Extension and Advisory Team

Celery Management Schedule

A guide to weed, insect and disease management in celery in Nova Scotia

2018

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GUIDE TO PEST MANAGEMENT IN CELERY

Nova Scotia Vegetable Crop Guide to Pest Management 2018
[CEL1-18]

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IMPORTANT

This publication was compiled by representatives from Perennia 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.**

By printing this publication, Perennia 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, Perennia 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. 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	Group	Active Ingredient	Pesticide Product Name	Rate	Restricted Entry Interval (REI)	Pre-Harvest Interval (days)	Remarks
WEEDS:							
Preplant *Perennial weeds including quackgrass*	14	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.
	9	Glyphosate	**Roundup Original**	2.5-7.0 L/ha	12 hours	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	12 hours	7	
			Touchdown® 480	2.5-7.0 L/ha	12 hours	7	
After transplanting celery & prior to weed emergence	15	S-metolachlor	**Dual II Magnum**	1.2-1.5 L/ha	12 hours	62 days	Apply in 150-200 L water/ha. Directed or broadcast spray. Ground application only. In general, the risk of crop injury is less with post-directed than from post over-the-top post-transplanting applications. The use of a spray adjuvant or the addition of another registered herbicide as a tank mixture increase the risk of crop injury from post-emergence applications. Dual II Magnum may be used to treat row-middles in bedded crops, as long as the total amount applied does not exceed 1.75 L/ha in that crop. Use lower rates on coarse-textured soils and higher rates on fine-textured soils.

Postemergence Treatments *Seedling annuals*	-	-	**Herbicidal Oil** **(Weedkiller No. 1)**	600-800 L/ha (overall spray) 300-400 L/ha (rows only)	-	-	Apply herbicidal oil undiluted. Use only on outdoor seedbeds, and only if soil is moist. Apply as first true leaves of crop develop and before weeds are 10 cm high.
	7	Linuron	**Afolan F**	2 - 2.7 L/ha	-	-	Apply to transplant as soon as new growth has started. Some temporary discoloration may occur.
			Lorox L	1.9 - 4.7 L/ha			Apply to transplant as soon as new growth has started. Use lower rate on lighter soils (lower in clay or organic matter) and higher rates on heavier soils. Some temporary discoloration may occur.
	5	Prometryn	**Gesagard 480 SC**	3.75-4.58 L/ha	24 hours	54	Apply to transplanted celery only, 21 days after transplanting and before weeds reach 5 cm in height. Only one application per season.
Annual Grasses, quackgrass	1	Sethoxydim	**Poast ® Ultra**	0.32L/ha-1.1 L/ha	12 hours	30	Maximum application 1.1 L/ha per year. Most effective control when application is made at the 2 to 5 leaf stage when annual grasses are small and in the growing process. Apply to quackgrass when in the 3-leaf stage of growth; competition of quackgrass is typically eliminated for 6 to 8 weeks, cultivation is not recommended within 7 days of treatment for wide row crops to aid in weed control.
Stale Seedbed Technique	22	Diquat	**Reglone, Dessicash**	2.3-4.6 L/ha	24 hours	-	Apply before crop emergence to foliage of emerged weeds.
Intra-Row Shielded	14	Flumioxazin	**Chateau WDG**	140-210 g/ha	24 hours	Do not apply after transplanting	Apply Chateau Herbicide WDG as a hooded or shielded application to row middles prior to transplanting for pre-emergence control of the weeds. Rainfall or irrigation must occur between application and transplanting in order to activate the product.

