

**SMALL FRUIT DISEASES (Commercial)**

Sherrie Smith

Growth Stage	Disease	Product	Active Ingredient	Rate/Acre	Comments	
<b>GRAPES</b>						
Dormant	Anthracnose	Liquid lime-sulfur		10 gal	Apply in late winter before buds swell.	
	Eutypa Black rot Phomopsis	Nu-Cop 50DF	cupric hydroxide	2 lb	Begin applications late dormancy before bud break.	
Bud Break to Bloom	Black rot Phomopsis Downy mildew Angular leaf scorch	Mancozeb 75DF	mancozeb	3 - 4 lb	Various brand names. Early sprays are critical for control of black rot if the disease has been a historical problem.	
		Captan 50WP	captan	3 - 4 lb		
		Ziram 76DF	ziram	3 - 4 lb		
		Abound 2.08 FL	azoxystrobin	11 - 15.4 fl oz		
		Sovran 50WG	kresoxim-methyl	3.2 - 5.6 oz		
		Flint 50WG	trifloxystrobin	1.5 - 4 oz		
		Adament 50WG	tebuconazole + trifloxystrobin	3 - 7.2 oz		
		Pristine	boscalid + pyraclostrobin	6 - 10.5 oz	DO NOT APPLY FLINT OR ADAMENT TO CONCORD OR RELATED VARIETIES AS INJURY MAY RESULT!	
		Bunch rot Dead arm Downy mildew	Gavel 75DF	mancozeb + zoxamide	2 - 2.5 lb	Apply when new shoots are 1/2 to 1 1/2 inches long. Repeat when shoots are 3 to 5 inches long, when shoots are 8 to 10 inches long and then at 7 - 10 day intervals.
			Aliette WDG	aluminum tris	3 - 5 lb	Continue applications on a 21 day interval when conditions are favorable for disease.
			Topsin M WSB	thiophanate-methyl	0.75 - 1.5 lb	
		Powdery mildew	Abound 2.08 FL	azoxystrobin	11 - 15.4 fl oz	DO NOT APPLY FLINT TO CONCORD OR RELATED VARIETIES AS INJURY MAY RESULT!
			Sovran 50WG	kresoxim-methyl	3.2 - 5.6 oz	
			Flint 50WG	trifloxystrobin	1.5 - 4 oz	
	Nova 40WP		myclobutanil	3 - 5 oz		
	Rubigan		fenarimol	3 fl oz		
		Procure 50WS	triflumizole	4 - 8 oz		
		Pristine	boscalid + pyraclostrobin	6 - 10.5 oz	DO NOT APPLY TO CONCORD, WORDEN, FREDONIA AND RELATED VARIETIES AS LEAF INJURY MAY RESULT- SEE LABEL!	
		Quintec	quinoxifen	3 - 4 fl oz	Apply prior to disease on 14 day interval. Rotate with other chemistry. See label.	
		Tebuzol 45DF	tebuconazole	4 oz	Apply as a preventative on 21 day interval.	
		Adament 50WG	tebuconazole + trifloxystrobin	3 - 4 oz	Apply prior to disease on 14 or 21 day interval. See label restrictions.	

