

## Effective Insecticides for Brown Marmorated Stink Bugs

Based on laboratory bioassay results and field screening trials as of February 7, 2011

Active ingredient	Efficacy on BMSB*	Chemical class**	Product name Company EPA Reg No	Federally registered on***												
				Pome fruit		Stone fruit			Vegetables				Field Crops			
				apple	pear	apricot	cherry	Peach nectarine	beans		pepper	sweet corn	tomato	field corn	soybean	wheat
									lima	snap						
acephate	G <sup>2</sup> 87 <sup>1</sup>	OP	Orthene AMVAC 59639-33	-- ****	--	--	--	--	LB 2-4 apps	LB 2-4 apps	P 2-4 apps	--	--	--	SB 1-3 apps	--
azinphos- methyl	71 <sup>1</sup>	OP	Guthion MANA 66222-162	SB 1 app	SB 1 app	--	P 1 app	--	--	--	--	--	--	--	--	--
bifenthrin	91 <sup>1</sup>	PYR	Brigade, Capture FMC 279- 3313,3114	--	SB 2-10 apps	--	--	--	SB 2-8 apps	SB 2-8 apps	SB 2-6 apps	SB 2-6 apps (not in coast- al count- ies)	SB 4 apps	SB 2-9 apps (not in coast- al count- ies)	SB 3-9 apps	--
bifenthrin + (zeta)cyperm ethrin		PYR	Hero FMC 279-3329	--	--	--	--	--	SB 3-6 apps	SB 3-6 apps	SB 3-6 apps	SB 3-6 apps (not in coast- al count- ies)	SB 4-9 apps	SB 4-10 apps (not in coast- al count- ies)	SB 4-7 apps	--
bifenthrin + imidacloprid		PYR + NEONIC	Brigadier FMC 279-3332	--	SB 5-17 apps	--	--	--	LB 3-4 apps	LB 3-4 apps	SB 2-5 apps	--	SB 3-6 apps	--	LB 3-4 apps	--
chlorpyrifos	89 <sup>1</sup>	OP	Lorsban DOW 62719-220	LB 1 app	P 1 app	--	P 3 apps	P 1 app	--	--	--	P 3 apps	--	P 3 apps	SB 3 apps	P 2 apps
			Chlorpyrifos MANA 66222-19	LB 1 app	P 1 app	--	P 3 apps	P 1 app	--	--	--	P 3 apps	--	P 3 apps	SB 3 apps	P 2 apps
chlorpyrifos + cyhalothrin		OP + PYR	Cobalt DOW 62719-575	P 1 app	P 1 app	--	P 3 apps	P 1 app	--	--	--	SB 3 apps	--	SB 3 apps	SB 3 apps	SB 2 apps

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					lima	snap										
dimethoate	93 <sup>1</sup>	OP	Dimate Winfield 9779-273	--	P 1-4 apps	--	P 1-2 apps	--	LB 1-4 apps	LB 1-4 apps	P 5-6 apps	--	P 2-4 apps	P 1 app	P 2 apps	P 1-3 apps
dinotefuran (Korea recommend; EPA suggestion)	67 <sup>1</sup>	NEONIC	Venom Valent 59639-135 Scorpion Gowan 10163-317	--	--	--	--	--	--	--	SB 1-6 apps	--	SB 1-6 apps	--	--	--
				Dinotefuran is currently being processed and evaluated for a Section 18 registration for use on tree fruit in the mid-Atlantic region.												
endosulfan	90 <sup>1</sup>	Cyclodienone organochlorine	Thionex MANA 66222-63	TPB 2-3 apps Phase-out in FL 9/1/14; all others 3/13/15	SB 2 apps Phase-out 3/31/13	SB 2 apps Phase-out 11/10/10	P 2 apps Sweet phase-out 3/21/12; Tart phase-out 11/10/10	SB 2 apps Phase-out 3/21/12; Nectarine in CA phase-out 11/10/10	SB 2 apps Phase-out 11/10/10	--	P 2 apps Phase-out in FL 9/1/14; all others 3/31/15	P 1 app Phase-out in FL 9/1/14; all others 3/31/15	SB 4 apps Phase-out in FL 9/1/14; all others 3/31/15	--	--	--
fenpropathrin	67 <sup>1</sup>	PYR	Danitol Valent 59639-35	BMSB 2-4 apps	BM SB 2-4 apps	BMSB 2-4 apps	BMSB 2-4 apps	BMSB 2-4 apps	--	--	BMSB 4 apps	--	BMSB 4 apps	--	--	--
formetanate hydrochloride	63 <sup>1</sup>	CARB	Carzol Gowan 10163-265	P	P	--	--	SB	--	--	--	--	--	--	--	--
imidacloprid	G <sup>2</sup> 40 <sup>1</sup>	NEONIC	Admire Bayer 264-827	P 1 app	P 1 app	P 1 app	P 1 app	P 1 app	P 1 app	P 1 app	P 1 app	--	P 1 app	--	--	--
			Provado Bayer 264-763	P 5 apps	P 5 apps	SB 3 apps	SB 5 apps	SB 3 apps	P 3 apps	P 3 apps	P 3-6 apps	--	P 3-6 apps	--	--	--
kaolin	23 <sup>1</sup>	Particle film	Surround Tessengerl o 61842-18	SB No limit	SB No limit	P No limit	P No limit	P No limit	P No limit	P No limit	P No limit	P No limit	P No limit	P No limit	P No limit	P No limit

