

Ginseng Pest Control Product Summary Tables 2023

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The information in these tables is a summary of the ginseng content in the [Ontario Crop Protection Hub \(Hub\)](#) and product labels. Before applying any pest control product, always review the most current version of the product label. Links to product labels can be found under the product entry in the Hub. Refer to the Hub or the product label for more details including use precautions, resistance management strategies and ginseng-specific comments. Use products only for pests listed on the label for ginseng. The information in the registration status section of the tables is intended to assist growers in choosing the best product for control of pests listed on the product label, while managing resistance and avoiding unnecessary sprays for non-target pests.

Table 1. Summary of insecticides, molluscicides and nematocides registered for use on ginseng. Entries listed as “Hub” indicate information is too detailed to include in this table. Refer to the Hub for the full details. Efficacy data is not available for insecticides.

Chemical Name	Trade Name(s)	IRAC ^z	REI (hr)	PHI (day)	Max. App. ^y	Rate	Registration Status ^x						
							Aphids	Cutworms	Grubs	FLPB	Leafrollers	Slugs/snails	Nematodes
cyantraniliprole	Exirel	28	12	7	4	200-600 mL/ac	*						
						200-300 mL/ac		*					
flonicamid	Beleaf 50 SG	29	12	3	3	48-64 g/ac	*						
flupyradifurone	Sivanto Prime	4D	12	7	0.8L	200-300 mL/ac	*						
imidacloprid	Admire 240 Flowable (aphids)	4A	12	7	1	80 mL/ac	*						
	Admire 240 Flowable (grubs) ^w Alias 240 SC		12	1095	Hub	480 mL/ac			*				
sulfoxaflor	Closer	4C	12	7	2	20-60 mL/ac	*						
thiamethoxam	Actara 25 WG	4	12	7	2	42 g/ac	*						
chlorantraniliprole	Coragen	28	12	1	4	100-150 mL/ac		*					
permethrin	Ambush 500 EC Perm Up/Pounce 384 EC	3A	12	40	2	56-120 mL/ac		*		*			
						72-156 mL/ac		*					
						72-104 mL/ac				*			
spinosad	Scorpio Ant and Insect Bait	5	NS	3	3	10-20 kg/ac		*					
<i>Bacillus thuringiensis</i>	Dipel 2X DF	11	4	0	2	226-450 g/ac					*		
spinetoram	Delegate	5	12	3	3	80 g/ac					*		
spinosad	Entrust	5	dry	3	3	116-146 mL/ac					*		
	Success					58-73 mL/ac					*		
ferric phosphate	Sluggo Professional	NC	12	NS	NS	4.8-20 kg/ac						*	
metaldehyde	Deadline M-Ps	NC	12	6	3	4.5-11 kg/ac						*	
flupyram	Velum Prime	FRAC7	12	7	Hub	200 mL/ac							*

^z Insecticide Resistance Action Committee Group (unless otherwise specified). NC = not classified. If possible, avoid applying two products from the same group targeting the same pest consecutively.
^y Refers to the number of applications permitted per year, or if a volume is included, the total volume of product permitted per year. NS=not specified.
^x Cells shaded with a pest’s colour (or marked with *) indicate the product is registered for use on that pest.
^w Due to a re-evaluation decision by PMRA, this product can no longer be used as a soil drench on ginseng after May 19, 2025.

Table 2. Seed treatments registered for use on ginseng. For treatment by commercial seed treaters (facilities and mobile treaters) only.

Chemical Name	Trade Name	FRAC ^z	Rate	Registration Status ^y			
				Pythium	Fusarium	Rhizoctonia	Cylindrocarpon
metalaxyl-M + fludioxonil	Apron Maxx RTA	4 + 12	665 mL/100 kg seed	*	*	*	*
metalaxyl-M and S isomer	Telex	4	20-40 mL/100 kg seed	*			

^z Fungicide Resistance Action Committee Group.
^y Cells shaded with a pest’s colour (or marked with *) indicate the product is registered for use on that pest.

Table 3. Fumigants registered for use on ginseng. For all fumigants, the label contains extensive legal requirements before, during and after application including notification of neighbours, signage, site monitoring, buffer zones, restricted entry intervals and more. Read and follow all label precautions before applying or contracting anyone to apply any fumigant. This table is only provided to show the available options for planning purposes. Efficacy data is not available for fumigants.

Chemical Name	Trade Name	Rate	Registration Status ^z		
			Nematodes	Soilborne Diseases	Weeds
chloropicrin	Chloropicrin 100	37.2 L/ac	*	*	
	Pic Plus	43.2 L/ac	*	*	
dazomet	Basamid Granular	130-196 kg/ac	*	*	*
metam potassium	Busan 1180	92-230 L/ac	*	*	*
metam sodium	Vapam HL	112-278 L/ac	*	*	*
	Busan 1020	150-374 L/ac	*	*	*
	Busan 1236	110-273 L/ac	*	*	*

^z Cells shaded with a pest’s colour (or marked with *) indicate the product is registered for use on that pest.

Table 4. Summary of fungicides registered for use on ginseng. Entries listed as “Hub” indicate information is too detailed to include in this table. Refer to the Hub for the full details.

