight.
	streptomycin sulfate FIRE BLIGHT SPRAY	0.5 t.	8 oz.	See Comments for copper sulfate pentahydrate, above.

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Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
INDIAN HAWTHORNE (Raphiolepis) (cont.)				
Rhizoctonia Web Blight				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals. Occurs primarily during extended periods of hot, wet weather.
	flutolanil CONTRAST 70WSP	---	3-12 oz.	FOLIAR SPRAY: Repeat spray as needed every 14 to 21 days. Tank mix with appropriate surfactant.
	iprodione CHIPCO 26GT	---	1-2.5 qt./A	Hot weather disease on tightly packed plants. Apply every 7 to 14 days when conditions favor disease. Apply at first sign of disease and repeat at 7- to 10-day intervals. NOT FOR RESIDENTIAL USE.
	CHIPCO 26019 50W	---	1-2.5 qt./A	
	IPRODIONE PRO SE	---	1-2.75 qt.	
	SEXTANT 2F	---	1-2.75 qt.	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate methyl + flutolanil SYS STAR WDG	---	4-8 oz.	FOLIAR SPRAY: Apply to point of drip when conditions favor disease. Repeat every 10 to 14 days as needed.
	trifloxystrobin COMPASS O	---	2-4 oz.	Apply at first sign of disease. Repeat applications at 7- to 14-day intervals as needed to control disease.
	triflumizole TERRAGUARD SC	---	4-8 fl.oz.	Begin applications when conditions favor disease development. Repeat as needed every 7 to 14 days. Use higher rate at shorter intervals when disease is present.
JUNIPER				
Cedar Rust Diseases				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply May through September at 7- to 28-day intervals.
	myclobutanil EAGLE 40W	---	3-6 oz.	Apply May through September at 10- to 14-day in-tervals. Add a nonphytotoxic surfactant to improve spray coverage and fungicide performance. Eagle is cleared for landscape use.
	EAGLE 20EW	---	8 fl.oz.	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	triadimefon BAYLETON T/O	---	1-2 oz.	Bayleton is cleared for landscape use only.
	STRIKE 25W	---	2-4 oz.	

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Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
JUNIPER (cont.)				
Phomopsis Twig Blight				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	bordeaux mixture	6 T.	---	Prune damaged shoots. Spray at 7- to 10-day intervals during humid summer weather. Use surfactant to improve coverage of foliage. Resistant varieties are available.
	copper hydroxide CUPRO 2005 T/N/O	1.5 t.	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	copper sulfate pentahydrate PHYTON 27	---	13-25 fl. oz.	Apply at first sign of disease and repeat every 7 to 14 days as needed to control disease. Use higher rate at shorter intervals when disease is severe.
	mancozeb DITHANE M-45 80W	3 t.	1.5 lb.	Prune damaged shoots. Spray at 7- to 10-day intervals during humid summer weather. Use surfactant to improve coverage of foliage. Resistant varieties are available.
	4 FLOWABLE MANCOZEB	---	1.2 qt.	
	FORE 80W	3 t.	1.5 lb.	
	FORE FLOWABLE	---	1.2 qt.	
	JUNCTION	---	1.5 lb.	
	MANCOZEB DG	1.5-3 t.	1-2 lb.	
	PROTECT T/O 80W	3 t.	1.5 lb.	
	propiconazole BANNER MAXX	---	5-8 fl.oz.	Prune damaged shoots. Spray at 7- to 10-day intervals during humid summer weather. Apply as needed to drip. Use surfactant to improve coverage of foliage. Resistant varieties are available. Use sufficient volume of water mixed with Propensity to thoroughly cover the leaves and stems. Repeat applications at 21-day intervals.
	PROPENSITY 1.3MEC	---	6-8 fl.oz.	
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Prune damaged shoots. Spray at 7- to 10-day intervals during humid summer weather. Apply as needed to drip. Use surfactant to improve coverage of foliage. Resistant varieties are available.
	3336 50W	2.33-4 t.	12-16 oz.	
	OHP 6672 50W	---	12-16 oz.	
	HALT 50W	2.5 t.	---	
	thiophanate methyl + flutolanil SYS STAR WDG	---	4-8 oz.	FOLIAR SPRAY: Apply to point of drip when conditions favor disease. Repeat every 10 to 14 days as needed.
	thiophanate-methyl + iprodione 26/36 FUNGICIDE	---	33-84 fl.oz./A	Use sufficient water to thoroughly cover the leaves and stems. Reapply at 7- to 14-day intervals as needed. Use higher rate at shorter interval when disease is present. NOT FOR RESIDENTIAL USE.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
JUNIPER (cont.)				
Phytophthora Root Rot				
	copper sulfate pentahydrate PHYTON 27	---	15-25 fl.oz.	Use sufficient volume of water to thoroughly cover the leaves and stems. Repeat applications at 7- to 14-day intervals as needed to control disease.
	dimethomorph STATURE DM	---	6.4-12.8 oz.	DRENCH: Apply when roots are well established or at first sign of disease. Repeat applications at 10- to 14-day intervals through production cycle. Apply sufficient water to wet the root zone.
		---	6.4-12.8 oz.	FOLIAR SPRAY: Apply in sufficient water to thoroughly wet the leaves and stems. Repeat applications at 10- to 14-day intervals through production cycle.
	etr Diazole TERRAZOLE 35W TRUBAN 5G TRUBAN 25E TRUBAN 30W	See Comments.		See Azalea: Phytophthora Root Rot.
	etr Diazole + thiophanate-methyl BANROT 8G BANROT 40W	See Comments.		See Azalea: Phytophthora Root Rot.
	fosetyl-Al ALIETTE WDG	See Comments.		See Andromeda: Phytophthora Root Rot.
	mefenoxam SUBDUE GR SUBDUE MAXX SUBDUE 2X WSP	See Comments.		See Andromeda: Phytophthora Root Rot.
	propamocarb BANOL 67S	See Comments.		See Andromeda: Phytophthora Root Rot.
	Streptomyces griseoviridis K61 MYCOSTOP	---	1.4 oz.	SUPPRESSION OF PHYTOPHTHORA ROOT ROT: Use in conjunction with other root rot fungicides. DO NOT tank mix with any pesticide.
		---	5 g/1.3 gal.	SOIL DRENCH: Apply 20 to 40 gallons of suspension to 800 square feet of bench, container, or bed area. Irrigate to saturate potting medium or soil. Repeat every 3 to 6 weeks as needed.
		---	5 g/1.3 gal.	SOIL SPRAY: Apply 2 to 4 gallons in a proportioner, injector, or sprayer to 800 square feet of bench, container, or bed area. Irrigate to improve soil penetration. Repeat every 3 to 6 weeks as needed.
		---	5 g/1.3 gal.	TRANSPLANT DIP: Dip roots shortly before planting.
	<i>Trichoderma harzianum</i> Strain KRL-AG2 ROOT SHIELD	---	1-1.5 lb./cu.yd.	DRY SOIL MIX IN NURSERY AND GREENHOUSE: Thoroughly incorporate granules during mix preparation or pot filling. See label for compatibility with other fungicides and insecticides.

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Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
LANTANA				
Foliar Nematode				
	See Comments.	---	---	Destroy nematode-infested container plants.
LAUREL (Cherry)				
Bacterial Leaf Spot				
	copper sulfate TRIBASIC COPPER SULFATE	---	5 lb.	Apply at budbreak. Repeat at 7- to 14-day intervals. Shorten spray interval during wet weather. Avoid overhead irrigation late in evening or at night.
	copper sulfate pentahydrate PHYTON 27	---	20-35 fl.oz.	See Comments for copper sulfate, above.
	elemental sulfur	---	6 lb.	Apply at budbreak. Repeat at 7- to 14-day intervals. Shorten spray interval during wet weather. Avoid overhead irrigation late in evening or at night.
	zinc sulfate +	---	1.6 lb. +	
	hydrated lime	---	5 lb.	
Coryneum Blight				
	chlorothalonil DACONIL ULTREX DACONIL WEATHER STIK 6F	---	1.4 lb. 1.38 pt.	Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	DACONIL ZN LANDSCAPE AND GARDEN FUNGICIDE	2 t. 2 T.	2 pt. ---	
LAUREL (Mountain)				
Leaf Spot				
	chlorothalonil CONCORDE DF DACONIL ULTREX DACONIL WEATHER STIK 6F	---	1.4 lb. 1.4 lb. 1.38 pt.	Apply at budbreak. Repeat at 10- to 14-day intervals until foliage matures. Destroy fallen leaves.
	DACONIL ZN ECHO DF FUNG-ONIL LANDSCAPE AND GARDEN FUNGICIDE	2 t. --- 2.25 t. 2 T.	2 pt. 1.25 lb. --- ---	
	chlorothalonil + fenarimol TWOsome 4.4F	2 t.	2 pt.	Apply at budbreak. Repeat at 10- to 14-day intervals until foliage matures. Destroy fallen leaves.
	mancozeb DITHANE T/O FORE FLO 37F FORE FLOWABLE MANCOZEB DG PROTECT T/O 80W	2 t. --- --- 1.5-3 t. 2 t.	1.5 lb. 1.2 qt. 1.2 qt. 1-2 lb. 1.5 lb.	Apply at budbreak. Repeat at 10- to 14-day intervals until foliage matures. Destroy fallen leaves.
	myclobutanil EAGLE WSP EAGLE 20EW SYSTHANE WSP	---	3-6 oz. 8 fl.oz. 3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	thiophanate-methyl 3336 4.5F 3336 50W	0.5-1.25 t. 2.33-4 t.	10-20 fl.oz. 12-16 oz.	Apply at budbreak. Repeat at 10- to 14-day intervals until foliage matures. Destroy fallen leaves.

