

2023



EXTENSION AND ADVISORY TEAM

# STONE FRUIT PEST MANAGEMENT GUIDE

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A guide to insect, mite and disease management in peach, plum, and sweet and sour cherry orchards in Nova Scotia



**Discard old editions of the pest management guide. Each year, the Perennia Tree Fruit Specialist updates the pesticides and information contained in this publication.**

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*Note: Perennia offers supplemental guides for pome fruit and organic production on our website at [www.perennia.ca](http://www.perennia.ca) > Agriculture > Product Information > Fruits > Tree Fruit*

## **Emergency and First Aid Procedure for Pesticide Poisoning**

- Become familiar with the chemicals you are using. Keep a list of common and active ingredient names in case of accidents or emergencies. This information can be found on product labels and cross-referenced in this publication.
- If poisoning from exposure to a pesticide by swallowing, inhalation or contact with skin or eyes is suspected, read the product label of the pesticide container and carry out first aid treatment as suggested.
- If a person is seriously injured, call **911** immediately.
- Emergency advice on pesticide poisoning is available 24 hours/day from the IWK Regional Poison Information Centre, Halifax, NS. Phone: 1-800-565-8161 (NS & PEI).

### **Sources of Information on Pesticides**

Information Service of the Pest Management Regulatory Agency

Phone: 1-800-267-6315

Web Site: <http://www.hc-sc.gc.ca/cps-spc/pest/index-eng.php>

Pest Management Regulatory Agency –Electronic Labels: Search Tool

Web Site: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>

Ontario Pesticides Classification Database

Web Site: <https://www.lrcsde.lrc.gov.on.ca/PCDWeb/showSearch.action>

National Pesticide Information Centre

Web Site: <http://npic.orst.edu/>

Environmental Emergencies – Nova Scotia

Pesticide and Chemical spills

Phone: 1-800-565-1633

Organic Agriculture Centre of Canada

Web Site: <http://www.organicagcentre.ca/>

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# 1. Pesticide Handling and Application

## Registration of Pesticides

A pesticide that is used in Nova Scotia must be registered by the Pest Management Regulatory Agency (PMRA) of Health Canada, and be approved for use in the province of Nova Scotia. All registered pesticides may be re-evaluated and are subject to discontinuation if they do not meet current standards. The pesticide product label is a legal document, and all label directions must be followed.

- To search for product labels, visit the Health Canada website: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>
- To download the smartphone application, search for the app “Pesticide Labels” by Health Canada.

## Applicator Pesticide Certification

Applicators must hold a valid applicator certificate of qualification to apply a commercial class pesticide in Nova Scotia. The regional offices for Nova Scotia Environment offer certificates, approvals, exams and exam study materials.

- Central Region: Halifax and Hants Counties, (902) 424-7773
- Western Region: Kings, Annapolis, Digby, Yarmouth, Shelburne, Queens and Lunenburg, (902) 679-6086

## Environmental Stewardship

Environmental stewardship and food safety programs are important components of best management practice for fruit production. Guidelines and fact sheets have been developed under the Nova Scotia Environmental Farm Program for the best means to store, handle, and apply pesticides. Factsheets on the NS Federation website (<http://www.nsfafane.ca/efp/resources/factsheets/>) include:

- On-farm Pesticide Use
- Pesticide Storage and Handling
- Air-Blast Sprayer Calibration for Orchard and Vineyards
- Tree-Row Volume: Concept, Calculations and Application

## Food Safety

The CHC CanadaGap on-farm food safety manual provides procedures and guidelines with regard to the safe handling, storage and record keeping for tree fruit pesticides and fertilizers: <http://www.canadagap.ca/manuals/downloads/>

## Buffer Zones

Most pesticide labels have a required distance between site of spray application and a buffer zone. A buffer zone is the distance between the point of direct pesticide application and the nearest downwind boundary of a sensitive habitat. A buffer zone is a no-spray area because the sensitive habitat contains organisms that are affected by the pesticide being applied. A sensitive area may be aquatic, terrestrial (shelterbelts and woodlots) or a combination (wetlands, marshes etc). It is the applicator’s responsibility to identify the sensitive areas within and adjacent to treated fields.

## Pesticide Formulation Abbreviations

DF	dry flowable	SG	soluble granules
DP	dispersible powder	SN	solution
DU	dust	SP	soluble powder
EC	emulsifiable concentrate	SU	suspension
F or FLO	flowable solution	SURF	surfactant
GR or G	granular	W or WP	wettable powder
OD	oil dispersible	WSP	water soluble pouch
SC	spray concentrate	WDG or DG	water dispersible granules

## Warning

Please note that we make no warranty or guarantee of any kind, expressed or implied, concerning the use of products listed in this publication. The user assumes all risks, whether recommendations are followed or not. This publication is intended as a guide only.

For specific product information always refer to and follow directions on the label.

## 2. Pesticides Listed in this Guide

This listing includes all the registered pesticides (excluding herbicides) detailed in the Stone Fruit Management Guide. Products registered for suppression only are not listed in this guide. Products are listed according to primary insects and diseases in Nova Scotia stone fruits. Secondary diseases and pests may be present on some labels. Consult product labels for additional information. **Please note: Red text is new to this guide in 2023**

Active Ingredient	Product	Group Name	Group	Peach	Plum	Sweet Cherry	Sour Cherry	Preharvest Interval (days)	Re-Entry Interval	Management Activity	Diseases/Insects Controlled/Suppressed
<b>FUNGICIDES</b>											
ferbam	Ferbam	Inorganic	M	✓				21	12 h		Peach leaf curl
copper hydroxide	Parasol Flowable	Inorganic	M1	✓	✓	✓		dormant	48 h		Peach leaf curl, bacterial canker (cherry)
BLAD polypeptide	Fracture	Inorganic	M	✓	✓	✓	✓	0	12 h		Brown rot
sulphur	Kumulul	Inorganic	M1	✓	✓		✓	1	24 h		Brown rot, peach scab, powdery mildew
sulphur	Microthiol D./Microscopic Sulphur	Inorganic	M1	✓	✓		✓	1	24 h		Brown rot, peach scab, powdery mildew
basic copper sulphate	Copper	Inorganic	M2	✓				2	48 h		Peach leaf curl
copper octanoate	Cueva	Inorganic	M2	✓	✓	✓	✓	1	12h		Peach leaf curl, bacterial spot, brown rot, bacterial canker (cherry), cherry leaf spot
copper oxychloride	Copper Spray Fungicide	Inorganic	M2	✓		✓	✓	2	48 h		Peach leaf curl, bacterial canker (cherry)
copper oxychloride	Guardman Copper Oxychloride	Inorganic	M2	✓		✓	✓	2	48 h		Peach leaf curl, bacterial canker (cherry)
copper oxychloride	Copper 53 W	Inorganic	M2	✓			✓	2	48 h		Peach leaf curl
captan	Maestro 80 WSP/Supra Captan 80 WSP	Phthalimide	M4	✓	✓	✓	✓	*2	1 d	General	Brown rot, peach scab, black knot, cherry leaf spot
									15 d	Hand harvesting	* If the PHI is 2 days but due to worker safety if the REI for hand harvesting and the pre-harvest interval (PHI) are different, follow the longer of the two intervals.
									29 d	Hand thinning	
chlorothalonil	Bravo ZN	Chloronitrile	M5	✓		✓	✓	*60, 40	12 h	General	Peach leaf curl, brown rot, black knot, cherry leaf spot
									11 d	Hand thinning peaches	*(PHI 60 days peach, PHI 40 days cherries)
									8 d	Hand thinning cherries	
chlorothalonil	Echo	Chloronitrile	M5	✓			✓	*60, 40	12 h	General	Peach leaf curl, brown rot, cherry leaf spot, black knot
									11 d	Hand thinning peaches	*(PHI 60 days peach, PHI 40 days cherries)
									8 d	Hand thinning cherries	
thiophanate-methyl	Senator	MBC	1	✓	✓	✓	✓	1	4 d	Hand thinning	Brown rot
									12 h	All other activities	
triforine	Funginex	DMI	3	✓	✓	✓	✓		48 h		Brown rot (before petal fall only)
fenbuconazole	Inder	DMI	3	✓	✓	✓	✓	1	12 h		Brown rot, black knot
propiconazole	Jade	DMI	3	✓	✓	✓	✓	3	72 h		Brown rot, black knot
propiconazole	Mission	DMI	3	✓	✓	✓	✓	3	72 h		Brown rot, black knot (suppression), cherry leaf spot
propiconazole	Tilt	DMI	3	✓	✓	✓	✓	3	72 h		Brown rot, black knot, cherry leaf spot
propiconazole	Bumper	DMI	3	✓	✓	✓	✓	3	12 h		Brown rot, black knot (suppression), cherry leaf spot
metconazole	Quash	DMI	3	✓	✓	✓	✓	14	12 h		Brown rot, powdery mildew
mefentrifluconazole	Cevya	DMI	3	✓	✓	✓	✓	0	12 h		Brown rot and blossom blight, powdery mildew
myclobutani	Nova	DMI	3	✓		✓	✓	1	12 d	hand thinning	Brown rot
									5 d	hand harvesting	
									12 h	all other	



