## Apple Crop Protection Guide



Bayer provides solutions to help you grow high-quality apples, increase the marketable yield potential of your crop.

RECOMMENDED APPLICATION TIMING														
	Product	Registration No.	Pests	Dormant	Green Tip	Half-Inch Green	Tight Cluster	Pink	Bloom	Petal Fall/Calyx	Fruit Set/First Cover Spray	Subsequent Summer Sprays	Pre Harvest	Post Harvest
	Alion	30451	Grass and broadleaf weeds***											
HERBICIDES	sencor	Sencor 480 F – 26280 Sencor 75 DF – 17242	Grass and broadleaf weeds											
Ξ	Reundup WeatherMAX "TRANSORP.II	27487	Grass and broadleaf weeds									I		
BIOLOGICAL	SERENADE	31666	Apple scab, fire blight, powdery mildew											,
	Aliette	24458	Crown and root rot ( <i>Phytophthora</i> spp.) Blister spot		A	A***	A''', B'''	A**, B**		2	B*** 2	B*** 2		A***, B***
FUNGICIDES	FLINT S	34962	Apple scab <sup>1</sup> , cedar apple rust, fly speck powdery mildew, sooty blotch						1					,
		30510	Apple scab <sup>3</sup> , apple leaf scab, powdery mildew						3	3	3			
	SCALA	28011	Apple scab, botrytis storage diseases <sup>4</sup> , penicillium storage diseases <sup>4*</sup>										4	,
NEMATICIDE		32108	Nematodes*											
INSECTICIDES	caLypso	28429	Aphids (green apple <sup>2</sup> , rosy <sup>1</sup> ) Oriental fruit moth, spotted tentiform leafminer European apple sawfly Mullein bug Plum curculio Codling moth Apple maggot, Japanese beetles, leafhoppers			1	1	1		1	1	2		
	decis	33700	Apple leaf curling midge, oblique banded leafroller, Oriental fruit moth, plant bug, spring feeding caterpillars, tentiform leaf miner (adults)											
	Μονεντο	28953	Aphids (green, rosy and woolly apple), apple leaf curling midge, mealybug, San Jose scale											
	SIVANTO	31452	Aphids (except woolly apple), leafhoppers, oystershell scale, San Jose scale											
	vayego	33711	Oblique banded leafroller, Oriental fruit moth European apple sawfly, mullein bug* Plum curculio* Codling moth Apple maggot* Aphids*											
GROWTH REGULATOR	Ethre	11580	For increased flowering, for use in non-bearing trees only											

\*Suppression only \*\*\*Do not use when ground is frozen

NOTES

A\*\*\*Drench application timing only B\*\*\*Foliar application timing 1 In areas outside of Ontario, apply Flint® Extra fungicide in a tank-mix with a compatible registered contact fungicide (EBDC) for two modes of action. Do not apply Flint Extra for apple scab in Ontario. 2 Only for 'Mutsu', 'Jonagold' and 'Golden Delicious' apple varieties. 3 For apple scab, use a tank-mix partner of Dithane™ Rainshield™ fungicide (from pink on). Dithane™ Rainshield™ fungicide should also be used as part of a resistance management program.