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Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
LAUREL (Mountain) (cont.)				
Leaf Spot (cont.)				
	triadimefon BAYLETON T/O	---	2-4 oz.	Bayleton is cleared for landscape use only. Apply Systemic Fungicide For Turf as a full cover spray when symptoms first appear and repeat every 7 to 14 days.
	IMMUNOX	2 T.	---	
	STRIKE 25W	---	2-4 oz.	
	SYSTEMIC FUNGICIDE FOR TURF AND ORNAMENTALS	1-2 T.	---	
LEUCOTHOE				
Cylindrocladium Leaf Spot				
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	16-20 fl.oz.	SOIL DRENCH: Repeat at 14- to 21-day intervals. Avoid overhead irrigation and follow recommended sanitation practices.
	3336 50W	2.33-4 t.	12-16 oz.	
	triflumizole TERRAGUARD 50W	See Comments.		See Azalea: Cylindrocladium Root Rot.
Powdery Mildew				
	paraffinic oil SUNSPRAY ULTRA FINE OIL	2.5-5 T.	1% v/v	Apply at first sign of disease and reapply every 1 to 2 weeks. Do not apply when temperatures exceed 85°F.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Apply at first sign of disease. Repeat at 10- to 14-day intervals.
	3336 50W	2.33-4 t.	12-16 oz.	
	HALT 50W	1.5 t.	---	
	OHP 6672 50W	---	12-16 oz.	
	triadimefon BAYLETON T/O	---	1-2 oz.	Bayleton is cleared for landscape use only.
	STRIKE 25W	---	2-4 oz.	
LEYLAND CYPRESS				
Cercospora Needle Blight				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Spray to drip. Repeat as needed at 7- to 28-day intervals.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on possible phytotoxicity.
	copper sulfate pentahydrate PHYTON 27	---	13-25 fl. oz.	Apply at first sign of disease and repeat every 7 to 14 days as needed to control disease. Use higher rate at shorter intervals when disease is severe.
	propiconazole BANNER MAXX	---	8-12 fl.oz.	Apply every 30 days when conditions favor disease. Use sufficient volume of water mixed with Propensity to thoroughly cover the leaves and stems. Repeat applications at 21-day intervals.
	PROPENSITY 1.3MEC	---	6-8 fl.oz.	
	thiophanate-methyl 3336 4.5F	1.5-1.25 t.	10-20 fl.oz.	Apply at 7- to 10-day intervals during humid and wet summer weather. Apply to drip and add a surfactant to improve coverage of WP formulations.
	3336 50W	2.5 t.	12-16 oz.	
	HALT 50W	2.5 t.	---	

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LEYLAND CYPRESS (cont.)				
Cercospora Needle Blight (cont.)				
	thiophanate methyl + flutolanil SYS STAR WDG	---	4-8 oz.	See Comments for thiophanate-methyl, above.
	thiophanate-methyl + mancozeb ZYBAN 79W	---	3 lb.	See Comments for thiophanate-methyl, above.
Seiridium, Botryosphaeria Canker				
	None	See Comments.		Both of these diseases are favored by stress due to off-site establishment, overcrowding, and drought. Proper establishment and maintenance practices will minimize the onset of disease. Prune out dying limbs and remove dying trees.
Phytophthora Root Rot				
	etridiazole + thiophanate-methyl BANROT 8G BANROT 40W			See Andromeda: Phytophthora Root Rot.
	fosetyl-A1 ALIETTE WDG			See Andromeda: Phytophthora Root Rot.
	mefenoxam SUBDUE GR SUBDUE MAXX			See Andromeda: Phytophthora Root Rot.
	propamocarb BANOL 67S			See Andromeda: Phytophthora Root Rot.
LILAC				
Bacterial Blight				
	bordeaux mixture	8 T.	---	Prune diseased shoots and avoid excessive use of nitrogen fertilizers. Apply at first sign of disease in early spring. Repeat at 7- to 10-day intervals.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on possible phytotoxicity.
	copper sulfate pentahydrate PHYTON 27	---	13-25 fl.oz.	Apply at first sign of disease and repeat every 7 to 14 days as needed.
	mancozeb JUNCTION	---	1.5 lb.	Apply at first sign of disease and repeat every 7 to 10 days.
Cercospora Leaf Spot				
	chlorothalonil DACONIL ULTREX	---	1.4 lb.	Apply at first sign of symptoms. Repeat at 10- to 14-day intervals.
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	ECHO 720	---	1.38 pt.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	

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Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
LILAC (cont.)				
Cercospora Leaf Spot (cont.)				
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on possible phytotoxicity.
	mancozeb JUNCTION PROTECT T/O	---	1.5 lb. 1.5 lb.	Apply every 7 to 10 days as needed. Add a spreader-sticker to improve coverage of foliage.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F 3336 50W	0.5-1.25 t. 2.33-4 t.	10-20 fl.oz. 12-16 oz.	See Comments for chlorothalonil, above.
Powdery Mildew				
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	Apply at first sign of disease on leaves and repeat as needed every 7 to 14 days.
	copper sulfate pentahydrate PHYTON 27	---	15-25 fl.oz.	Apply at first sign of disease and repeat every 7 to 14 days as needed.
	kresoxim-methyl CYGNUS	---	1.6-3.2 oz.	Apply as protective spray at 10- to 14-day intervals. Apply higher rate at shorter interval when conditions favor disease.
	myclobutanil EAGLE WSP EAGLE 20EW IMMUNOX SYSTHANE WSP	---	3-6 oz. 8 fl.oz. --- 3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	paraffinic oil SUNSPRAY ULTRA FINE OIL	2.5-5 T.	1% v/v	Apply at first sign of disease and reapply every 1 to 2 weeks. Do not apply when temperatures exceed 85°F.
	propiconazole BANNER MAXX PROPENSITY 1.3MEC	---	8-12 fl.oz. 6-8 fl.oz.	Apply at first sign of disease. Apply as needed to drip.. Use sufficient volume of water mixed with Propensity to thoroughly cover the leaves and stems. Repeat applications at 21-day intervals.
	sulfur ORTHONIX 95W	2 T.	---	Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F 3336 50W HALT 50W OHP 6672 50W	0.5-1.25 t. 2.33-4 t. 1.5 t. ---	10-20 fl.oz. 12-16 oz. --- 12-16 oz.	Apply at first sign of disease. Repeat at 7- to 14-day intervals.

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LILAC (cont.)				
Powdery Mildew (cont.)				
	triadimefon BAYLETON T/O STRIKE 25W	---	1-2 oz. 2-4 oz.	Bayleton is cleared for landscape use only.
	trifloxystrobin COMPASS O	---	1-2 oz.	Apply at first sign of disease. Repeat applications at 7- to 14-day intervals as needed to control disease.
	triforine ROSE AND SHRUB DISEASE CONTROL	1 T.	---	Apply at first sign of disease and repeat every 7- to 10 days as needed.
LIRIOPE (Monkey Grass)				
Anthracnose				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	thiophanate-methyl 3336 4.5F 3336 50W HALT 50W	0.5-1.25 t. 2.33-4 t. 2.5 t.	10-20 fl.oz. 12-16 oz. ---	Remove diseased leaves. Apply at first sign of dis-ease. Repeat at 10- to 14-day intervals.
	thiophanate methyl + flutolanil SYS STAR WDG	---	4-8 oz.	Remove diseased leaves. Apply at first sign of disease. Repeat at 10- to 14-day intervals.
LOQUAT				
Entomosporium Leaf Spot				
	copper ammonium complex LIQUID COPPER FUNGICIDE	2 t.	---	Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	mancozeb PROTECT T/O	3 t.	1.5 lb.	Apply every 7 to 10 days beginning at budbreak until new growth matures. Add a spreader-sticker to improve coverage of foliage.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F 3336 50W	0.5-1.25 t. 2.33-4 t.	10-20 fl.oz. 12-16 oz.	Apply at budbreak and repeat sprays at 7- to 14-day intervals. Shorten spray interval during wet, cloudy weather.
	thiophanate methyl + flutolanil SYS STAR WDG	---	4-8 oz.	See Comments for thiophanate-methyl, above.
Fireblight				
	copper sulfate pentahydrate PHYTON 27	---	20-40 fl.oz.	Apply at budbreak and repeat every 7 to 14 days until petal fall.

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Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
MAGNOLIA				
Algal Leaf Spot				
	bordeaux mixture	8 T.	8 lb.	Apply at budbreak and repeat at 1-month intervals until foliage matures.
	copper ammonium complex LIQUID COPPER FUNGICIDE	2 t.	---	Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
Bacterial Leaf Spot				
	copper ammonium complex LIQUID COPPER FUNGICIDE	2 t.	---	Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	copper sulfate pentahydrate PHYTON 27	---	15-30 fl.oz.	Apply at first sign of disease and repeat every 7 to 14 days as needed.
	mancozeb JUNCTION	---	1.5 lb.	Apply at first sign of disease and repeat every 7 to 10 days.
Leaf Spot, Anthracnose				
	azoxystrobin HERITAGE 50DG	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	chlorothalonil CONCORDE DF	---	1.4 lb.	Apply at first sign of disease. Repeat at 10- to 14-day intervals.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	ECHO 720	---	1.38 pt.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.
	copper ammonium complex LIQUID COPPER FUNGICIDE	2 t.	---	Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	mancozeb DITHANE T/O	3 t.	1.5 lb.	Apply at first sign of disease. Repeat at 10- to 14-day intervals.
	4 FLOWABLE MANCOZEB	---	1.2 qt.	
	FORE FLOWABLE JUNCTION	---	1.2 qt. 1.5 lb.	
	MANCOZEB DG	1.5-3 t.	1-2 lb.	
	PROTECT T/O 80W	3 t.	1.5 lb.	