Active Ingredient	Product	Group Name	Group	Peach	Plum	Sweet Cherry	Sour Cherry	Preharvest Interval (days)	Re-Entry Interval	Management Activity	Diseases/Insects Controlled/Suppressed
boscalid	Cantus	SDHI	7	✓	✓	✓	✓	0	12 h		Brown rot
penthiopyrad	Fontelis	SDHI	7	✓	✓	✓	✓	0	12 h		Brown rot, peach scab, powdery mildew
fluxapyroxad	Sercadis	SDHI	7	✓	✓	✓	✓	0	12 h		Brown rot
fluopyram	Velum Prime	SDHI	7	✓	✓	✓	✓	0	12 h		Soil-dwelling, root-feeding nematodes of stone fruit
pydiflumetofen + difenoconazole	Miravis Duo	SDHI + DMI	7, 3	✓	✓	✓	✓	0	12 h		Brown rot, blossom blight, fruit rot, peach scab
boscalid + pyraclostrobin	Pristine	SDHI + Qol	7,11	✓	✓	✓	✓	1	24h		Brown rot, cherry leaf spot
fluopyram + trifloxystrobin	Luna Sensation	SDHI + Qol	7,11	✓	✓	✓	✓	1	12 h		Brown rot, peach scab, powdery mildew
pyraclostrobin + fluxapyroxad	Merivon	SDHI + Qol	7, 11	✓	✓	✓	✓	0	12 d	Hand thinning	Anthracnose, blossom blight, brown rot, leaf spot, powdery mildew
									5 d	Hand harvesting	
									12 h	Mechanical harvesting and all other activities	
cyprodinil	Vanguard	AP	9	✓	✓			2	72 h		Brown rot
trifloxystrobin	Flint	Qol	11	✓		✓	✓	1	12 h		Cherry leaf spot
fludioxonil	Scholar	Phenylpyroles	12	✓	✓	✓		NA	NA		Postharvest rots
metrafenone	Vivando	Benzophenone	U8	✓				7	12 h		Powdery mildew
dodine	Equal/Syllit	Guanidine	U12	✓		✓	✓	7	48 h		Peach leaf curl, cherry leaf spot
fenhexamid	Elevate	Hydroxynalane	17	✓		✓	✓	1	4 h		Brown rot
<i>Bacillus subtilis</i>	Serenade OPTI	Microbial Disruptors	44	✓	✓	✓	✓	0	when dry		Brown rot
<i>Reynoutria sachalinensis</i>	Regalia Maxx	Biofungicide	P5	✓	✓	✓	✓	0	when dry		Brown rot, powdery mildew, cherry leaf spot
potassium bicarbonate	MilStop		NC	✓				0	4 h		Powdery mildew
potassium bicarbonate	Sirocco		NC	✓				0	4 h		Powdery mildew
mineral oil	Purespray Green	Mineral oil	NC	✓				0	12 h		Powdery mildew
<b>INSECTICIDES/MITICIDES</b>											
petroleum oil	Superior Oil	Mineral oil	NC	✓	✓			0	12 h		European red mite
mineral oil	Purespray Green	Mineral oil	NC	✓	✓			0	12 h		European red mite, aphids (green peach, plum), two-spotted spider mite
potassium salts of fatty acid	Kopa	Insecticidal soap	NC	✓	✓	✓		12 h	12 h		European red mite, aphids (green peach, plum, black cherry), two spotted spider mite
bifenazate	Acramite	Carbazate	UN	✓	✓			7	12 h		European red mite, two-spotted spider mite
phosmet	Imidan	Organophosphate	1B	✓	✓		✓	17	9 d	Hand pruning, scouting, training	Plum curculio, feeding caterpillars, cherry fruit fly, spotted wing drosophila
									12 h	All other activities	
										prohibited Hand thinning	
malathion	Malathion	Organophosphate	1B			✓	✓	7, 3	3 d		Spotted wing drosophila
permethrin	Ambush	Pyrethroid	3	✓	✓			7	12 h		Tarnished plant bug, plum curculio
cypermethrin	Up-Cyde	Pyrethroid	3	✓	✓			7	12 h		Tarnished plant bug, plum curculio
cypermethrin	Ripcord	Pyrethroid	3	✓		✓	✓	7	12 h		Tarnished plant bug, SWD in cherry
deltamethrin	Decis	Pyrethroid	3					1	12 h		Tarnished plant bug

Active Ingredient	Product	Group Name	Group	Peach	Plum	Sweet Cherry	Sour Cherry	Preharvest Interval (days)	Re-Entry Interval	Management Activity	Diseases/Insects Controlled/Suppressed
fenpropathrin	Danitol	DMI	3	✓	✓	✓	✓	16	23 d 16 d 7 d 24 h	Hand thinning Hand harvesting Scouting, hand pruning All other activities	Spotted wing drosophila, twospotted spider mite, tarnished plant bug
lambda-cyhalothrin	Matador/Warrior	Pyrethroid	3	✓	✓	✓	✓	7	24 h		Tarnished plant bug, plum curculio
lambda-cyhalothrin	Silencer	Pyrethroid	3	✓	✓	✓	✓	7	24 h		Tarnished plant bug, plum curculio, cherry fruit fly
permethrin	Pounce	Pyrethroid	3	✓	✓			7	12 h		Tarnished plant bug, plum curculio
permethrin	Perm-Up	Pyrethroid	3	✓	✓			7	12 h		Plum curculio
acetamiprid	Assail	Neonicotinoid	4	✓	✓	✓	✓	7	12 h		Plum curculio, cherry fruit fly
sulfoxaflor	Closer	Neonicotinoid	4C	✓	✓	✓	✓	7	12 h		Aphids (green peach, plum, black cherry)
flupyradifurone	Sivanto Prime	Neonicotinoid	4D	✓	✓	✓	✓	14	12 h		Aphids
spinosad	Entrust	Spinosyns	5			✓	✓	14	12 h		Cherry fruit fly
spinosad	GF-120	Spinosyns	5			✓	✓	0	12 h		Cherry fruit fly
spinetoram	Delegate	Spinosyns	5	✓	✓	✓	✓	5	12 h		Spotted wing drosophila, aphids (green peach), cherry fruit fly suppression
afidopyrophen	Versys	Pyropenes	9D	✓	✓	✓	✓	7	12 h		Black cherry aphid
bacillus thuringiensis	Dipel 2XDF	Bt Microbial	11	✓				0	12 h		Feeding caterpillars
pyridaben	Nexter	Pyridazinone	21	✓				7	24 h		European red mite, two-spotted spider mite
spirotetramat	Movento	Tetronic Acid	23	✓	✓	✓		7	12 h		Aphids (green peach, plum, black cherry)
spirodiclofen	Envidor	Tetronic Acid	23	✓	✓			7	12 h		European red mite, two-spotted spider mite
cyflumetofen	Nealta	Benzoylacetone nitrile	25	✓	✓	✓	✓	7	12 h		European red mite, two-spotted spider mite
cyclaniliprole	Harvanta	Pyrazolylphenyl	28	✓	✓	✓	✓	7	12 h		Spotted wing drosophila, plum curculio
cyantraniliprole	Exirel	Ryanodine receptors	28	✓	✓	✓	✓	3	12 h		Aphids (green peach, plum), plum curculio, feeding caterpillars, cherry fruit fly, spotted wing drosophila
flonicamid	Beleaf	Chordotanol Organ Modulators	29	✓	✓	✓		14	12 h		Aphids (green peach, plum, black cherry)
<b>GROWTH REGULATORS</b>											
Aviglycine hydrochloride	ReTain	Plant growth regulator	NC			✓		Not after petal fall	12 h		Promotion of fruit set
Prohexadione calcium	Apogee	Plant growth regulator	NC			✓	✓	20	12 h		Terminal growth management
Prohexadione calcium	Kudos	Plant growth regulator	NC			✓	✓	20	12 h		Terminal growth management
Gibberellic Acid	Falgro Tablet	Plant growth regulator	NC			✓	✓	21	12 h		Delay fruit ripening 4-5 days, delaying susceptibility to rain cracks
Gibberellic Acid	ProGibb	Plant growth regulator	NC			✓	✓	21	12 h		Delay fruit ripening 4-5 days, delaying susceptibility to rain cracks

### 3. Peach Orchard Calendar

A guide to insect, mite, and disease management in peach orchards.

All rates are based on label rates. In some cases, reduced rates can be used based on factors such as tree size. Please refer to the label, product specific notes or your agricultural advisor for details.

Always read the label before using any pesticide. Where differences between the label and this schedule occur, label information prevails. **Please note: Red text is new to this guide in 2023 and/or serves as an alert.**

Disease & Insect	Products	Group	Formulation	Rate	Notes
<b>DORMANT</b>					
Peach Leaf Curl	If peach leaf curl was not severe in the previous season, a spring fungicide application may not be needed where a fall spray was applied at leaf drop. Spring fungicide applications need to be applied just prior to bud swell (early to mid-April). Delaying the treatment until after bud swell can result in poor control.				
	▶ Bravo ZN	M5	SU	5.0-7.0 L/ha	Do not apply within 10 days of an oil application to prevent burning of flowers and leaf tissue. Apply with a minimum of 1,000 L of water per hectare. Apply one application for peach leaf curl either as a fall or spring dormant spray. DO NOT make more than 3 total applications per year including a dormant spray.
	▶ Echo	M5	90 WSP	2.8-3.9 kg/ha	
	▶ Copper Spray	M2	50 WP	2.0 kg/1,000 L	Apply in 1,000 L of water per hectare. Do not make more than 2 applications per year.
	▶ Copper 53W Guardsman	M2	53 WP	1.9 kg/1,000 L	Do not make more than 2 applications per year.
	▶ Copper Oxchloride 50	M2	50 WP	2.0 kg/1,000 L	Apply in 1,000 L of water per hectare. Do not make more than 2 applications per year.
	▶ Cueva	M1	1.8 S	1% v/v	Do not exceed 5 applications per year. Reapply at 5-10 day intervals.
	▶ Parasol Flowable	M1	SU	4.5-6.7 L/ha	Use higher rate when rainfall is very heavy and disease pressure is high.
	▶ Syllit	U12	400 FL	1.8-3.5 L/1,000 L	Do not make more than 2 applications per year.
Bacterial spot	▶ Cueva	M1	1.8 S	1% v/v	Do not exceed 5 applications per year. Reapply at 5-10 day intervals.
<b>PREBLOOM (Half-inch Green to First Pink)</b>					
European Red Mite	Check compatibility with fungicides for peach leaf curl and brown rot.				
	▶ Superior Oil	NC	70 EC	20 L/1,000 L or 60 L/ha	Best results are obtained when applied with a high volume of water 1,500 to 3,370 L/ha. Do not apply oil during or just prior to expected freezing temperatures or immediately following a frost. Do not apply when temperatures are greater than 30°C.
	▶ Purespray Green Spray Oil	NC	13 E	20 L/1,000 L or 60 L/ha	
	▶ Kopa	NC		2% v/v	Begin applications when population are low and reapply every 1-3 weeks as needed. Test a small area for tolerance before spraying entire block. Applying soaps more than 3 times may cause plant injury. Avoid application in direct sunlight or to plants under stress. Do not exceed 1650 L/ha spray solution on peaches. Combining this product with sulfur or applying this product within 3 days of sulfur application may increase the plant damage caused by sulfur on sensitive plants.
Nematodes	▶ Velum Prime	7	SC	500 mL/ha	Apply specified dosage by chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. For optimum results, apply to trees previously trained to drip, trickle or micro-sprinkler irrigation. Young trees have the most potential benefit. Soil must be lightly pre-wetted prior to application. Do not apply more than 500 g fluopyram/ha per year, noting that the foliar fungicide Luna Sensation also contains fluopyram.
<b>PINK</b>					
Brown Rot (blossom blight stage)	Blossom blight is favoured by wet weather (above 16°C), especially when large numbers of mummies (dried infected fruit) are present on the tree. Apply first spray just before blossoms open, followed by two additional sprays during the bloom period if weather remains favorable for blossom blight. Fungicides in Groups other than M should be used in rotation for resistance management.				
	▶ Fracture	M		1.5-3.3 L/ha	<b>Suppression only.</b> Use high rate under high disease pressure. Do not mix with foliar fertilizers.
	▶ Cueva	M2	1.8 S	0.5-2.0% solution	Apply in 470-940 L of water per hectare. Do not make more than 5 applications per year.