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	Product	Features anenefits	Key Pests / Diseases Controlled	Maximum Applications per Crop Season	WAMLEGS Mixing Order	Use Rate and Application Tips	Chemical Clas Group No.	Rainfast (hours)	REI (hours)	PHI (days)
HERBICIDES	Alion	<ul> <li>Provides pre-emergent control for a broad spectrum of broadleaf and grassy weeds</li> <li>Can be applied any time during the season as long as ground is not frozen or snow-covered</li> <li>Only needs ¼" of rain to activate</li> </ul>	Annual grass and broadleaf weeds For a complete list of weeds, refer to the Alion® herbicide product label	Maximum 1 application	L	375 mL/ha (152 mL/ac.) Apply to established crops of at least three full growing seasons. If emerged weeds are present at the time of application, tank mix Alion with a contact herbicide. See product label for details.	Group 29 (indaziflam)	N/A	12	14
	Roundup WeatherMAX "HANION "TRANSORB.II	<ul> <li>Proven crop safety</li> <li>Unsurpassed and consistent weed control under ideal and tough conditions</li> <li>30-minute rainfast guarantee</li> <li>Enhanced efficiency with a 540 g/L formulation</li> <li>Grass and broadleaf weeds</li> <li>For a complete list of weeds, refer to the Roundup WeatherMAX® herbicide product label</li> </ul>		Refer to Roundup WeatherMAX G product label		<ul> <li>1.5 to 8 L/ha (0.6 to 3.2 L/ac.)</li> <li>Apply on established plantings only.</li> <li>Unless otherwise specified use 0.67 L per 100 L of water. For best results on harder to control perennials (such as bindweed, hemp dogbane, milkweed and Canada thistle), use 1.34 L per 100 L of water.</li> </ul>	Group 9 (glyphosate)	0.5	12	30
	sencor	<ul> <li>Broad-spectrum broadleaf and grass weed control</li> <li>Residual control with post-emergent contact activity on many annual weeds</li> <li>Approved for use on all ages of trees, from newly planted to well-established orchards</li> </ul>	Grass and broadleaf weeds For a complete list of weeds, refer to the Sencor® herbicide product label	Sencor 480 F – Maximum 1 application Sencor 75 DF – Maximum 1 application	Sencor 480 F – L Sencor 75 DF – W	Established trees: Sencor 75 DF – 1 kg/ha (404 g/ac.) Sencor 480 F – 1.5 L/ha (607 mL/ac.) Apply as a pre-emergence band application under trees in minimum of 150 to 300 L water/ha (16 to 32 gal./ac.) Newly planted trees: Sencor 75 DF – Coarse soil – 500 g/ha (202 g/ac.) – Medium soil – 750 g/ha (304 g/ac.) – Fine soil – 1 kg/ha (404 g/ac.) Sencor 480 F – Coarse soil – 750 mL/ha (304 mL/ac.) – Medium soil – 1.1 L/ha (445 mL/ac.) – Fine soil – 1.5 L/ha (604 mL/ac.) Apply as a pre-plant incorporated application in 150 to 300 L of water/ha (16 to 32 gal./ac.) before transplanting fruit trees.	Group 5 (metribuzin)	6	12	60
BIOLOGICAL	SERENADE	<ul> <li>Broad-spectrum, biological foliar fungicide that provides effective anti-fungal and anti-bacterial activity</li> <li>Unique mode of action (FRAC Group BM02) makes for the best defence against the development of resistance</li> <li>Is exempt from tolerances (no MRL or residue concerns), so you can sell your crops into even the most restrictive markets</li> </ul>	Fire blight Apple scab, powdery mildew	N/A	W	1.1 to 1.7 kg/ha (0.45 to 0.69 kg/ac.) 1.7 to 3.3 kg/ha (0.69 to 1.33 kg/ac.)	FRAC Group BM02 (QST 713 strain of drie Bacillus subtili)	When dry	Immediately	0
