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EXTENSION AND ADVISORY TEAM

GUIDE TO WEED MANAGEMENT IN RASPBERRY

Nova Scotia Guide to Pest Management in Raspberry 2022
[RASP1-22]



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LIABILITY STATEMENT

Recommendations in this guide are given for general information only and do not give the user the right to use a product in a manner not in accordance with the pesticide label or Pest Control Products Act. Perennia, by funding and printing this publication, and the editors/authors, do not offer any warranty or guarantee and do not assume any liability for crop loss, animal loss, health, safety, or environmental hazard caused by the use of any pesticide, advice, or recommendation in this schedule. Pesticides used in this schedule are products labeled for the target and crop. This information was retrieved from the Pest Management Regulatory online of Registered Products Database. The list of products presented in this schedule is intended to be complete, based on products known to be available in the region, but in no way is guaranteed to be complete. Some of the products listed may not be available. Trade names are given as a convenience to producers and are neither an endorsement of the product nor a suggestion that similar products are not available or effective.

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PESTICIDE EMERGENCY CONTACT INFORMATION

Poison Control Centers		
Nova Scotia	800.565.8161 or 902.470.8161	IWK, Halifax, NS
New Brunswick	911	Ask for Poison Information
Prince Edward Island	800.565.8161 or 902.470.8161	IWK, Halifax, NS
Newfoundland	709.722.1110	Dr. Charles A. Janeway Child Health Care Centre, St. John's, NF

Environmental Emergencies (Pesticide Spills)	
Transport Canada Regional Operations Centre (24 hours)	
Nova Scotia	800.565.1633
New Brunswick	800.565.1633
Prince Edward Island	800.565.1633
Newfoundland	800.563.9089

ABBREVIATIONS AND CONVERSIONS

Formulation and Measurement Abbreviations			
FORMULATIONS		MEASUREMENTS	
DF	Dry flowable	mL	millilitre
EC, E	Emulsifiable concentrate	kPa	kilopascal
L	Liquid	kg	kilogram
Sn / Su	Suspension	g	gram
WP/W	Wettable powder	L	litre
		BIU	Billions of International Units
		ppm	parts per million (1000 ppb)
		ppb	parts per billion (1/1000 ppm)

Helpful Conversions ¹	
kPa X 0.14 = pounds per square inch (psi)	millilitres X 0.035 = fluid ounces
hectares X 2.47 = acres	litres X 35 = fluid ounces
kilograms X 2.2 = pounds	litres X 0.22 = imperial gallons
kilograms per hectare X 0.89 = pounds per acre	litres per hectare X 14.17 = fluid ounces per acre
kilograms per hectare X 0.40 = kilograms per acre	litres per hectare X 0.40 = litres per acre
	degree-days C X 1.8 = degree-days F

¹ Pesticide Units of Measurement

It is not recommended to convert label rates to imperial units because there is a high probability of mathematical and rounding errors. Present day pesticides are formulated to be more effective in smaller amounts. Therefore, even small conversion errors can lead to the use of incorrect rates (either too high or too low). Use metric – you will be glad you did!