Disease & Insect	Products	Group	Formulation	Rate	Notes
	▶ Maestro	M4	80 WSP	4.00 kg/ha	Use higher rate for greater disease pressure. May cause injury under some circumstances. Do not use 14 days before or after an oil application. Refer to re-entry intervals for specific activities (ranging from 1 to 29 days). If the REI for hand harvesting and the pre-harvest interval (PHI) are different, follow the longer of the two intervals. Do not apply more than one application per year.
	▶ Supra Captan	M	80 WSP	4.00 kg/ha	
	▶ Bravo ZN	M5	SU	5.0-9.0 L/ha	Apply 1-2 applications from pink through shuck period. Use higher rate per hectare for trees greater than 6 metres in height, or if weather is warm (above 16°C) and wet during bloom. DO NOT make more than 3 total applications per year including a dormant spray.
	▶ Echo	M5	90 WSP	2.8-5.0 kg/ha	Apply first application at early bloom. Repeat according to weather conditions.
	▶ Senator	1	50 SC	700 mL/1,000 L	
	▶ Funginex	3	190 EC	2.50 L/ha	
	▶ Indar	3	75 WSP	140 g/ha	
	▶ Tilt	3	250 E	500 mL/ha	
	▶ Jade	3	250 E	500 mL/ha	
	▶ Mission	3	418 EC	300 mL/ha	
	▶ Nova	3	40 WSP	340 g/ha	
	▶ Quash	3	WDG	175-245 mL/ha	
	▶ Cevya	3	SC	0.25 - 0.375 L/ha	
	▶ Bumper	3	432 EC	300 mL/ha	
	▶ Fontelis	7	SC	1.0-1.75 L/ha	
	▶ Cantus	7	WDG	370 g/ha	
	▶ Sercadis	7	300 SU	333 mL/ha	
	▶ Miravis Duo	7, 3	SC	1.0 L/ha	
	▶ Pristine	7, 11	WG	0.75-1.0 kg/ha	
	▶ Luna Sensation	7, 11	SU	300-400 mL/ha	
	▶ Merivon	7, 11	SU	0.3-0.4 L/ha	
	▶ Vanguard	9	75 WG	370 g/ha	
	▶ Elevate	17	50 WDG	1.7 kg/ha	
	▶ Serenade OPTI	44	WP	1.1-1.7 kg/ha	
	▶ Regalia Maxx	P5	LC	0.125-0.25% v/v	

## BLOOM

Brown Rot Use one of the fungicides listed under Pink. If wet weather above 16°C persists during the bloom period, two applications may be required during this stage of development.

Insects **Do not use any insecticides during bloom.**

## PETAL FALL to SHUCK SPLIT

Brown Rot Use one of the fungicides listed under Pink. If wet weather above 16°C persists, additional applications may be required. Do not use Funginex after bloom.

Green Peach Aphid Use one of the following insecticides if treatment for green peach aphid is required.

▶ Closer	4C	SC	100-200 g/ha	Do not apply when bloom or flowering weeds are present. Do not make more than two applications per year.
▶ Sivanto Prime	4D	SN	750 mL/ha	Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha
▶ Movento	23	240 SC	365 mL/ha	Do not apply when bloom or flowering weeds are present. Do not apply more than 1.83 L/ha per year. Control may not be visible for 2-3 weeks after treatment.

Disease & Insect	Products	Group	Formulation	Rate	Notes
	▶ Exirel	28	100 SU	0.75-1.5 L/ha	Do not apply when bloom or flowering weeds are present. Do not make more than 4 applications per year.
	▶ Beleaf	29	50 SG	120-160 g/ha	Use higher rates for greater pest populations and/or dense foliage. Do not make more than three applications per year.
	▶ Kopa	NC	SC	2% v/v	Begin applications when population are low and reapply every 1-3 weeks as needed. Test a small area for tolerance before spraying entire block. Applying soaps more than 3 times may cause plant injury. Avoid application in direct sunlight or to plants under stress. Do not exceed 1650 L/ha spray solution on peaches. Combining this product with sulfur or applying this product within 3 days of sulfur application may increase the plant damage caused by sulfur on sensitive plants.

## SHUCK FALL

Brown Rot	Use one of the fungicides listed under Pink. If wet weather above 16°C persists, additional applications may be required. Do not use Sercadis after petal fall. Do not use Bravo after shuck split.				
Peach Scab	Peaches are susceptible to peach scab infections from shuck fall to 4-6 weeks before harvest. The shuck fall application is particularly important for disease control. Periods of wet weather will require additional applications until 4-6 weeks before harvest.				
	▶ Kumulus	M1	80 DF	22.5 kg/ha	Repeat if weather is wet. Will also control brown rot and powdery mildew.
	▶ Microthiol Disperss	M1	80 WP	7.5 kg/1,000 L	Repeat if weather is wet. Will also control brown rot and powdery mildew.
	▶ Microscopic Sulphur	M1	92 WP	6.5 kg/1,000 L	Repeat if weather is wet. Will also control brown rot.
	▶ Maestro	M4	80 WSP	4.00 kg/ha	Use higher rate for greater disease pressure. May cause injury under some circumstances. Will also control brown rot. Do not use 14 days before or after an oil application. Refer to re-entry intervals for specific activities (ranging from 1 to 29 days). If the REI for hand harvesting and the pre-harvest interval (PHI) are different, follow the longer of the two intervals. Do not apply more than one application per year.
	▶ Supra Captan	M	80 WSP	4.00 kg/ha	Use higher rate and shorter spray intervals when disease pressure is high. Do not use more than 4.5 L/ha per year. Will also control brown rot and powdery mildew.
	▶ Fontelis	7	SC	1.0-1.5 L/ha	Do not apply more than 4.0 L/ha per year. Apply a maximum of 2 applications before switching to a non-group 7 and 3 fungicide.
	▶ Miravis Duo	7, 3	SC	1.0 L/ha	Use no more than two consecutive applications before rotating to a different fungicide group.
	▶ Luna Sensation	7, 11	SU	300-400 mL/ha	
Bacterial Spot	▶ Cueva	M2	1.8 S	0.5-2.0% solution	Use 470-940 L of water per hectare. Do not make more than 5 applications per year.
Powdery Mildew	Symptoms of powdery mildew can be seen on the terminal leaves of shoots where leaves will become white, misshapen and puckered.				
	▶ Kumulus	M1	80 DF	11.3-12.0 kg/ha	Repeat in 10-14 days.
	▶ Quash	3	WDG	280 g/ha	Suppression only.
	▶ Cevya	3	SC	0.25 - 0.375 L/ha	Under high pressure and during rapid growth, use the higher rate and shorter spray interval. Do not use more than 1.125 L/ha per year.
	▶ Fontelis	7	SC	1.0-1.75 L/ha	Begin applications prior to disease development. Use higher rate and shorter interval when disease pressure is high. Will also control scab.
	▶ Luna Sensation	7, 11	SU	300-400 mL/ha	Use no more than two consecutive applications before rotating to a different fungicide group.
	▶ Merivon	7, 11	SU	0.3-0.4 L/ha	Do not make more than 3 applications per year. A nonionic surfactant may be used. Caution should be exercised if tank mixed with products formulated as emulsifiable concentrates (EC). Suppression only but can be used with other products for resistance management. Apply before symptoms develop. Use low rate in 1,000 L water in a tank mix with other powdery mildew fungicides, or high rate in 1,000 L water in rotation with other powdery mildew fungicides.
	▶ Regalia Maxx	P5	LC	0.125-0.25% v/v	Begin applications prior to disease development. Do not make more than 2 applications per year. Use higher rate and shorter interval when disease pressure is high.
	▶ Vivando SC	U8	SC	0.75-1.12 L/ha	
Tarnished Plant Bug	Treatment period is from early green fruit stage to pit hardening. Use one of the following insecticides if tarnished plant bug pressure is high. Repeat treatment in 5-7 days if additional stings are detected.				
	▶ Ambush	3	500 EC	400 ml/ha	