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MAGNOLIA (cont.)				
Leaf Spot, Anthracnose (cont.)				
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Apply at first sign of disease. Repeat at 10- to 14-day intervals.
	3336 50W	2.33-4 t.	12-16 oz.	
Powdery Mildew				
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	Apply at first sign of disease on leaves and repeat as needed every 7 to 14 days. Occurs on saucer or Japanese magnolia but not Southern magnolia.
	copper sulfate pentahydrate PHYTON 27	---	15-30 fl.oz.	Apply at first sign of disease and repeat every 7 to 14 days as needed.
	thiophanate-methyl 3336 50W	2.33-6 t.	12-24 oz.	Apply at first sign of disease and repeat every 7 to 14 days as needed.
	3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	
	HALT 50W	1.5 t.	---	
	OHP 6672 50W	---	12-24 oz.	
Root Rot				
	etrnidazole TRUBAN 5G	See Comments.		See Azalea: Phytophthora Root Rot.
	fosetyl-AI ALIETTE WDG	See Comments.		See Azalea: Phytophthora Root Rot.
	propamocarb BANOL 67S	See Comments.		See Azalea: Phytophthora Root Rot.
MAHONIA				
Leaf Spot				
	mancozeb PROTECT T/O	3 t.	1.5 lb.	Pick off diseased leaves. Apply every 7 to 10 days as needed. Add a spreader-sticker to improve coverage of foliage.
Rust				
	chlorothalonil DACONIL ULTREX	---	1.4 lb.	Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	ECHO DF	---	1.25 lb.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	mancozeb PROTECT T/O	3 t.	1.5 lb.	Apply every 7 to 10 days as needed. Add a spreader-sticker to improve coverage of foliage.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
MAPLE				
Anthracnose, Leaf Spot, Tar Spot				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	bordeaux mixture	8 T.	---	Fungicide sprays are impractical except for valuable specimen trees. Apply as leaves unfurl. Repeat at 10- to 14-day intervals. Destroy diseased leaves.
	chlorothalonil DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.3 pt.	
	ECHO 720	---	1.38 pt.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	See comments for Bordeaux mixture.
	mancozeb DITHANE T/O	3 t.	1.5 lb.	Fungicide sprays are impractical except for valuable specimen trees. Apply as leaves unfurl. Repeat at 10- to 14-day intervals. Destroy diseased leaves.
	4 FLOWABLE MANCOZEB	---	1.2 qt.	
	FORE 80W	3 t.	1.5 lb.	
	FORE FLOWABLE	---	1.2 qt.	
	JUCTION	---	1.5 lb.	
	MANCOZEB DG	1.5-3 t.	1-2 lb.	
	PROTECT T/O 80W	3 t.	1.5 lb.	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Fungicide sprays are impractical except for valuable specimen trees. Apply as leaves unfurl. Repeat at 10- to 14-day intervals. Destroy diseased leaves.
	3336 50W	2.33-4 t.	12-16 oz.	
	HALT 50W	2.5 t.	---	
	thiophanate methyl + flutolanil SYS STAR WDG	---	4-8 oz.	See Comments for thiophanate-methyl, above.
Verticillium Wilt				
	None labeled	See Comments.		Remove infected trees. Replant with wilt-resistant trees or shrubs. See Annuals And Bedding Plants: Soil Pasteurization/Fumigation.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
NANDINA				
Cercospora Leaf Spot				
	chlorothalonil DACONIL ULTREX	---	1.4 lb.	Apply at first sign of disease and repeat sprays as needed every 10 to 14 days.
	DACONIL WEATHER STIK 6F	1.5 lb.	1.4 qt.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Apply at first sign of disease and repeat sprays as needed every 10 to 14 days.
	3336 50W	2.33-4 t.	12-16 oz.	
Mosaic Virus				
	None labeled	See Comments.		Viruses spread during propagation. Take cuttings from virus-indexed plants ONLY . Destroy diseased plants.
OAK				
Algal Leaf Spot				
	copper ammonium complex LIQUID COPPER FUNGICIDE	2 t.	---	Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on possible phytotoxicity.
Anthracnose				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	bordeaux mixture	8 T.	---	Foliar sprays not necessary except on valuable specimen trees. Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	chlorothalonil CONCORDE DF	---	1.4 lb.	Red Group Only: Foliar sprays not necessary except on valuable specimen trees. Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	ECHO DF	---	1.25 lb.	
	FUNG-ONIL	2.25 t.	---	
	GARDEN FUNGICIDE	2.25 t.	---	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	chlorothalonil + fenarimol TWSOME 4.4F	2 t.	2 pt.	Red Group Only: Foliar sprays not necessary except on valuable specimen trees. Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	chlorothalonil + thiophanate- methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.
	copper sulfate pentahydrate PHYTON 27	---	35 fl.oz.	Use sufficient volume of water to thoroughly cover the leaves and stems. Repeat applications at 7- to 14-day intervals as needed to control disease.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
OAK (cont.)				
Anthracnose (cont.)				
	mancozeb			
	DITHANE T/O	3 t.	1.5 lb.	Foliar sprays not necessary except on valuable specimen trees. Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	FORE 80W	3 t.	1.5 lb.	
	FORE FLOWABLE	---	1.2 qt.	
	JUNCTION	---	1.5 lb.	
	MANCOZEB DG	1.5-3 t.	1-2 lb.	
	tebuconazole			
	DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl			
	3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Foliar sprays not necessary except on valuable specimen trees. Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	3336 50W	2.33-4 t.	12-16 oz.	
	HALT 50W	2.5 t.	---	
	OHP 6672 50W	---	12-16 oz.	
Hypoxylon Canker				
	None labeled	See Comments.		Maintain plant vigor. Remove diseased limbs or trees.
Mushroom Root Rot				
	None labeled	See Comments.		Develops on stressed or declining trees. Remove diseased trees and stumps.
Oak Leaf Blister				
	bordeaux mixture	8 T.	---	Foliar sprays not necessary except on valuable specimen plants. Make one spray at budswell. Quite common in landscape.
	chlorothalonil			
	CONCORDE DF	---	1.4 lb.	Foliar sprays not necessary except on valuable specimen plants. Make one spray at budswell. Quite common in landscape.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	ECHO DF	---	1.25 lb.	
	FUNG-ONIL	2.25 t.	---	
	GARDEN FUNGICIDE	2.25 t.	---	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	mancozeb			
	DITHANE T/O	3 t.	1.5 lb.	Foliar sprays are not necessary except on valuable specimen plants. Make one spray at budswell. Quite common in landscape.
	FORE 80W	3 t.	1.5 lb.	
	FORE FLOWABLE	---	1.2 qt.	
	JUNCTION	---	1.5 lb.	
	MANCOZEB DG	1.5-3 t.	1-2 lb.	

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
OAK (cont.)				
Powdery Mildew				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	Apply at first sign of disease on leaves and repeat as needed every 7 to 14 days.
	kresoxim-methyl CYGNUS	---	1.6-3.2 oz.	Apply as protective spray at 10- to 14-day intervals. Apply higher rate at shorter interval when conditions favor disease.
	myclobutanil EAGLE WSP	---	3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	EAGLE 20EW	---	8 fl.oz.	
	IMMUNOX	2 T.	---	
	SYSTHANE WSP	---	3-6 oz.	
	paraffinic oil SUNSPRAY ULTRA FINE OIL	2.5-5 T.	1% v/v	Apply at first sign of disease and reapply every 1 to 2 weeks. Do not apply when temperatures exceed 85°F.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Quite common in landscape. Foliar sprays usually are not necessary. Apply at first sign of disease. Repeat at 10- to 14-day intervals.
	3336 50W	2.33-4 t.	12-24 oz.	
	HALT 50W	1.5 t.	---	
	OHP 6672 50W	---	12-24 oz.	
	triadimefon BAYLETON T/O	---	1-2 oz.	See Comments for thiophanate-methyl, above. Bayleton is cleared for landscape use only.
	STRIKE 25W	---	2-4 oz.	
	triflumizole TERRAGUARD SC	---	4-16 fl.oz.	Begin applications when conditions favor disease development. Repeat as needed every 7 to 14 days. Use higher rate at shorter intervals when disease is present.
Rust				
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
Wetwood				
	None labeled	See Comments.		Install drain tube.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
PACHYSANDRA				
Volutella Blight				
	chlorothalonil			Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	ECHO DF	---	2.25 lb.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	chlorothalonil + thiophanate-methyl			See Comments for chlorothalonil, above.
	SPECTRO 90	---	1-2 lb.	
	copper hydroxide			Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	CUPRO 2005 T/N/O	---	0.75-2 lb./A	
	copper sulfate pentahydrate			Apply at first sign of disease and repeat every 7 to 14 days as needed to control disease. Use higher rate at shorter intervals when disease is severe.
	PHYTON 27	---	13-25 fl. oz.	
	mancozeb			SOIL DRENCH: Covers 10,000 square feet of bed. Apply at first sign of disease. Repeat at least five times at 10- to 14-day intervals.
	DITHANE M-45 80W	---	4 lb.	
	FORE 80W	---	4 lb.	
	JUNCTION	---	1.5 lb.	Apply Junction at first sign of disease and repeat every 7 to 10 days.
	PROTECT T/O 80W	---	4 lb.	
PEACH (Flowering)				
Bacterial Canker				
	None labeled		See Comments.	Maintain good growing conditions. Destroy diseased plants. Related to cold injury.
Bacterial Leaf Spot, Bacterial Blight				
	copper hydroxide			Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	CUPRO 2005 T/N/O	---	0.75-2 lb./A	
	copper sulfate			See Comments for copper hydroxide, above.
	TRIBASIC COPPER SULFATE 53W	---	3 lb.	
Blossom and Twig Blight (Brown Rot)				
	captan			Apply at early bloom, full bloom, and petal fall.
	ORTHOXIDE 50W	2 T.	2 lb.	
	chlorothalonil			See Comments for captan, above.
	BRAVO WEATHERSTIK 6F	---	1.5 pt.	
	CONCORDE DF	---	1.4 lb.	
	DACONIL ULTREX	2.25 t.	2 pt.	
	DACONIL ZN	---	1.4 lb.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 t.	2 pt.	
	thiophanate-methyl			Apply at early bloom, full bloom, and petal fall.
	3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	
	3336 50W	2.33-4 t.	12-16 oz.	