Pest	Group	Active Ingredient	Pesticide Product Name	Rate	Restricted Entry Interval (REI)	Pre-harvest Interval (days)	Remarks
PLANTING YEAR							
Soil Applied:	15	napropamide	Devrinol 50-DF or Devrinol DF-XT (50 DF-XT)	9 kg/ha	12 hours	-	Apply once per season in the fall through early spring before weeds emerge. Incorporation by rainfall, irrigation or cultivation is essential. Do not apply to frozen ground. Use directed spray, avoiding contact with fruit or foliage.
	14	Flumioxazin	Chateau EZ NEW 2022	448 mL/ha	12 hours	7	Do not make more than 2 applications in a growing season. Do not apply within 30 days from the first application. Do not allow product to come into contact with the crop. Test in a small area of the crop to evaluate crop injury.
	14	Flumioxazin	Chateau WDG	420 g/ha	12 hours	7	Apply prior to weed emergence. Do not apply to fine-textured soils. Do not make a sequential application within 30 days of the first application. Maximum 2 applications per season.
Post Emergence: <i>Grasses</i>	1	fluazifop-p-butyl and S-isomer	Venture L	1.2-2.0 L/ha	12 hours	30	Apply when crop is at 2-6 leaf stage and do not make more than two applications per season with a 14 day minimum re-treatment interval. Apply in the spring pre-bloom
Post Emergence: <i>Broadleaf weeds</i>	4	2,4-D	2,4-D Amine 500 (470 g/L) 2,4-D Amine 600 (564 g/L)	1.1L/ha 0.92 L/ha	12 hours	-	Apply in 100-200 L water/ha. Do not apply when plants are in bloom. Keep spray off new shoots as much as possible. DO NOT apply more than two applications per year.
	14	carfentrazone-ethyl	Aim plus Agral 90	37-117 ml/ha plus 0.25% v/v	12 hours	30	Must be applied with a hooded sprayer to control weeds between rows. Apply only once per year. Apply in minimum 100 L/ha of spray solution. Crop injury will occur if spray contacts any part of the crop.

Pest	Group	Active Ingredient	Pesticide Product Name	Rate	Restricted Entry Interval (REI)	Pre-harvest Interval (days)	Remarks
ESTABLISHED PLANTINGS							
Soil Applied: <i>Broadleaf and grass weeds</i>	5	Simazine	Princep Nine-T (90WG)	2.0-2.5 kg/ha	12 hours	-	Do not use in first year plantings. Maximum of one application per year. Apply as a directed spray in early spring, before the weeds emerge. Apply in 300-1000 L water/ha. Use lower rate on coarse, sandy soils. Avoid spraying young shoots.
	5 15	Terbacil plus napropamide	Sinbar (80 WDG) plus Devrinol	0.41-0.84 kg/ha plus 4 kg/ha	12 hours	70	Only use on plantings that have been established for at least one year. Apply as a single band or broadcast application in a minimum of 200 L of water. Applications should be made in the fall or early spring before fruit set. Only one application per season. For use on soils with a range of 8-10% organic matter only. Do not spray crop foliage, exposed roots or on weakened or diseased plants.
	14	Flumioxazin	Chateau WDG	420 g/ha	12 hours	7	Apply prior to weed emergence. Do not apply to fine-textured soils. Do not make a sequential application within 30 days of the first application. Maximum 2 applications per season.
	14	Flumioxazin	Chateau EZ	448 mL/ha	12 hours	7	Do not make more than 2 applications in a growing season. Do not apply within 30 days from the first application. Do not allow product to come into contact with the crop. Test in a small area of the crop to evaluate crop injury.
	14	Sulfentrazone	Authority 480	220-290 ml/ha	12 hours	3 days	Avoid applying to green bark foliage and fruit. Best results is applied to moist soil and followed but a light rain or light irrigation.

Pest	Group	Active Ingredient	Pesticide Product Name	Rate	Restricted Entry Interval (REI)	Pre-harvest Interval (days)	Remarks
Soil Applied: <i>Broadleaf and grass weeds</i> (cont.)	15	Napropamide	Devrinol 50-DF or Devrinol DF-XT (50 DF-XT)	9 kg/ha	12 hours	-	Apply once per season before weeds emerge either in the fall or spring. Incorporation by rainfall, irrigation or cultivation is essential. Do not apply to frozen ground and do not apply to fruit or foliage.
	15	S-Metalachlor	Dual II Magnum	1.15-1.75 L/ha	12 hours	28 days	Apply to the soil in the early spring as a banded application to both sides of the plant row prior to weed emergence. Make only one application per year. Apply in a 150 L water/ha minimum.
	20	Dichlobenil	Casoron 4G (G-4)	110-175 kg/ha	12 hours	100	Apply on established raspberries in late fall or late winter when soil is cool, moist but unfrozen, and before weeds emerge. Do not apply if air temperature is above 10-15 °C. Do not use on light, sandy soil.
	29	Indaziflam	Indaziflam 500 SC	150 ml/ha	12 hours	14	Use on plantings established for at least one year. Do not apply prior to any type of soil disturbance. If application is to be made after soil disturbance, apply only after the soil settles. Apply as a directed spray to the soil, either under dormant canes prior to bud break and new cane emergence or after mowing but prior to new cane emergence. Apply a maximum of one application per season, using ground equipment.
	29	Indaziflam	Alion	375 ml/ha	12 hours	14	
Post Emergence: <i>Grasses</i>	1	Sethoxydim	Poast Ultra plus Merge	0.32-1.1 L/ha plus 0.5-2 L/ha	12 hours	37	Apply in the spring OR in the fall (August to October) and again in the spring. Do not make more than two applications per season.
	1	fluazifop-p-butyl and S-isomer	Venture L	1.2-2.0 L/ha	12 hours	30	