Disease & Insect	Products	Group	Formulation	Rate	Notes
	▶ Matador	3	120 EC	104 mL/ha	Do not make more than three applications per year. Avoid applying synthetic pyrethroids when temperatures rise above 20°C because they are much less effective under these conditions. Synthetic pyrethroid treatments for tarnished plant bug will also control plum curculio. Ambush may provide suppression only under high disease pressure.
	▶ Pounce	3	384 EC	520 mL/ha	
	▶ Silencer	3	120 EC	104 mL/ha	
	▶ Up-Cyde	3	2.5 EC	280 mL/ha	
Plum Curculio	Plum curculio is a sporadic pest of peaches which may not require control. Scout orchard rows bordering woodlands. Check fruit for new damage 7-10 days after treatment and apply a second application if new damage is found.				
	▶ Malathion	1B	85E	490-855 mL/1000L	Do not make more than 1 application per year.
	▶ Pounce	3	384 EC	275-520 mL/ha	Under high insect pressure may only provide suppression.
	▶ Perm-Up	3	EC	520 mL/ha	Under high insect pressure may only provide suppression. Do not make more than 4 applications per year. Use the higher rate under greater insect pressure. Do not make more than four applications per year. See label for incompatible products.
	▶ Assail	4	70 WP	240 g/ha	
	▶ Exirel	28	100 SU	1.0-1.5 L/ha	
<b>FIRST COVER (12 Days After Shuck Fall)</b>					
Brown Rot	Use one of the fungicides listed under Pink. If wet weather above 16°C persists, additional applications may be required.				
Peach Scab	Use one of the fungicides listed under Pink. If wet weather persists, additional applications may be required.				
Bacterial Spot	Use one of the fungicides listed under Shuck Fall if bacterial spot has been a problem.				
Tarnished Plant Bug	Use of the insecticides listed under Shuck Fall if additional plant bug damage is observed after the first application.				
Plum Curculio	Use of the insecticides listed under Shuck Fall if additional plum curculio damage is observed after the first application.				
<b>SECOND COVER (12 Days After First Cover)</b>					
Brown Rot	Use one of the fungicides listed under Pink. If wet weather above 16°C persists, additional applications may be required.				
Peach Scab	Use one of the fungicides listed under Pink. If wet weather persists, additional applications may be required.				
Bacterial Spot	Use one of the fungicides listed under Shuck Fall if bacterial spot has been a problem.				
<b>SUMMER SPRAYS (If Needed)</b>					
European Red Mite & Two-spotted Spider Mite	If monitoring indicates treatment is required use one of the following miticides.				
	▶ Acramite	UN	50 WS	851 g/ha	Do not make more than 1 application per year.
	▶ Nexter	21	75 WP	300-600 g/ha	Do not make more than 1 application per year. Most effective on nymphs. Use 600 g/ha for two-spotted spider mite.
	▶ Envidor	23	240 SC	0.75 L/ha	Do not make more than 1 application per year. Effective on all life stages including eggs, nymphal stages and adult females.
	▶ Nealta	25		1 L/ha	Maximum of 2 applications per growing season. Do not apply if rain is expected within 1 hour.
	▶ Kopa	NC		2% v/v	Begin applications when population are low and reapply every 1-3 weeks as needed. Test a small area for tolerance before spraying entire block. Applying soaps more than 3 times may cause plant injury. Avoid application in direct sunlight or to plants under stress. Do not exceed 1650 L/ha spray solution on peaches. Combining this product with sulfur or applying this product within 3 days of sulfur application may increase the plant damage caused by sulfur on sensitive plants
Spotted Wing Drosophila	Spotted wing drosophila lay eggs in ripening fruit, and larvae may be present at harvest. If monitoring indicates treatment is required, use insecticides weekly. These products rely on contact with spotted wing drosophila adults.				
	▶ Imidan	1B	WP	2.68 kg/ha	<b>All hand thinning activities must be completed prior to application. Do not make more than one application per year. PHI of 17 days. Newly amended labels in effect on October 30, 2022.</b>
	▶ Danitol	3	EC	779-1559 mL/ha	Do not exceed 1 application per year.
	▶ Delegate	5	WDG	420 g/ha	Do not make more than 3 applications per year.
	▶ Exirel	28	SC	1.0-1.5 L/ha	Begin applications when populations are low. Do not make more than 4 applications per season.

Disease & Insect	Products	Group	Formulation	Rate	Notes
	▶ Harvanta	28	50 SL	1.2-1.6 L/ha	Thorough coverage is essential. Do not apply a Group 28 insecticide consecutively more than 2 times within a 30 day period or within a single generation of insect pest.
<b>PREHARVEST</b>					
Brown Rot	Use one of the fungicides listed under Pink. Check labels for pre-harvest intervals (PHI).				
Spotted Wing Drosophila	Use one of the insecticides listed under Summer Sprays.				
<b>POSTHARVEST - FRUIT</b>					
Fruit Rots	Postharvest treatment of fruit will prolong storage life and provide control of post harvest diseases.				
	▶ Scholar	12	230 SC	496 mL/378 L	Apply as dip or drench. Reduces storage rots during wet harvest seasons.
<b>FALL SPRAY</b>					
Peach Leaf Curl	Apply at 75-100% leaf drop in the fall when temperature is above freezing.				
	▶ Cueva	M1	1.8 S	470-940 mL/ha	Apply as a late fall dormant spray during a period of dry weather.
	▶ Bravo ZN	M5	SU	5.0-7.0 L/ha	Do not apply within 10 days of an oil application to prevent burning of flowers and leaf tissue. Apply with a minimum of 1,000 L of water per hectare. Apply one application for peach leaf curl either as a fall or spring dormant spray at 75- 100% leaf drop. DO NOT make more than 3 total applications per year including a dormant spray.
	▶ Echo	M5	90 WSP	2.8-3.9 kg/ha	
	▶ Copper Spray	M2	50 WP	2.0 kg/1,000 L	Apply in 1,000 L of water per hectare. Do not make more than 2 applications per year.
	▶ Copper 53W Guardman	M2	53 WP	1.9 kg/1,000 L	Do not make more than 2 applications per year. Apply in fall after leaves have fallen.
	▶ Copper Oxychloride 50	M2	50 WP	2.0 kg/1,000 L	Apply in 1,000 L of water per hectare. Do not make more than 2 applications per year.
	▶ Parasol Flowable	M1	SU	4.5-8.6 L/ha	Use higher rate when rainfall is very heavy and disease pressure is high.
Peach Canker	The following practices can aid in the prevention and control of peach canker. Delay canker and dead wood removal until June or July when re-growth and healing of the tree can take place rapidly. Conduct surgery to remove cankers when 3-5 days of dry weather are forecast. Surgery involves the removal of all diseased bark from around the canker, removing at least 1.25 cm of healthy tissue from around the ends and side of the canker. The resulting wound when finished should have a smooth margin and be slightly rounded above and below to favour rapid wound closure. It is felt these wounds will heal better if left uncovered. Some pruning paints actually seal in moisture, providing an environment for re-infection.				

## 4. Plum Orchard Calendar

A guide to insect, mite, and disease management in plum orchards.

All rates are based on label rates. In some cases, reduced rates can be used based on factors such as tree size. Please refer to the label, product specific notes or your agricultural advisor for details.

Always read the label before using any pesticide. Where differences between the label and this schedule occur, label information prevails. **Please note: Red text is new to this guide in 2023 and/or serves as an alert.**

Disease & Insect	Products	Group	Formulation	Rate	Notes
<b>DORMANT</b>					
Plum Pockets	Only Japanese cultivars (such as Burbank, Shiro, Early Golden, etc.) are infected by this fungus. Products are no longer available for management. Choose resistant cultivars.				
<b>GREEN TIP (Bud Burst)</b>					
European Red Mite	Check compatibility with fungicides for brown rot.				
	▶ Superior Oil	NC	70 EC	20 L/1,000 L or 60 L/ha	Best results are obtained when applied with a high volume of water 1,500 to 3,370 L/ha. Do not apply oil during or just prior to expected freezing temperatures or immediately following a frost. Check compatibility with fungicides.
	▶ Purespray Green Spray Oil	NC	13 E	20 L/1,000 L or 60 L/ha	
	▶ Kopa	NC	SC	2% v/v	Begin applications when populations are low. Reapply every 1-3 weeks as needed. Test a small area of each variety for tolerance before spraying entire orchard. Applying soaps more than three times may cause plant injury. Avoid application in direct sunlight or to plants under stress. Do not apply more than 950 L/ha spray solution up to fruit formation.
<b>PREBLOOM (When Blossoms Show White)</b>					
Brown Rot (stem rot and blossom blight stages)	Blossom blight is favoured by wet weather (above 16°C), especially when large numbers of mummies (dried infected fruit) are present in the tree. Apply first spray just before blossoms open, followed by two additional sprays during the bloom period if weather remains favorable for blossom blight. Fungicides in Groups other than M should be used in rotation with different Groups for resistance management.				
	▶ Fracture	M		1.5-3.3 L/ha	<b>Suppression only.</b> Use high rate under high disease pressure. Do not mix with foliar fertilizers.
	▶ Cueva	M2	1.8 S	0.5-2.0% solution	Apply in 470-940 L of water per hectare. Do not make more than 5 applications per year.
	▶ Maestro	M4	80 WSP	4.00 kg/ha	Use higher rate for greater disease pressure. May cause injury under some circumstances. Do not use 14 days before or after an oil application. Refer to re-entry intervals for specific activities (ranging from 1 to 29 days). If the REI for hand harvesting and the pre-harvest interval (PHI) are different, follow the longer of the two intervals. Do not apply more than one application per year.
	▶ Supra Captan	M	80 WSP	4.00 kg/ha	
	▶ Senator	1	50 SC	700 mL/1,000 L	Apply first application at early bloom. Repeat according to weather conditions.
	▶ Indar	3	75 WSP	140 g/ha	
	▶ Tilt	3	250 E	500 mL/ha	
	▶ Jade	3	250 E	500 mL/ha	
	▶ Mission	3	418 EC	300 mL/ha	
	▶ Quash	3	WDG	175-245 g/ha	Use higher rate under high disease pressure. Do not make more than 1 application per season.
	▶ Cevya	3	SC	0.25 - 0.375 L/ha	Under high pressure and during rapid growth, use the higher rate and shorter spray interval. Do not use more than 1.125 L/ha per year.
	▶ Bumper	3	432 EC	300 mL/ha	Make 1st application at early bloom with a 2nd application at 50% - 75% bloom. If disease conditions persist, make a 3rd application at petal fall.
	▶ Fontelis	7	SC	1.0-1.75 L/ha	Use higher rate and shorter spray intervals when disease pressure is high. Do not use more than 4.5 L/ha per year.
	▶ Cantus	7	WDG	370 g/ha	Do not make more than 5 applications per year.
	▶ Sercadis	7	300 SU	333 mL/ha	Do not make more than 3 applications per year.
	▶ Miravis Duo	7, 3	SC	1.0 L/ha	Do not apply more than 4.0 L/ha per year. Apply a maximum of 2 applications before switching to a non-group 7 and 3 fungicide.
	▶ Pristine	7, 11	WG	0.75-1.0 kg/ha	Will also control leaf spot and suppress powdery mildew. Do not make more than 5 applications per year.
	▶ Luna Sensation	7, 11	SU	300-400 mL/ha	Do not make more than 2 applications before rotating to another fungicide group.
	▶ Merivon	7, 11	SU	0.3-0.4 L/ha	Do not make more than 3 applications per year. A nonionic surfactant may be used. Caution should be exercised if tank mixed with products formulated as emulsifiable concentrates (EC).