Pest	Group	Active Ingredient	Pesticide Product Name	Rate	Restricted Entry Interval (REI)	Pre-Harvest Interval (days)	Remarks
INSECTS:							
Leafhopper	1A	Carbaryl	**Sevin XLR Plus**	1.25-2.5 L/ha	-	5	Aster leafhoppers spread aster yellows. Apply 3- 4 sprays at 7-10 day intervals beginning early July. Also spray weeds in headlands and control leafhoppers on adjacent carrots and lettuce. Discontinue sprays 20 days before harvest.
	3	Cypermethrin	**Mako**	86 mL/ha	-	7	Apply in 500 L of water per hectare when insects are first noticed. Repeat as required up to 3 applications per season.
			UP-Cyde 2.5 EC	140 ml/ha	12 hours	7	Apply in 550 L of water / ha when insects are first noticed. Maximum of three applications per season.
	1B	Malathion	**Malathion 500E**	2.25 L/ha	-	7	**Same remarks as Sevin XLR Plus**
	-	Kaolin	**Surround WP**	12.5 - 25 kg/ha	-	-	**This is an OMRI listed control product and is suitable for organic production.** Apply in 500 L of water. Apply at 7-14 day intervals once initial infestation is detected. Use high rate for early applications. Do not exceed 25 kg/ha per application.
Tarnished Plant Bug	1B	Acephate	**Orthene 75 SP**	563-825 g/ha in 225 - 1650 L water	24 hours	21	Do not re-enter sprayed area until product has dried. Maximum 4 applications per season.
	3	Lambda-cyhalothrin	**Matador 120 EC, Warrior**	83 ml/ha	48 hours	3	Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Reapply after a minimum of 7 days if monitoring indicates it is necessary. Max 3 applications per year, apply in 500 L of water /ha.

Aphids	1B	Acephate	**Orthene 75 SP**	563-825 g/ha in 225 to 1650 L of water	24 hours	21	Do not re-enter sprayed area until product has dried. Maximum 4 applications per season.
	4	Acetamiprid	**Assail 70 WP**	56 – 86 g/ha	12 hours	7	Maximum 5 applications per year and alternate with other insecticide families.
	1B	Dimethoate	**Lagon 480 E**	700 mL/ha	-	3	Do not apply more than 3 applications per growing season. Begin application 3 weeks after transplanting.
	4	Imidacloprid	**Admire 240**	0.73-1.3 L/ha	24 hours	45	Apply specified dosage in one of the following methods: • Apply in 2000 L/ha of water as a narrow (5 cm or less) surface band over seed line during planting. Application should be made with sufficient water to ensure incorporation into the root zone. • Subsurface side-dress on both sides of each row of seedlings or established transplants; apply in 200 L/ha of water. Must be incorporated into root-zone. • Post-seeding drench, transplant-water drench, or hill drench; use higher water volumes - sufficient to thoroughly wet the soil. **No more than one application per season.**
	1B	Malathion	**Malathion 25 WP**	4.25 Kg/ha	-	7	Apply if aphids are plentiful. Trim celery at harvest.
		Naled	**Dibrom**	1.1 - 1.65 L/ha	48 hours	4	Apply in 100-300 L of water per ha. Do not apply in temperatures over 32°C. Maximum 2 applications per season.
	9B	Pymetrozine	**FulFill 50WG**	193 g/ha	-	14	Apply when aphids first appear. Do not exceed 2 applications per season. Allow 7 days between applications. Causes feeding cessation shortly after application but aphids may remain on the plant for 2-4 days before they die. The use of a non-ionic surfactant at a rate of 0.25% v/v is recommended to improve performance under drought stress conditions.

	29	Flonicamid	**Beleaf 50SG**	0.12-0.16 kg/ha	-	0 days	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.**
	4	Thiamethoxam	**Actara 25 WP**	105 g/ha	-	7	Apply before aphids reach damaging levels. Maximum two applications per year. **This product is highly toxic to bees, do not apply to blooming crops and wait at least 5 days before placing beehives in a treated field.** Allow at least 7 days between applications.
	4C	Sulfoxaflor	**Closer SC**	100-150 ml/ha	12 hours	3 days	Maximum 2 applications/growing season. Do not apply during crop flowering period or when flowering weeds are present in treatment area. Minimum treatment interval = 7 days.
	28	Cyantraniliprole	**Exirel**	500-1500 ml/ha	12 hours	1	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control. For optimum control apply Hasten NT Spray Adjuvant* at an application rate of 0.25% v/v or MSO Concentrate with Leci-Tech* at an application rate of 0.5% v/v. Do not make more than 4 applications per season.
Aphids and Whiteflies	23	Spirotetramat	**Movento 240 SC**	220-365 ml/ha	12 hours	3	Minimum interval between applications is 7 days. Maximum of 2 times full rate of product applied per season. **This product is TOXIC to bees through direct contamination of pollen and nectar. DO NOT apply this product during crop flowering period or when flowering weeds are present in the field, orchard or vineyard.**
			Movento 150 OD	347-585 ml/ha			
Cabbage Looper	11	*Bacillus thuringiensis*	**Thuricide HPC**	2-4.25 L/ha	-	0	THURICIDE HPC is a biological insecticide and is intended for use against leaf-chewing larvae (caterpillars) of