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<b>GRAPES (cont.)</b>					
Bloom	Same as Bud Break Botrytis bunch rot	Same as Bud Break			
		Rovral 50WP	iprodione	1.5 - 2 lb	Apply at early bloom, again just prior to bunch closing, and again at early ripening. As for Rovral. As for Rovral. PHI = 0 days. Rotate chemistry after 2 apps. Apply when disease is anticipated. Repeat at 7 day intervals or as needed. <b>DO NOT APPLY TO CONCORD, WORDEN, FREDONIA AND RELATED VARIETIES AS LEAF INJURY MAY RESULT– SEE LABEL!</b> Do not apply within 7 days of harvest.
		Vanguard 75WG	cyprodinil	10 oz	
		Elevate 50WG	fenhexamid	1 lb	
		Botran 75W	dicloran	2 - 4 2/3 lb	
Pristine	boscalid + pyraclostrobin	8 - 12.5 oz			
		Scala Adament 50WG	pyrimethanil tebuconazole + trifloxystrobin	18 oz 6 oz	
Shatter	Black rot Downy mildew Powdery mildew	Abound 2.08 FL	azoxystrobin	11 - 15.4 fl oz	<b>DO NOT APPLY FLINT OR ADAMENT TO CONCORD OR RELATED VARIETIES AS INJURY MAY RESULT!</b>
		Sovran 50WG	kresoxim-methyl	3.2 - 5.6 oz	
		Flint 50WG	trifloxystrobin	1.5 - 4 oz	
		Nova 40WP	myclobutanil	3 - 5 oz	
		Rubigan	fenarimol	3 fl oz	
		Procure 50WS	triflumizole	4 - 8 oz	
		Bayleton 50WP	triadimefon	2 - 6 oz	
		Mancozeb 75DF	mancozeb	3 - 4 lb	
		Captan 50WP	captan	3 - 4 lb	
		Ziram 76DF	ziram	3 - 4 lb	
		Pristine	boscalid + pyraclostrobin	6 - 10.5 oz	
		Adament 50WG	tebuconazole + trifloxystrobin	3 - 7.2 oz	<b>DO NOT APPLY TO CONCORD, WORDEN, FREDONIA AND RELATED VARIETIES AS LEAF INJURY MAY RESULT– SEE LABEL!</b>
First Cover to Veraison	Black rot, downy mildew, powdery mildew	Same as Shatter			
Veraison to Harvest	Botrytis bunch rot	See Bloom Section			
	Powdery mildew	Abound 2.08 FL	azoxystrobin	11 - 15.4 fl oz	<b>DO NOT APPLY TO CONCORD, WORDEN, FREDONIA AND RELATED VARIETIES AS LEAF INJURY MAY RESULT– SEE LABEL!</b>
		Sovran 50WG	kresoxim-methyl	3.2 - 5.6 oz	
		Flint 50WG	trifloxystrobin	1.5 - 4 oz	
		Nova 40WP	myclobutanil	3 - 5 oz	
		Rubigan	fenarimol	3 fl oz	
		Procure 50WS	triflumizole	4 - 8 oz	
		Bayleton 50WP	triadimefon	2 - 6 oz	
		Pristine	boscalid + pyraclostrobin	6 - 10.5 oz	
				Adament 50WG	
Downy mildew	Captan 50WP	captan	3 - 4 lb		
	Abound 2.08 FL	azoxystrobin	11 - 15.4 fl oz		
	Pristine	boscalid + pyraclostrobin	6 - 10.5 oz		
		Adament 50WG	tebuconazole + trifloxystrobin	7.2 oz	<b>DO NOT APPLY TO CONCORD, WORDEN, FREDONIA AND RELATED VARIETIES AS LEAF INJURY MAY RESULT– SEE LABEL!</b>

### SMALL FRUIT DISEASES (Commercial) – continued

Growth Stage	Disease	Product	Active Ingredient	Rate/Acre	Comments
<b>BLUEBERRY</b>					
Dormant	Phomopsis blights	Kocide 3000	copper hydroxide	1 - 2.5 lb	Dormant application. Begin at bud swell.
	Bacterial blight				
	Mummy berry	Lime-sulfur spray	sulfur	6 gal	Apply at delayed dormant stage when leaf buds start to break.
		Abound	azoxystrobin	6 - 15.5 fl oz	Do not apply more than 2 consecutive sprays of Abound before switching to a fungicide with a different mode of action. PHI for Abound is 0 days. Do not apply more than 1.44 qts per acre per season nor make more than 3 applications per acre per crop year.
	Phytophthora root rot	Ridomil Gold EC	mefenoxam	3.6 pt/A broadcast basis See label.	Ridomil Gold EC will not revitalize plants showing moderate to severe root rot symptoms.
Green Tip	Stem canker	Captan 50WP	captan	5 lb	
	Stem blight	Abound 2.08 FL	azoxystrobin	6 - 15.5 fl oz	Do not apply more than 2 consecutive sprays of Abound before switching to a fungicide with a different mode of action. PHI for Abound is 0 days. Do not apply more than 1.44 qts per acre per season nor make more than 3 applications per acre per crop year.
	Mummy berry (shoot blight)				
	Alternaria leaf spot and fruit rot Anthracnose leaf spot and blotch Phomopsis leaf, twig and fruit blights Powdery mildew	Cabrio 20 EG	pyraclostrobin	14 oz	No more than 4 applications per season. PHI = 0 days. May provide suppression only of Mummy Berry.
Alternaria leaf spot and fruit rot Anthracnose leaf spot and blotch Phomopsis leaf, twig and fruit blights	Pristine	boscalid + pyraclostrobin	18.5 - 23 oz	Broad spectrum fungicide. See label. Best as a preventative. Begin applications of Pristine® fungicide prior to onset of disease development and continue on a 7 - 14 day interval.	
Botrytis gray mold Mummy berry Powdery mildew	Tilt	propiconazole	6 oz	See label.	

