

GUIDE TO PEST MANAGEMENT IN PARSNIP

Nova Scotia Vegetable Crop Guide to Pest Management 2011
[PAR1-11]

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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
WEEDS:					
Preplant <i>Perennial weeds including quackgrass</i>	glyphosate	Roundup 356 Sn	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.
		Roundup WeatherMAX	1.67-8.0 L/ha	7	
		Touchdown 480	2.5-7.0 L/ha	7	
	carfentrazone-ethyl	Aim EC	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.
Pre-emergence Treatment Grasses and broadleaves	linuron	Afolan F	1.4-2.7 L/ha	-	Use lower rate on sandy soils. Heavy rain at emergence can cause injury. Plant seed at least 1.3 cm deep.
		Lorox L	1.3-1.9 L/ha	60	
Pre-emergence followed by Postemergence	linuron	Afolan F Followed by	1.4-2.0 L/ha	-	These treatments need to be at least 2 weeks apart. Do not apply more than 2.7 L on sandy soils. Nozzle pressure

		Afolan F	2.0-2.7 L/ha		must not exceed 275 kPa as crop injury may result. Applications at high temperatures can cause injury.
		Lorox L	1.3-1.9 L/ha	60	Treatments need to be be at least 2 weeks apart. Never apply more than two applications per season.
		Followed by Lorox L	2.5 L/ha		
Postemergence <i>Inter-row shielded</i>	paraquat	Gramoxone 200 Sn	2.75-5.5 L/ha	-	Do not spray solution on the crop plant since it could be injured or killed. Use gramoxone for best control of grasses.
	diquat	Reglone 240	2.3-4.6 L/ha	-	
	carfentrazone-ethyl	Aim EC	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.
Emerged Weeds	linuron	Afolan F	2.0-5.0 L/ha	-	Apply when parsnips are 8-15 cm high. Do not apply more than 2.7 L on sandy soils. Nozzle pressure must not exceed 275 kPa as crop injury may result. Applications at high temperatures can cause injury.
		Lorox L	1.9-4.7 L/ha	60	Apply in 220-440 L water/ha. Apply before broadleaf weeds reach 15 cm. Do not spray in hot dry weather or injury may result.
		Herbicidal Oil Agricultural Weedkiller #1	600-800 L/ha	30	Apply undiluted when true leaves develop and before parsnip roots are thicker than a pencil. Weeds should be less than 10 cm high.
INSECTS:					
Carrot Rust Fly	diazinon	Diazinon 50 EC	1.1 L/ha	10	Apply when insects first appear and repeat on 7-10 day intervals. Also controls flea beetle.

Aphids	malathion	Malathion 500 EC	1.1-2.75 L/ha	7	
	diazinon	Diazinon 50 EC	1.1 L/ha	10	Apply when insects first appear and repeat on 7-10 day intervals
	Flonicamid <i>Added June 16th</i>	Beleaf 50SG	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. Avoid overnight storage of spray mixtures, do not use liquid fertilizer as a carrier and do not use adjuvants.
DISEASES:					
Root Canker	chlorothalonil	Bravo 500	2.8 L/ha	7	Start applications around mid-August and repeat at 7-10 day intervals. Max 7 applications/yr.
White mould	<i>Bacillus subtilis</i>	Serenade MAX	2.0-4.0 Kg/ha	0	Serenade Max and Serenade ASO are biopesticides that will only suppress the indicated diseases. Begin applications at the 1 st sign of disease, or when conditions become conducive for disease development. Repeat as necessary on a 7-10 day interval.
		Serenade ASO	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

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	
EC, E	Oil-based emulsifiable concentrate	mL	millilitre
EW	Water-based concentrate	kPa	kilopascal
F	Flowable	kg	kilogram
Sn	Solution	g	gram
		L	litre
		BIU	Billions of International Units
		ppm	parts per million (1000 ppb)
		ppb	parts per billion (1/1000 ppm)

Helpful Conversions¹	
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!