							lepidopterous species. Apply at first sign of infestation when worms are small and repeat at 7-10 day intervals when needed to maintain control.
	28	Chlorantranili-prole	**Coragen**	250 ml/ha	12 hours	1	Begin applications when treatment thresholds have been reached. Maximum of 4 applications per season. Do not apply more than once every 3 days. Do not exceed 1 L of Coragen/ ha/season. Apply in a finished spray volume of 100L/ha.
	1B	Naled	**Dibrom**	1.1 - 1.65 L/ha	48 hours	4	Apply in 100-300 L of water per ha. Do not apply in temperatures over 32ºC. Maximum 2 applications per season.
	5	Spinetoram	**Delegate WG**	140-200 g/ha	12 hours	1	Time application with peak egg hatch. Repeat applications based on population monitoring. Use higher rate for higher infestations or advanced growth stages. Maximum of 3 applications/year with a minimum re-treatment interval of 5 days.
		Spinosad	**Success 480 SC**	182 ml/ha	12 hours	1	Maximum of 3 applications per year. Allow 7-10 days between applications.
			Entrust 80 W **Entrust SC**	109 g/ha 364 ml/ha			
	18	Methoxyfenozide	**Intrepid 240F**	0.3 – 0.6 L/ha	12 hours	1	Apply at the first sign of feeding damage or when infestations reach threshold levels as determined by insect monitoring. Repeat applications after 7-14 days if required based on population monitoring. Use the higher rate for heavy infestations, advanced growth stages of the target pest or larger crop canopies.
	28	Cyantraniliprole	**Exirel**	250-500 ml/ha	12 hours	1	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control. Do not make more than 4 applications per season.
	11	*Bacillus thuringiensis*, subsp. *aizawai,* (Strain ABTS-	**XenTari WG**	500-1000 g/ha	-	0	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces.

		1857 fermentation solids, spores, and insecticidal toxins)					
Leaf Miner	6	Abamectin	**Agri-Mek 1.9 EC**	0.6-1.1 L/ha	-	14	Maximum of 4 applications per season. Do not make 2 sequential applications.
			Agri-Mek SC	135-250 mL/ha 0.1-0.5% v/v non-ionic surfactant (NIS)			
	4	Acetamiprid	**Assail 70 WP**	86 g/ha	12 hours	7	Maximum of 5 applications per season. Do not apply more than once every 7 days.
	17	Cyromazine	**Citation 75WP**	188 g/ha	12 hours	7	Apply when larvae first appear. Repeat after 7 days. Do not apply more than 5 times a year. **Read label for company liability statement.**
	15	Novaluron	**Rimon 10 EC**	464-603 ml/ha	12 hours	2	Apply when pea leafminer or damage first appear. Reapply based on monitoring Allow 7-14 days between applications. Do not apply more than 3 applications per crop per season.
	28	Cyantraniliprole	**Exirel**	1000-1500 ml/ha	12 hours	1	***(Larvae)*** Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control. Do not make more than 4 applications per season.
Imported Cabbage worm and Diamondback Moth	5	Spinosad	**Entrust 80 W**	109 g/ha	12 hours	1	Maximum of 3 applications per year. Allow 7-10 days between applications.
			Success 480 SC	182 ml/ha			
Tarnished Plant bug	4	thiamethoxam	**Actara 25 WP**	210 g/ha	-	7	Apply before aphids reach damaging levels. Maximum one application per year. **This product is highly toxic to bees, do not apply to blooming crops and wait at least 5 days before placing beehives in a treated field.**