Pest	Group	Active Ingredient	Pesticide Product Name	Rate	Restricted Entry Interval (REI)	Pre-harvest Interval (days)	Remarks
Post Emergence: <i>Broadleaf weeds</i>	2	Rimsulfuron	Prism SG plus Non-ionic surfactant (CITOWETT PLUS, AGRAL 90, or AG-SURF)	60 g/ha plus 0.2 % v/v	12 hours	21	Use amine formulation. Apply in 100-200 L water/ha. Do not apply when plants are in bloom. Keep spray off new shoots as much as possible. DO NOT apply more than two applications per year.
	4	2,4-D	2,4-D (470 g/L) 2,4-D (564 g/L)	1.1 L/ha 0.92 L/ha	12 hours	-	Apply to actively growing grasses before tillering. Apply in 100-200 L water/ha. Do not apply if rain is forecast within 1 hour of application.
Post Emergence: <i>Non Selective</i>	10	glufosinate ammonium	Ignite	6.67 L/ha	12 hours	-	Make a single application early post emergent to actively growing weeds with a recommended non-ionic surfactant. Use a directed spray application to provide complete coverage of the weeds and minimize spray contact with plants. When banded (50% band or less), Prism may be applied twice per year. Do not apply more than 60 g/ha on a broadcast application basis per year. Use a minimum of 100 L of water/ha (recommended spray volume of 140-190 L/ha).

Pest	Group	Active Ingredient	Pesticide Product Name	Rate	Restricted Entry Interval (REI)	Pre-harvest Interval (days)	Remarks
Post Emergence: <i>Non Selective</i> (cont.)	14	carfentrazone-ethyl	Aim plus Agral 90	37-117 ml/ha plus 0.25% v/v	12 hours	30	For use in the production year of raspberries grown in the biennial production system, or in a planting that will be removed after harvest. Do not apply to immature or weak plantings. Apply when shoots are 10-20 cm to suppress the emerged flush of primocanes and control any weeds emerged at the time of treatment. Apply in a minimum of 330 L water/ha. Avoid drift onto green tissue of primocanes
							Must be applied with a hooded sprayer to control weeds between rows. Apply only once per year. Apply in minimum 100 L/ha of spray solution. Crop injury will occur if spray contacts any part of the crop.

Use the following web link to search for any pesticide label mentioned in this guide, or any other pesticide registered in Canada: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>

Product Toxicity

Common Name	Trade Names	Toxicity		
		To Bees	To Applicator	
			Oral	Dermal
2,4-D	2,4-D Amine 500	low	mod	Mod
carfentrazone-ethyl	Aim EC	low	low	Low
dichlobenil	Casoron	low	low	Low
fluazifop-p-butyl	Venture	low	low	Low
flumioxazin	Chateau	low	low	Low
glufosinate ammonium	Ignite	low	low	Low
indaziflam	Indaziflam, Alion	low	low	Low
napropamide	Devrinol DF	low	low	Low
paraquat	Gramoxone	low	high	Mod
rimsulfuron	Prism SG	?	low	Low
simazine	Princep Nine-T	low	low	Low
sethoxydim	Poast Ultra	low	low	Low
terbacil	Sinbar	low	mod	Low

References: EXTOWNET (<http://extownet.orst.edu/pips/ghindex.html>) and Individual Product MSDS