GUIDE TO PEST MANAGEMENT IN COLE CROPS

Nova Scotia Vegetable Crop Guide to Pest Management 2011
[COL2-11]

Revised June 16, 2011 by
Peter Burgess, Horticulture Specialist, AgraPoint International Inc.
Sarah Wood, Ag Info Specialist, AgraPoint International Inc.
Mélanie Leclerc, Research Assistant, AgraPoint International Inc.

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.**

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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. 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*	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. Allow 3 or more days after treatment before tillage. Best control of quackgrass is obtained when these herbicides are applied in the fall.
			Roundup WeatherMAX	1.67-8.0 L/ha			
			Touchdown® 480	2.5-7.0 L/ha			
	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.
Pre-Transplant	15	Dimethenamid	**Frontier**	1.1-1.4 L/ha	-	60	**Transplanted Cabbage only**. 11 month rotational restriction for seeding carrots or onions or transplanting celery. Follow label for rate adjustments depending on soil texture and % organic matter.
		Dimethenamid-P	**Frontier Max**	756-963 ml/ha	24 hours	60	**Apply prior to transplanting and before weed emergence.**
Preplant Incorporated	3	Trifluralin	**Treflan EC**	1.7-3.0 L/ha	12 hours	-	Preplant incorporated in direct seeded cabbage and cauliflower or transplants

Germinating annual grasses and some broadleaf weeds			**Rival EC**	1.2-2.3 L/ha			of cabbage, cauliflower, broccoli and Brussels sprouts. Incorporate within 8 hours of application following label instructions. Ragweed and mustards are not controlled. Corn or cereal grains may be injured when planted in fields treated with trifluralin the previous year. **See label for rate according to soil type.**
			Bonanza 400	1.5-2.75 L/ha			
Preemergence Treatments *Germinating grasses and some broadleaf weeds*	3	Chlorthal dimethyl	**Dacthal W-75**	9.0-15.5 Kg/ha	-	-	Apply immediately after seeding or directly over transplants but before weeds emerge. Rainfall or irrigation is necessary for activity (min 1 cm). Ragweed, nutsedge, smartweed and mustards are not controlled.
	15	Napropamide	**Devrinol 50 DF**	2.25-4.5 Kg/ha	-	60	Apply to direct seeded and transplanted cabbage, cauliflower and broccoli only.
		S-metolachlor	**Dual II Magnum**	1.25-1.75 L/ha	12 hours	-	Apply after transplanting within two days. Once per year on transplanted cabbage, cauliflower and broccoli only.
Stale seedbed technique	22	Diquat	**Reglone® Desiccant**	2.3-4.6 L/ha	-	-	Apply in 300 to 1100 L of water/ha to foliage of the emerged weeds but before the crop has emerged. Use Gramoxone for best control of grasses.
		Paraquat	**Gramoxone®**	2.75-5.5 L/ha	24 hours	-	
Postemergence *Grasses*	1	Fenoxaprop-p-ethyl	**Excel Super**	1.25 L/ha	-	35 (cabbage) 43 (cauliflower) 44 (broccoli)	Apply to actively growing annual grasses in the 1 to 6 leaf stage. For use on cabbage, broccoli and cauliflower.
		Fluazifop-p-butyl	**Venture L**	0.8-2.0 L/ha	-	40	Apply to annual grasses at the full 2 to 5 leaf stages (2 to 4 leaves for foxtails) use high rate on quackgrass. One application per season.
		Sethoxydim	**Poast Ultra plus Merge**	0.32-1.1 L/ha 1-2 L/ha	12 hours	70	Use on cabbage, cauliflower and broccoli. Treat at the 1 to 6 leaf stage of annual grasses. Use the higher rate for control of volunteer cereals and quackgrass. **Do not use on Brussels sprouts and do not exceed 0.45 L/ha on broccoli.**

Postemergence *Seedling annual broadleaf weeds lamb's quarters and redroot pigweed*	4	Clopyralid	**Lontrel 360**	0.56 L/ha	-	30	Post transplant on cabbage, cauliflower and broccoli. One application per year.
Inter-row shielded	22	Diquat	**Reglone® Desiccant**	2.3-4.6 L/ha	-	-	Do not spray solution on the crop plant since it could be injured or killed. Use Gramoxone for best control of grasses.
		Paraquat	**Gramoxone®**	2.75-5.5 L/ha	24 hours		
	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.