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
PEACH (Flowering) (cont.)				
Gummosis (Botryosphaeria Canker)				
	None labeled	See Comments.		Prune trees from February to April only. Disinfest pruning shears with alcohol or other germicidal soap. Discard or burn all pruned wood.
Leaf Curl				
	chlorothalonil CONCORDE DF	---	1.4 lb.	Apply at leaf fall in autumn or in late winter before budswell and budbreak.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	copper hydroxide CUPRO 2005 T/N/O	1 T.	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	copper sulfate TRIBASIC COPPER SULFATE 53W	---	4-5 lb.	DORMANT SPRAY: Apply at leaf fall in autumn.
Phoney Peach				
	None labeled	See Comments.		No control for disease. Insecticides for control of leafhopper vector may slow disease spread. Remove damaged trees.
Shot Hole (Coryneum Blight)				
	captan ORTHOXIDE 50W	2.5 t.	2 lb.	Apply at pink bud, full bloom, petal fall, and before leaf drop.
	chlorothalonil CONCORDE DF	---	1.4 lb.	Apply at leaf fall in autumn or in late winter before budswell and budbreak.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	copper sulfate TRIBASIC COPPER SULFATE 53W	---	3 lb.	DORMANT SPRAY: Apply at leaf fall in autumn.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
PEAR (Flowering)				
Cedar Rust Diseases				
	mancozeb PROTECT T/O	3 t.	1.5 lb.	Apply every 7 to 10 days as needed. Add a spreader-sticker to improve coverage of foliage.
	myclobutanil EAGLE WSP	---	3-6 oz.	Apply at first sign of disease and repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Eagle is cleared for landscape use only.
	EAGLE 20EW	---	8 fl.oz.	
	IMMUNOX	2 T.	---	
	SYSTHANE WSP	---	3-6 oz.	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
Entomosporium Leaf Spot				
	copper ammonium complex LIQUID COPPER FUNGICIDE	2 t.	---	Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on possible phytotoxicity.
	mancozeb PROTECT T/O	3 t.	1.5 lb.	Apply every 7 to 10 days as needed. Add a spreader-sticker to improve coverage of foliage.
	myclobutanil EAGLE WSP	---	3-6 oz.	Apply at 10- to 14-day intervals. Add a nonphytotoxic adjuvant to improve coverage and fungicide performance. Eagle is cleared for landscape use only.
	EAGLE 20EW	---	8 fl.oz.	
	IMMUNOX	2 T.	---	
	SYSTHANE WSP	---	3-6 oz.	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Begin sprays at budbreak and repeat at 7- to 14-day intervals until foliage matures. Shorten spray interval during wet, cloudy weather.
	3336 50W	2.33-4 t.	12-16 oz.	
	thiophanate methyl + flutolanil SYS STAR WDG	---	4-8 oz.	See Comments for thiophanate-methyl, above.
Fireblight				
	copper ammonium complex LIQUID COPPER FUNGICIDE	2 t.	---	Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	copper sulfate pentahydrate PHYTON 27	---	20-40 fl. oz.	Apply every 5 to 7 days during bloom until petal fall. Prune blighted twigs. Avoid excess nitrogen fertilizer in spring.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
PEAR (Flowering) (cont.)				
Fireblight (cont.)				
	streptomycin AGRIMYCIN 17.1W	---	0.5 lb.	Apply every 3 to 4 days during bloom and every 5 to 7 days after bloom when the weather favors disease spread.
	FIRE BLIGHT SPRAY	0.75 t.	(100 ppm)	
PERENNIAL VINCA				
Phoma Stem Rot, Anthracnose				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	mancozeb PROTECT T/O	3 t.	1.5 lb.	Apply every 7 to 10 days as needed. Add a spreader-sticker to improve coverage of foliage.
Rhizoctonia Web Blight				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at 14- to 28-day intervals when conditions favor disease. Summer disease occurs during periods of hot, wet weather.
	mancozeb PROTECT T/O	3 t.	1.5 lb.	Apply every 7 to 10 days as needed. Add a spreader-sticker to improve coverage of foliage.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F 3336 50W	0.5-1.25 t. 2.33-4 t.	10-20 fl.oz. 12-16 oz.	Apply in mid to late summer at 7- to 14-day intervals. Occurs in densely planted beds during hot, wet weather.
PHOTINIA (Red Tip or Red Top)				
Anthracnose				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	Apply at first sign of disease on leaves and repeat as needed every 7 to 14 days.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	mancozeb JUNCTION PROTECT T/O	--- 3 t.	1.5 lb. 1.5 lb.	Apply at 7- to 10-day intervals as needed. Add a spreader-sticker to improve coverage of foliage.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F 3336 50W HALT 50W OHP 6672 50W	0.5-1.25 t. 2.33-4 t. 2.5 t. ---	10-20 fl.oz. 12-16 oz. --- 12-16 oz.	Apply at 7- to 10-day intervals as needed. Add a spreader-sticker to improve coverage of foliage.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
PHOTINA (Red Tip or Red Top) (cont.)				
Anthracnose (cont.)				
	thiophanate methyl + flutolanil SYS STAR WDG	---	4-8 oz.	Apply at 7- to 10-day intervals as needed. Add a spreader-sticker to improve coverage of foliage.
Bacterial Leaf Spot				
	copper sulfate pentahydrate PHYTON 27	---	15-30 fl.oz.	Apply at first sign of disease and repeat every 7 to 14 days as needed.
Entomosporium Leaf Spot				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at budbreak. Repeat applications at 14- to 28-day intervals until all growth has stopped. Fall treatments may also be needed.
	chlorothalonil CONCORDE DF	---	1.4 lb.	Apply at budbreak. Repeat sprays at 7- to 14-day intervals until foliage matures. Protect new growth in fall. Shorten spray interval to 7 days during periods of wet weather on diseased plants. Remove fallen diseased leaves and avoid overhead irrigation.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	ECHO DF	---	1.25 lb.	
	FUNG-ONIL	2.25 t.	---	
	GARDEN FUNGICIDE	2.25 t.	---	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	chlorothalonil + fenarimol TWOsome 4.4F	2 t.	2 pt.	
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.
	copper ammonium complex LIQUID COPPER FUNGICIDE	2 t.	---	Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	copper sulfate pentahydrate PHYTON 27	---	15-30 fl.oz.	Apply at first sign of disease and repeat every 7 to 14 days as needed.
	mancozeb DITHANE T/O	3 t.	1.5 lb.	Apply at budbreak. Repeat sprays at 7- to 14-day intervals until foliage matures. Protect new growth in fall. Shorten spray interval to 7 days during periods of wet weather on diseased plants. Remove fallen diseased leaves and avoid overhead irrigation.
	4 FLOWABLE MANCOZEB	---	1.2 qt.	
	FORE 80W	3 t.	1.5 lb.	
	FORE FLOWABLE	---	1.2 qt.	
	JUNCTION	---	1.5 lb.	
	MANCOZEB DG	1.5-3 t.	1-2 lb.	
	PROTECT T/O 80W	3 t.	1.5 lb.	
	myclobutanil EAGLE WSP	---	3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	EAGLE 20EW	---	8 fl.oz.	
	IMMUNOX	2 T.	---	
	SYSTHANE WSP	---	3-6 oz.	

