

GUIDE TO PEST MANAGEMENT IN LEEKs

Nova Scotia Vegetable Crop Guide to Pest Management 2011
[LEEK1-11]

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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 <i>Stale Seedbed Technique</i>	paraquat	Gramoxone 200 Sn	2.75-5.5 L/ha	-	Apply in 300 – 1100L fo water/ha to foliage of emerged weeds but before the crop has emerged.
	diquat	Reglone 240	2.3-4.6 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.
Grass and broadleaf	prometryn	Gesagard 480 SC	3.75 L/ha	-	2 applications 10 days apart before weeds are 5 cm high. Make applications to well established transplanted leeks that have one fully expanded leaf.
INSECTS:					
Thrips	cyhalothrin-lambda	Matador 120 EC	188 ml/ha	14	Max 3 applications/yr. Allow 7 days between treatments. Apply in 500 L of water /ha.
	malathion	Malathion 500E	2.25-2.75 L/ha	3	Also controls Aphid.
Leek Moth	cyhalothrin-lambda	Matador 120 EC	188 ml/ha	14	Max 3 applications/yr. Allow 7 days between treatments. Apply in 500 L of water /ha.
DISEASES:					
Purple Blotch	boscalid	Lance WDG	0.475 kg/ha	7	Max 6 applications/yr. Do not apply more than 2 sprays in succession before alternating to another fungicide family.
	pyraclostrobin	Cabrio	0.56-0.4 kg/ha	7	Max 3 applications/yr. Do not apply more than 2 sprays in succession before alternating to another fungicide family. Use on a 10-14 day schedule.
	boscalid/pyraclostrobin	Pristine WG	1.0-1.3 kg/ha	7	Max 6 applications/yr. Apply at 7-14 day intervals. Do not make sequential applications when downy mildew occurs. (suppression only).
	<i>Bacillus subtilis</i>	Serenade MAX	3.0-6.0 Kg/ha	0	Serenade Max is a biopesticide 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.
Downy Mildew	fenamidone	Reason 500 SC	400 ml/ha	7	Suppression Only. Begin application as soon as crop and/or environmental conditions become favourable for disease development. Apply in 300-600 L/ha. Applications should be made on a 5-10 day interval. Maximum 4 applications per year. Plant back interval of 30 days. Do not apply more than 2 sequential applications of Reason 500 SC or any other Group 11 fungicide before alternating with a fungicide from a different Group.
	pyraclostrobin	Cabrio	0.56-0.4 kg/ha	7	Max 3 applications/yr. Do not apply more than 2 sprays in succession before alternating to another fungicide family. Use on a 10-14 day schedule. (suppression only)
	boscalid/pyraclostrobin	Pristine WG	1.0-1.3 kg/ha	7	Max 6 applications/yr. Apply at 7-14 day intervals. Do not make sequential applications when downy mildew occurs. (suppression only)
	<i>Bacillus subtilis</i>	Serenade MAX	3.0-6.0 Kg/ha	0	0
Serenade ASO		12.0-24.0 L/ha	0		
Botrytis leaf blight & Botrytis Neck Rot	boscalid	Lance WDG	0.475 kg/ha	7	Max 6 applications/yr. Do not apply more than 2 sprays in succession before alternating to another fungicide family.

	boscalid/pyraclostrobin	Pristine WG	1.0-1.3 kg/ha	7	Max 6 applications/yr. Apply at 7-14 day intervals. Do not make sequential applications for downy mildew (suppression only).
	iprodione	Rovral	1.5 kg/ha	15	Max 4 applications/yr. Make first application at first sign of disease or when conditions are favorable for disease. Apply at 7-10 day intervals.
	<i>Bacillus subtilis</i>	Serenade MAX	3.0-4.5 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	12.0-18.0 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
EG	Water dispersible granule	kPa	kilopascal
WG	Wettable granule	kg	kilogram
WDG	Wettable dry granule	g	gram
SC	Suspension concentrate	L	litre
Sn	Solution	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!