College of Agriculture, Food and Environment
Cooperative Extension Service

Plant Pathology Fact Sheet **PPFS-FR-T-14**

Effectiveness of Fungicides for Management of Stone Fruit Diseases

Nicole W Gauthier, Extension Plant Pathologist

This guide is a decision-making tool to help growers select fungicides from different chemical classes (FRAC).[1]
Additional information can be found in a number of UK Cooperative Extension Service publications, including ID-232, or by contacting county Extension agents.

FRAC Code Fungicide Group[1]	Fungicide	Chemical	Brown Rot Blossom Blight *Fungal*	Brown Rot of Fruit *Fungal*	Peach Leaf Curl *Fungal*	Peach Scab *Fungal*	Powdery Mildew *Fungal*	Cherry Leaf Spot *Fungal*	Black Knot *Fungal*	Bacterial Spot of Peach *Bacterial*	Crown Rot, Root Rot, Collar Rot *Oomycetes (water molds)*
1 MBC Benzimidazoles	Upwardly systemic. Fungicide resistance risk high. Tank mix with fungicides from a different fungicide group (FRAC) to prevent or delay resistance development. Do not mix with copper.										
	Topsin M~	thiophanate-methyl	+++	+++		++	+	++	+		
2 Dicarboximide	Locally systemic, long protection period during wet conditions. Do not apply more than 2 applications per season. Multiple modes of action, minimal risk of resistance.										
	Rovral	iprodione	+++	+++				+			
3 Sterol Inhibitors (DMI or SI)	Upwardly systemic. Rainfast in 2 hours. Some curative activity. There is wide variation in activity within this group. Medium risk of resistance. Apply no more than 5 applications per season. Note: This group, which was formerly known as De-Methylation Inhibitors (DMI), are now classified as Sterol Biosynthesis Inhibitors (SBI or SI)										
	Adamant*	tebuconazole + trifloxystrobin	+++	+++		+++	+++	+++			
	Indar	fenbuconazole	+++	+++			++	+++			
	Inspire Super*	difenoconazole + cyprodinil	+++	+++		++	+++				
	Orbit	propiconazole	+++	+++		++	++	++			
	Procure	triflumizole	++	++			+++	++			
	Quash	metconazole	++	++		++					
	Rally	myclobutanil	+++				+++	+++			
	Rubigan	fenarimol					++	+++			
	Topguard	flutriafol	+++	+++			++	++			

FRAC Code Fungicide Group[1]	Fungicide	Chemical	Brown Rot Blossom Blight *Fungal*	Brown Rot of Fruit *Fungal*	Peach Leaf Curl *Fungal*	Peach Scab *Fungal*	Powdery Mildew *Fungal*	Cherry Leaf Spot *Fungal*	Black Knot *Fungal*	Bacterial Spot of Peach *Bacterial*	Crown Rot, Root Rot, Collar Rot *Oomycetes (water molds)*
4 PhenylAmides	Systemic fungicide effective against oomycetes (water molds) such as *Phytophthora, Pythium* , and downy mildew. High risk for fungicide resistance development. During wet years, apply just before growth starts in spring and at 2 to 3 month intervals (as long as conditions are wet) to protect against *Phytophthora* diseases.										
	Ridomil	mefenoxam									+++
7 Succinate Dehydrogenase Inhibitors (SDHI)	Upwardly systemic fungicide with varying degrees of systemic activity. Medium to high risk for resistance. Do not exceed more than 5 applications per season. Fluopyram, marketed as Luna, is labeled for cherry, but not for peach										
	Fontelis	penthiopyrad	+++	+++		+ / ++	++	+ / ++			
	Luna Sensation*	fluopyram + trifloxystrobin	+++	+++			++	+ / ++			
	Merivon*	pyraclostrobin + fluxapyroxad	+++	+++		+ / ++	++	+ / ++			
	Pristine*	pyraclostrobin + boscalid	++	++		++	+++	+++			
9 Anilino-Pyrimidines	Upwardly systemic. Medium risk for resistance development. Apply no more than 3 applications per season.										
	Inspire Super*	difenoconazole + cyprodinil	+++	+++		++	+++				
	Scala	pyrimethanil	++	++							
	Vangard	cyprodinil	++	++							
11 Quinone outside Inhibitors (QoI)	Locally systemic. Broad spectrum fungicide. High risk for resistance development. Do not make more than 4 applications per season. Note: This group may also be referred to as Strobilurins.										
	Adamant*	tebuconazole + trifloxystrobin	+++	+++		+++	+++	+++			
	Gem	trifloxystrobin				+++	++	+++			
	Luna Sensation*	fluopyram + trifloxystrobin	+++	+++			++	+ / ++			
	Merivon*	pyraclostrobin + fluxapyroxad	+++	+++		+ / ++	++	+ / ++			
	Pristine*	pyraclostrobin + boscalid	++	++		++	+++	+++			

FRAC Code Fungicide Group[1]	Fungicide	Chemical	Brown Rot Blossom Blight *Fungal*	Brown Rot of Fruit *Fungal*	Peach Leaf Curl *Fungal*	Peach Scab *Fungal*	Powdery Mildew *Fungal*	Cherry Leaf Spot *Fungal*	Black Knot *Fungal*	Bacterial Spot of Peach *Bacterial*	Crown Rot, Root Rot, Collar Rot *Oomycetes (water molds)*
13 Azanaphthalenes	Upwardly systemic fungicide with some downward-moving ability. Effective for protection against powdery mildew. Most effective during the early stages of powdery mildew development as a protectant only. Medium risk for resistance. Do not make more than 5 applications per season.										
	Quintec	quinoxyfen					++				
17 SBI: Class III	Locally systemic Low to medium risk for resistance. Maximum of 3 applications per season										
	Elevate	fenhexamid	+++	+++							
	Captevate	captan + fenhexamid	+++	+++				++	++		
33 Phosphonates	Fully systemic; when applied to leaves, product can translocate to lower parts. Low risk for fungicide resistance development. Effective against water molds.										
	Aliette	fosetyl-AL									++
	Agri-Fos	phosphorus acid									++
	ProPhyt	phosphorus acid									++
M Multi-site Inhibitors	Broad spectrum protectants. Best applied early-season as a protectant before infection. Not systemic, washes off in the rain. Low risk of resistance.										
	Bravo	chlorothalonil	++		+++	++		+++	+++		
	Captan	captan	++	+ / ++		++		++	++	++	
	Copper	copper			++		+	++		++	
	Sulfur	sultur	+			++	++				
	Syllit	dodine			++			++		++	
	Ziram	ziram	+	+	++	++		+			
Bactericides	Antibiotics for control of bacterial pathogens. Resistance to streptomycin is widespread. Do not apply more than 3 to 4 applications of streptomycin per season. Do not apply more than 5 applications of oxytetracycline per season. If rainy weather persists during June and July, apply bactericides beginning at shuck split at 7-day intervals until 3-weeks before harvest										
	FireLine	oxytetracycline								+++	
	Mycoshield	oxytetracycline								+++	

Notes

[1] FRAC codes group fungicides by their mode of action. Fungicides groups should be rotated in order to prolong the effectiveness of fungicides.

~ Never apply Topsin M alone. Combine with unrelated fungicide such as Captan.

* Chemical contains more than one active ingredient, thus more than one FRAC code is assigned.

Efficacy ratings

+++ highly effective

++ moderately effective

\+ slightly effective

June 2019

Check fungicide labels for specific host information, possible phytotoxicity, rates, re-entry intervals, and resistance management information. Always follow label instructions.