

SOYBEAN Table 5: Foliar insecticides registered in Michigan and Ohio to manage soybean insects and related pests, with preharvest intervals and precautions.

- Insecticides are listed alphabetically by active ingredient(s), with trade names below. Thus, similar pesticides are grouped together for easy comparison.
- Letters under each pest indicate which rate to use, from the previous column. If a letter is not given, that pest is not on the label.
- Note: The caterpillar category includes cloverworm, earworm, silver-spotted skipper, soybean looper, thistle caterpillar, velvetbean caterpillar, and webworm. These are grouped together because they defoliate soybeans in the same way.

Active ingredient Trade Names	Labelled rate(s) per acre (unless stated)	bean leaf beetle	caterpillars	cutworm	grasshoppers	Japanese beetle	slugs & snails	soybean aphid	spider mite	stink bugs	thrips	Pre-harvest interval (PHI) in days	Precautions and Remarks
abamectin Agri-Mek SC	(a) 1.75 - 3.5 oz								a			28	<ul style="list-style-type: none"> • Apply when spider mites are first observed • To avoid illegal residues, product must be mixed with a specific spray adjuvant. See label for details • For best control, apply by ground instead of air • Maximum two sequential applications of an abamectin product • Do not allow livestock to graze or harvest treated vines as feed • Do not graze or use treated vines for hay or forage
acephate Acephate 90 Prill Acephate 90 WDG Acephate 90 WSP	(a) 0.28 - 0.56 lbs (b) 0.56 - 1.1 lbs (c) 0.83 - 1.1 lbs	c	c		a			c		b	a	14	
Acephate 97 UP Acephate 97 WDC Orthene 97	(a) 0.25 - 0.5 lbs (b) 0.5 - 1.0 lbs (c) 0.75 - 1.0 lbs												
afidopyropen Sefina also see <i>cypermethrin + afido.</i>	(a) 3.0 oz							a				7	<ul style="list-style-type: none"> • Controls sucking pest by disrupting feeding & other behaviors, creating 'zombie' aphids that die a slow death • Do not graze or feed soybean hay or forage • Biological insecticides that must be eaten to be effective, so coverage is important • Most effective against young larvae (early instars) • Check label for rates for specific caterpillars and pest pressure • Can be used in organic production • Do not make applications less than 30 days apart
Bacillus thuringiensis - Bt Agree WG Biobit HP Javelin WG Xentari	(a) 0.25 - 2.0 lbs (a) 0.5 - 2.0 lbs (a) 0.25 - 1.5 lbs (a) 0.5 - 2.0 lbs		a									n/a	
bifenthrin Bifen 2 Ag Gold Bifenture EC Bifenthrin 2EC Brigade 2EC Discipline 2EC Fanfare EC, 2EC, & ES	(a) 2.1 - 6.4 oz (b) 5.12 - 6.4 oz	a	a	a	a	a		a	b	a	a	18	

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<i>bifenthrin continued</i> Sniper Sniper Helios Tundra EC Bifender FC	(a) 2.4 - 7.4 oz (b) 5.9 - 7.4 oz												
bifenthrin + bio-fungicide (<i>Bacillus amyloliquifaciens</i>) Ethos XB	(a) 2.8 - 8.5 oz (b) 6.8 - 8.5 oz	a	a	a	a	a		a	b	a	a	18	<ul style="list-style-type: none"> The biological fungicide in this formation is labeled for suppression of white mold and several other foliar pathogens Do not make applications less than 30 days apart
bifenthrin + cypermethrin Steed	(a) 2.5 - 3.5 oz (b) 3.5 - 4.7 oz	b	b	a	b	b		b	c	b	b	21	<ul style="list-style-type: none"> Do not graze or harvest treated vines for livestock feed
Hero	(a) 2.6 - 6.1 oz (b) 4.0 - 10.3 oz (c) 10.3 oz												
Hero EW	(a) 2.8 - 6.7 oz (b) 4.5 - 11.2 oz (c) 11.2 oz												
bifenthrin + imidacloprid Brigadier	(a) 5.1 - 6.1 oz	a	a	a	a	a		a	b	a	a	21	<ul style="list-style-type: none"> Do not make applications less than 30 days apart
Skyraider	(a) 2.1 - 6.0 oz (b) 5.12 - 6.0 oz												
Swagger	(a) 7.6 - 12.2 oz (b) same for mites												
carbaryl Carbaryl 4L Sevin 4F Sevin XLR Plus	(a) 0.5 - 1.5 qts	a	a	a	a	a		a		a	a	21	<ul style="list-style-type: none"> Check label for specific rates for various pest species Bee warning. May kill honeybees. If application can't be avoided and the crop is blooming, limit application to within 2 hrs of sunrise or sunset. Notify beekeepers within 1 mile, 48 hrs prior Do not apply this product w/ 2-4D herbicide (= crop injury)
chlorantraniliprole Coragen Prevathon	(a) 3.5 - 5.0 oz (a) 14 - 20 oz		a									1	<ul style="list-style-type: none"> Novel mode of action - insect are paralyzed & stop feeding. Must be applied before populations reach damaging levels Check labels for specific species, as they differ: Coragen = earworm, armyworm. Prevathon = earworm, armyworm, loopers, cloverworm, velvetbean caterpillar & hoppers