Disease & Insect	Products	Group	Formulation	Rate	Notes
	▶ Vanguard	9	75 WG	370 g/ha	Do not make more than 2 applications per year.
	▶ Serenade OPTI	44	WP	1.1-1.7 kg/ha	Suppression only but can be used with other products for resistance management.
	▶ Regalia Maxx	P5		0.125-0.25% v/v in 500-1,000 L/ha water	Suppression only but can be used with other products for resistance management. Apply before symptoms develop. Use low rate in tank-mix with other brown rot fungicides or high rate in rotation with other brown rot fungicides.
Black Knot	Prune out all knots from orchards during the dormant period and burn all knots to destroy inoculum sources for black knot. Use one of the following fungicides.				
	▶ Maestro	M4	80 WSP	4.00 kg/ha	Use higher rate for greater disease pressure. May cause injury under some circumstances. Do not use 14 days before or after an oil application. Refer to re-entry intervals for specific activities (ranging from 1 to 29 days). If the REI for hand harvesting and the pre-harvest interval (PHI) are different, follow the longer of the two intervals. Do not apply more than one application per year.
	▶ Supra Captan	M	80 WSP	4.00 kg/ha	
	▶ Indar	3	75 WSP	140 g/ha	
	▶ Tilt	3	250 E	500 mL/ha	
	▶ Jade	3	250 E	500 mL/ha	
Nematodes	▶ Velum Prime	7	SC	500 mL/ha	Apply specified dosage by chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. For optimum results, apply to trees previously trained to drip, trickle or micro-sprinkler irrigation. Young trees have the most potential benefit. Soil must be lightly pre-wetted prior to application. Do not apply more than 500 g fluopyram/ha per year, noting that the foliar fungicide Luna Sensation also contains fluopyram.

## BLOOM

Brown Rot & Black Knot Use one of the fungicides listed under Prebloom. If wet weather above 16°C persists during the bloom period, two applications may be required during this stage of development.

Insects **Do not use any insecticides during bloom.**

## PETAL FALL/SHUCK SPLIT

Feeding Caterpillars Use one of the following insecticides if caterpillar feeding damage is present.

	▶ Imidan	1B	70 WP	2.68 kg/ha	All hand thinning activities must be completed prior to application. Do not make more than one application per year. PHI of 17 days. Newly amended labels in effect on October 30, 2022.
	▶ Dipel	11	2X DF	1.13-1.68 kg/ha	Best results if applications made in evening or on cloudy day.
	▶ Exirel	28	100 SU	0.5-1.0 L/ha	Do not make more than four applications per year. See label for incompatible products.

Brown Rot Use one of the fungicides listed under Prebloom. Do not use Sercadis after petal fall.

Plum Curculio Use one of the following insecticides. Treat when shucks are off and temperatures are above 16°C.

	▶ Imidan	1B	70 WP	2.68 kg/ha	Do not make more than 3 applications per year.
	▶ Matador	3	120 EC	104 mL/ha	
	▶ Pounce	3	384 EC	520 mL/ha	
	▶ Warrior	3	120 EC	104 mL/ha	Pyrethroids (Group 3) are disruptive to IPM programs leading to mite flare ups and therefore should be avoided if alternatives are available. Do not make more than three applications per year. Avoid applying synthetic pyrethroids when temperatures rise above 20°C because they are much less effective under these conditions. Under high insect pressure may only provide suppression.
	▶ Silencer	3	120 EC	104 mL/ha	
	▶ Perm-Up	3	EC	520 mL/ha	
	▶ Up-Cyde	3	2.5 EC	400 mL/ha	
	▶ Ambush	3	500 EC	425 mL/ha	May provide suppression only under high pressure.
	▶ Assail	4	70 WP	240 g/ha	Under high insect pressure may only provide suppression. Do not make more than 4 applications per year.
	▶ Exirel	28	100 SU	1.0-1.5 L/ha	Use the higher rate under greater insect pressure. Do not make more than four applications per year. See label for incompatible products.

Black Knot Use one of the fungicides listed under Prebloom.

## FIRST COVER (12 Days After Shuck Fall)

Brown Rot Use one of the fungicides listed under Shuck Fall.

Plum Curculio Use one of the insecticides listed under Shuck Fall.

Black Knot Use one of the fungicides listed under Shuck Fall.

## SECOND COVER (12 Days After First Cover)

Brown Rot Use one of the fungicides listed under Shuck Fall.

Plum Curculio Use one of the insecticides listed under Shuck Fall.

Disease & Insect	Products	Group	Formulation	Rate	Notes
<b>SUMMER SPRAYS (If Needed)</b>					
European Red Mite	If monitoring indicates treatment is required use one of the following miticides.				
	▶ Acramite	UN	50 WS	851 g/ha	Do not make more than 1 application per year.
	▶ Envidor	23	240 SC	0.75 L/ha	Do not make more than 1 application per year. Effective on all life stages including eggs, nymphal stages and adult females.
	▶ Nealta	25		1 L/ha	Maximum of 2 applications per growing season. Do not apply if rain is expected within 1 hour.
Aphids	If monitoring indicates treatment is required use one of the following insecticides.				
	▶ Closer	4C	SC	100-200 mL/ha	Do not apply when bloom or flowering weeds are present. Do not make more than two applications per year.
	▶ Sivanto Prime	4D	SN	750 mL/ha	Maximum Sivanto Prime Insecticide allowed per crop season: 2000 mL/ha
	▶ Versys	9D	EC	100 mL/ha in 1000L/ha water	DO NOT apply more than 2 applications per year.
	▶ Movento	23	240 SC	365 mL/ha	Do not apply when bloom or flowering weeds are present. Do not apply more than 1.83 L/ha per year. Control may not be visible for 2-3 weeks after treatment.
	▶ Exirel	28	100 SU	0.75-1.5 L/ha	Use the higher rate under high pressure. Do not apply when bloom or flowering weeds are present. Do not make more than four applications per year. See label for incompatible products.
	▶ Beleaf	29	50 SG	120-160 g/ha	Use higher rates for greater pest populations and/or dense foliage. Do not make more than three applications per year.
	▶ Kopa	NC	SC	2% v/v	Begin applications when populations are low. Reapply every 1-3 weeks as needed. Test a small area of each variety for tolerance before spraying entire orchard. Applying soaps more than three times may cause plant injury. Avoid application in direct sunlight or to plants under stress. Combining this product with sulfur or applying this product within 3 days of sulfur application may increase the plant damage caused by sulfur on sensitive plants.
Spotted Wing Drosophila	Spotted wing drosophila lay eggs in ripening fruit, and larvae may be present at harvest. If monitoring indicates treatment is required, use insecticides weekly. These products rely on contact with spotted wing drosophila adults.				
	▶ Malathion	1B	85E	610-855mL/1,000L	Will work more effectively if the temperature is 20° C or more or when temperatures will reach or exceed this minimum. Do not make more than 1 application per year.
	▶ Imidan	1B	WP	2.68 kg/ha	All hand thinning activities must be completed prior to application. Do not make more than one application per year. PHI of 17 days. Newly amended labels in effect on October 30, 2022.
	▶ Danitol	3	EC	779-1559 mL/ha	Do not exceed 1 application per year.
	▶ Delegate	5	WDG	420 g/ha	Do not make more than 3 applications per year.
	▶ Exirel	28	SC	1.0-1.5 L/ha	Begin applications when populations are low. Do not make more than 4 applications per season.
	▶ Harvanta	28	50 SL	1.2-1.6 L/ha	Thorough coverage is essential. Do not apply a Group 28 insecticide consecutively more than 2 times within a 30 day period or within a single generation of insect pest.
<b>PREHARVEST</b>					
Brown Rot	Use one of the fungicides listed under Shuck Fall. Check labels for pre-harvest intervals (PHI).				
<b>POSTHARVEST - FRUIT</b>					
Fruit Rots	Postharvest treatment of fruit will prolong storage life and provide control of post harvest diseases.				
	▶ Scholar	12	230 SC	496 mL/378 L	Apply as dip or drench. Reduces storage rots during wet harvest seasons.

## 5. Sweet Cherry Orchard Calendar

A guide to insect, mite, and disease management in sweet cherry orchards.

All rates are based on label rates. In some cases, reduced rates can be used based on factors such as tree size. Please refer to the label, product specific notes or your agricultural advisor for details.