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Growth Stage	Disease	Product	Active Ingredient	Rate/Acre	Comments
<b>BLUEBERRY (cont.)</b>					
Early Bloom	Stem canker Stem blight Mummy berry	Same as Green Tip			
	Anthracnose	Pristine	boscalid + pyraclostrobin	18.5 - 23 oz	Do not make more than 4 applications per season or more than 2 sequential app.
	Botrytis blight	Elevate 50WG	fenhexamid	1.5 lb	Begin applications at 10% bloom. Continue through harvest. Applications should be made every 7 days or when conditions favor disease development. See label.
	Gray mold only	Switch 62.5WG	cyprodinil + fludioxonil	11 - 14 oz	PHI = 0 days. Rotate chemistry after 2 app. See label.
	Phytophthora root rot Anthracnose fruit rot Alternaria fruit rot	Aliette WDG	aluminum tris	5 lb	Begin foliar sprays in the spring at approximately the pink bud stage and continue on a 14 - 21 day interval. Use a sufficient volume of water for good coverage.
	Phomopsis canker				Suppression only.
Full Bloom to Early Petal Fall	Same as Early Bloom	Captan 50WP	captan	5 lb	
First and Second Cover	Anthracnose	Captan 50WP	captan	5 lb	Apply only if these diseases have been a problem in the past.
	Stem canker	Pristine	pyraclostrobin	18.5 - 23 oz	Apply Pristine no more than 4 app. in one growing season.
		Abound	azoxystrobin	6 - 15.5 oz	See label.
Third and Additional Covers	Anthracnose Stem canker and stem blight	Same as First Cover			
After Harvest	Stem canker and blight	Captan 50WP	captan	5 lb	Apply monthly after harvest until leaf drop in the fall if these diseases have been a problem.

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Growth Stage	Disease	Product	Active Ingredient	Rate/Acre	Comments
<b>BLACKBERRY, RASPBERRY, LOGANBERRY</b>					
Delayed Dormant	Cane and leaf rusts	Liquid lime-sulfur	sulfur	20 gal	Good coverage is essential.
	Anthracnose Cane blights	Drexel Captan 50W*	captan	4 lb	*Section 24(c) label only for Arkansas. Follow directions. This label must be in the possession of the user at application.
		Pristine	boscalid + pyraclostrobin	18.5 - 23 oz	See label.
	New plants – crown gall	Galltrol	Agrobacterium radiobacter K84		Dip roots in Galltrol before planting.
First Bloom through Petal Fall	Phytophthora root rot	Aliette WG	aluminum tris	5 lb	Begin application in the spring after bud break (1 to 3 inches new growth) and continue spraying on a 45 - 60 day schedule, up to a maximum of 4 sprays during the growing season.
		Abound	azoxystrobin	6 - 15.5 oz	See label information.
	Botrytis fruit rot	Rovral 50WP	iprodione	1 - 2 lb	Commercial use only, not for U-pick, etc.
	Spur blight Anthracnose Botrytis fruit rot	Drexel Captan 50W*	captan	4 lb	*Section 24(c) label only for Arkansas. Follow directions. This label must be in the possession of the user at application.
	Alternaria leaf spot and fruit rot; anthracnose leaf spot and blotch; phomopsis leaf, twig and fruit blights; powdery mildew; rust	Cabrio 20 EG	pyraclostrobin	14 oz	No more than 4 applications per season. No more than 2 sequential applications before rotating to a labeled fungicide with a different mode of action. PHI = 0 days.
		Pristine	boscalid + pyraclostrobin	18.5 - 23 oz	See label.
	Gray mold	Elevate 50WG	fenhexamid	1.5 lb	PHI = 0 days. Rotate after 2 applications. No more than 6 lb/A per season. See label.
	Anthracnose, phomopsis, Botrytis fruit rot	Switch 62.5WG	cyprodinil + fludioxonil	11 - 14 oz	PHI = 0 days. Rotate after 2 applications. No more than 56 ounces per acre per year.
Post Bloom through Harvest	Anthracnose Botrytis fruit rot	Same as First Bloom			Same as above.
	Rust	Cabrio 20 EG	pyraclostrobin	14 oz	Follow label directions. May not control systemically infected plants but helps prevent spread of the fungus to new plants in the spring. See label.
		Pristine	boscalid + pyraclostrobin	18.5 - 23 oz	See label.

