

Insect, Nematode, and Disease Control in Michigan Field Crops

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**This bulletin contains information on the management of field crops insects, nematodes, and diseases, including recommendations for pesticide use. Every attempt is made to verify product names, formulations, use rates, and other important information, but products and labels may change before the field season begins. Always read the label of a product to reconfirm rates, precautions, PPE, and other important information before use.

Appendix A: Safety and environmental information for insecticides and nematicides used in field and forage crops.

Trade Name	Common Name	Runoff Potential	Leaching Potential	LD ₅₀ mg/kg Oral**	LD ₅₀ mg/kg dermal	Bee Toxicity
Acephate	acephate	3	3	846-1,447	2000-10,000	HT
Actellic	pirimiphos-methyl	2	3	2050	2128	MT
Address	acephate	3	3	846-1,447	2000-10,000	HT
Admire	imidacloprid	2	1	609-4350	>2000	MT
Ambush	permethrin	2	3	1030 - 2305	>2000	HT
Arctic	permethrin	2	3	1030 - 2305	>2000	HT
Asana	esfenvalerate	2	3	458	>2000	HT
Aztec	tebupirimphos + cyfluthrin	na	na	122-246	>2000	na
Baythroid	cyfluthrin	2	3	647-1,015	>2,000	MT
Bt	<i>Bacillus thuringiensis</i>	na	na	>3,000	>2,500	PNT
Capture	bifenthrin	2	3	262	>2,000	HT
Carbaryl	carbaryl	3	3	280-649	>2,000	HT
Comite	propargite	1	3	960	4500	PNT
Counter	terbufos	3	3	11-29	10-182	na
Cruiser	thiamethoxam	2	1	> 5000	> 2000	na
Deadline MP	metaldehyde	3	3	220-690	2200-5000	PNT
Declare	methyl parathion	2	3	1237	>1250	HT
Diatomaceous earth	diatomaceous earth	na	na	--	--	na
Diazinon	diazinon	1	3	500-2000	1000-5800	HT
Dibrom	naled	3	3	92-191	360-390	HT
Dicofol	dicofol	1	3	575	100	na
Digon	dimethoate	3	2	215-750	650-2020	HT
Dimate	dimethoate	3	2	215-750	650-2020	HT
Dimethoate	dimethoate	3	2	215-750	650-2020	HT
Dimilin	diflubenzuron	2	3	> 4000	> 2000	PNT
Di-Syston	disulfoton	3	2	3-52	9-1000	MT
Empower	bifenthrin	2	3	262	>2,000	HT
Endosulfan	endosulfan	1	3	24-312	200-5000	MT
Force	tefluthrin	2	3	969-1213	>2000	na
Fortress	chlorethoxyfos	2	3	44-229	>2,000	na
Furadan	carbofuran	2	1	7.34	6,789	HT
Fyfanon	malathion	3	3	480-10700	2000	HT
Gaucho	imidacloprid	2	1	609-4350	>2000	MT
Imidan	phosmet	3	3	126-681	>2000	HT
Intrepid	methoxyfenozide	na	na	>5000	>2000	PNT
Kelthane	dicofol	1	3	575	100	na
Lannate	methomyl	3	1	30-160	>2000	HT
Larvin	thiodicarb	3	3	166	>2000	MT
Lorsban	chlorpyrifos	2	3	300-2,250	5,000	HT
Malathion	malathion	3	3	480-10700	2000	HT
Metasystox-R	oxydemeton-methyl	3	1	125-138	253-359	HT
Mocap	ethoprop	3	1	15-425	18-271	MT
Mustang/ Mustang Max	zeta-cypermethrin	na	na	191	> 2000	HT
Nufos	chlorpyrifos	2	3	300-2,2250	5,000	HT
Orthene	acephate	3	3	846-1,447	2000-10,000	HT

Trade Name	Common Name	Runoff Potential	Leaching Potential	LD ₅₀ mg/kg Oral**	LD ₅₀ mg/kg dermal	Bee Toxicity
Phaser	endosulfan	1	3	24-312	200-5000	MT
Penncap-M	methyl parathion	2	3	1237	>1250	HT
Phorate	phorate	1	3	5-13	86-113	MT
Poncho	clothianidin	na	na	na	na	na
Pounce	permethrin	2	3	1030 - 2305	>2000	HT
Proaxis	gamma cyfluthrin					HT
Pyganic	pyrethrum	2	3	200-2600	> 1500	MT
Regent	fipronil	2	2	296-336	374-382	MT
Reldan	chlorpyrifos methyl	2	3	> 3,000	> 3,700	HT
Seedmate	lindane	1	2	88-270	1000	HT
Sevin	carbaryl	3	3	280-649	>2,000	HT
Snail/ Slug bait	metaldehyde	3	3	220-690	2200-5000	PNT
Spintor	spinosad	2	3	> 5000	> 5000	HT
Telone	dichloropropene	3	2	200-300	300-500	NA
Temik	aldicarb	3	1	5	283	PNT
Tempo	cyfluthrin	2	3	647-1,015	>2,000	MT
Thimet	phorate	1	3	5-13	86-113	MT
Thionex	endosulfan	1	3	24-312	200-5000	MT
Tracer	spinosad	2	3	> 5000	> 5000	HT
Warrior	lambda-cyhalothrin	2	3	110	2,000	HT

*Potential: 1=high, 2=medium, 3=low, na = not available.

Ratings are from the ARS/NRCS pesticide properties database.

**The LD₅₀ is a relative measure of acute toxicity, indicating the number of milligrams (mg) of pesticide per kilogram (kg) body weight to kill 50 percent of a test animal population. A low LD₅₀ (especially less than 10) indicates high toxicity to mammals; a high LD₅₀ indicates lower mammalian toxicity. Values reported are sometimes for technical grade material. Formulated products are usually less toxic than technical material.

Relative rating of insecticide toxicity to honeybees: HT = Highly Toxic, kills bees on contact during application and for one or more days after treatment. Bees should be moved from the area. MT = Moderately Toxic, can be used with limited danger if not applied directly over bees in fields or hives. PNT = Practically Non-Toxic, can be used with few precautions, minimum injury to bees. na = not applicable or not known.