Always read the label before using any pesticide. Where differences between the label and this schedule occur, label information prevails. **Please note: Red text is new to this guide in 2023 and/or serves as an alert.**

Disease & Insect	Products	Group	Formulation	Rate	Notes
<b>DORMANT</b>					
Bacterial Canker	Copper application may help to reduce the incidence of bacterial canker.				
	▶ Copper Spray	M2	50 WP	6-9 kg/1,000 L	Apply in early spring before bud break. Later applications may cause injury. Use the lower rate on small trees and higher rate on large trees. Do not make more than two applications per year.
	▶ Guardsman Copper Oxychloride	M2	50 WP	6-9 kg/1,000 L	Apply in early spring before bud break. Later applications may cause injury. Use the lower rate on small trees and higher rate on large trees. Do not make more than two applications per year.
	▶ Cueva	M1	1.8 S	1% v/v in 470-940 L water/ha	Apply as a dormant spray as buds begin to swell. Repeat at bud burst and weekly up to 6 sprays.
	▶ Parasol Flowable	M1	SU	8.8-13.1 L/ha	Use low rate for small trees and high rate for large trees.
<b>PREBLOOM (When Blossoms Show White)</b>					
Brown Rot (stem rot and blossom blight stages)	Blossom blight is favoured by wet weather (above 16°C), especially when large numbers of mummies (dried infected fruit) are present in the tree. Apply first spray just before blossoms open, followed by two additional sprays during the bloom period if weather remains favorable for blossom blight. Fungicides in Groups other than M should be used in rotation with different Groups for resistance management. Groups 2, 3, 7, 11 and 17 fungicides are locally systemic and will protect fruit from infection as bloom starts to occur. Consult labels for information on drying time required before rain.				
	▶ Cueva	M1	1.8 S	0.5-2.0% solution	Apply in 470-940 L of water per hectare. Do not make more than 5 applications per year. During wet weather additional bloom sprays may be necessary.
	▶ Maestro	M4	80 WSP	4.00 kg/ha	Use higher rate for greater disease pressure. May cause injury under some circumstances. Do not use 14 days before or after an oil application. Refer to re-entry intervals for specific activities (ranging from 1 to 29 days). If the REI for hand harvesting and the pre-harvest interval (PHI) are different, follow the longer of the two intervals. Do not apply more than one application per year.
	▶ Supra Captan	M	80 WSP	4.00 kg/ha	
	▶ Bravo ZN	M5	SU	5-9 L/ha	Apply 1-2 sprays from pink through shuck split at 10 days apart. Do not make more than 2 pre-harvest applications per year. Do not apply within 10 days of an oil application.
	▶ Echo	M5	90 WSP	2.8-5.0 kg/ha	
	▶ Fracture	M		1.5-3.3 L/ha	<b>Suppression only.</b> Use high rate under high disease pressure. Do not mix with foliar fertilizers.
	▶ Senator	1	50 SC	700 mL/1,000 L	Apply first application at early bloom. Repeat according to weather conditions.
	▶ Funginex	3	190 EC	2.50 L/ha	
	▶ Inder	3	75 WSP	140 g/ha	
	▶ Tilt	3	250 E	500 mL/ha	
	▶ Jade	3	250 E	500 mL/ha	
	▶ Mission	3	418 EC	300 mL/ha	
	▶ Nova	3	40 WSP	340 g/ha	Apply when first blossoms are opening. Do not make more than 6 applications per year.
	▶ Quash	3	WDG	175-245 g/ha	Use high rate under high disease pressure. Do not make more than 1 application per season.
	▶ Cevya	3	SC	0.25 - 0.375 L/ha	Under high pressure and during rapid growth, use the higher rate and shorter spray interval. Do not use more than 1.125 L/ha per year.
	▶ Bumper	3	432 EC	300 mL/ha	Make 1st application at early bloom with a 2nd application at 50% - 75% bloom. If disease conditions persist, make a 3rd application at petal fall.
	▶ Fontelis	7	SC	1.0-1.75 L/ha	Use higher rate and shorter spray intervals when disease pressure is high. Do not use more than 4.5 L/ha per year.
	▶ Cantus	7	WDG	370 g/ha	Do not make more than 5 applications per year.
	▶ Sercadis	7	300 SU	333 mL/ha	Do not make more than 3 applications per year.

Disease & Insect	Products	Group	Formulation	Rate	Notes
	▶ Miravis Duo	7, 3	SC	1.0 L/ha	Do not apply more than 4.0 L/ha per year. Apply a maximum of 2 applications before switching to a non-group 7 and 3 fungicide.
	▶ Pristine	7, 11	WG	0.75-1.0 kg/ha	Will also control leaf spot and suppress powdery mildew. Do not make more than 5 applications per year.
	▶ Luna Sensation	7, 11	SU	300-400 mL/ha	Do not make more than 2 consecutive applications before rotating to a different fungicide group.
	▶ Merivon	7, 11	SU	0.3-0.4 L/ha	Do not make more than 3 applications per year. A nonionic surfactant may be used. Caution should be exercised if tank mixed with products formulated as emulsifiable concentrates (EC).
	▶ Elevate	17	50 WDG	1.7 kg/ha	Do not make more than 4 applications per year.
	▶ Serenade OPTI	44	WP	1.1-1.7 kg/ha	<b>Suppression only</b> but can be used with other products for resistance management.
	▶ Regalia Maxx	P5	LC	0.125-0.25% v/v in 500-1,000 L water/ha	<b>Suppression only</b> but can be used with other products for resistance management. Apply before symptoms develop. Use low rate in tank mix with other brown rot fungicides, or use high rate in rotation with other brown rot fungicides.
<b>Nematodes</b>	▶ Velum Prime	7	SC	500 mL/ha	Apply specified dosage by chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. For optimum results, apply to trees previously trained to drip, trickle or micro-sprinkler irrigation. Young trees have the most potential benefit. Soil must be lightly pre-wetted prior to application. Do not apply more than 500 g fluopyram/ha per year, noting that the foliar fungicide Luna Sensation also contains fluopyram.

## BLOOM

Brown Rot (stem rot and blossom blight stages)

Use one of the fungicides listed under Prebloom. If wet weather above 16°C persists during the bloom period, two applications may be required during this stage of development.

Terminal growth management

Can be used to reduce terminal growth. Two weeks are required to slow growth effectively.

	▶ Apogee or Kudos	NC		450 g in 1000 L water	Apply at 5 – 20 cm of new shoot growth. If required, make a second application 14 – 21 days after the initial application (a maximum of 2 applications per season are permitted).
Promotion of fruit set	▶ ReTain	NC		1 pouch of 333 g per acre (0.4 ha)	Use as a single application during bloom. Use sufficient water volume to achieve thorough coverage. Applications between balloon stage to first bloom are most effective. Do not apply after petal fall. Do not apply more than one pouch per 0.4 hectare.

Insects

**Do not use any insecticides during bloom.**

## PETAL FALL

Black Cherry Aphid

Use one of the following insecticides if treatment for black cherry aphid is required.

	▶ Closer	4C		100-200 mL/ha	Apply before populations reach threshold. Where possible, rotate with products outside of group 4. Do not make more than two applications per year.
	▶ Versys	9D	EC	100 mL/ha in 1000L/ha water	DO NOT apply more than 2 applications per year.
	▶ Movento	23	240 SC	365 mL/ha	Do not apply when bloom or flowering weeds are present. Do not apply more than 1.83 L/ha per year. Control may not be visible for 2-3 weeks after treatment.
	▶ Beleaf	29	50 SG	120-160 g/ha	Use higher rates for greater pest populations and/or dense foliage. Do not make more than three applications per year.
	▶ Kopa Insecticidal Soap	NC	SC	2% v/v	Begin applications when populations are low and reapply every 1-3 weeks as needed. Test a small area of each variety for tolerance before spraying entire orchard. Application of soaps more than three times may cause plant injury. Avoid application in direct sunlight or to plants under stress. Do not exceed 950 L/ha up to fruit formation.

## SHUCK FALL

Brown Rot

Use one of the fungicides listed under Prebloom.

Disease & Insect	Products	Group	Formulation	Rate	Notes
Plum Curculio	Use one of the following insecticides. Treat when shucks are off and temperatures are above 16°C.				
	▶ Matador	3	120 EC	104 mL/ha	Pyrethroids (Group 3) are disruptive to IPM programs leading to mite flare ups and therefore should be avoided if alternatives are available. Do not make more than three applications per year. Avoid applying synthetic pyrethroids when temperatures rise above 20°C because they are much less effective under these conditions. Under high insect pressure may only provide suppression.  Under high insect pressure may only provide suppression. Do not make more than 4 applications per year.  Use the higher rate under greater insect pressure. Do not make more than four applications per year. See label for incompatible products.
	▶ Warrior	3	120 EC	104 mL/ha	
	▶ Silencer	3	120 EC	104 mL/ha	
	▶ Assail	4A	70 WP	240 g/ha	
	▶ Exirel	28	100 SU	1.0-1.5 L/ha	

### FIRST COVER (12 Days After Shuck Split)

Brown Rot Use one of the fungicides listed under Prebloom.

Plum Curculio Use one of the insecticides listed under Shuck Fall.

### SECOND COVER (12 Days After First Cover)

Brown Rot Use one of the fungicides listed under Prebloom.

Plum Curculio Use one of the insecticides listed under Shuck Fall if new oviposition scars are found. Some treatments for Cherry Fruit Fly may also control plum curculio.

Cherry Fruit Fly Use one of the following insecticides when monitoring indicates cherry fruit fly activity is present.

	▶ Silencer/Matador	3	120 EC	104 mL/ha	Pyrethroids (Group 3) are disruptive to IPM programs leading to mite flare ups and therefore should be avoided if alternatives are available. Do not make more than three applications per year. Avoid applying synthetic pyrethroids when temperatures rise above 20°C because they are much less effective under these conditions. Will also control plum curculio.
	▶ Delegate	5	WG	420 g/ha	Suppression only. Do not make more than 3 applications per year.
	▶ Entrust	5	240 SC	364 mL/ha	Do not make more than 5 applications per year.
	▶ GF-120	5	S	1.0-1.5 L/ha	Apply at 7 day intervals as fruit ripens, shortening the interval during rainy periods. Do not make more than 10 applications per year.
	▶ Exirel	28	100 SU	1.0-1.5 L/ha	Use the higher rate under greater insect pressure. Do not make more than four applications per year. See label for incompatible products. Will also control plum curculio.

Spotted Wing Drosophila Spotted wing drosophila lay eggs in ripening fruit, and larvae may be present at harvest. If monitoring indicates treatment is required, use insecticides weekly. These products rely on contact with spotted wing drosophila adults.

	▶ Malathion	1B	85E	610-855mL/1,000L	Will work more effectively if the temperature is 20° C or more or when temperatures will reach or exceed this minimum. Do not make more than 1 application per year.
	▶ Danitol	3	EC	779-1559 mL/ha	Do not exceed 1 application per year.
	▶ Delegate	5	WDG	420 g/ha	Do not make more than 3 applications per year.
	▶ Exirel	28	SC	1.0-1.5 L/ha	Begin applications when populations are low. Do not make more than 4 applications per season.
	▶ Harvanta	28	50 SL	1.2-1.6 L/ha	Thorough coverage is essential. Do not apply a Group 28 insecticide consecutively more than 2 times within a 30 day period or within a single generation of insect pest.