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
PHOTINA (Red Tip or Red Top) (cont.)				
Entomosporium Leaf Spot (cont.)				
	propiconazole BANNER MAXX	---	5-8 fl.oz.	Apply at budbreak. Repeat sprays at 7- to 14-day intervals until foliage matures. Apply as needed to drip. Protect new growth in fall. Shorten spray interval to 7 days during periods of wet weather on diseased plants. Remove fallen diseased leaves and avoid overhead irrigation. of disease. Apply as needed to drip. Use sufficient volume of water mixed with Propensity to thoroughly cover the leaves and stems. Repeat applications at 21-day intervals.
	PROPENSITY 1.3MEC	---	6-8 fl.oz.	
	SYSTEMIC FUNGICIDE	3 T.	1.5 fl. oz.	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	
	triadimefon BAYLETON T/O STRIKE 25W	---	4-8 oz. 0.5-1 lb.	Bayleton is cleared for landscape use only.
	triforine ROSE AND SHRUB DISEASE CONTROL	1 T.	---	See Comments for thiophanate-methyl + mancozeb, above.
Mushroom Root Rot				
	None labeled	See Comments.		Maintain plant vigor and avoid drought stress. Remove diseased trees.
Powdery Mildew				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 7- to 28-day intervals. May be a problem on <i>P. serrulata</i> ; not on red-tip photinia.
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	Apply at first sign of disease on leaves and repeat as needed every 7 to 14 days.
	fenarimol RUBIGAN AS	---	6-10 fl.oz.	Apply at first sign of disease. Repeat every 7 to 14 days. Use higher rate and shorter interval when disease is severe and conditions favor disease.
	myclobutanil EAGLE WSP EAGLE 20EW IMMUNOX SYSTHANE WSP	---	3-6 oz. 8 fl.oz. 2 T. ---	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	paraffinic oil SUNSPRAY ULTRA FINE OIL	2.5-5 T.	1% v/v	Apply at first sign of disease and reapply every 1 to 2 weeks. Do not apply when temperatures exceed 85°F.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
PHOTINA (Red Tip or Red Top) (cont.)				
Powdery Mildew				
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Apply at first sign of disease. Repeat every 7 to 14 days. Use higher rate and shorter interval when disease is severe and conditions favor disease.
	3336 50W	2.33-4 t.	12-24 oz.	
	HALT 50W	1.5 t.	---	
	OHP 6672 50W	---	12-24 oz.	
	triadimefon BAYLETON T/O	---	1-2 oz.	Bayleton is cleared for landscape use only.
	STRIKE 25W	---	2-4 oz.	
	trifloxystrobin COMPASS 50W	---	1-2 oz.	Apply to point of drip when disease is detected or when conditions favor disease. Repeat every 7 to 14 days until threat of outbreak is over.
	triforine ROSE AND SHRUB DISEASE CONTROL	1 T.	---	Apply at budbreak. Repeat sprays at 7- to 14-day intervals until foliage matures. Protect new growth in fall. Shorten spray interval to 7 days during periods of wet weather on diseased plants. Remove fallen diseased leaves and avoid overhead irrigation.
Root Rot				
	etridiazole + thiophanate-methyl BANROT 8G BANROT 40W	See Comments.		See Azalea: Phytophthora Root Rot.
	mefenoxam SUBDUE GR SUBDUE MAXX SUBDUE 2X WSP	See Comments.		See Andromeda: Phytophthora Root Rot.
	potassium salts of phosphorous acid ALUDE	0.3-0.67 fl.oz.	1-2 qt.	FOLIAR SPRAY: Apply to thoroughly wet foliage and repeat every 14 to 21 days as needed. DRENCH: Apply 25 gallons of solution to 100 square feet of bed area and repeat monthly as needed.
		---	6.67-12.67 fl.oz.	
	propamocarb BANOL 67S	See Comments.		See Azalea: Phytophthora Root Rot.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
PINE				
Eastern Gall Rust				
	None labeled		See Comments.	Prune out galls in spring. Seen on mature Virginia pines.
Fusiform Rust (Loblolly and Slash pine)				
	triadimefon BAYLETON T/O STRIKE 25W	--- ---	2 oz. 4 oz.	NURSERY: Apply to run-off in early spring and repeat at 2- to 3-week intervals. Not effective on trees in landscape. LANDSCAPE: Remove trees with trunk cankers and prune galled limbs. DO NOT fertilize until trees are 8 to 10 years old in high-risk areas. Plant resistant pines. Bayleton is cleared for landscape use only. It is not effective on galled trees.
	myclobutanil EAGLE 20EW SYSTHANE WSP	--- ---	8 fl.oz. 6-9 oz./A	
Needlecast				
	chlorothalonil BRAVO ULTREX FLOWABLE 6F DACONIL ULTREX DACONIL WEATHER STIK 6F DACONIL ZN ECHO DF FUNG-ONIL LANDSCAPE AND GARDEN FUNGICIDE	0.5-1 T. --- --- 2 t. --- 2.25 t. 2 T.	2.75-5.5 pt. 2.5-5 lb. 2.75-5.5 pt. 2 pt. 2.25-4.5 lb. --- ---	Apply at 3- to 4-week intervals in spring and fall.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on possible phytotoxicity.
	mancozeb DITHANE M-45 80W FORE 80W FORE FLOWABLE JUNCTION PROTECT T/O	5 t. 5 t. --- --- ---	4 lb. 4 lb. 1.2 qt. 1.5 lb. 4 lb.	Apply at 3- to 4-week intervals in spring and fall. For Christmas tree production, include spreader-sticker in tank mixes of mancozeb.
Phytophthora Root Rot				
	dimethomorph STATURE DM	---	6.4-12.8 oz.	DRENCH: Apply when roots are well established or at first sign of disease. Repeat applications at 10- to 14-day intervals through production cycle. Apply sufficient water to wet the root zone.
	etrizazole TRUBAN 5G	See Comments.		See Azalea: Phytophthora Root Rot.
	etrizazole + thiophanate-methyl BANROT 8G BANROT 40W	See Comments.		See Azalea: Phytophthora Root Rot: Field and Container Stock.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
PINE (cont.)				
Phytophthora Root Rot (cont.)				
	fosetyl-AI ALLETTE WDG	---	2.5-5 lb.	FOLIAR SPRAY: Spray to cover foliage. Do not exceed more than one spray every 30 days.
	mefenoxam SUBDUE MAXX	---	2.5 pt.	SEEDLING CONIFERS: Seed bed and plug plantings. Spray volume of 50 gallons covers 1 acre. Apply in spring and again in fall.
	SUBDUE MAXX	---	5 pt.	SEEDLING CONIFERS: 2-0 Transplants. Spray volume of 50 gallons covers 1 acre. Apply in spring and again in fall.
	SUBDUE GR SUBDUE MAXX SUBDUE 2X WSP	See Comments.		See Andromeda: Phytophthora Root Rot: Field And Container Stock.
	potassium salts of phosphorous acid ALUDE	0.3-0.67 fl.oz.	1-2 qt.	FOLIAR SPRAY: Apply to thoroughly wet foliage and repeat every 14 to 21 days as needed.
		---	6.67-12.67 fl.oz.	DRENCH: Apply 25 gallons of solution to 100 square feet of bed area and repeat monthly as needed.
		---	1-2 pt./cu.yd.	INCORPORATION: Just before potting, mix 1 to 2 quarts of solution per cubic yard of media. Follow with drench or foliar spray after one month, as needed.
	propamocarb BANOL 67S	See Comments.		See Azalea: Phytophthora Root Rot.
	<i>Trichoderma harzianum</i> Strain KRL-AG2 ROOT SHIELD	---	1-1.5 lb./cu.yd.	DRY SOIL MIX IN NURSERY AND GREENHOUSE: Thoroughly incorporate granules during mix preparation or pot filling. See label for compatibility with other fungicides and insecticides.
Pine Needle Rust				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	myclobutanil EAGLE 20EW SYSTHANE WSP	---	8 fl.oz. 6-9 oz./A	Begin sprays in early spring. Repeat at 2- to 3-week intervals until disease threat has passed. Add adjuvant to improve coverage of needles.
	triadimefon BAYLETON T/O STRIKE 25W	---	2 oz. 4 oz.	Apply to trees as needed. Bayleton is cleared for landscape use only.
Pine Wood Nematode				
	None labeled	See Comments.		No effective controls. Found primarily on exotic pines. Slash longleaf and white are resistant. Immediately remove dead or dying trees.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
PINE (cont.)				
Pitch Canker				
	None labeled		See Comments.	Avoid mechanical damage to trees. Prune out diseased limbs. Destroy trees with trunk cankers. Found in Christmas tree plantations on Virginia pines. Can be problem in loblolly and slash pine seed nurseries as well.
Rhizosphaera Needle Disease				
	chlorothalonil BRAVO ULTREX FLOWABLE 6F	---	5.5 pt.	Make first application when new growth is 0.5 to 2 inches in length. Make second application 3 to 4 weeks later.
	DACONIL ULTREX DACONIL WEATHER STIK 6F	---	5 lb. 5.5 pt.	
	DACONIL ZN ECHO DF LANDSCAPE AND GARDEN FUNGICIDE	2 t. --- 2 T.	2 pt. 4.5 lb. ---	
PITTOSPORUM				
Alternaria Leaf Spot				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	iprodione CHIPCO 26GT CHIPCO 26019 50W IPRODIONE PRO SE SEXTANT 2F	--- --- --- ---	1-2.5 qt./A 1-2.5 qt./A 1-2.75 qt. 1-2.75 qt.	Apply at first sign of disease. Repeat at 7- to 14-day intervals. Nana varieties are most susceptible. NOT FOR RESIDENTIAL USE.
	thiophanate-methyl + iprodione BENEFIT	---	17-34 fl.oz.	Apply to point of run-off. Repeat at 10- to 14-day intervals as needed. See label for further directions.
	trifloxystrobin COMPASS O	---	2-4 oz.	Apply at first sign of disease. Repeat applications at 7- to 14-day intervals as needed to control disease.
	triflumizole TERRAGUARD SC	---	4-8 fl.oz.	Apply weekly as needed.
Rhizoctonia Web Blight				
	flutolanil CONTRAST 70WSP PROSTAR 70WP	--- ---	3-6 oz. 3-6 oz.	DRENCH: Apply enough water to wet the roots. Reapply as needed at 21- to 28-day intervals. See label for additional instructions.
	thiophanate-methyl + iprodione 26/36 FUNGICIDE	---	33-84 fl.oz./A	Use sufficient water to thoroughly cover the leaves and stems. Reapply at 7- to 14-day intervals as needed. Use higher rate at shorter interval when disease is present. NOT FOR RESIDENTIAL USE.
	trifloxystrobin COMPASS O	---	2-4 oz.	Apply at first sign of disease. Repeat applications at 7- to 14-day intervals as needed to control disease.
	triflumizole TERRAGUARD SC	---	4-8 fl.oz.	Begin applications when conditions favor disease development. Repeat as needed every 7 to 14 days. Use higher rate at shorter intervals when disease is present.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
PITTOSPORUM (cont.)				
Root Rot				
	etr Diazole + thiophanate-methyl BANROT 8G BANROT 40W	See Comments.		See Azalea: Phytophthora Root Rot.
	fosetyl-A1 ALIETTE WDG	See Comments.		See Azalea: Phytophthora Root Rot.
	mefenoxam SUBDUE GR SUBDUE MAXX SUBDUE 2X WSP	See Comments.		See Andromeda: Phytophthora Root Rot.
	propamocarb BANOL 67S	See Comments.		See Azalea: Phytophthora Root Rot.
PLUM (Flowering)				
Black Knot				
	lime-sulfur ORTHONIX LIME-SULFUR SPRAY	7.5 T.	---	DORMANT SPRAY: Apply before budbreak. Prune out knots
Blossom and Twig Blight (Brown Rot)				
	captan CAPTAN 50W ORTHOCLIDE 50W	2 T. 2 T.	2 lb. 2 lb.	Apply at early bloom, full bloom, and petal fall. Prune blighted shoots.
	chlorothalonil CONCORDE DF DACONIL WEATHER STIK 6F DACONIL ZN LANDSCAPE AND GARDEN FUNGICIDE	--- --- 2 t. 2 T.	1.4 lb. 1.38 pt. 2 pt. ---	Apply at early bloom, full bloom, and petal fall. Prune blighted shoots.
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.
	copper hydroxide CUPRO 2005 T/N	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	copper sulfate TRI-BASIC 53W COPPER SULFATE	---	4-5 lb.	Apply at budswell and pink bud. DO NOT apply later as injury may occur. Prune blighted shoots.
	thiophanate-methyl 3336 4.5F 3336 50W	0.5-1.25 t. 2.33-4 t.	10-20 fl.oz. 12-16 oz.	See Comments for copper sulfate, above.
Plum Pockets				
	None labeled	See Comments.		Blossom and twig blight sprays may provide some control.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
POPLAR				
Leaf Spot				
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.
Rust				
	myclobutanil EAGLE WSP EAGLE 20EW SYSTHANE WSP	---	3-6 oz. 8 fl.oz. 3-6 oz.	Apply at 10- to 14-day intervals. Add a nonphytotoxic spray adjuvant to improve coverage of the foliage and fungicidal performance. Eagle is cleared for landscape use.
	propiconazole BANNER MAXX PROPENSITY 1.3MEC	---	16 fl.oz. 6-8 fl.oz.	Apply to drip at 14- to 28-day intervals. Use sufficient volume of water mixed with Propensity to thoroughly cover the leaves and stems. Repeat applications at 21-day intervals.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	triforine ROSE AND SHRUB DISEASE CONTROL	1 T.	---	Apply at first sign of disease and repeat applications every 7 to 10 days until conditions no longer favor disease.
PRIVET (Ligustrum)				
Cercospora Leaf Spot				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	chlorothalonil DACONIL ULTREX DACONIL WEATHER STIK 6F DACONIL ZN ECHO DF FUNG-ONIL GARDEN FUNGICIDE LANDSCAPE AND GARDEN FUNGICIDE	---	1.4 lb. 1.38 pt. 2 t. 2 pt. 1.25 lb. ---	Apply at first sign of disease. Repeat at 10- to 14-day intervals.
	chlorothalonil + fenarimol TWOsome 4.4F	2 t.	2 pt.	Apply at first sign of disease. Repeat at 10- to 14-day intervals.
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.
	mancozeb DITHANE T/O 4 FLOWABLE MANCOZEB FORE 80W FORE FLOWABLE JUNCTION MANCOZEB DG PROTECT T/O 80W	3 t. ---	1.5 lb. 1.2 qt. 1.5 lb. 1.5 lb. 1-2 lb. 1.5 lb.	Apply at first sign of disease. Repeat at 10- to 14-day intervals.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
PRIVET (Ligustrum) (cont.)				
Cercospora Leaf Spot (cont.)				
	myclobutanil EAGLE WSP	---	3-6 oz.	Apply at first sign of disease; repeat at 7- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	EAGLE 20EW	---	8 fl.oz.	
	IMMUNOX	2 T.	---	
	SYSTHANE WSP	---	3-6 oz.	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl + iprodione BENEFIT	---	17-34 fl.oz.	Apply to point of run-off. Repeat at 10- to 14-day intervals as needed. See label for further directions.
	triadimefon SYSTEMIC FUNGICIDE FOR TURF AND ORNAMENTALS	1-2 T.	---	Apply as a full cover spray when symptoms first appear. Repeat every 7 to 14 days.
	trifloxystrobin COMPASS O	---	2-4 oz.	Apply at first sign of disease. Repeat applications at 7- to 14-day intervals as needed to control disease.
Root Rot				
	etridiazole + thiophanate-methyl BANROT 8G BANROT 40W	See Comments.		See Azalea: Phytophthora Root Rot: Field and Container Stock.
PYRACANTHA (Firethorn)				
Fireblight				
	copper hydroxide CUPRO 2005 T/N/O BLACK SPOT AND POWDERY MILDEW CONTROL	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
		1.5 t.	---	
	copper sulfate pentahydrate PHYTON 27	---	20-40 fl.oz.	Apply every 5 to 7 days during bloom until petal fall. Avoid excess nitrogen fertilizer in spring.
	streptomycin sulfate AGRIMYCIN 17 21W FIRE BLIGHT SPRAY	---	0.5 lb. (100 ppm) 0.5 lb.	Apply every 3 to 4 days during bloom and every 5 to 7 days after bloom when weather favors disease spread.
	0.75 t.			
Scab				
	chlorothalonil CONCORDE DF	---	1.4 lb.	Apply at first budbreak, 7 to 14 days later, and at petal fall.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	ECHO DF	---	1.25 lb.	
	GARDEN FUNGICIDE	2.25 t.	---	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
PYRACANTHA (Firethorn) (cont.)				
Scab (cont.)				
	copper hydroxide CUPRO 2005 T/N/O BLACK SPOT AND POWDERY MILDEW CONTROL	--- 1.5 t.	0.75-2 lb./A ---	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	mancozeb DITHANE T/O FORE 80W FORE FLOWABLE JUNCTION MANCOZEB DG PROTECT T/O	3 t. 3 t. --- --- 1.5-3 t. 3 t.	1.5 lb. 1.5 lb. 1.2 qt. 1.5 lb. 1-2 lb. 1.5 lb.	Apply at first budbreak, 7 to 14 days later, and at petal fall.
	myclobutanil EAGLE WSP EAGLE 20EW IMMUNOX SYSTHANE WSP	--- --- 2 t. ---	3-6 oz. 8 fl.oz. --- 3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	propiconazole BANNER MAXX PROPENSITY 1.3MEC	--- ---	5-8 fl.oz. 6-8 fl.oz.	Apply at first budbreak, as needed to drip. Apply 7 to 14 days later and at petal fall.. Use sufficient volume of water mixed with Propensity to thoroughly cover the leaves and stems. Repeat applications at 21-day intervals.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F 3336 50W HALT 50W OHP 6672	0.5-1.25 t. 2.33-4 t. 1.5 t. ---	10-20 fl.oz. 12-16 oz. --- 12-16 oz.	Apply at first budbreak, 7 to 14 days later, and at petal fall.
	thiophanate-methyl + iprodione BENEFIT	---	17-34 fl.oz.	Apply to point of run-off. Repeat at 10- to 14-day intervals as needed. See label for further directions.
QUINCE (Flowering)				
Cedar Rust Diseases				
	mancozeb DITHANE T/O FORE 80W PROTECT T/O 80W	2 t. 2 t. 2 t.	1.5 lb. 1.5 lb. 1.5 lb.	Apply when blossoms show color. Repeat at 7- to 10-day intervals to mid June.
	myclobutanil EAGLE WSP EAGLE 20EW SYSTHANE WSP	--- --- ---	3-6 oz. 8 fl.oz. 3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
QUINCE (Flowering) (cont.)				
Scab				
	chlorothalonil			Apply at 7- to 14-day intervals, as needed.
	CONCORDE DF	---	1.4 lb.	
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	mancozeb			Apply at green tip. Repeat at 7- to 14-day intervals.
	DITHANE M-45 80W	2 t.	1.5 lb.	
	FORE 80W	2 t.	1.5 lb.	
	PROTECT T/O 80W	2 t.	1.5 lb.	
	myclobutanil			Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	EAGLE WSP	---	3-6 oz.	
	EAGLE 20EW	---	8 fl.oz.	
	SYSTHANE WSP	---	3-6 oz.	
	tebuconazole			Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	
RHODODENDRON				
See Azalea.				
ROSE				
Blackspot				
	chlorothalonil			Apply at budbreak. Repeat at 7- to 14-day intervals until frost. For best results, stay on 7-day spray intervals. Shorten spray intervals during wet weather. Chlorothalonil may scorch foliage of certain rose cultivars during hot weather in the summer.
	CONCORDE DF	---	1 lb.	
	DACONIL ULTREX	---	1 lb.	
	DACONIL WEATHER STIK 6F	---	1 pt.	
	DACONIL ZN	2 t.	2 pt.	
	ECHO DF	---	1.25 lb.	
	FUNG-ONIL	2.25 t.	---	
	GARDEN FUNGICIDE	2.25 t.	---	
	LIQUID FUNGICIDE	6 T.	---	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	chlorothalonil + fenarimol			Apply at budbreak. Repeat at 7- to 14-day intervals until frost. For best results, stay on 7-day spray intervals. Shorten spray intervals during wet weather. Chlorothalonil may scorch foliage of certain rose cultivars during hot weather in summer.
	TWOSOME 4.4F	2 t.	2 pt.	
	copper ammonium complex			Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	LIQUID COPPER FUNGICIDE	2 t.	---	
	kresoxim-methyl			Apply as protective spray at 10- to 14-day intervals. Apply higher rate at shorter interval when conditions favor disease.
	CYGNUS	---	1.6-3.2 oz.	