Pest	Group	Active Ingredient	Pesticide Product Name	Rate	Restricted-Entry Interval (REI)	Pre-Harvest Interval (days)	Remarks
INSECTS:							
Cabbage Maggots	1B[1]	Chlorpyrifos	**Lorsban 50 W**	1.55-1.625 Kg/ha	10 days for cauliflower, 24 hours other crops	32	**For cabbage only.** Do not use starter fertilizer with Lorsban 50 W. 65 g/200 L in transplant water and apply 200 mL with each plant. Apply once per season.
			Lorsban 15 G	0.6-1.0 kg / 1000m of row			Apply in furrow at planting time. Rates vary based on row spacing see label for details. (Broccoli, Brussels sprouts, Cabbage Cauliflower)
			Lorsban 4 E	Rate varies with row spacing – see label			**At planting treatment** 210ml / 1000m of row in 1000L/ha spray solution, 10 cm either side of the plant 7-10 days after seeding or 3 days after transplanting. **Post planting drench**: Mix 1.68 L in 1000L of spray solution. Apply 12.5 L of solution per 100m of row 10 cm on each side of the plant. Can be repeated 21 days after the transplanting drench or 28 days after the seeding drench. **Do not apply to harvestable portions of the crop.** (Broccoli, Brussels sprouts, Cabbage Cauliflower)
Cabbage Looper, Imported Cabbageworm & Diamondback Moth Larvae	1B	Acephate	**Orthene 75 SP**	0.75-1.1 Kg/ha	12 hours	28	Do not apply more than 2 times each season. Apply in 225-1650 L/ha of water.
	-	*Bacillus thuringiensis*	**Dipel 2X DF**	55-550 g/ha	-	0	Check labels for details on rates according to species.
			Thuricide HPC	2.0-4.25 L/ha			

	28	Chlorantraniliprole	**Coragen**	250 ml/ha	12 hours	3	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 per ha per season. For optimal control, apply with a modified seed oil adjuvant such as Hasten or MSO. Apply in a finished spray volume of 100 L/ha.
	3	Cypermethrin	**Ripcord 400 EC**	87.5-125 mL/ha	-	3	Begin treatment when insects or signs of insect feeding appear. Repeat every 10 – 14 days if necessary, up to 3 applications per season.
			UP-Cyde 2.5 EC plus **Agral 90**	140 ml/ha plus 0.03% (v/v)	12 hours	3	Use as needed on two week intervals up to a maximum of 3 applications per season.
	3	Deltamethrin	**Decis 5 EC**	150-200 ml/ha	-	1 (Brussels sprouts) 3 (broccoli, cabbage, cauliflower)	Apply when insects or insect damage are present. Repeat every 10 days as necessary. Pounce and Decis are more effective than other insecticides under cool, fall conditions. Will also control late climbing cutworm. Apply in 350-550 L/ha of water.
	2A	Endosulfan	**Thiodan 4 EC**	1.5-2.0 L/ha	-	7	Use lower rate for small larvae only. For Loopers spray 2 L/ha to underside of foliage using drop pipes and repeat every 7 days.
	3	Lambda-cyhalothrin	**Matador 120 EC**	**42** mL/ha (Imported Cabbage-worm, Diamond-back Moth) **83** mL/ha (Cabbage Looper)	24 hours	1 (cabbage) 3 (broccoli, cauliflower, Brussels sprouts)	Do not apply more than 3 times per season. Allow 7 days between applications.

			Warrior	**42** mL/ha (Imported Cabbage-worm, Diamond-back Moth) **83** mL/ha (Cabbage Looper)	24 hours	1 (cabbage) 3 (broccoli, cauliflower, Brussels sprouts)	Do not apply more than 3 times per season. Allow 7 days between applications.
	1B	Methamidophos	**Monitor 480**	1.1-2.25 L/ha	-	7 (cabbage, cauliflower) 14 (broccoli, Brussels sprouts)	Apply on a 7-day schedule beginning when insects or their damage first appears. Rates above 1.8 L/ha are for sever infestations only.
	1A	Methomyl	**Lannate**	270-540 g/ha	-	1 (cabbage) 7 (broccoli, cauliflower, Brussels sprouts)	Apply with low pressure ground equipment. Repeat at 5 to 7 day intervals.
	15	Novaluron	**Rimon 10 EC**	410-820 ml/ha	12 hours	2-4	Reapplication at a 7-10 day interval will be required to protect new growth or monitoring indicates that it is necessary. Do not apply more than 3 applications per crop per season. Do not apply more than 2460 ml of product per hectare per season. Apply in water volumes of 200-400 L /ha. Use higher rate under high insect pressure or when larvae are large.