Brown Marmorated Stink Bug	1B	Malathion	**Malathion 85E**	1100 mL/ha	-	7	Use a minimum of 500 L of water per hectare. Apply prior to harvest when treatment thresholds have been reached, as determined by local monitoring.
Onion thrips	5	Spinetoram	**Delegate WG**	200-336 g product/ha	12 hours	1	Max 3 applications/year. Apply when onion thrips first appear targeting egg hatch and small nymphs. Repeat in 7-10 days if needed.
	23	Spirotetramat	**Movento 240 SC**	365 ml/ha	12 hours	3 days	Minimum interval between applications: 7 days. Maximum allowed per crop season: 730 mL/ha. Apply when thrips are first identified. Movento should be used during the first half of the season when adult populations are relatively low or building. Reductions in numbers of thrips larvae may take 3 to 4 days after Movento is applied.
Carrot weevil	1B	Phosmet	**Imidan 70WP Instapak**	1.6 kg/ha	5 days	40	Use up to 1000 L of water/ha. Max 2 applications/season.
Armyworm, Beet Armyworm, Fall Armyworm	28	Cyantraniliprole	**Exirel**	500 ml/ha	12 hours	1	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control. For optimal control, apply to smaller plants or when lower portions of plant can receive adequate coverage. Do not make more than 4 applications per season.
	11	*Bacillus thuringiensis*, subsp. *aizawai,* (Strain ABTS-1857 fermentation solids, spores, and insecticidal toxins)	**XenTari WG**	500-1000 g/ha	-	0	**Beet armyworm.** Apply sufficient spray volume to ensure uniform deposition on all plant surfaces.
Cutworms	28	Cyantraniliprole	**Exirel**	500-750 ml/ha	12 hours	1	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control. For early season cutworm control, apply to foliage when rain is not expected

							in the next 24 hours. For optimal control, apply to smaller plants or when lower portions of plant can receive adequate coverage. Do not make more than 4 applications per season.
	1B	Chlorpyrifos	**Warhawk 480 EC**	1.2-2.4 L/ha	24 hours	70	SOIL TREATMENT: Apply 2.4 litres in 200-400 L/ha. Apply once as a soil treatment 3-7 days before planting or transplanting. Do not incorporate. Also apply to a 15 m strip into adjacent fence rows. SEEDLING TREATMENT: Apply 1.2-2.4 litres in 200-400 L/ha. Apply once as a broadcast spray at the 2- to 5-leaf stage of the crop.
Corn earworm	28	Cyantraniliprole	**Exirel**	750 ml/ha	12 hours	1	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control. For optimal control, apply to smaller plants or when lower portions of plant can receive adequate coverage. Do not make more than 4 applications per season.
Flea beetle	28	Cyantraniliprole	**Exirel**	500-1000 ml/ha	12 hours	1	Begin applications when treatment thresholds have been reached. Thorough coverage is important to obtain optimum control. For optimal control, apply to smaller plants or when lower portions of plant can receive adequate coverage. Do not make more than 4 applications per season.

Pest	Group	Active Ingredient	Pesticide Product Name	Rate	Restricted Entry Interval (REI)	Pre-Harvest Interval (days)	Remarks
DISEASES:							
Damping Off	M	Thiram	**Thiram 75 WP**	1.5 Kg/1000 L of water	-	7	Apply in 1000 L of water per Ha.
			Granuflo-T	1.5 Kg/1000 L of water	24 hours	7	Apply 70 to 105 litres per 100 m^2 at 3 day intervals. Shorten the interval under conditions of severe disease incidence.
Early and Late Blight	7 - 11	Boscalid, pyraclostrobin	**Pristine WG**	1.0 Kg/ha	24 hours	0	**For suppression of early and late leaf blight.** Apply once per season for *Cercospora* (early blight) and twice per season for *Septoria* (late blight). For hand harvesting and thinning in leafy vegetables do not enter for 9 days after application.
	M	Chlorothalonil	**Bravo 500 / Bravo ZN**	1.6-2.4 L/ha (early blight) 2.4-4.0 L/ha (late blight)	48 hours	7	Begin spraying when seedlings are 5 cm high and repeat at 7 day intervals. Apply Bravo at 8 to 10 day intervals. Use hot water treated seed and sterilized soil, flats, etc. **Echo 90DF and Echo 720**: For control of early blight and late blight in celery seedbeds, use 1.1 – 1.6 Kg of Echo 90DF (or 1.4-1.9 L of Echo 720) per 1000 litres of water and apply 1,400 litres per hectare twice weekly or as needed to maintain control. Start applications shortly after crop emergence. Use the higher rate under severe disease conditions. DO NOT use more than 9 applications per season. *** Wash and trim celery at harvest.**
			Echo 90DF	0.9-1.3 Kg 3-5 day schedule -- OR – 1.3-2.3 Kg 8-10 day schedule	48 hours	7	
			Echo 720	1.1-1.7 L 3-5 day schedule -- OR – 1.7-2.8 L 8-10 day schedule	48 hours	1	
	M^2	Copper oxychloride	**Guardsman**	4 kg in 1000 L of water	-	-	
	M	Copper sulphate	**Copper 53 W**	3.25-6.5 kg/ha	-	1	

