2023 Fungicide Selection Guide						
Disease	**Active Ingredient**	**Product**	**Product Rate**		**PHI (days)**	**Comments (see label for additional information and precautions)**
			kg or L per ha	kg or L per ac		
Sprout Year						
Sphaerulina leaf spot (*formerly:* Septoria leaf spot)	azoxystrobin + propiconzole	Quilt	1.0	0.4	30	Make 1 application in June after shoots have emerged
	boscalid + pyraclostrobin	Pristine	1.3 - 1.6	0.53 - 0.65	0	Apply prior to disease development and continue on a 7 to 14-day schedule. Maximum 4 applications.
	chlorothalonil	Bravo 500 Bravo ZN Echo 700	7.2 7.2 5.0	2.9 2.9 2.0	54 54 54	First application in early to mid-June and a second application in early August. Maximum 2 applications
	fluopyram + prothioconazole	Propulse	0.75	0.30	7	First application at first sign of disease. Additional application may be made 10-14 days later. Maximum 2 applications. Maximum 2 applications
	mefentrifuconazole	Cevya	0.25	0.10	0	First application at first sign of disease. Additional application may be made 7-14 days later.
	prothioconazole	Proline + Agral 90 Soratel	0.32 + 0.125% v/v 0.6	0.13 + 0.125% v/v 0.24	7 7	First application at first sign of disease. Additional application may be made 10-14 days later.
	pydiflumetofen + azoxystrobin + propiconazole	Miravis Neo	0.75	0.3	30	First application at first sign of disease. Additional application may be made 10-14 days later. Maximum 2 applications
	pyraclostrobin + fluxapyroxad	Merivon	0.4 – 0.8	0.16 - 0.32	0	Apply prior to disease development and continue on a 7 to 14-day intervals if conditions are favourable for disease development. Maximum 3 applications/season.
Leaf rust	azoxystrobin + propiconazole	Quilt	1.0	0.4	30	Apply at first sign of disease. Second application may be made 10-14 days later.
	chlorothalonil	Bravo 500 Bravo ZN Echo	7.2 7.2 5.0	2.9 2.9 2.0	54 54 54	First application in early to mid-June and a second application in early August. Maximum 2 applications
	benzobindiflupyr	Aprovia + Agral 90	0.5 - 0.75 + 0.2% v/v	0.2 – 0.3 + 0.2% v/v	365	First application at first sign of disease. Additional application may be made 10-14 days later.
	mefentrifuconazole	Cevya	0.25	0.10	0	First application prior to onset of disease development. Additional application may be made 7-14 days later.
	prothioconazole	Proline + Agral 90 Soratel	0.4 + 0.125% v/v 0.76	0.16 + 0.125% v/v 0.3	7 7	First application at first sign of disease. Additional application may be made 10-14 days later.
	pydiflumetofen + azoxystrobin + propiconazole	Miravis Neo	0.75	0.3	30	First application at first sign of disease. Additional application may be made 10-14 days later.
Valdensia leaf spot	azoxystrobin + propiconazole	Quilt	1.0	0.4	30	Apply at first sign of disease. Second application may be made 10-14 days later.
	boscalid + pyraclostrobin	Pristine	1.3 - 1.6	0.53 – 0.65	0	Apply prior to disease development and continue on a 7 to 14-day schedule. Max 4 applications.

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2023 Fungicide Selection Guide						
Disease	**Active Ingredient**	**Product**	**Product Rate** kg or L per ha	**Product Rate** kg or L per ac	**PHI (days)**	**Comments (see label for additional information and precautions)**
Sprout Year						
Valdensia leaf spot	fluazinam	Allegro	0.4 - 0.8	0.16 – 0.32	30	Apply prior to disease development. Max 4 applications.
	prothioconzole	Proline + Agral 90	0.4 + 0.125% v/v	0.16 + 0.125% v/v	7	First application at first sign of disease. Additional application may be made 10-14 days later.