	3	Permethrin	**Pounce 384 EC**	90-180 mL/ha	-	3 (Cabbage, cauliflower, brussel sprouts) 7 (broccoli)	Apply when insects or insect damage first appears. See note under Decis.
	5	Spinetoram	**Delegate WG**	140-200 g/ha	12 hours	1	Target egg hatch or small larvae. Repeat at a minimum re-treatment interval of 5 days with a maximum of 3 applications per year. Use higher rate for higher infestations or larger larvae.
	5	Spinosad	**Success 480 SC**	182 ml/ha	3 days	3	Maximum 3 applications per year. Allow 7-10 days between applications.
			Entrust 80 W	109 g/ha			
	3&4	Imidacloprid Deltamethrin	**Concept**	650 ml/ha	2 days	7	Apply at threshold. Repeat on a minimum 5 day interval. Maximum 3 applications per year.
Flea Beetles	1A	Carbaryl	**Sevin XLR Plus**	1.25-2.5 L/ha	-	3 (Cabbage, Cauliflower) 5 (Broccoli, brussel sprouts)	Use the lower rate on young plants. Apply when insects or damage appears and repeat at intervals of 7-10 days.
	3	Cypermethrin	**Ripcord 400 EC**	87.5-125 mL/ha	-	3	Use up to 3 applications per year.
	3	Deltamethrin	**Decis 5.0 EC**	150-200 ml/ha	-	3	**Use on cabbage only.** In 350-550 L water/ha.
	2A	Endosulfan	**Thiodan 50 WP**	1.1-1.75 Kg/ha	-	7	Add 125-250 g of a wetter-sticker/1000 L of spray for Thiodan 50 WP. Do not feed crop refuse to livestock after application.
			Thiodan 4 EC	1.5-2.0 L/ha			
	3	Lambda-cyhalothrin	**Matador 120 EC**	42 ml/ha	24 hours	1 (Cabbage)	Maximum 3 applications per season. Allow 7 days between applications.

			Warrior	42 ml/ha		3 (broccoli, cauliflower, Brussels sprouts)	
	3&4	Imidacloprid Deltamethrin	**Concept**	650 ml/ha	2 days	7	Apply at threshold. Repeat on a minimum 5 day interval. Maximum 3 applications per year.
Aphids	4	Acetamiprid	**Assail 70 WP**	56-86 g/ha	2-4 days	7	Maximum 5 applications per year and alternate with other insecticide families. **Also registered for swede midge at high rate.**
	1B	Dimethoate	**Lagon 480 EC**	0.7-1.0 L/ha	-	4 (Broccoli, cauliflower) 21 (Brussels sprouts)	Use repeat applications as necessary. Max 3 applications per season.
	2A	Endosulfan	**Thiodan 4 EC**	2 L/ha	-	7	Add 125-250 g of a wetter-sticker/1000 L of spray for Thiodan 50 WP. Do not feed crop refuse to livestock after application.
			Thiodan 50 WP	1.1-1.75 Kg/ha			
	4	Imidacloprid	**Admire 240**	Sidedress: 730 ml/ha	-	21	One application per season. **Do not apply a foliar application after a sidedress treatment.**
				Foliar: 200 ml/ha	24 hours	7	Two applications per season. Second application should be applied 7 days after the first. **Do not apply a foliar application after a sidedress treatment.**
	1B	Methamidophos	**Monitor 480**	1.1-2.25 L/ha	-	7 (cabbage, cauliflower) 14 (broccoli, Brussels sprouts)	Begin applications when insects or their damage first appear, repeat on a 7-14 day schedule.