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					lima	snap										
kaolin + thiamethoxam	67 <sup>1</sup>	Particle film	Surround + Actara	See respective labels												
malathion	92 <sup>1</sup>	OP	Malathion Loveland 34704-108	--	--	P 2 apps	P 4 apps	P 3 apps	LB 2 apps	LB 2 apps	P 2 apps	P 2 apps	P 4 apps	--	--	P 2 apps
methidathion	90 <sup>1</sup>	OP	Supracide Gowan 10163-236	P 1 app	P 1 app	P 1 app	P 1 app	P 1 app	--	--	--	--	--	--	--	--
methomyl	G <sup>2</sup> 90 <sup>1</sup>	CARB	Lannate DuPont 352-384	TPB 2(ee) for BMSB 5 apps	P 2(ee) for BMSB 2 apps	--	--	SB 2(ee) for BMSB 3-6 apps	LB 10 apps	LB 10 apps	P 2(ee) for BMSB 10 apps	P 2(ee) for BMSB 28 apps	P 2(ee) for BMSB 5 apps	P 2(ee) for BMSB 10 apps	P 2(ee) for BMSB 3 apps	P 2(ee) for BMSB 4 apps
permethrin	77 <sup>1</sup>	PYR	Ambush AMVAC 5481-549	TPB 2-6 apps	P 2-4 apps	--	TPB 6 apps	TPB 5 apps	--	--	P 8-16 apps	P 6-12 apps	P 6-24 apps	P 3-6 apps	P 2-8 apps	--
thiamethoxam	56 <sup>1</sup>	NEONIC	Actara, Centric Syngenta 100-938,1147	P 3-4 apps	P 3-4 apps	SB 2 apps	SB 2 apps	SB 2 apps	--	--	SB 2-3 apps	--	SB 2-3 apps	--	SB 2 apps (PPLS)	--
thiamethoxam + chlorantraniliprole		NEONIC	Voliam Flexi Syngenta 100-1319	P 2 apps	P 2 apps	SB 2 apps	SB 2 apps	SB 2 apps	--	--	SB 2-3 apps	--	SB 2-3 apps	--	--	--

\*Efficacy Sources: <sup>1</sup> Tracy Leskey, USDA/ARS, Kearneysville, WV; <sup>2</sup> Galen Dively, University of Maryland; Numbers are on 1-100 scale with higher numbers being more efficacious. Quality scores are E = Excellent, G = Good, F = Fair, and P = Poor.

\*\*Chemical class: CARB = carbamates, NEONIC = neonicotinoid, OP = organophosphate, and PYR = pyrethroid.

\*\*\*State registrations may vary - consult state or local authorities.

\*\*\*\*Pest abbreviations: BMSB = brown marmorated stink bug, SB = stink bugs, TPB = tarnished plant bugs, LB = lygus bugs, PB = plant bugs, P = other pests, apps = maximum number of applications on this crop, -- no registered use on this crop.

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