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chlorantraniliprole + lambda-cyhalothrin Besiege	(a) 5.0 - 10.0 oz (b) 10 oz	a	a	a	a	a		a	b	a	a	30	<ul style="list-style-type: none"> Check label for specific rate ranges (5-8 oz, 8-10 oz) for various pest species Spider mites - 'suppression only' Do not graze or feed treated plants
cyfluthrin Tombstone Tombstone Helios	(a) 0.8 - 1.6 (b) 1.6 - 2.8 (c) 2.0 - 2.8	b	b	a	c	b		c		b	a	45	<ul style="list-style-type: none"> 15d PHI to feed green forage Helios formulation has UV protection for extended residual
cyfluthrin (beta) Baythroid XL	(a) 0.8 - 1.6 (b) 1.6 - 2.8 (c) 2.0 - 2.8	b	b	a	c	b		c		b	a	21	<ul style="list-style-type: none"> 15 day PHI to feed green forage and hay
cyfluthrin + imidacloprid Leverage 360	(a) 2.8 oz	a	a	a	a	a		a		a	a	21	<ul style="list-style-type: none"> 15 day PHI to feed green forage and hay
cyhalothrin (gamma) Declare	(a) 0.77 - 1.28 oz (b) 1.28 - 1.54 oz	a	a	a	b	b		a		b	a	45	<ul style="list-style-type: none"> Do not graze or feed treated foliage to livestock
cyhalothrin (lambda) Grizzly Too Kendo 22.8CS Lamcap II Province II Warrior II w/ Zeon Tech.	(a) 1.92 - 3.2 oz (b) 3.2 - 3.84 oz												
cyhalothrin (lambda) Kendo Lambda-Cyhalothrin 1EC Lambda-Cy EC, 1EC, & AG Lambda-T LambdaStar Paradigm VC Silencer	(a) 0.96 - 1.60 oz (b) 1.60 - 1.92 oz (a) 1.92 - 3.20 oz (b) 3.20 - 3.84 oz	a	a	a	b	b		a		b	a	30	<ul style="list-style-type: none"> Do not graze or harvest treated area for forage or hay
cypermethrin (alpha) Fastac CS & Fastac EC	(a) 1.3 - 3.8 oz (b) 3.2 - 3.8 oz	a	a	a	b	a		a		b	b	21	<ul style="list-style-type: none"> Do not graze or harvest treated area for forage or hay

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cypermethrin (zeta) Mustang	(a) 1.4 - 4.3 oz (b) 3.4 - 4.3 oz	a	a	a	b	a		a		b	b	21	<ul style="list-style-type: none"> Do not graze or harvest treated area for forage or hay
Mustang Maxx	(a) 1.28 - 4.0 oz (b) 3.2 - 4.0 oz												
cypermethrin + afidopyropen Renestra	(a) 6.8 oz	a	a	a	a	a		a		a	a	21	<ul style="list-style-type: none"> Afidopyropen controls sucking pests by disrupting feeding & other behaviors, creating 'zombie' aphids that die a slow death Do not graze or feed hay and forage
deltamethrin Delta Gold	(a) 1.0 - 1.5 oz (b) 1.5 - 2.4 oz	b	b	a	b	b		b		b		21	<ul style="list-style-type: none"> Do not graze or harvest treated area for forage or hay
dimethoate Dimethoate 4E and 400	(a) 1 pint	a			a			a				21	<ul style="list-style-type: none"> Highly toxic to bees and other pollinators. Do not apply to blooming crops if bees are present Do not graze or feed within 5 days of last application
esfenvalerate Asana XL S-Fenvalostar Zyrate	(a) 2.9 - 5.8 oz (b) 5.8 - 9.6 oz	b	a	b	b	b		b		b		21	<ul style="list-style-type: none"> Do not graze or feed livestock on treated fields See labels for additional information about tank mixes with OP (organophosphate) insecticides for soybean aphid control
etoxazole Zeal SC Zeal Pro	(a) 2.0 - 6.0 oz (a) 11.5 - 34.6 oz								a			Do not apply after R5	<ul style="list-style-type: none"> Kills eggs and mites Minimum 20 gal per acre ground or 3 gal per acre air Maximum 1 application per year; Do NOT apply after the R5 stage Do not graze or feed treated area
flupyradifurone Sivanto HL Sivanto 2005L Sivanto Prime	(a) 3.5 - 7.0 oz (a) 7.5 - 10.5 oz (a) 7.0 - 14.0 oz							a				21	<ul style="list-style-type: none"> Systemic insecticide, particularly effective on sucking pests
imidacloprid Admire Pro Alias4F Montana4F Nuprid4F Max Wrangler	(a) 1.3 oz (a) 1.5 oz	a				a		a				21	<ul style="list-style-type: none"> Thorough coverage is needed
Nuprid 25C Prey 1.6 Sherpa	(a) 3.0 oz (a) 3.75 oz												

