



GUIDE TO WEED MANAGEMENT IN Highbush Blueberry

**Nova Scotia Guide to Pest Management in Highbush Blueberry
2011 [HBBlue1-11]**

Revised April 13, 2011 by
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IMPORTANT

This publication was compiled by representatives from AgraPoint using information from the Pest Management Regulatory Agency of Health Canada, and specific pesticide labels. **This information is continuously changing and therefore it can cease to be current and accurate. Pesticide labels are the best source of information and should always be consulted prior to using a product.** The label is the best source of information on: registered crop uses, rates, days to harvest, compatibility with other pesticides, toxicity and other special information on its effective and safe use.

By printing this publication, AgraPoint does not offer any warranty or guarantee, nor do they assume any liability for any crop loss, animal loss, health, safety or environmental hazard caused by the use of a pesticide mentioned in this publication.

WARNINGS

This publication is meant to be used as a reference for possible pest control options. Where there are multiple brand names of a specific active ingredient registered in Canada, AgraPoint has only listed a few for reference purposes and as such does not endorse one brand over another. If you have purchased a generic product not specifically in this guide but has your crop and pest on the label, always follow that product label.

If any information in this or any other publication conflicts with the information on the label, always use the label recommendation. If you have an old label, your pesticide supplier should be able to give you the newest label. You are legally responsible for the safe use of pesticides you purchase. This means the safe transport and storage of these materials, the label rates used on crops, and the safe disposal of containers.

Pest	Pesticide Common Name	Pesticide Product Name	Rate	Days to Harvest	Remarks
Planting Year					
Soil Applied: <i>Broadleaf and grass weeds</i>	napropamide	Devrinol DF	9 kg/ha	-	Apply once per season before weeds emerge or following cultivation. Incorporation by rainfall, irrigation or cultivation is essential. Do not apply to frozen ground.
	metribuzin	Sencor 75 DF	1 kg/ha	730	Apply as a directed application in a band under the bushes. Apply to weed free soil after planting. Do not harvest blueberries for 2 years.
	s-Metolachlor	Dual II Magnum or Dual Magnum	1.25-1.75 L/ha	30	Make one application per year in 150-300 L water/ha. Apply to soil as a banded application, directed to the base of the plants. Avoid contact with trunk and foliage.
Post Emergence: <i>Grasses</i>	fluazifop-p-butyl	Venture L	0.6-2.0 L/ha	30	Use one application per season. Apply to actively growing grasses before tillering.
	sethoxydim	Poast Ultra plus Merge	0.32-1.1 L/ha plus 1-2 L/ha	15	Apply to actively growing grasses before tillering. Apply in 100-200 L of water /ha.
	clethodim	Centurion plus Amigo	0.19-0.38 L/ha 0.5-1.0% v/v	14	Apply CENTURION postemergence of weeds and crop. Apply a maximum of one application per year, post-emergent by ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 100 litres of water per hectare.
Post Emergence: <i>Broadleaf weeds</i>	clopyralid	Lontrel 360	0.42-0.83 L/ha	45	Apply once per year directed under the bushes on emerged weeds. Use lower rates on vetch, higher rate on clovers.

	mesotrione	Callisto 480 SC plus Agral 90	0.3 L/ha plus 200 ml/100 L of water	60	Make only one application per year in the sprout year. Apply either pre-emergent or post emergent to weeds. Apply in 100-200 L of water/ha. Apply broadcast (directed spray to the base of the blueberries) ground application. Apply up to the 8 leaf stage of weeds and prebloom to crop.
Post Emergence: <i>Non-selective</i>	glyphosate	Roundup 360 various	2.8-5.6 L/ha	30	Apply as a directed spray under the bushes. Avoid new shoots. One application per season. Avoid contact with fruit, foliage and canes.
	carfentrazone-ethyl	Aim plus Agral 90	37-117 ml/ha plus 0.25% v/v	1	Must be applied with a hooded sprayer to control weeds between rows. Apply only once per season. Must be applied in a minimum of 100 L of water/ha. Avoid contact with fruit, foliage and canes.
Established Plantings					
Soil Applied: <i>Broadleaf and grass weeds</i>	dichlobenil	Casoron 4G	175-225 kg/ha	-	Apply to cool moist but unfrozen soil in late fall or spring before weeds emerge. Do not apply if air temperature is above 10-15 °C. Do not use on light, sandy soil. Use only under plants established for at least three years. 70g of Casoron 4G applied to 2x2m area = 175 kg/ha.
	napropamide	Devrinol DF	9 kg/ha	70	Apply once pre 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.