	Aliette	<ul> <li>Fully systemic fungicide rapidly absorbed by roots and leaves, allowing the plant to build its own defence against diseases and protecting new growth between applications</li> <li>Protective defence: stops plant infection by inhibiting spore germination and penetration into the plant</li> </ul>	Blister spot (only for 'Mutsu,' 'Jonagold' and 'Golden Delicious' varieties)	Foliar: maximum 3 applications Maximum of 10 kg/ha (4.04 kg/ac.) if applying for both blister spot, and crown and root rot (or 10 kg/ha before harvest)	W	2 kg/ha (810 g/ac.) Foliar: Begin application at petal fall repeating at 7 day intervals. Do not mix with products containing copper.	P07 (Fosetyl A)	1	4 days for thinning activities; 12 hours for other activities	30
FUNGICIDES			Crown and root rot	Foliar: maximum 2 applications Drench: maximum 2 applications (or 10 kg/ha [4.04 kg/ac.] before harvest)		For bearing trees: 3 to 5 kg/ha (1.2 to 2 kg/ac.). Foliar: treat from tight cluster to pink when there is sufficient leaf area present to take up the spray. Treat again approximately 6 weeks later. Treat again in the fall soon after harvest. Do not mix with products containing copper.		1	When residue has dried	30
				High density planting: maximum 2 applications (or 10 kg/ha [4.04 kg/ac.] before harvest)		For non-bearing trees: standard planting up to 500 trees/ha: 10 grams/tree. High density planting (> 500 trees/ha): 5 to 10 grams/tree. Drench: make the first pplication in spring any time after silver tip and again in early fall. Do not mix with products containing copper.		N/A	4 days for thinning activities; 12 hours for other activities	N/A
	FLINT S	<ul> <li>Low use rates in an easy-to-use liquid SC formulation</li> <li>Broad-spectrum fungicide with long-lasting preventive and translaminar activity</li> <li>Protects the leaf surface and penetrates the leaf tissue</li> <li>A potent inhibitor of spore germination and mycelial growth</li> </ul>	Apple scab <sup>1</sup> Cedar apple rust, powdery mildew	Maximum 4 applications Maximum 860 mL/ha (348 mL/ac.) per year	L	145 to 180 mL/ha (58 to 72 mL/ac.) Begin applications at half inch green and continue as needed on a 7 to 10 day interval. 145 to 215 mL/ha (58 to 86 mL/ac.)	Group 11 (trifloxystrobin	2	4 days for thinning activities; 12 hours for other activities	14
			Fly speck, sooty blotch			Begin applications preventatively and continue as needed on a 10 to 14 day interval. For powdery mildew control, use higher rate during pink to bloom stage. 145 to 180 mL/ha (58 to 72 mL/ac.) Begin applications preventatively and continue as needed on a 10 to 14 day interval.				
	Luna. TRANQUILITY	<ul> <li>A broad-spectrum fungicide with preventive, systemic and post-infection (for apple leaf scab) properties</li> <li>Post-infection properties are effective for up to 72 hours after apple leaf scab infection</li> <li>Best suited for use in a preventive treatment program</li> </ul>	Powdery mildew Apple leaf scab	Maximum 4 applications. Maximum 3.2 L/ha (1.3 L/ac.) per year	L	600 mL/ha (243 mL/ac.) Begin applications preventively and continue as needed on a 7 to 14 day interval. 800 mL/ha (324 mL/ac.) Begin applications at half inch green and continue as needed on a 7 to	Group 7 & 9 (fluopyram, pyrimethanil)	When dry	24 hours for thinning activities; 12 hours for other activities	14 45 (Luna Tranquility only)
			Apple scab			14 day interval. 800 mL/ha (324 mL/ac.) + 3 kg/ha (1.2 kg/ac.) of Dithane™ DG Rainshield NT. Begin applications at half inch green and continue as needed on a 7 to 14 day interval.				77 (when tank mixed with Dithane™ Rainshield™ fungicide)