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
ROSE (cont.)				
Blackspot (cont.)				
	mancozeb			
	DITHANE M-45 80W	3 t.	1.5 lb.	Apply at budbreak. Repeat at 7- to 14-day intervals until frost. For best results, stay on 7-day spray intervals. Shorten spray intervals during wet weather. Add a spreader-sticker to wettable powder (W) formulations to improve coverage of foliage.
	FORE 80W	3 t.	1.5 lb.	
	FORE FLOWABLE	---	1.2 qt.	
	JUNCTION	---	1.5 lb.	
	MANCOZEB DG	1.5-3 t.	1-2 lb.	
	PROTECT T/O 80W	3 t.	1.5 lb.	
	myclobutanil			
	EAGLE WSP	---	3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	EAGLE 20EW	---	8 fl.oz.	
	IMMUNOX	2 T.	---	
	SYSTHANE WSP	---	3-6 oz.	
	propiconazole			
	BANNER MAXX	---	5-8 fl.oz.	See Comments for mancozeb, above. Use sufficient volume of water mixed with Propensity to thoroughly cover the leaves and stems. Repeat applications at 21-day intervals.
	PROPENSITY 1.3MEC	---	6-8 fl.oz.	
	SYSTEMIC FUNGICIDE	2 T.	---	
	tebuconazole			
	DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl			
	3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Apply at budbreak. Repeat at 7- to 14-day intervals until frost. For best results, stay on 7-day spray intervals. Shorten spray intervals during wet weather. Add a spreader-sticker to wettable powder (W) formulations to improve coverage of foliage.
	3336 50W	2.33-4 t.	12-16 oz.	
	HALT 50W	2.5 t.	---	
	thiophanate methyl + flutolanil			
	SYS STAR WDG	---	4-8 oz.	See Comments for thiophanate-methyl, above.
	trifloxystrobin			
	COMPASS O	---	2-4 oz.	Apply to point of drip when disease is detected or when conditions favor disease. Repeat every 7 to 14 days until threat of outbreak is over.
	triforine			
	ROSE AND SHRUB DISEASE CONTROL	1 T.	---	Apply at budbreak. Repeat at 7- to 14-day intervals until frost. For best results, stay on 7-day spray intervals. Shorten spray intervals during wet weather. Add a spreader-sticker to wettable powder (W) formulations to improve coverage of foliage.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
ROSE (cont.)				
Botrytis Blight				
	chlorothalonil			Regular blackspot sprays should control botrytis blight. Shorten spray intervals to 7 days for best protection. Remove blighted blooms and shoots. Problems occur during wet, overcast weather.
	DACONIL ULTREX	---	1 lb.	
	DACONIL WEATHER STIK 6F	---	1 pt.	
	DACONIL ZN	2 t.	2 pt.	
	ECHO DF	---	1.25 lb.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	chlorothalonil + fenarimol			
	TWOSOME 4.4F	2 t.	2 pt.	
	copper sulfate pentahydrate			
	PHYTON 27	---	15-50 fl.oz.	
	fluidioxonil			Apply to run-off at 7- to 14-day intervals when conditions favor disease. See label for further instructions.
	MEDALLION	---	2-4 oz.	
	iprodione			See Comments for chlorothalonil + fenarimol, above. NOT FOR RESIDENTIAL USE.
	CHIPCO 26GT	---	1-2.5 qt./A	
	CHIPCO 26019 50W	---	1-2.5 qt./A	
	IPRODIONE PRO SE	---	1-2.75 qt.	
	thiophanate-methyl			Regular blackspot sprays should control botrytis blight. Shorten spray intervals to 7 days for best protection. Remove blighted blooms and shoots. Problems occur during wet, overcast weather.
	3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	
	3336 50W	2.33-4 t.	12-16 oz.	
	HALT 50W	2.5 t.	---	
	OHP 6672 50W	---	---	
	thiophanate-methyl + iprodione			Use sufficient water to thoroughly cover the leaves and stems. Reapply at 7- to 14-day intervals as needed. Use higher rate at shorter interval when disease is present. NOT FOR RESIDENTIAL USE.
	26/36 FUNGICIDE	---	33-84 fl.oz./A	
	trifloxystrobin			Apply as a full cover spray at 7- to 14-day intervals when conditions favor disease. See label for further instructions.
	COMPASS O	---	2-4 oz.	
	triflumizole			Begin applications when conditions favor disease development. Repeat as needed every 7 to 14 days. Use higher rate at shorter intervals when disease is present.
	TERRAGUARD SC	---	4-8 fl.oz.	