	9C	Flonicamid	**Beleaf 50SG**	0.12-0.16 kg/ha	-	0 days	Leafy Vegetables. 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.**
Aphids and Whiteflies and ***Swede Midge larvae***	23	Spirotetramat Update June 16th	**Movento 240 SC**	220-365 ml/ha	12 hours	1	Minimum interval between applications is 7 days. Maximum of 730 ml/ha 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	12 hours	1	Minimum interval between applications is 7 days. Maximum of 1.17 L/ha 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.**
Cutworms	3	Cypermethrin	**Ripcord 400 EC**	175 ml/ha	-	21	Spray under warm moist conditions and do not disturb the soil surface for at least 5 days.
Thrips	3	Cypermethrin	**Ripcord 400 EC**	87.5-125 ml/ha	-	3	Begin treatment when insects or signs of feeding appear. Repeat every 10-14 days if necessary, up to 3 applications per season. It is critical to control them at early head formation (3-inch leaf ball).

			UP-Cyde plus **Agral 90**	200 ml/ha plus 0.03% (v/v)	12 hours	3	Use as needed on two-week intervals up to a maximum of 3 applications per season.
	5	Spinosad ***Added June 16***	**Success 480 SC**	146 ml/ha	-	3	Leafy Brassica crops only. Apply when thrips first appears. Reapply at 7-10 day intervals. Max 3 applications per year. Also suppresses swede midge.
Slugs (Grey Garden)	-	Ferric phosphate	**Sluggo**	25-50 Kg/ha	-	-	
	1A	Methomyl	**Lannate**	775 g/ha	-	30	Apply in 1 application with ground equipment and use sufficient water volume for good coverage. Apply late in the evening when slugs are more active. **For Brussels sprouts only**.
Whitefly (including silverleaf, sweetpotato and greenhouse)	23	Spiromesifen	**Oberon**	500-600 ml/ha	2 days	7	Maximum of 3 applications per season. Minimum application volume of 100 L/ha. See label for buffer zone restrictions.

Pest	Group	Active Ingredient	Pesticide Product Name	Rate	Restricted-Entry Interval (REI)	Pre-Harvest Interval (days)	Remarks
DISEASES:							
Black Rot	-	-	**Hot Water**	-	-	-	Contact an extension specialist for methods.
Damping Off and Wirestem	-	Metam sodium	**Vapam**	Follow manufacturer's directions	-	-	Fumigate seed beds in fall prior to planting.
		1,3-dichloropropene	**Telone II**				
Damping Off	-	Captan	**Captan 50 W**	125-225 g / 100 m^2	-	-	Work into upper 8 to 10 cm of soil.
Clubroot (*Plasmodiophora brassicae*)	29	Fluazinam	**Allegro 500F**	**Transplant treatment:** 50 ml/100L of water Apply 100ml of solution per plant	-	65 (Head and stem brassica) 30 (Leafy brassica)	Apply solution to plant immediately after transplanting.
				Pre-transplant treatment: 2.9 L in 500 L water/ha			Apply in 500 L/ha in a 25 cm band along the planting row and incorporate to a depth of 15-20 cm in the same operation. Transplant the seedlings into the treated band. If forming a bed, broadcast application should be made prior to forming the bed.
	14	Quintozene	**Quintozene 75 WP**	250-375 g/100 L	12 hours	-	Apply 200 to 300 mL per plant at transplanting. Provide good agitation. Avoid infested fields. If this is not possible, adjust pH of field soil to 7.2 or use at least 1700 Kg/ha of hydrated lime in the spring at least 6 weeks prior to planting. Maintain high soil levels of calcium and magnesium.
Downy Mildew, Black Leaf Spot	-	*Bacillus subtilis*	**Serenade *MAX***	2.0-3.0 Kg/ha	-	0	**Serenade *MAX* and Serenade *ASO* are biopesticides that will only**

(***Alternaria***)			**Serenade *ASO***	8.0-15.0 L/ha	-	0	**suppress the indicated diseases**. Make the first application at emergence, or immediately following transplanting. Repeat applications on 10-14 day intervals if conditions for disease development continue. ***May also control Sclerotinia rot (see product label).***
			Rhapsody *ASO*	1.0-2.0 L/100 L of water	-	0	**Rhapsody *ASO* is a biopesticide that will only suppress the indicated diseases**. **Pin rot (*Altenaria/Xanthomonas* complex):** For suppression, begin applications when environmental conditions in the greenhouse are conducive to rapid disease development and repeat as necessary on 7 to 10 day intervals. Thorough coverage is essential. For improved performance, use Rhapsody in a rotational program with other registered fungicides. **Powdery and downy mildew**: Begin application soon after emergence or transplant and when conditions in the greenhouse are conducive to disease development and repeat as necessary on a 7 to 10 day interval.
	M	Chlorothalonil	**Bravo 500**	2.5-4.8 L/ha	48 hours	7	Begin applications after treatments are set in the field or when conditions favor development. Repeat on 7-10 day intervals.
	M	Copper sulphate	**Copper 53W (tri-basic copper sulphate)**	4 kg/ha Follow manufacturer's directions	-	1	Apply in a maximum 1000 L/ha. Max 2 applications per year for Brussels sprouts.

