

# GUIDE TO PEST MANAGEMENT IN RADISH

**Nova Scotia Vegetable Crop Guide to Pest Management 2011**  
[RAD1-11]

**Revised June 16, 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, specific pesticide labels, previous Atlantic Provinces Vegetable Pest Guides and manufacturer's information. **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 couple 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
<b>WEEDS:</b>					
<b>Preplant</b>  <i>Perennial weeds including quackgrass</i>	glyphosate	<b>Roundup 356 Sn</b>	1.25-2.5 L/ha	7	Apply in the fall or spring prior to planting. Annual weed control programs will be necessary to control weeds germinating after planting. For quackgrass control, apply to actively growing quackgrass when at least 4 new leaves are present. The low rate (2.5 L/ha) will provide a minimum of one season control, while higher rates (4.75 to 7 L/ha) will provide longer term control. The low rate of Roundup should be applied in 50 to 100 L/ha water. If higher water volumes are used add a suitable surfactant. Wait 72 hours before plowing under. Best control of quackgrass is obtained when these herbicides are applied in the fall.
		<b>Roundup WeatherMAX</b>	1.67-8.0 L/ha	7	
		<b>Touchdown 480</b>	2.5-7.0 L/ha	7	
	carfentrazone-ethyl	<b>Aim EC</b>	36.5-117 mL/ha	1	Apply in minimum spray volume of 100 L/ha. Refer to label for target weeds, buffer zones and rates. Use high flow rate nozzles to apply the highest spray volume.
<b>Preemergence</b>  <i>Stale Seedbed technique</i>	paraquat	<b>Gramoxone 200 Sn</b>	2.75-5.5 L/ha	-	Apply in 300 – 1100 L of water/ha to foliage of emerged weeds but before the crop has emerged.
	diquat	<b>Reglone 240</b>	2.3-4.6 L/ha	-	
<b>INSECTS:</b>					

<b>Root Maggots</b>	chlorpyrifos	<b>Pyrinex 480 EC</b>	85ml / 1000 m of row	21	Drench with seed in 380 L water / 1000m of row. 24 hr re-entry
	diazinon	<b>Diazinon 5 G</b>	175 g/100m of row	-	Apply in furrow at seeding
<b>Cabbage looper, Imported cabbage worm &amp; Diamondback moth</b>	spinosad	<b>Success 480 SC</b>	0.182 L/ha	3	Max 3 applications/yr.
		<b>Entrust 80 W</b>	109 g/ha	1	Max 3 applications/yr. Allow 7-10 days between applications
	spinetoram	<b>Delegate WG</b>	140-200 g/ha	3	Time application with peak egg hatch or small larvae. Repeat applications based on population monitoring. Use higher rate for higher infestations or advanced growth stages. Maximum of 3 applications per year with a minimum re-treatment interval of 5 days.
<b>Aphids</b>	diazinon	<b>Diazinon 500 E</b>	1.1 L/ha	10	Inconsistent control of Aphids
	malathion	<b>Malathion 500 E</b>	1.1-2.75 L/ha	7	Repeat applications as necessary
	Flonicamid <i>Added June 16<sup>th</sup></i>	<b>Beleaf 50SG</b>	0.12-0.16 kg/ha	3	Thorough spray coverage of plant foliage is essential. Minimum of 94 litres of water/ha. Maximum of 3 applications per season, allow 7 days between applications. <b>Avoid overnight storage of spray mixtures, do not use liquid fertilizer as a carrier and do not use adjuvants.</b>
<b>Flea beetles</b>	carbaryl	<b>Sevin XLR Plus</b>	1.25-2.5 L/ha	7	Apply when insect or insect damage appears. Repeat on 7-10 day intervals.
	permethrin	<b>Pounce 384 EC</b>	180 ml/ha	2	Apply when insect or insect damage appears
	malathion	<b>Malathion 500 E</b>	1.1-2.75 L/ha	7	Repeat applications as necessary
	diazinon	<b>Diazinon 500 E</b>	1.1 L/ha	10	