2023 Fungicide Selection Guide						
Disease	**Active Ingredient**	**Product**	**Product Rate** kg or L/ha	**Product Rate** kg or L/ac	**PHI (days)**	**Comments (see label for additional information and precautions)**
Crop Year						
Mummy berry	azoxystrobin + propiconazole	Quilt	1.0	0.4	30	First application when flower bud scales first appear (40-50% F2 stage) and a second application 10 days later. Maximum of 2 applications.
	difenoconazole + cyprodinil	Inspire Super	0.56 - 0.84	0.23 - 0.34	1	Begin applications when flower bud scales first appear (40-50% F2 stage) and second application 10-days later.
	fluazinam	Allegro	2.24	0.91	30	Begin applications at bud break (40-50% F2 stage) and repeat on a 7-10-day interval to petal fall. Max 4 applications per season.
	fluopyram + prothioconazole	Propulse	0.75	0.30	7	Apply at 40% F2 stage and second application 7-10 days later. Maximum 2 applications.
	mefentrifuconazole	Cevya	0.25	0.10	0	Begin applications prior to disease development and continue on a 7 to 14-day interval.
	metconazole	Quash	0.18	0.07	7	Apply prior to infection at the green tip stage (40-50% F2 stage). Make repeat applications on a 7 day intervals. Max 3 applications per season. No more than 2 sequential applications.
	penthiopyrad	Fontelis	1.75	0.71	0	Begin applications prior to disease development and continue on a 7 to 14-day interval. No more than 2 sequential applications.
	propiconazole	Bumper Mission Tilt Topas	0.3 0.3 0.5 0.5	0.13 0.12 0.2 0.2	60 60 60 60	First application when flower bud scales first appear and 2nd application 10 days later. Apply late April to mid to late May. 40-50% F2 stage. Maximum of 2 applications.
	prothioconazole	Proline + Agral 90	0.4 + 0.125% v/v	0.16+ 0.125% v/v	7	First application at early bloom and a 2nd application 5-10 days later.
		Soratel	0.6 – 0.8	0.24 - 0.32	7	First application at early bloom and a 2nd application 7-14 days later.
	triforine	Funginex	1.7	0.69	60	Apply late April to mid to late May. 40-50% F2 stage. Maximum 2 applications.
	Bacillus subtilis	Serenade Opti	2.0 - 3.3	0.8 – 1.3	0	Begin application at bud break and repeat every 7-10 days as needed.

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2023 Fungicide Selection Guide						
Disease	**Active Ingredient**	**Product**	**Product Rate**		**PHI (days)**	**Comments (see label for additional information and precautions)**
			kg or L/ha	kg or L/ac		
Crop Year						
Botrytis blight	boscalid	Cantus	0.56	0.23	0	Apply prior to disease development and continue on a 7 to 14-day schedule. Max 4 applications.
	boscalid + pyraclostrobin	Pristine	1.3 - 1.6	0.53 - 0.65	0	Apply prior to disease development and continue on a 7 to 14-day schedule. Max 4 applications.
	cyprodinil + fludioxonil	Switch	0.78 - 0.98	0.32 - 0.40	1	First application during early bloom. A second application may be made 7 to 10 days later. Max 3 applications
	fenhexamid	Elevate	1.7	0.69	1	Begin application at the 10% bloom stage. Max 4 applications. Make no more than 2 sequential applications.
	Fluopyram + Pyrimethanil	Luna Tranquility	1.2	0.49	1	First application at early flowering and repeat applications as required at 7-10-day interval. Maximum 2 applications per season. Luna Tranquility also controls powdery mildew.
	isofetamid	Kenja	0.98 - 1.24	0.39 - 0.49	0	First application prior to disease development. Maximum 5 applications/season. Do not make more than 2 sequential applications.
	pydiflumetofen + fludioxonil	Miravis Prime	0.8 - 1.0	0.32 - 0.4	1	First application during early bloom and repeat at 7-10-day intervals. Max 2 consecutive applications.
	pyrimethanil	Scala	2.0	0.8	1	First application during pre-bloom and repeat at 7-10-day intervals. Max 3 application.
	Bacillus subtilis	Serenade Opti	1.7 - 3.3	0.7 – 1.3	0	Begin applications at the first sign of disease or when conditions become conducive for disease development. Repeat as necessary on a 7-10-day interval.
	Bacillus amyloliquefaciens	Serifel	0.25 - 0.5	0.7 - 0.2	0	Begin applications prior to infection and continue on a 7-10-day intervals if conditions are favourable for disease development.
Sphaerulina leaf spot (*formerly*: Septoria leaf spot)	boscalid + pyraclostrobin	Pristine	1.3 - 1.6	0.53 - 0.65	0	Apply prior to disease development and continue on a 7 to 14-day schedule. Maximum 2 applications/season.
	phosphites	Phostrol	2.9 - 5.8	1.2 - 2.3	0	Apply at pre-bloom stage and continue on a 14-day interval. Maximum 4 applications/season
	pyraclostrobin + fluxapyroxad	Merivon	0.4 – 0.8	0.16 - 0.32	0	Apply prior to disease development and continue on a 7 to 14-day intervals if conditions are favourable for disease development. Maximum 3 applications/season.
Valdensia leaf spot	boscalid + pyraclostrobin	Pristine	1.3 - 1.6	0.53 - 0.65	0	Apply prior to disease development and continue on a 7 to 14-day schedule. Maximum 2 applications/season.
	fluazinam	Allegro	0.4 - 0.8	0.16 - 0.32	30	Apply at early bloom or at first disease appearance.