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indoxacarb Steward	(a) 4.6 - 11.3 oz		a									21	<ul style="list-style-type: none"> Use higher rate for higher population or spraying in dense canopy Do not graze or feed livestock on treated fields Also labeled for suppression of stink bugs
iron phosphate Sluggo	(a) 22-44 lbs					a						n/a	<ul style="list-style-type: none"> Sluggo is a bait that must be eaten to kill slugs Apply in evening. Scatter pellets using a broadcast spreader & use a higher rate for severe infestations or after long periods of rain OMRI certified for use in organic fields
metaaldehyde Deadline GT Deadline M-Ps	(a) Max 13.3 lbs (a) Max 10 lbs						a					n/a	<ul style="list-style-type: none"> NOT registered on soy in Michigan - only for use in Ohio Deadline is a bait and must be eaten to kill slugs Growth stages V4-R1: no application after pod formation Apply in evening as a band between rows
methomyl Annihilate LV Lannate LV Nudrin LV Annihilate SP Corrida 90WSP Lannate SP Nudrin SP	(a) 0.4 - 1.5 pints (a) 0.125 - 0.5 lbs	a	a					a			a	14	<ul style="list-style-type: none"> Rates vary by insect and by 'severity' of infestation; check labels for details The Lannate label lists brown marmorated stink bug PHI 3 days for forage, 12 days for hay
methoxyfenozide Intrepid 2F	(a) 4 - 8 oz		a									14	<ul style="list-style-type: none"> Apply when first signs of feeding damage appear PHI for hay and forage, 7 days
permethrin Perm-Up 25DF Pounce 25WP Arctic 3.2EC PermaStar Ag Perm-Up 3.2EC	(a) 3.2 - 12.8 oz (b) 6.4 - 12.8 oz (a) 2.0 - 4.0 oz (b) 2.0 - 8.0 oz	a	b	a		a						60	<ul style="list-style-type: none"> Rates range higher for several caterpillar species; check label Do not graze or harvest treated area for forage or hay
pyrethrins Evergreen EC 60-6 PyGanic EC 1.4 II PyGanic Specialty	(a) 2.0 - 12.6 oz (a) 16 - 64 oz (a) 4.5 - 15.6 oz	a	a	a	a	a		a		a	a	0 when sprays dry	<ul style="list-style-type: none"> Plant-derived insecticides that knock down insects quickly but have very short residual control. Coverage is critical Max 10 applications per season, min. 3-day spray interval PyGanic is OMRI listed for use on organic crops; Evergreen is not OMRI certified because it contains PBO Highly toxic to bees exposed to direct treatment; do not apply on or drift onto blooming crops or weeds

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spinetoram Radiant SC	(a) 2.0 - 4.0 oz	a	a								28	<ul style="list-style-type: none"> • Time applications to target small larvae • Some (not all) caterpillar species are listed on the label 	
spinosad Blackhawk Tracer	(a) 1.1 - 2.2 oz (a) 1.0 - 2.0 oz		a								28	<ul style="list-style-type: none"> • Time applications to target small larvae • Not all caterpillar species are listed on the label • Do not feed treated forage or hay 	
sulfoxaflor Transform WG	(a) 0.75 - 1.0 oz							a			7	<ul style="list-style-type: none"> • Translaminar product, moves within leaf to target sucking pests • Label lists 'suppression' of stink bugs at a 2-2.25 oz rate 	