	M3	Mancozeb	**Dithane DG Rainshield**	2.25 Kg/ha	24 hours	14*	
	M		**Penncozeb 75 DF**	2.25 Kg/ha			
			Manzate Pro-Stick	2.25-3.25 Kg/ha			
	M[2]	Metiram	**Polyram DF**	2.25-3.25 Kg/ha	-	14*	
	M	Thiram	**Thiram 75 WP**	1.5 Kg/1000 L of water	-	7	Apply 70 to 105 litres per 100 m^2 at 3 day intervals. Shorten the interval under conditions of severe disease incidence.
			Granuflo-T	1.5 Kg/1000 L of water	24 hours	7	
	11	Trifloxystrobin	**Flint**	Early blight: 190-210 g/ha Late blight: 210 g/ha	-	7	Begin applications preventatively and continue as needed on a 7-14 day interval. Use the higher rate and shorter spray interval when disease pressure is severe. A minimum spray volume of 280 L/ha is recommended. DO NOT apply more than 840 g of Flint per hectare per season.
	11	Azoxystrobin	**Quadris**	0.672-1.120 L/ha	-	1	Begin applications prior to disease development. Apply at 7-12 day intervals. Max 3 applications/season.
			Azoshy 250 SC		12 hours		
	7	Penthiopyrad	**Fontelis**	1.0-1.75 L/ha	12 hours	3	Begin applications prior to disease development and continue on a 7- to 14-day interval for septoria late blight. Use higher rate and shorter interval when disease pressure is high.
	M1	Copper	**Cueva**	0.5% to 2% solution, applied at 470-940 L/ha.	4 hours	1	Re-apply using 5-10 day intervals. Use higher rate when disease pressure is high.
Pink Rot (*Sclerotinia sclerotiorum*)	-	*Bacillus subtilis*	**Serenade *Opti***	1.7-3.3 Kg/ha	-	0	**Serenade Opti is a biopesticide that will only suppress the indicated diseases**. Make the first application approximately 8 weeks before harvest and repeat on a 14-day interval. Apply Serenade Opti as a directed spray in sufficient water to ensure thorough coverage of the base of the plants and the surrounding soil surface.

	7 - 11	Boscalid, pyraclostrobin	**Pristine WG**	1.0 – 1.3 Kg/ha	24 hours	0	**For suppression of white mold.** Apply up to twice per season before disease develops. For hand harvesting and thinning in leafy vegetables do not enter for 9 days after application.
	7	Penthiopyrad	**Fontelis**	1.25-1.75 L/ha	4 hours	3	**Begin applications prior to disease development, continue on a 7-10 day interval.** Use higher rate and shorter interval when disease pressure is high. Max seasonal rate is 5.25 L/ha. Do not make more than 2 sequential applications before switching to another mode of action.
Grey mould *(Botrytis cinerea)*	7	Penthiopyrad	**Fontelis**	1.25-1.75 L/ha	12 hours	3	Begin applications prior to disease development and continue on a 7- to 10-day interval. Use higher rate and shorter interval when disease pressure is high.
Anthracnose	11	Azoxystrobin	**Quadris**	1.12 L/ha	12 hours	1	Begin applications prior to disease development. Apply at 7-12 day intervals. Max 3 applications/season.
	9, 12	Cyprodinil, Fludioxonil ***NEW 2018***	**Switch 62.5 WG**	775-975 g/ha	12 hours	0	Begin applications prior to or at the onset of disease and repeat applications on a 7-10 day interval if conditions remain favorable for disease development.
Downy Mildew (*Peronospora* spp, *Bremia Latucae*)	U15	Oxathiapiprolin ***NEW 2018***	**Zorvec Enicade**	0.175-0.35 L/ha	12 hours	0	Begin applications prior to disease development and continue on a 5 to 14 day interval. Use higher rate and shorter interval when disease pressure is high.

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/ls-re/index-eng.php

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	Oil-based emulsifiable concentrate	kPa	kilopascal
F	Flowable	kg	kilogram
L	Liquid	g	gram
SC	Suspension concentrate	L	litre
Sn	Solution	BIU	Billions of International Units
SP	Soluable powder	ppm	parts per million (1000 ppb)
WP, W	Wettable powder	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!