Fruit Quality Delay fruit ripening 4-5 days, extending the picking period and delaying the susceptibility of fruit to rain cracks. The treatment also increases fruit size, firmness, and resistance to postharvest disorders.

	▶ Falgro Tablet	NC		20 tablets in 1000 L water	Apply 21 days before normal harvest. The fruit are straw colored at that stage. Harvest when fruits are at the desired shade of red.
	▶ ProGibb	NC	40 SG	50 g in 1000 L water	

### THIRD COVER

Brown Rot Use one of the fungicides listed under Prebloom.

Cherry Fruit Fly Use one of the insecticides listed under Second Cover.

Spotted Wing Drosophila Use one of the insecticides listed under Second Cover.

Disease & Insect	Products	Group	Formulation	Rate	Notes
<b>PREHARVEST</b>					
Brown Rot	Use one of the fungicides listed under Prebloom. Check labels for pre-harvest intervals (PHI).				
Spotted Wing Drosophila	Use one of the insecticides listed under Second Cover.				
<b>POSTHARVEST - FRUIT</b>					
Fruit Rots	Postharvest treatment of fruit will prolong storage life and provide control of post harvest diseases.				
	▶ Scholar	12	230 SC	496 mL/378 L	Apply as dip or drench. Reduces storage rots during wet harvest seasons.
<b>POSTHARVEST - ORCHARD</b>					
Leaf Spot	Only necessary where leaf spot has been a problem in the past.				
	▶ Cueva	M1	1.8 S	1% v/v in 470-940 L water/ha	No product specific comments.
	▶ Maestro	M4	80 WSP	4.00 kg/ha	Do not use 14 days before or after an oil application. Refer to re-entry intervals for specific activities (ranging from 1 to 29 days). If the REI for hand harvesting and the pre-harvest interval (PHI) are different, follow the longer of the two intervals. Do not apply more than one application per year.
	▶ Supra Captan	M	80 WSP	4.00 kg/ha	
	▶ Echo	M	90 DF	3.3-5.0 kg/ha	Apply 1–7 days after fruit is removed. Maximum of 1 postharvest application. Bravo ZN not labelled in sweet cherries for postharvest use.
	▶ Pristine	7, 11	WG	0.75-1.0 kg/ha	Will also suppress powdery mildew. Do not make more than 5 applications per year.
	▶ Merivon	7, 11	SU	0.3-0.4 L/ha	Do not make more than 3 applications per year. A nonionic surfactant may be used. Caution should be exercised if tank mixed with products formulated as emulsifiable concentrates (EC).
	▶ Flint	11	50 WG	175-210 g/ha	Do not make more than 5 applications per year.
	▶ Equal	U12	65 WP	2.25 kg/ha	
	▶ Syllit	U12	400 FL	2.0 L/1,000 L	Do not make more than 4 applications per year.
	▶ Regalia Maxx	P5	LC	0.125-0.5% v/v in 500-1,000 L water/ha	Suppression only but can be used with other products for resistance management. Apply before symptoms develop. Use low rate in a tank-mix with other leaf spot fungicides, or high rate in rotation with other leaf spot fungicides.
<b>FALL SPRAY</b>					
Bacterial Canker	Apply when 75% of leaves have fallen, and where bacterial canker is expected to be a problem.				
	▶ Cueva	M1	1.8 S	1% v/v in 470-940 L water/ha	Apply as dormant spray as buds begin to break in the spring. Apply in the fall at 10-80% leaf fall.
	▶ Copper Spray	M2	50 WP	6-9 kg/1,000 L	Apply in early spring before bud break. Later applications may cause injury. Use the lower rate on small trees and higher rate on large trees. Do not make more than two applications per year.
	▶ Guardsman				
	▶ Copper Oxychloride	M2	50 WP	6-9 kg/1,000 L	Apply in early spring before bud break. Later applications may cause injury. Use the lower rate on small trees and higher rate on large trees. Do not make more than two applications per year.
	▶ Parasol Flowable	M1	SU	8.8-13.1 L/ha	Use low rate for small trees and high rate for large trees.

## 6. Sour Cherry Orchard Calendar

A guide to insect, mite, and disease management in sour cherry orchards.

All rates are based on label rates. In some cases, reduced rates can be used based on factors such as tree size. Please refer to the label, product specific notes or your agricultural advisor for details.

Always read the label before using any pesticide. Where differences between the label and this schedule occur, label information prevails. **Please note: Red text is new to this guide in 2023 and/or serves as an alert.**

Disease & Insect	Products	Group	Formulation	Rate	Notes
<b>DORMANT</b>					
Bacterial Canker	Copper application may help to reduce the incidence of bacterial canker.				
	▶ Copper Spray	M2	50 WP	6-9 kg/1,000 L	Apply in early spring before bud break. Later applications may cause injury. Use the lower rate on small trees and higher rate on large trees. Do not make more than two applications per year.
	▶ Guardsman Copper	M2	50 WP	6-9 kg/1,000 L	Apply in early spring before bud break. Later applications may cause injury. Use the lower rate on small trees and higher rate on large trees. Do not make more than two applications per year.
	▶ Cueva	M1	1.8 S	1% v/v in 470-940 L water/ha	Apply as buds begin to swell in spring repeating at bud burst, continuing weekly as needed, up to six sprays.
	▶ Parasol Flowable	M1	SU	8.8-13.1 L/ha	Apply in early spring before bud break. Use low rate on small trees and high rate for large trees.
<b>PREBLOOM (When Blossoms Show White)</b>					
Brown Rot (stem rot and blossom blight stages)	Blossom blight is favoured by wet weather (above 16°C), especially when large numbers of mummies (dried infected fruit) are present in the tree. Apply first spray just before blossoms open, followed by two additional sprays during the bloom period if weather remains favorable for blossom blight. Fungicides in Groups other than M should be used in rotation with different Groups for resistance management.				
	▶ Fracture	M		1.5-3.3 L/ha	<b>Suppression only.</b> Use high rate under high disease pressure. Do not mix with foliar fertilizers.
	▶ Kumulus	M1	80 DF	7.5 kg/1,000 L	Repeat if weather is wet.
	▶ Microthiol Disperss	M1	80 WP	7.5 kg/1,000 L	Repeat if weather is wet.
	▶ Microscopic Sulphur	M1	92 WP	6.5 kg/1,000 L	Repeat if weather is wet. Do not apply if high temperatures above 26°C and high humidity prevail or are expected during the three days following application. Do not use sulphur within 30 days of an oil spray.
	▶ Cueva	M1	1.8 S	0.5-2.0% solution	Apply in 470-940 L of water per hectare. Do not make more than 5 applications per year.
	▶ Maestro	M4	80 WSP	4.00 kg/ha	Use higher rate for greater disease pressure. May cause injury under some circumstances. Do not use 14 days before or after an oil application. Refer to re-entry intervals for specific activities (ranging from 1 to 29 days). If the REI for hand harvesting and the pre-harvest interval (PHI) are different, follow the longer of the two intervals. Do not apply more than one application per year.
	▶ Supra Captan	M	80 WSP	4.00 kg/ha	
	▶ Bravo ZN	M5	SU	5-9 L/ha	Apply 1-2 sprays from pink through shuck split at 10 days apart. See label for compatibility restrictions. DO NOT apply after shuck split to avoid fruit injury.
	▶ Echo	M5	90 WSP	2.8-5.0 kg/ha	
	▶ Senator	1	50 SC	700 mL/1,000 L	Apply first application at early bloom. Repeat according to weather conditions.
	▶ Funginex	3	190 EC	2.50 L/ha	
	▶ Indar	3	75 WSP	140 g/ha	
	▶ Tilt	3	250 E	500 mL/ha	
	▶ Jade	3	250 E	500 mL/ha	Apply first application at early bloom followed by a second at 50 to 75% bloom. Will also suppress black knot.
	▶ Mission	3	418 EC	300 mL/ha	
	▶ Nova	3	40 WSP	340 g/ha	Apply when first blossoms are opening. Do not make more than 6 applications per year.
	▶ Quash	3	WDG	175-245 g/ha	Use high rate under high disease pressure. Do not make more than 1 application per season.
	▶ Cevya	3	SC	0.25 - 0.375 L/ha	Under high pressure and during rapid growth, use the higher rate and shorter spray interval. Do not use more than 1.125 L/ha per year.
	▶ Bumper	3	432 EC	300 mL/ha	Make 1st application at early bloom with a 2nd application at 50% - 75% bloom. If disease conditions persist, make a 3rd application at petal fall.

Disease & Insect	Products	Group	Formulation	Rate	Notes
	▶ Fontelis	7	SC	1.0-1.75 L/ha	Use higher rate and shorter spray intervals when disease pressure is high. Do not use more than 4.5 L/ha per year.
	▶ Cantus	7	WDG	370 g/ha	Do not make more than 5 applications per year.
	▶ Sercadis	7	300 SU	333 mL/ha	Do not make more than 3 applications per year.
	▶ Miravis Duo	7, 3	SC	1.0 L/ha	Do not apply more than 4.0 L/ha per year. Apply a maximum of 2 applications before switching to a non-group 7 and 3 fungicide.
	▶ Pristine	7, 11	WG	0.75-1.0 kg/ha	Will also control leaf spot and suppress powdery mildew. Do not make more than 5 applications per year.
	▶ Luna Sensation	7, 11	SU	300-400 mL/ha	Do not make more than 2 consecutive applications before switching to a different fungicide group.
	▶ Merivon	7, 11	SU	0.3-0.4 L/ha	Do not make more than 3 applications per year. A nonionic surfactant may be used. Caution should be exercised if tank mixed with products formulated as emulsifiable concentrates (EC).
	▶ Elevate	17	50 WDG	1.7 kg/ha	Do not make more than 4 applications per year.
	▶ Serenade OPTI	44	WP	1.1-1.7 kg/ha	<b>Suppression only</b> but can be used with other products for resistance management.
	▶ Regalia Maxx	P5	LC	0.125-0.25% v/v in 500-1,000 L water/ha	<b>Suppression only</b> but can be used with other products for resistance management. Apply before symptoms develop. Use low rate in tank mix with other brown rot fungicides, or high rate in rotation with other brown rot fungicides.
<b>Nematodes</b>	▶ Velum Prime	7	SC	500 mL/ha	Apply specified dosage by chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. For optimum results, apply to trees previously trained to drip, trickle or micro-sprinkler irrigation. Young trees have the most potential benefit. Soil must be lightly pre-wetted prior to application. Do not apply more than 500 g fluopyram/ha per year, noting that the foliar fungicide Luna Sensation also contains fluopyram.