	SCALA	<ul> <li>Excellent early-season control of leaf scab with up to 72 hours post-infection activity</li> <li>Provides systemic control that works well in cool or warm weather, for those critical early-season sprays</li> <li>Rapid uptake with translaminar activity to protect both sides of the leaf and expand the protected area</li> <li>Used as a pre-harvest spray, Scala® fungicide also protects apples in storage from destructive diseases such as botrytis and penicillium</li> </ul>	Apple scab	Maximum 4 applications	L	<ul> <li>0.75 to 1.0 L/ha (300 to 400 mL/ac.) Apply early in the season at 7 to 12 day intervals from green tip to pink stage. Do not apply post bloom.</li> <li>0.75 L/ha (300 mL/ac.) + 3 kg/ha (1.2 kg/ac.) of Dithane<sup>™</sup> DG. Apply early in the season at 7 to 12 day intervals from green tip to pink stage. Do not apply post bloom.</li> </ul>	Group 9 (pyrimethanil)	2	24 hours for thinning activities; 12 hours for other activities	14 45 (Scala only) 77 (when tank mixed with Dithane™
			Botrytis storage diseases, penicillium storage diseases*	Maximum 1 application		1.5 to 2.0 L/ha (610 to 810 mL/ac.) Apply two weeks prior to harvest.				Rainshield <sup>™</sup> fungicide)
NEMATICIDE		<ul> <li>Broad-spectrum nematicidal activity targeting soil-dwelling, root-feeding nematodes</li> <li>A first-of-its-kind tool for managing nematodes in pome fruit crops in Canada</li> <li>Simple and easy to use</li> </ul>	Soil dwelling, root feeding nematodes (juveniles and adults)*	Maximum 500 g fluopyram/ha per yea , regardless of formulation or method of application	L	500 mL/ha (202 mL/ac.) Apply by chemigation into root-zone. Apply to newly planted trees or those previously trained to drip, trickle or micro-sprinkler irrigation. Soil must be lightly pre-wetted to break soil surface tension prior to applications. Two applications recommended. Minimum 30-day interval between soil applications.	Group 7 (fluopyram)	N/A	12	7
INSECTICIDES	caLypso	<ul> <li>Broad-spectrum control of chewing and sucking insect pests that is gentle on beneficials</li> <li>Excellent ovicidal activity on codling moth and Oriental fruit moth</li> </ul>	First generation codling moth, plum curculio, European apple sawfly Apple maggot, second generation	Maximum 3 applications Maximum 875 mL/ha (354 mL/ac.)per year	L	290 to 440 mL/ha (116 to 176 mL/ac.) 440 mL/ha (176 mL/ac.)	Group 4 (thiacloprid)	4	12	30
		<ul> <li>Provides translaminar and locally systemic activity; controls insects by contact and ingestion of the treated plant tissue</li> <li>Ideal for petal fall/calyx spray for broad-spectrum control</li> </ul>	First generation spotted tentiform leafminer, leafhoppers			145 mL/ha (58 mL/ac.)				
		Works fast – on contact and by ingestion	Aphids, Japanese beetle, mullein bug, 2 <sup>nd</sup> and 3 <sup>rd</sup> generation spotted tentiform leafminer Plant bug	Maximum 3 applications	E	145 to 290 mL/ha (58 to 116 mL/ac.). Use the higher rate for heavy infestations. Refer to label for guidance on specific pests. 100 mL/ha (40.48 mL/ac.)	Group 3			
	decis	Effective on a broad range of insect pests	Apple leaf curling midge Spring feeding caterpillars, Oblique banded leafroller Tentiform leaf miner (adults)			<ul> <li>100 to 125 mL/ha (40.48 to 50.60 mL/ac.)</li> <li>100 mL/ha (40.48 mL/ac.)</li> <li>Apply when first signs of feeding are visible</li> <li>125 mL/ha (50.60 mL/ac.)</li> <li>Apply when adults are first visible. Thorough coverage on trunk and scaffold limbs is recommended. Decis is not effective in controlling eggs of mining larvae and should be used to prevent re-infestation of adult generations.</li> </ul>	(deltamethrin)			
	Μο∕εντο	<ul> <li>Movento<sup>®</sup> insecticide controls pests that products with only contact or translaminar activity often miss</li> <li>With a unique two-way systemic control, Movento travels up and down the entire plant to protect leaves, roots and new growth</li> <li>Provides another mode of action for better resistance management and rotations</li> <li>Residual activity continues to protect new growth</li> </ul>	Aphids (green apple, rosy apple and woolly apple), whitefly	Maximum 1.83 L/ha (0.74 L/ac.) per year	L	365 to 435 mL/ha (148 to 176 mL/ac.) Repeat at 14 to 21 day intervals as needed.	Group 23 (spirotetramat	When dry	12	7