	11	Fenamidone	**Reason 500SC**	400 – 600 ml/ha	48 hours	2	Suppression of Downy Mildew. Do not apply more than 3 applications of Reason per growing season**, to Brassica leafy vegetables only**. Begin applications as soon as conditions become favorable for disease development. Do not apply sequential applications of Reason or other group 11 fungicides.
	U	Fosetyl-al	**Aliette WDG**	2.25-3.125 Kg/ha	12 hours	7	**Broccoli only.** Maximum 5 applications per year.
	2	Iprodione	**Rovral WP**	3.0 Kg/ha	12 hours	7 (cabbage) 5 (cauliflower)	**Black leaf spot (*alternaria*) only.** Rovral may be used on cabbage and cauliflower. For *Alternaria* control on storage cabbage, apply 1 application of Rovral 7 to 14 days prior to harvest. For *Alternaria* control on cauliflower, apply 1 application of Rovral 1-2 days prior to tying.
	40	Mandipropamid	**Revus** plus **Non-ionic adjuvant**	400-600 ml/ha plus 0.125% v/v	12 hours	1	**Downy mildew.** Applications should begin prior to disease development and continue throughout the season on a 7-10 day schedule of fungicides, following the resistance management guidelines. Maximum 4 applications per year. **REVUS Fungicide may be tank mixed with Bravo 500 Agricultural Fungicide for any Brassica crop listed on that label. Follow the most restrictive use directions of either label.**
	7-11	Pyraclostrobin/ boscalid	**Pristine WG**	1.0 Kg/ha	4 days	4	**Maximum of 4 applications per season.** Begin prior to disease development and continue on a 7-14 day schedule. Do not make sequential applications of Pristine or other Group 11 fungicides.

	43	Fluopicolide	**Presidio** **(NEW)**	220-292 ml/ha	1 day	2 (head and stem vegetables) 7 (root vegetables)	Maximum of 4 applications per season, Do not make more than 2 sequential applications. Begin when conditions favour disease and repeat on a 7-14 day interval. 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.
***Alternaria* and Cercospora**	11	Pyraclostrobin	**Cabrio EG**	0.56-1.1 Kg/ha	12 hours	3	**Horseradish only.** Maximum of 3 applications a year and no more than two sequential applications.
Alternaria Leaf blight *(Cabbage Only)*	9-12	Cyprodinil and fludioxonil	**Switch 62.5 WG**	775-975 g/ha	12 hours	7	Maximum of 3 applications per year. Allow 7-10 days between applications.
Watery Soft Rot of Lettuce (*Sclerotinia sclerotium*)	-	*Bacillus subtilis*	**Serenade *MAX***	3.0-6.0 Kg/ha	-	0	**Serenade Max is a biopesticide that will only suppress the indicated diseases**. Make the first application at emergence, or immediately following transplanting. Repeat applications on 10-14 day intervals if conditions for disease development continue.
Botrytis	7-11	Pyraclostrobin/ boscalid	**Pristine WG**	1.0 Kg/ha	4 days	4	**Maximum of 4 applications per season.** Begin prior to disease development and continue on a 7-14 day schedule. Do not make sequential

							applications of Pristine or other Group 11 fungicides.

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
EG	Water dispersible granule	kg	kilogram
F	Flowable	g	gram
G	Granule	L	litre
L	Liquid	BIU	Billions of International Units
WG	Wettable Granule	ppm	parts per million (1000 ppb)
WDG	Wettable dry granule	ppb	parts per billion (1/1000 ppm)
WP, W	Wettable powder		
SC	Suspension concentrate		
SP	Soluble powder		
Sn	Solution		

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!