## BLOOM

Brown Rot (stem rot and blossom blight stages)

Use one of the fungicides listed under Prebloom. If wet weather above 16°C persists during the bloom period, two applications may be required during this stage of development.

Terminal growth management

Can be used to reduce terminal growth. Two weeks are required to slow growth effectively.

- |                   |    |                       |   |
|-------------------|----|-----------------------|---|
| ▶ Apogee or Kudos | NC | 450 g in 1000 L water | Apply at 5 – 20 cm of new shoot growth. If required, make a second application 14 – 21 days after the initial application (a maximum of 2 applications per season are permitted). |
|-------------------|----|-----------------------|---|

Insects

**Do not use any insecticides during bloom.**

## PETAL FALL

Black Knot

Only apply a fungicide where there is a history of black knot infections. Black knot should be pruned out prior to bud break. Burn pruned out black knots.

- |            |    |        |               |   |
|------------|----|--------|---------------|---|
| ▶ Bravo ZN | M5 | SU     | 6.0-9.0 L/ha  | Apply 1-2 applications from pink through shuck split at 10 days apart. See label for compatibility restrictions. Will also control brown rot. |
| ▶ Echo     | M5 | 90 WSP | 2.8-5.0 kg/ha |   |
| ▶ Tilt     | 3  | 250 E  | 500 mL/ha     |   |
| ▶ Jade     | 3  | 250 E  | 500 mL/ha     |   |
| ▶ Indar    | 3  | 75 WSP | 140 g/ha      |   |

## SHUCK SPLIT

Brown Rot

Use one of the following fungicides listed under Prebloom.

Plum Curculio

Use one of the following insecticides.

- |            |    |        |              |  |
|------------|----|--------|--------------|--|
| ▶ Imidan   | 1B | 70 WP  | 2.68 kg/ha   | <b>All hand thinning activities must be completed prior to application. Do not make more than one application per year. PHI of 17 days. Newly amended labels in effect on October 30, 2022.</b><br>Pyrethroids (Group 3) are disruptive to IPM programs leading to mite flare ups and therefore should be avoided if alternatives are available. Do not make more than three applications per year. Avoid applying synthetic pyrethroids when temperatures rise above 20°C because they are much less effective under these conditions. Under high insect pressure may only provide suppression.<br>Under high insect pressure may only provide suppression. Do not make more than 4 applications per year.<br>Use the higher rate under greater insect pressure. Do not make more than four applications per year. See label for incompatible products. |
| ▶ Matador  | 3  | 120 EC | 104 mL/ha    |  |
| ▶ Warrior  | 3  | 120 EC | 104 mL/ha    |  |
| ▶ Silencer | 3  | 120 EC | 104 mL/ha    |  |
| ▶ Assail   | 4  | 70 WP  | 240 g/ha     |  |
| ▶ Exirel   | 28 | 100 SU | 1.0-1.5 L/ha |  |

## FIRST COVER (12 Days After Shuck Split)

Brown Rot

Use one of the fungicides listed under Shuck Split if conditions for disease development (warm, wet weather) are prevalent.

Plum Curculio

Use one of the insecticides listed under Shuck Split.



Disease & Insect	Products	Group	Formulation	Rate	Notes
<b>SECOND COVER (12 Days After First Cover)</b>					
Brown Rot	Use one of the fungicides listed under Shuck Split if conditions for disease development (warm, wet weather) are prevalent.				
Plum Curculio	Use one of the insecticides listed under Shuck Fall if new oviposition scars are found. Some treatments for Cherry Fruit Fly may also control plum curculio.				
Cherry Fruit Fly	Use one of the following insecticides when monitoring indicates cherry fruit fly activity is present.				
	▶ Imidan	1B	70 WP	2.68 kg/ha	All hand thinning activities must be completed prior to application. Do not make more than one application per year. PHI of 17 days. Newly amended labels in effect on October 30, 2022.
	▶ Silencer/Matador	3	120 EC	104 mL/ha	Pyrethroids (Group 3) are disruptive to IPM programs leading to mite flare ups and therefore should be avoided if alternatives are available. Do not make more than three applications per year. Avoid applying synthetic pyrethroids when temperatures rise above 20°C because they are much less effective under these conditions. Will also control plum curculio.
	▶ Entrust	5	240 SC	364 mL/ha	Do not make more than 5 applications per year.
	▶ GF-120	5	S	1.0-1.5 L/ha	Apply at 7 day intervals as fruit ripens, shortening the interval during rainy periods. Do not make more than 10 applications per year.
	▶ Exirel	28	100 SU	1.0-1.5 L/ha	Use the higher rate under greater insect pressure. Do not make more than four applications per year. See label for incompatible products. Will also control plum curculio.
Spotted Wing Drosophila	Spotted wing drosophila lay eggs in ripening fruit, and larvae may be present at harvest. If monitoring indicates treatment is required, use insecticides weekly. These products rely on contact with spotted wing drosophila adults.				
	▶ Malathion	1B	85E	610-855mL/1,000L	Will work more effectively if the temperature is 20° C or more or when temperatures will reach or exceed this minimum. Do not make more than 1 application per year.
	▶ Imidan	1B	WP	2.68 kg/ha	All hand thinning activities must be completed prior to application. Do not make more than one application per year. PHI of 17 days. Newly amended labels in effect on October 30, 2022.
	▶ Danitol	3	EC	779-1559 mL/ha	Do not exceed 1 application per year.
	▶ Delegate	5	WDG	420 g/ha	Do not make more than 3 applications per year.
	▶ Exirel	28	SC	1.0-1.5 L/ha	Begin applications when populations are low. Do not make more than 4 applications per season.
	▶ Harvanta	28	50 SL	1.2-1.6 L/ha	Thorough coverage is essential. Do not apply a Group 28 insecticide consecutively more than 2 times within a 30 day period or within a single generation of insect pest.
<b>THIRD COVER</b>					
Brown Rot	Use one of the fungicides listed under Shuck Split if conditions for disease development (warm, wet weather) are prevalent.				
Cherry Fruit Fly	Use one of the insecticides listed under Shuck Split.				
Spotted Wing Drosophila	Use one of the insecticides listed under Second Cover.				
<b>PREHARVEST</b>					
Brown Rot	Use one of the fungicides listed under Shuck Split. Check labels for pre-harvest intervals (PHI).				
Spotted Wing Drosophila	Use one of the insecticides listed under Second Cover.				
<b>POSTHARVEST</b>					
Black Knot	Only apply a fungicide where there is a history of black knot infections. Black knot should be pruned out prior to bud break. Burn pruned out black knots.				
	▶ Bravo ZN	M5	SU	6.0-9.0 L/ha	Apply once to foliage 1-7 days after fruit is removed. DO NOT make more than 1 post-harvest application per season.
	▶ Echo	M5	90 WSP	3.3-5.0 kg/ha	
Leaf Spot	Only necessary where leaf spot has been a problem in the past.				
	▶ Bravo ZN	M5	SU	5.0-7.2 L/ha	Apply once to foliage 1-7 days after fruit is removed. Use higher rate for larger trees greater than 6 m in height. Do not make more than 1 post harvest application per season.
	▶ Echo	M5	90 WSP	3.3-5.0 kg/ha	
	▶ Maestro	M4	80 WSP	4.00 kg/ha	Do not use 14 days before or after an oil application. Refer to re-entry intervals for specific activities (ranging from 1 to 29 days). If the REI for hand harvesting and the pre-harvest interval (PHI) are different, follow the longer of the two intervals. Do not apply more than one application per year.
	▶ Supra Captan	M	80 WSP	4.00 kg/ha	
	▶ Cueva	M1	1.8 S	1% v/v in 470-940 L water	Apple as a dormant spray in late fall during a period of dry weather.
	▶ Pristine	7, 11	WG	0.75-1.0 kg/ha	Will also suppress powdery mildew. Do not make more than 5 applications per year.

Disease & Insect	Products	Group	Formulation	Rate	Notes
	▶ Merivon	7, 11	SU	0.3-0.4 L/ha	Do not make more than 3 applications per year. A nonionic surfactant may be used. Caution should be exercised if tank mixed with products formulated as emulsifiable concentrates (EC).
	▶ Flint	11	50 WG	175-210 g/ha	Do not make more than 5 applications per year.
	▶ Equal	U12	65 WP	2.25 kg/ha	
	▶ Syllit	U12	400 FL	2.0 L/1,000 L	Do not make more than 4 applications per year.
	▶ Regalia Maxx	P5	LC	0.125-0.25% v/v in 500-1,000 L water/ha	Suppression only but can be used with other products for resistance management. Apply before symptoms develop. Use low rate in tank-mix with other leaf spot fungicides or high rate in rotation with other leaf spot fungicides.

### FALL SPRAY

Bacterial Canker	Apply where bacterial canker is expected to be a problem.				
	▶ Copper Spray Guardsman	M2	50 WP	6-9 kg/1,000 L	Apply in early spring before bud break. Later applications may cause injury. Use the lower rate on small trees and higher rate on large trees. Do not make more than two applications per year.
	▶ Copper Oxychloride	M2	50 WP	6-9 kg/1,000 L	Apply in early spring before bud break. Later applications may cause injury. Use the lower rate on small trees and higher rate on large trees. Do not make more than two applications per year.
	▶ Cueva	M1	1.8 S	1% v/v in 470-940 L water	Apply as dormant spray as buds begin to break in the spring. Apply in the fall at 10-80% leaf fall.
	▶ Parasol Flowable	M1	SU	8.8-13.1 L/ha	Spray at 75% leaf fall.