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Label Information: Information listed in this guide is provided to growers as a convenience. Pesticides must be applied according to label directions. Please refer to the product label before application and for more information on each product. Label information overrides any discrepancies between information presented in this guide and the label. Label information can be found at the Health Canada Pesticide Label Search, available on-line at http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php.

Pre-Harvest Interval (PHI): The minimum number of days between the last application of the pesticide and harvest.
Agral 90 0.125% v/v = 125 mL/100L water; Agral 90 0.2%v/v = 200mL/100L water

Additional Information for Fungicides

Active Ingredient	Product	Group	Hazard	Protective Equipment	Buffer Zone (meter)		Restrictions (hours)		Leaching Potential	Bee Toxicity	Winter Storage
					Aquatic habitat < 1m depth	Terrestrial habitat	Rain-Free Period	Re-Entry Interval			
azoxystrobin+propiconzole	Quilt	11 + 3	Warning	a e f h	1	1	1	12	moderate	low	A
benzovindiflupyr	Aprovia	7	Danger	a e h	15	1	-	12	moderate	low	C
boscalid	Cantus WDG	7	Caution	a e f	1	1	1	12	moderate	low	C
boscalid + pyraclostrobin	Pristine 38 WG	7 + 11	Caution	a e f	10	1	1	24	moderate	low	C
chlorothalonil	Bravo 500/Bravo ZN/Echo 700	M	Warning	a e f	15	-	1	48	low	low	B
cyprodinil + fludioxonil	Switch 62.5 WG	9 + 12	Caution	a e f	2	-	6	12	low	low	C
difenoconazole+cyprodinil	Inspire Super	3 + 9	Caution	a e f	3	1	-	12	moderate	low	C
fenhexamid	Elevate 50 WDG	17	Caution	a e f j	7	-	6	4	low	low	C
fluazinam	Allegro 500 F	29	Caution	c e g	40	1	6	24	low	low	A
fluopyram+prothioconazole	Propulse	7 + 3	Caution	a e f	1	1	-	24	moderate	low	A
fluopyram + pyrimethanil	Luna Tranquility	7 + 9	Caution	a e f	1	-	48	12	high	low	A
isofentamid	Kenja 400SC	7	Caution	a e f	1	-	-	12	moderate	low	C
mefentrifluconazole	Cevya	3	Caution	a e f	3	1	-	12	moderate	low	C
metconazole	Quash	3	Caution	a e f	3	1	2	12	moderate	low	C
phosphites	Phostrol	33	Caution	a e f h	-	-	-	12	moderate	low	C
penthiopyrad	Fontelis	7	Caution	a e f	4	-	-	12	low	low	C
propiconazole	Bumper	3	Warning	a e g h	4	3	1	24	moderate	low	A
propiconazole	Mission 418 EC	3	Warning	c e g h j	4	-	1	24	moderate	low	A
propiconazole	Tilt 250 E	3	Warning	a e f h	4	5	1	24	moderate	low	A
propiconazole	Topas 250 EC	3	Warning	c e g h j	4	-	1	24	moderate	low	A
prothioconazole	Proline 480 SC	3	Caution	a e g h	2	1	6	24	moderate	low	A
prothioconazole	Soratel	3	Danger	a e f	2	1	-	24	moderate	low	B
Pydiflumetofen+fludioxonil	Miravis Prime	7 + 12	Danger	a e f	4	1	-	12	moderate	low	B
Pydiflumetofen+azoxystrobin+propiconazole	Miravis Neo	7+3+9	Danger	a e f h	4	1	-	12	moderate	low	B
pyrimethanil	Scala SC	9	Caution	a e f h	1	-	-	12	moderate	low	C
pyraclostrobin + fluxapyroxad	Merivon	7 + 11	Danger	a e f h	10	1	-	24	high	low	C
triforine	Funginex 190 DC	3	Danger	c e g h j	-	-	6	24	low	low	A

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Additional Information for Fungicides											
Active Ingredient	Product	Group	Hazard	Protective Equipment	Buffer Zone (meter)		Restrictions (hours)		Leaching Potential	Bee Toxicity	Winter Storage
					Aquatic habitat < 1m depth	Terrestrial habitat	Rain-Free Period	Re-Entry Interval			
Bacillus subtilis	Serenade Opti	Biological fungicide	Caution	a d f g j	-	-	-	4	low	low	A
Bacillus amyloliquefaciens	Serifel	Biological fungicide	Caution	a d f g j	-	-	-	4	low	low	A

Always check with your processor or buyer to see what products are allowed for their markets

Group: To slow the development of resistance alternate sprays using pesticides from different groups.