	simazine	Princep Nine-T	2.5-3.75 kg/ha	-	Do not use in first year plantings. Apply as a directed spray in early spring before the weeds emerge. Apply in 300-1000 L of water/ha. Use lower rate on sandy soils.
	terbacil	Sinbar 80 WP	2.75-4.25 kg/ha		Make only one application per year. Use only on plantings that have been established for at least one year. Injury may occur on sandy soils, even with the low rate.
	s-Metolachlor	Dual II Magnum or Dual Magnum	1.25-1.75 L/ha	30	Make one application per year in 150-300 L water/ha. Apply to soil as a banded application, directed to the base of the plants. Avoid contact with trunk and foliage.
Post Emergence: <i>Grasses</i>	fluazifop-p-butyl	Venture L	0.6-2.0 L/ha	30	Use one application per season. Apply to actively growing grasses before tillering.
	sethoxydim	Poast Ultra plus Merge	0.32-1.1 L/ha plus 1-2 L/ha	37	Apply to actively growing grasses before tillering. Apply in 100-200 L of water /ha.
	clethodim	Centurion plus Amigo	0.19-0.38 L/ha 0.5-1.0% v/v	14	Apply CENTURION postemergence of weeds and crop. Apply a maximum of one application per year, post-emergent by ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 100 litres of water per hectare.
Post Emergence: <i>Broadleaf weeds</i>	clopyralid	Lontrel 360	0.42-0.83 L/ha	45	Apply once per year directed under the bushes on emerged weeds. Use lower rates on vetch, higher rate on clovers.
	bentazon	Basagran plus Assist	175 L/ha plus 0.5% v/v	25	For top growth control of yellow nutsedge. Make two applications 7-10 days apart when weeds are small. Do not make more than two applications per year.

	carfentrazone-ethyl	Aim plus Agral 90	37-117 ml/ha plus 0.25% v/v	1	Must be applied with a hooded sprayer to control weeds between rows. Apply only once per season. Must be applied in a minimum of 100 L of water/ha. Avoid contact with fruit, foliage and canes.
	mesotrione	Callisto 480 SC plus Agral 90	0.3 L/ha plus 200 ml/100 L of water	60	Make only one application per year in the sprout year. Apply either pre-emergent or post emergent to weeds. Apply in 100-200 L of water/ha. Apply broadcast (directed spray to the base of the blueberries) ground application. Apply up to the 8 leaf stage of weeds and prebloom to crop.
Post Emergence: <i>Non Selective</i>	paraquat	Gramoxone	5.5 L/ha	-	Apply in 1000 L of water /ha. For spot spray apply 55 ml in 10 L of water and spray until foliage is wet. Only emerged weeds will be controlled. Direct spray at base of canes in the spring before new shoots emerge.
	paraquat plus simazine	Gramoxone plus Princep Nine-T	5.5 L/ha plus 2.5-3.75 kg/ha	-	For emerged weeds with residual control of germinating weeds. Apply as a directed spray to established plantings. Apply with 1000 L of water/ha. Use lower rate on sandy soils. Avoid spraying young shoots.
	glyphosate	Roundup 360 various	2.8-5.6 L/ha	30	Apply as a directed spray under the bushes. Avoid new shoots. One application per season. Avoid contact with fruit, foliage and canes.
	flumioxazin	Chateau WDG	280-420 g/ha	7	Do not apply to Blueberries established less than 2 years. Do not make more than two applications in a growing season. Do not make a sequential application within 30 days of the first. Do not apply after bud break

					unless using a hooded sprayer. Do not apply to fine textured soils. Use low rate on coarse textured soils. Apply prior to weed emergence.
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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
bentazon	Basagran	low	low	low
carfentrazone-ethyl	Aim EC	low	low	low
clopyralid	Lontrel	low	low	low
dichlobenil	Casoron	low	low	low
fluazifop-p-butyl	Venture	low	low	low
flumioxazin	Chateau	low	low	low
glyphosate	Roundup, Touchdown, Glyphos	low	low	low
napropamide	Devrinol DF	low	low	low
paraquat	Gramoxone	low	high	mod
simazine	Princep Nine-T	low	low	low
sethoxydim	Poast Ultra	low	low	low
terbacil	Sinbar	low	low	low

References: EXTOTOXNET (<http://extoxnet.orst.edu/pips/ghindex.html>) and Individual Product MSDS sheets

PESTICIDE EMERGENCY CONTACT INFORMATION

Poison Control Centres		
Nova Scotia	800.565.8161 or 902.428.8161	IWK, Halifax, NS
New Brunswick	911	Ask for Poison Information
Prince Edward Island	800.565.8161 or 902.428.8161	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 & CONVERSIONS

Formulation and Measurement Abbreviations			
FORMULATIONS		MEASUREMENTS	
DF	Dry flowable	mL	millilitre
EC,E	Emulsifiable concentrate	kPa	kilopascal
F	Flowable	kg	kilogram
G	Granular	g	gram
L	Liquid	L	litre
WDG	Wettable dry granule	BIU	Billions of International Units
WP,W	Wettable powder	ppm	parts per million
SC	Suspension concentrate		
Sn	Solution		
SP	Soluble powder		

Helpful Conversions*	
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

*** 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 have greater toxic effects in smaller amounts. Therefore, even small conversion errors can lead to the use of incorrect dosages (either too high or too low). Use metric – you will be glad you did!