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
ROSE (cont.)				
Canker				
	None labeled		See Comments.	Maintain good plant vigor. Prune out diseased canes. Use dormant spray of lime-sulfur.
Cercospora Leaf Spot				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	FOLIAR SPRAY: Apply at first sign of disease and then every 7 to 28 days as needed.
	chlorothalonil CONCORDE DF	---	1 lb.	Appears in early spring in landscape plantings. Apply at first sign of symptoms and repeat every 7 to 14 days as needed.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	ECHO 720 LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate methyl 3336 4.5F 3336 50W	0.5-1.25 t. 2.33-4 t.	10-20 fl.oz. 12-16 oz.	Appears in early spring in landscape plantings. Apply at first sign of symptoms and repeat every 7 to 14 days as needed.
Crown Gall				
	Agrobacterium radio-bactor Strain 84 GALLEX GALLTROL 1.2% NORBAC 84C		See Comments.	See Euonymus: Crown Gall.
Downy Mildew				
	azoxystrobin HERITAGE 50W	---	2-4 oz.	Apply when conditions favor disease and repeat at 7- to 21-day intervals. Use higher rate at shorter intervals after symptoms are first seen. Occurs in late winter and early spring when weather is wet.
	copper sulfate pentahydrate PHYTON 27	---	15-50 fl.oz.	Use sufficient volume of water to thoroughly cover the leaves and stems. Repeat applications at 7- to 14-day intervals as needed to control disease. Use higher rate at shorter interval to control severe disease outbreak.
	dimethomorph STATURE DM	---	6.4-12.8 oz.	FOLIAR SPRAY: Apply in sufficient water to thoroughly wet the leaves and stems. Repeat applications at 10 to 14-day intervals through the production cycle.
	fenamidone FENSTOP	---	7-14 fl.oz.	FOLIAR SPRAY: Repeat application as needed on a 28-day schedule. Do not make more than two application at the high rate per season. NOT FOR RESIDENTIAL USE.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
ROSE (cont.)				
Downy Mildew (cont.)				
	fosetyl-AI ALIETTE WDG	---	2.5 lb.	Occasional problem on roses grown in polyhouses in early spring. Also seen in landscape plantings. Ventilate houses to keep RH below 85 percent. Spray to wet. Repeat as needed but do not exceed one spray every 7 days.
	kresoxim-methyl CYGNUS	---	1.6-3.2 oz.	Apply as protective spray at 10- to 14-day intervals. Apply higher rate at shorter interval when conditions favor disease.
	trifloxystrobin COMPASS O	---	1-2 oz.	Apply to point of drip when disease is detected or when conditions favor disease. Repeat every 7 to 14 days until threat of outbreak is over.
Phytophthora Root Rot				
	metalaxyl ALUDE SUBDUE GR SUBDUE MAXX SUBDUE 2X WSP	See Comments.		See Andromeda: Phytophthora Root Rot: Field and Container Stock.
	potassium salts of phosphorous acid ALUDE	0.3-0.67 fl.oz.	1-2 qt.	FOLIAR SPRAY: Apply to thoroughly wet foliage and repeat every 14 to 21 days as needed.
		---	6.67-12.67 fl.oz.	DRENCH: Apply 25 gallons of solution to 100 square feet of bed area and repeat monthly as needed.
Powdery Mildew				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	chlorothalonil + fenarimol TWO-SOME 4.4F	2 t.	2 pt.	Regular blackspot sprays should control powdery mildew. Otherwise, apply at first sign of disease and repeat at 5- to 14-day intervals. Copper oleate, fenarimol, and triadimefon will not control blackspot.
	copper ammonium complex LIQUID COPPER FUNGICIDE	2 t.	---	Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	copper oleate POWDERY MILDEW CONTROL 15S	1 T.	---	Regular blackspot sprays should control powdery mildew. Otherwise, apply at first sign of disease and repeat at 5- to 14-day intervals.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
ROSE (cont.)				
Powdery Mildew (cont.)				
	copper sulfate pentahydrate PHYTON 27	---	15-50 fl.oz.	Use sufficient volume of water to thoroughly cover the leaves and stems. Repeat applications at 7- to 14-day intervals as needed to control disease. Use higher rate at shorter interval to control severe disease outbreak.
	fenarimol RUBIGAN AS	---	4-12 fl.oz.	Thoroughly agitate. May cause puckering of leaves and slow the growth on some cultivars during cool, foggy weather.
	kresoxim-methyl CYGNUS	---	1.6-3.2 oz.	Apply as protective spray at 10- to 14-day intervals. Apply higher rate at shorter interval when conditions favor disease.
	myclobutanil EAGLE WSP	---	3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	EAGLE 20EW	---	8 fl.oz.	
	IMMUNOX	2 T.	---	
	SYSTHANE WSP	---	3-6 oz.	
	paraffinic oil SUNSPRAY ULTRA FINE OIL	2.5-5 T.	1% v/v	Apply at first sign of disease and reapply every 1 to 2 weeks. Do not apply when temperatures exceed 85°F.
	potassium bicarbonate MILSTOP	---	1.25-3 lb.	GREENHOUSE: Use a sufficient volume of water to cover the leaves and stems. Repeat applications at 7- to 14-day intervals as needed to control disease. FIELD APPLICATION: Use a sufficient volume of water to cover the leaves and stems. Repeat applications at 7- to 14-day intervals as needed to control disease.
		---	2-3 lb.	
	propiconazole BANNER MAXX	---	5 fl.oz	Apply on a 10- to 14-day schedule when conditions favor disease. Use sufficient volume of water mixed with Propensity to thoroughly cover the leaves and stems. Repeat applications at 21-day intervals.
	PROPENSITY 1.3MEC	---	6-8 fl.oz..	
	SYSTEMIC FUNGICIDE	1-3 T.	---	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Apply on a 10- to 14-day schedule when conditions favor disease.
	3336 50W	2.33-4 t.	12-24 oz.	
	HALT 50W	2.5 t.	---	
	OHP 6672 50W	---	12-24 oz.	

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
ROSE (cont.)				
Powdery Mildew (cont.)				
	thiophanate methyl + flutolanil SYS STAR WDG	---	4-8 oz.	See Comments for thiophanate-methyl, above.
	thiophanate-methyl + iprodione 26/36 FUNGICIDE	---	33-84 fl.oz./A	Use sufficient water to thoroughly cover the leaves and stems. Reapply at 7- to 14-day intervals as needed. Use higher rate at shorter interval when disease is present. NOT FOR RESIDENTIAL USE.
	triadimefon BAYLETON T/O	---	1-2 oz.	Bayleton is cleared for landscape use only. Apply Systemic Fungicide as a full cover spray when symptoms first appear and repeat every 7 to 14 days.
	STRIKE 25W	---	2-4 oz.	
	SYSTEMIC FUNGICIDE FOR TURF AND ORNAMENTALS	1-2 T.	---	
	trifloxystrobin COMPASS O	---	1-2 oz.	Apply to point of drip when disease is detected or when conditions favor disease. Repeat every 7 to 14 days until threat of outbreak is over.
	triflumizole TERRAGUARD SC	---	4-16 fl.oz.	Begin applications when conditions favor disease development. Repeat as needed every 7 to 14 days. Use higher rate at shorter intervals when disease is present.
	triforine ROSE AND SHRUB DISEASE CONTROL TRIFORINE 18.2E	1 T. ---	1.5 pt. 12-18 fl.oz.	Apply at 7- to 14-day intervals. Use 4 to 8 ounces in maintenance spray program.
Storage Rot (<i>Botrytis</i>)				
	iprodione CHIPCO 26019 50W	---	1-2.5 qt./A	Dip bare root roses for 5 minutes before cold storage. NOT FOR RESIDENTIAL USE.
	IPRODIONE PRO SE	---	1-2.75 qt.	
	SEXTANT 2F	---	1 qt.	
	PCNB DEFEND 75W	---	2 lb.	DIP TREATMENT: Dip or spray dormant roses prior to storage.
	DEFEND 2L	---	1 gal.	
	TERRACLOR 75W	---	2 lb.	
RUSSIAN OLIVE				
Cercospora Leaf Spot				
	mancozeb JUNCTION	---	1.5 lb.	Apply at first sign of disease and repeat every 7 to 10 days.
	myclobutanil EAGLE WSP	---	3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	EAGLE 20EW	---	8 fl.oz.	
	SYSTHANE WSP	---	3-6 oz.	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne—Yucca				
SMOKE-TREE				
Cercospora Leaf Spot				
	myclobutanil EAGLE WSP	---	3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	EAGLE 20EW	---	8 fl.oz.	
	IMMUNOX	2 T.	---	
	SYSTHANE WSP	---	3-6 oz.	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Apply at first sign of disease. Repeat at 10- to 14-day intervals as needed.
	3336 50W	2.33-4 t.	12-16 oz.	
SPIREA				
Fireblight				
	copper hydroxide CUPRO 2005 T/N/O	1.5 t.	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
Leaf Spot				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 14- to 28-day intervals.
	chlorothalonil CONCORDE DF	---	1.4 lb.	Apply every 7 to 14 days as needed.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN LANDSCAPE AND GARDEN FUNGICIDE	2 t. 2 T.	2 pt. ---	
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Apply at first sign of disease. Repeat at 5- to 14-day intervals.
	3336 50W	2.33-4 t.	12-16 oz.	
Powdery Mildew				
	copper sulfate pentahydrate PHYTON 27	---	20-25 fl. oz.	Use sufficient volume of water to thoroughly cover the leaves and stems. Repeat applications at 7- to 14-day intervals as needed to control disease..
	paraffinic oil SUNSPRAY ULTRA-FINE OIL	2.5-5 T.	1% v/v (0.8 gal.)	Apply at first sign of disease and reapply every week. Do not apply when temperatures exceed 85°F.
	thiophanate-methyl 3336 4.5F	10-20 fl.oz.	---	
	3336 50W	12-24 oz.	---	
	HALT 50W	1.5 t.	---	

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
SYCAMORE AND LONDON PLANE TREE				
Anthracnose				
	bordeaux mixture	8 T.	8 lb.	Destroy fallen leaves. Valuable specimens can be protected with fungicides. Apply as leaves unfurl and repeat at 7- to 14-day intervals.
	chlorothalonil CONCORDE DF	---	1.4 lb.	Destroy fallen leaves. Valuable specimens can be protected with fungicides. Apply as leaves unfurl and repeat at 7- to 14-day intervals.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN	2 t.	2 pt.	
	ECHO DF	---	1.25 lb.	
	FUNG-ONIL	2.25 t.	---	
	GARDEN FUNGICIDE	2.25 t.	---	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	chlorothalonil + fenarimol TWSOME 4.4F	2 t.	2 pt.	
	chlorothalonil + thiophanate- methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.
	copper hydroxide CUPRO 2005 T/N/O	---	0.75-2 lb./A	Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	copper sulfate pentahydrate PHYTON 27	---	35 fl.oz.	Apply at first sign of disease and repeat every 7 to 14 days as needed.
	mancozeb DITHANE M-45 80W	3 t.	1.5 lb.	Apply at budbreak. Repeat at 7- to 14-day intervals until frost. For best results, stay on 7-day spray intervals. Shorten spray intervals during wet weather. Add a spreader-sticker to wettable powder (W) formulations to improve coverage of the foliage.
	FORE 80W	3 t.	1.5 lb.	
	FORE FLOWABLE	---	1.2 qt.	
	JUNCTION	---	1.5 lb.	
	MANCOZEB DG	1.5-3 t.	1-2 lb.	
	PROTECT T/O 80W	3 t.	1.5 lb.	
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Destroy fallen leaves. Valuable specimens can be protected with fungicides. Apply as leaves unfurl and repeat at 7- to 14-day intervals.
	3336 50W	2.33-4 t.	12-16 oz.	
	HALT 50W	2.5 t.	---	