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<b>STRAWBERRY</b>						
Pre-Bloom (early spring)	Leaf spot, scorch, blight	Captan 50WP	captan	6 lb	Check label for REI and other restrictions.	
		Thiram 65WP	thiram	5 lb		
	Anthracnose	Captan 50WP	captan	6 lb		Apply on a 7 - 14 day schedule depending on weather and continue through harvest. See label. No more than 2 consecutive before rotating. Begin applications at flower bud emergence, then 7 - 10 day intervals. See label.
		Captivate 68WDG	fenhexamid + captan	5.25 lb		
		Anthracnose Powdery mildew	Abound	azoxystrobin		
Cabrio 20 EG	pyraclostrobin		12 - 14 oz	No more than 5 applications per season (70 oz/A). PHI = 0 days.		
		Pristine	boscalid + pyraclostrobin	18.5 - 23 oz	See label.	
Early Bloom through Bloom	Botrytis blossom blight and fruit rot, leaf spot, scorch, blight	Elevate 50WG + Captan 50WP or Thiram 65WP	fenhexamid captan thiram	1.5 lb 4 lb 4 lb	Elevate and Thiram are for Botrytis only. Begin applications at or before bloom, then 7 - 10 day intervals. See label.	
		Switch 62.5WG	cyprodinil	11 - 14 oz		
		Scala SC	pyrimethanil	18 oz		Apply 9 oz of Scala in tank mix with other material.
	Leather rot	Aliette 50WDG Ridomil Gold EC	aluminum tris mefenoxam	2.5 - 5 lb 1 pt	Apply on 14 day schedule as needed. Apply according to label directions.	
Post-Bloom to Harvest	Botrytis blossom blight and fruit rot, leaf spot, scorch, blight	Same as Early Bloom				
	Leather rot	Same as Early Bloom				
At Harvest	Botrytis fruit rot	Elevate 50WG Topsin M 70WSB	fenhexamid thiophanate-methyl	1.5 lb 1 lb	0 day PHI. 1 day PHI.	
Post-Harvest and New Plantings	Leaf spots, scorch, blights	Captan 50WP	captan	6 lb	Apply as needed to maintain healthy foliage until late fall. Do not apply within 14 days of harvest.	
		Thiram 65WP	thiram	5 lb		
		Topsin M 70WSB Syllit 65WP	thiophanate-methyl dodine	1 lb 2.4 - 3 pt		
	Red stele Leather rot	Ridomil Gold EC Aliette 50WG	mefenoxam aluminum tris	See label. See label.	See label. See label.	

This information was current as of October 1, 2009, and applies only to Arkansas and may not be appropriate for other states or locations. The listing of any product in this publication does not imply endorsement of that product or discrimination against any other product by the University of Arkansas Division of Agriculture. *Every effort was made to ensure accuracy, but the user of any crop protection product must read and follow the most current label on the product – The Label is the Law.* For further assistance, contact the local Cooperative Extension Service office.