Chemical Name	Trade Name(s)	FRAC ^z	REI (hr)	PHI (day)	Max. App. ^y	Rate	Mobility in Plant ^t	Registration Status and Efficacy Ratings ^w
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									Alternaria	Botrytis	Phytophthora - Leaf	Phytophthora - Root	Cylindrocarpon	Rhizoctonia	Pythium
chlorothalonil	Bravo ZN/Bravo ZNC	M5	12	14	2	Hub	0.96-1.92 L/ac	contact	3*	3*	1	0			
	Echo NP								3*	3*	1*	0			
	Echo WSP								3	3*	1*	0			
cyprodinil + fludioxonil	Switch 62.5WG/Button	9+12	12	7	2	390 g/ac	loc, up, trans	4*	3*			2*	2*		
								310-390 g/ac		3*		2*	2*		
difenoconazole + benzovindiflupyr	Aprovia Top	3+7	12	14	1.56 L	257-387 mL/ac	up, loc	4*							
difenoconazole + pydiflumetofen	Miravis Duo	3+7	12	7	4	400 mL/ac	loc, up, trans	3*	2*						
fluazinam	Allegro 500F	29	24	30	4	480 mL/ac	contact	3*	3*	1	0			2*	
fludioxonil	Scholar 230SC	12	12	14	3	240-480 mL/ac	contact	4*	3*			2*	2*		
fluopyram + trifloxystrobin	Luna Sensation	7+11	12	7	0.67 L	120-200 mL/ac	up, trans	3*							
fluxapyroxad	Sercadis	7	12	7	3	100-133 mL/ac	up, trans	3*							
fluxapyroxad + pyraclostrobin	Merivon	7+11	12	7	3	120-160 mL/ac	up, trans	4*	2						
mancozeb	Dithane Rainshield Manzate Pro-Stick Penncozeb 75DF Raincoat	M3	Hub	30	6	1.76 kg/ac	contact	3*	1	1	2				
pyrimethanil	Scala SC/Impala	9	12	30	3	800 mL/ac	loc, trans	4*	3*						
trifloxystrobin	Flint	11	12	7	4	56-84 g/ac	trans	4*	2						
captan	Captan 80WSP Maestro 80WSP Supra Captan 80WSP	M4	Hub	20	8	1 kg/ac	contact		3*	3	3*	2*	1*	2*	
	Sharda Captan 48SC								1.67 L/ac						
fenhexamid	Elevate 50 WDG	17	12	0	4	680 g/ac	contact, loc	2	3*						
penthiopyrad	Fontelis	7	12	0	1.8L	400-700 mL/ac	loc, trans	2	3*			2			
polyoxin D zinc salt	Diplomat 5 SC	19	dry	0	3	244-489 mL/ac	contact	2	3*						
dimethomorph	Forum	40	12	30	3	180 mL/ac	up, trans			3*	3			2	
fenamidone	Reason 500 SC	11	12	14	3	240 mL/ac	loc, trans		0	3*	3*			2	
fluopicolide	Presidio	43	12	7	3	117 mL/ac	up, trans	0			3*			2	
fosetyl al	Aliette	P7	12	31	5	2.2 kg/ac	systemic			1*	2*				
various phosphites	Phostrol	P7	12	0	9	2.24 L/ac	systemic			-*	2*				
mandipropamid	Revus	40	12	3	4	233 mL/ac	trans			3*	2*				
metalaxyl-M/S-isomer + oxathiapiprolin	Orondis Gold (Phytophthora)	4+49	12	14	3	1.2 L/ac	loc, up, trans		3	3*	0			2	
	Orondis Gold (Pythium)								3	3*	0		2*		
metalaxyl-M/S-isomer	Ridomil Gold 1G	4	12	9	3	12.5 kg/ac	up			0	1*			3	
	Ridomil Gold 480 SL	4	12	9	1	260 mL/ac				0	1*			3*	
<i>Bacillus subtilis</i>	Serenade SOIL	BM2	4	0	NS	1.08-5.6 L/ac	N/A							-*	-*
	Minuet														
<i>Trichoderma harzianum</i>	Rootshield WP	NC	12	0	0	1.2-1.6 kg/ac	N/A							-*	-*
<i>T. harzianum</i> + <i>T. virens</i>	Rootshield PLUS WP		4		2									-*	-*
<i>Trichoderma harzianum</i> T-22	Trium P	BM2	4	0	NS	1 kg/ac	N/A							-*	-*
azoxystrobin	Quadris Flowable/Asoshy 250 SC/Emissarius	11	12	730	Hub	448 mL/ac	N/A							4*	

² Fungicide Resistance Action Committee Group. NC = not classified. Avoid applying two products from the same group targeting the same pest consecutively.

^y Refers to the number of applications permitted per year, or if a volume is included, the total volume of product permitted per year. NS=not specified.

* **Contact** = does not enter plant - protects from infection, or kills on contact; **Trans** = translaminar, meaning if sprayed on the upper leaf surface it will go through the leaf and protect the underside; **Loc** = locally systemic, meaning it will move partly into the plant in all directions but not down to the roots; **Up** = upwardly mobile in the xylem, meaning it will move upward from the point of contact. If applied to the roots or stem, it will move upwards and protect the tops; **Systemic** = product applied to the leaves will move through the whole plant including downward to the roots. **N/A** = not applicable – biological fungicides do not enter the leaf nor kill on contact - they offer protection through competition; azoxystrobin is not applied to ginseng during crop growth.

^w Cells filled with a pest's colour (or marked with *) are registered for use on that pest. Numbers indicate efficacy ratings based on previous trials. 0=not effective, 1=slightly effective, 2=moderately effective, 3=effective with limitations, 4=very effective, - or blank = no data. Use products only for pests listed on the product label for the crop. The information provided in this table is intended to assist the grower in choosing the best product for control of pests listed on the product label, while managing resistance and avoiding unnecessary sprays for non-target pests. Some ratings are based on limited data.