Hazard: The signal words Danger, Warning and Caution appear on the pesticide label and indicate the level of hazard associated with handling or using the product. Products bearing the signal word **Danger** have an extreme or high hazard rating. Products labeled **Warning** have a moderate hazard rating and a **Caution** warning is associated with a low level of hazard. The degree of hazard may be due to toxicity, flammability, explosiveness or corrosiveness.

Protection Equipment: **a** - long-sleeved shirt and long pants, **b** - coveralls or disposable spray suit, **c** - coveralls or disposable spray suit over long sleeved shirt and pants, **d** - waterproof gloves, **e** - chemically-resistant gloves, **f** - shoes plus socks, **g** - chemically resistant footwear plus socks, **h** - protective eye wear, **i** - chemically resistant head gear for overhead application, **j** - approved respirator, **k** - chemical-resistant spray suit.

Buffer Zones: Distance between the closest point of direct pesticide application and the nearest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands) and sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, creeks, marshes, streams, reservoirs and wetlands). Water < 1m refers to wet areas with less than 1 meter of water depth. All buffer zones are for boom sprayers unless indicated.

Rain-free Period: The recommended minimum time in hours between pesticide application and rain.

Restricted-Entry Interval (REI): The minimum time in hours before you can enter a field that has been treated with the pesticide without wearing appropriate protective equipment.

Leaching Potential: The potential for a pesticide to be leached or carried by surface run-off is determined by characteristics of both the pesticide and the field. Surface slope, proximity to surface water, low organic matter content, depth to aquifer and heavy rainfall are some of the factors which lead to run-off and leaching problems when combined with pesticides of a moderate to high leaching potential.

Bee Toxicity: Degree of toxicity to honey bees. If possible, all pesticide applications should be avoided during times of bee activity within fields, such as mid-day during bloom periods.

Winter Storage: Winter storage requirement codes are: **A** - Do not allow to freeze, **B** - Preferably should not freeze. If frozen, return to original state by allowing product to warm to 10-20^{0}C and agitate thoroughly before use, **C** - Not usually damaged by freezing. Store in cool dry place.

Pesticide Emergency Information

Poison Control Centres

New Brunswick	Dial 911, ask for Poison Information
Newfoundland	Dr. Charles A. Janeway Child Healthcare Centre, St. John's (709) 722-1110
Nova Scotia Prince Edward Island	The Izaak Walton Killam Hospital for Children, Halifax 1-800-565-8161

Environmental Pesticide Spill

New Brunswick Prince Edward Island Nova Scotia	1-800-565-1633
Newfoundland	1-800-563-9089

PMRA Websites

Pesticide Label Search

http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php

Drift Mitigation

Buffer Zone Calculator Link

Helpful Conversions

Units

kPa x 0.14 = pounds per square inch
hectares x 2.47 = acres
kilograms x 2.2 = pounds
1000 grams (g) = 1 kilogram (kg)
millilitres x 0.035 = fluid ounces
litres x 35 = fluid ounces
litres x 0.22 = imperial gallons
1000 millilitres (mL) = 1 Litre (L)
°F = (°C x 9/5) + 32
°C = (°F-32) x 5/9
miles per hour x 1.61 = km per
5 mL = 1 tsp

Volume per Area

kg per ha x 0.89 = pounds per ac
kg per ha x 0.40 = kilograms per ac
g per ha x 0.015 = ounces per ac
tonnes per ha x 0.45 = tons per ac
L per ha x 0.40 = litres per ac
L per ha x 0.09 = gallons per ac
L per ha x 14.17 = fluid ounces per ac
L per ha x 0.71 = pints per acre
mL per ha x 0.015 = fl. ounces per ac
L per ha x 0.11 = US gallons per ac
L per ha x 0.86 = US pints per ac

Abbreviations

Formulation

DF	Dry flowable
EC,E	Emulsifiable
F	Flowable
G	Granular
L	Liquid
LV	Low Volatile
SC	Suspension
Sn	Solution
SP	Soluble Powder
WDG	Water Dispersible
WP,W	Wettable Powder
WSP	Water Soluble

Measurements

ac	acre
g	gram
g.a.e.	grams acid equivalent
ha	hectare
kg	kilogram
kPa	kilopascal
L	litre
m	metre
mL	millilitre
psi	pounds per square
% v/v	percent volume to volume

Personal Protection Equipment

Gloves

d - waterproof gloves **e** - chemical resistant gloves

Head and Lung

h - eye protection, application **m** - approved respirator

i - chemically resistant headgear for overhead application

Clothes

a - long-sleeved shirt/pants **b** - coveralls or disposable spray

c - coveralls or disposable spray suit over long sleeved

k - chemical-resistant spray suit

Footwear

f - shoes plus socks **g** - chemically resistant footwear plus