### **DISEASES:**

<b>Alternaria, Cercospera, Powdery Mildew and Downy Mildew</b>	pyraclostrobin	<b>Cabrio EG</b>	0.56-1.1 kg/ha	3	Max 3 applications/yr. Do not make more than 1 application before rotating to a different fungicide group. 24 hr re-entry.
	<i>Bacillus subtilis</i>	<b>Serenade MAX</b>	2.5 Kg/ha	0	<b>Serenade Max and Serenade ASO are biopesticides that will only suppress the indicated diseases.</b> <b>Downy Mildew:</b> Begin application when environmental conditions are conducive to disease development. Repeat on 7-10 day intervals.
		<b>Serenade ASO</b>	10 L/ha	0	
	metalaxyl-M and S-isomer	<b>Ridomil Gold 480 SL</b>	1.2-2.4 L/ha	21	<b>Downy mildew suppression.</b> Use the higher rate in areas with a history of high disease pressure. Max one application per season. Apply in sufficient water to provide uniform coverage of soil. Preplant Incorporated (Broadcast or Banded): Apply and mechanically incorporate in the top 5 cm of soil. Soil Spray (Broadcast or Banded): Apply at planting. For banded applications, use an 18 cm band. DO NOT apply RIDOMIL GOLD 480EC Fungicide beyond the at-planting stage.
fluopicolide	<b>Presidio</b>	220-292 ml/ha	7	<b>Downy Mildew.</b> Apply in 200-1000 L/ha. For resistance management, Presidio Fungicide must be tank-mixed with a labelled rate of another fungicide registered for the target pathogen, but with a different mode of action. Apply Presidio Fungicide in a tank mix with Bravo 500. Follow the most restrictive use directions of either label.  Make foliar applications on a 7 to 10 day schedule beginning with initial flowering,	

					or when disease conditions are favourable, but prior to disease development. Use the lower rate and longer interval as preventive applications. Use the higher rate and shorter interval if disease is present.
<b>Rhizoctonia root rot and stem canker</b>	azoxystrobin	<b>Quadris</b>	4-6 ml/ 100m of row	15	Max 1 application/yr. Apply either in-furrow at seeding or as a banded application over the row soon after emergence. Apply in 50-100 L of water/ha
<b>White mould</b>	<i>Bacillus subtilis</i>	<b>Serenade MAX</b>	2.0-4.0 Kg/ha	0	<b>Serenade Max and Serenade ASO are biopesticides that will only suppress the indicated diseases.</b> <b>Downy Mildew:</b> Begin application when environmental conditions are conducive to disease development. Repeat on 7-10 day intervals.
		<b>Serenade ASO</b>	8.0-15.0 L/ha	0	

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.pmra-arla.gc.ca/portal/page?\\_pageid=34,17551&\\_dad=portal&\\_schema=PORTAL](http://pr-rp.pmra-arla.gc.ca/portal/page?_pageid=34,17551&_dad=portal&_schema=PORTAL)

# PESTICIDE EMERGENCY CONTACT INFORMATION

<b>Poison Control Centres</b>		
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

<b>Environmental Emergencies (Pesticide Spills)</b>	
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

<b>Formulation and Measurement Abbreviations</b>			
FORMULATIONS		MEASUREMENTS	
EC, E	Oil-based emulsifiable concentrate	mL	millilitre
EW	Water-based concentrate	kPa	kilopascal
EG	Water dispersible granule	kg	kilogram
G	Granule	g	gram
SC	Suspension concentrate	L	litre
Sn	Solution	BIU	Billions of International Units
WP, W	Wettable powder	ppm	parts per million (1000 ppb)
		ppb	parts per billion (1/1000 ppm)

<b>Helpful Conversions<sup>1</sup></b>	
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

<sup>1</sup> **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!