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
Commercial Ornamentals: Disease Control—Woody Trees, Shrubs, and Perennial Ground Covers, Indian Hawthorne–Yucca				
SYCAMORE AND LONDON PLANE TREE (cont.)				
Bacterial Leaf Scorch				
	None labeled		See Comments.	Caused by fastidious bacteria and spread by leaf-hoppers. Remove damaged trees. Common in the southern two-thirds of Alabama.
VIBURNUM				
Downy Mildew				
	azoxystrobin HERITAGE 50W	---	1-2 oz.	Spray to drip. Repeat as needed at 7- to 28-day intervals.
	dimethomorph STATURE DM	---	6.4-12.8 oz.	FOLIAR SPRAY: Apply in sufficient water to thoroughly wet the leaves and stems. Repeat applications at 10 to 14-day intervals through the production cycle.
	mancozeb DITHANE T/O FORE FLOWABLE JUNCTION PROTECT T/O 80W	3 t. --- --- 3 t.	1.5 lb. 1.2 qt. 1.5 lb. 1.5 lb.	Repeat every 7 to 10 days.
Powdery Mildew				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	Apply at first sign of disease and repeat at 7- to 28-day intervals. Use higher rate at shorter intervals on severely diseased plants.
	chlorothalonil CONCORDE DF DACONIL ULTREX DACONIL WEATHER STIK 6F DACONIL ZN ECHO DF FUNG-ONIL GARDEN FUNGICIDE LANDSCAPE AND GARDEN FUNGICIDE	--- --- --- 2 t. --- 2.25 t. 2.25 t. 2 T.	1.4 lb. 1.4 lb. 1.38 pt. 2 pt. 1.25 lb. --- --- ---	Apply at first sign of disease (midsummer) and repeat at 7- to 10-day intervals.
	chlorothalonil + fenarimol TWOsome 4.4F	2 t.	2 pt.	Apply at first sign of disease (midsummer) and repeat at 7- to 10-day intervals.
	chlorothalonil + thiophanate- methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.
	myclobutanil EAGLE WSP EAGLE 20EW IMMUNOX SYSTHANE WSP	--- --- 2 T. ---	3-6 oz. 8 fl.oz. --- 3-6 oz.	Apply at first sign of disease; repeat at 10- to 14-day intervals. Add a non-ionic surfactant to the tank mixture. Systhane is cleared for nursery use.
	paraffinic oil SUNSPRAY ULTRA FINE OIL	2.5-5 T.	1% v/v	Apply at first sign of disease and reapply every 1 to 2 weeks. Do not apply when temperatures exceed 85°F.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
VIBURNUM (cont.)				
Powdery Mildew (cont.)				
	tebuconazole DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	thiophanate-methyl 3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	Apply at first sign of disease (midsummer) and repeat at 7- to 10-day intervals.
	3336 50W	2.33-4 t.	12-24 oz.	
	HALT 50W	1.5 t.	---	
	OHP 6672 50W	---	12-24 oz.	
	thiophanate-methyl + iprodione BENEFIT	---	17-34 fl.oz.	Apply to point of run-off. Repeat at 10- to 14-day intervals as needed. See label for further directions.
	triadimefon BAYLETON T/O	---	1-2 oz.	Bayleton is cleared for landscape use only. Apply Systemic Fungicide as a full cover spray when symptoms first appear and repeat every 7 to 14 days.
	STRIKE 25W	---	2-4 oz.	
	SYSTEMIC FUNGICIDE FOR TURF AND ORNAMENTALS	1-2 T.	---	
Southern Blight				
	azoxystrobin HERITAGE 50W	---	1-4 oz.	SOIL DRENCH: Apply from late spring through early fall on 7- to 21-day intervals as needed. Use higher rate at shorter intervals when disease is present.
	flutolanil CONTRAST 70WSP	---	3-6 oz.	SOIL DRENCH: Apply 1 to 2 pints of suspension per square foot of bed or bench area. Retreat every 21 to 28 days until crop is finished. See label for drench rates on larger containers and for additional information. May be applied through overhead, microjet, and drip irrigation systems.
	PROSTAR 70W	---	3-6 oz.	
	PCNB DEFEND 2L DEFEND 10G DEFEND 75W TERRACLOR 75W	See Comments.		See Aucuba: Southern Stem Rot. Occurs on <i>V. x pragense</i> in early to midsummer.
WALNUT				
Anthracnose				
	chlorothalonil CONCORDE DF	---	1.4 lb.	Apply at 7- to 14-day intervals.
	DACONIL ULTREX	---	1.4 lb.	
	DACONIL WEATHER STIK 6F	---	1.38 pt.	
	DACONIL ZN LANDSCAPE AND GARDEN FUNGICIDE	2 t. 2 T.	2 pt. ---	
	chlorothalonil + thiophanate-methyl SPECTRO 90	---	1-2 lb.	See Comments for chlorothalonil, above.

Host and Disease	Fungicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
WALNUT (cont.)				
Anthracnose (cont.)				
	mancozeb			FOLIAR SPRAY: Begin sprays when plants are fully leafed out. Repeat every 7 to 10 days as needed. Add a non-ionic surfactant to the tank mix.
	DITHANE T/O	3 t.	1.5 lb.	
	FORE FLO 37F	---	1.2 qt.	
	JUNCTION	---	1.5 lb.	
	MANCOZEB DG	1.5-3 t.	1-2 lb.	
	PROTECT T/O 80W	3 t.	1.5 lb.	
	propiconazole			Apply at 14- to 21-day intervals. Use sufficient volume of water mixed with Propensity to thoroughly cover the leaves and stems. Repeat applications at 21-day intervals.
	BANNER MAXX	---	5-8 fl.oz.	
	PROPENSITY 1.3MEC	---	6-8 fl.oz.	
WILLOW				
Anthracnose				
	copper ammonium complex			Apply at first sign of disease and repeat applications every 7 to 14 days as needed. Shorten application interval when disease is severe.
	LIQUID COPPER FUNGICIDE	2 t.	---	
	copper hydroxide			Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on possible phytotoxicity.
	CUPRO 2005 T/N/O	---	0.75-2 lb./A	
	tebuconazole			Make three applications at 7- to 14-day intervals as needed to control disease. Make first application at first sign of disease.
	DISEASE CONTROL FOR ROSES, FLOWERS, AND SHRUBS	1.5 T.	---	
Crown Gall				
	Agrobacterium radio-bactor Strain 84			See Euonymus: Crown Gall.
	GALLEX	See Comments.		
	GALLTROL 1.2%			
	NORBAC 84C			
Leaf Spot				
	copper hydroxide			Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	CUPRO 2005 T/N/O	---	0.75-2 lb./A	
	thiophanate-methyl			Apply at first sign of disease and repeat every 7 to 14 days.
	3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	
	3336 50W	2.33-4 t.	12-16 oz.	
YUCCA				
Cercospora and Septoria Leaf Spot				
	azoxystrobin			Apply at first sign of disease and repeat at 14- to 28-day intervals.
	HERITAGE 50W	---	1-4 oz.	
	chlorothalonil			Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	CONCORDE DF	---	1-2.5 lb.	
	LANDSCAPE AND GARDEN FUNGICIDE	2 T.	---	
	copper hydroxide			Apply at first sign of disease and reapply at 7- to 14-day intervals. See label for information on phytotoxicity.
	CUPRO 2005 T/N/O	---	0.75-2 lb./A	
	thiophanate-methyl			Apply at first sign of disease. Repeat at 7- to 14-day intervals.
	3336 4.5F	0.5-1.25 t.	10-20 fl.oz.	
	3336 50W	2.33-4 t.	12-16 oz.	

NEMATODE CONTROL

Commercial Ornamentals: Nematode Control				
Host and Disease	Nematicide and Formulation	Rates (Unless Stated Otherwise)		Comments
		Per Gallon	Per 100 Gallons	
REGISTERED CROPS: Herbaceous annuals and perennials, trees, shrubs				
	1-3 dichloropropene TELONE			PREPLANT BROADCAST: Apply with mold board or chisel equipment with injectors 12 inches apart to a depth of 10 to 12 inches. Compact soil with press wheel or drag immediately after application. Leave area undisturbed for 7 to 14 days before planting. Application rate varies by soil type. Consult label for further instructions. Commercial nursery use ONLY . Telone is a RESTRICTED USE pesticide.
	liquid carbamate VAPAM	See Comments.		See Annuals And Bedding Plants: Soil Pasteurization /Fumigation. CERTIFIED APPLICATOR USE ONLY . Vapam is a RESTRICTED USE pesticide.
	steam	See Comments.		See Annuals And Bedding Plants: Soil Pasteurization /Fumigation.
REGISTERED CROPS: All annual and perennial flowers and herbs, woody trees, shrubs				
	chitin and other organic nitrogen sources CLANDOSAN 618	---	50-140 lb.	PREPLANT INCORPORATED: Treats 1000 square feet of bed area. Till to 6- to 8-inch depth. BROADCAST POSTPLANT: Treats 1000 square feet of bed area. Irrigate with 0.5 inch water to avoid burn. Contains 10.4 percent nitrogen.
	ABG-9008 <i>Myrothecium serrucaria</i> Di Tera ES	---	5-40 gal./A	PREPLANT BAND: Apply as a 12-inch band over the row middle. Repeat as needed. SOIL DRENCH: Repeat as needed on container plants. See label for additional application directions and rates.

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For more information, call your county Extension office. It is listed in your telephone directory under your county's name.

Use pesticides **only** according to the directions on the label. Follow all directions, precautions, and restrictions that are listed. Do not use pesticides on plants that are not listed on the label.

The pesticide rates in this publication are recommended **only** if they are registered with the Environmental Protection Agency or the Alabama Department of Agriculture and Industries. If a registration is changed or cancelled, the rate listed here is no longer recommended. Before you apply **any** pesticide, check with your county Extension agent for the latest information.

Trade names are used **only** to give specific information. The Alabama Cooperative Extension System does not endorse or guarantee any product and does not recommend one product instead of another that might be similar.

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