			Mealybug, San Jose scale, apple leaf curling midge***	Maximum of 2 applications per season for apple leaf curling midge Maximum 1.83 L/ha (0.74 L/ac.) per year**		365 to 585 mL/ha (148 to 237 mL/ac.) Repeat at 14 to 21 day intervals as needed. A surfactant should be added to Movento (non-ionic, MSO or horticultural oil).				
	SIVANTO	<ul> <li>The first insecticide in a new chemical sub-class, Group 4D</li> <li>Combines proven Group 4 insecticide efficacy with a favourable safety profile for many beneficial insects</li> <li>Minimal application timing restrictions allowing application based on pest thresholds, not plant staging</li> <li>Antifeedant properties and quick knockdown of adult pests</li> </ul>	Aphids (except woolly apple), leafhoppers Oystershell scale, San Jose scale	Maximum 2,000 mL/ha (809 mL/ac.) per crop season	L	500 to 750 mL/ha (202 to 303 mL/ac.) 750 to 1,000 mL/ha (303 to 405 mL/ac.) + horticultural oil at 0.25% vol/vol.	Group 4D (flupyradifuron)	1	12	14
	vayego	<ul> <li>vayego<sup>®</sup> insecticide, a second generation diamide, combines excellent knockdown and control of key orchard pests</li> <li>Tank-mix friendly</li> <li>Registered for use on a wide variety of horticulture and row crops for systemic control of a variety of pests</li> </ul>	Codling moth, oblique banded leafroller, European apple sawfly Aphids* Oriental fruit moth, mullein bug*, plum curculio*, apple maggot*	Maximum of 3 applications. Maximum 900 mL/ha (360 mL/ac.) per crop season	L	225 mL/ha (91 mL/ac.)** 150 mL/ha (60 mL/ac.) 300 mL/ha (120 mL/ac.)**	Group 28 (tetraniliprole	1	12	7
GROWTH REGULATOR	Ethrei	<ul> <li>Enhances fruit production in young, non-bearing apple trees</li> <li>Vegetative growth is reduced during the season of application, promoting flower bud development the following spring</li> </ul>	Enhanced bloom		L	Apply a foliar spray to non-bearing trees, 1 to 2 weeks after peak bloom period.         On young orchard trees just beginning to initiate a few flowers, delay applications until 3 to 5 weeks after full-bloom.         D0 NOT use on apple trees when fruit are present.         Ensure trees are large enough to support a crop of apples before being treated.         Dilute Sprayers       Rate         Spur-type trees       2 L Ethrel/1,000 L water         Non spur-type trees       7 L Ethrel/500 L water         Non spur-type trees       14 L Ethrel/500 L water	Ethephon* *Not classified	5	10 days for hand-pruning, scouting and training; 2 days for transplanting; 12 hrs for all other activities	14

<sup>1</sup> In areas outside of Ontario, apply Flint<sup>®</sup> Extra fungicide in a tank-mix with a compatible registered contact fungicide (EBDC) for two modes of action. Do not apply Flint Extra for apple scab control in Ontario.

\*Suppression only \*\*Apply post-bloom only



ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Aliette<sup>®</sup>, Alion<sup>®</sup>, Bayer, Bayer Cross, BayerValue<sup>™</sup>, Calypso<sup>®</sup>, Decis<sup>®</sup>, Ethrel<sup>®</sup>, Flint<sup>®</sup>, Luna Tranquility<sup>®</sup>, Hot Potatoes<sup>®</sup>, Movento<sup>®</sup>, Roundup WeatherMAX<sup>®</sup>, Scala<sup>®</sup>, Sencor<sup>®</sup>, Serenade<sup>®</sup>, Sivanto<sup>®</sup>, Transorb<sup>®</sup>, vayego<sup>®</sup> and Velum<sup>®</sup> are trademarks of Bayer Group. Used under license. All other trademarks are the property of their respective owners. Bayer CropScience Inc. is a member of CropLife Canada. ©2024 Bayer Group. All rights reserved.

