

## Insecticide Treatment Options for Defoliating Insects in Soybean

Updated December 10, 2019

See <https://www.greenbook.net> or other resources for additional registrations.

\*Consult product label for specific information and restrictions.

### IRAC Mode of Action Classification:

- Group 1 = Acetylcholine esterase inhibitors; 1A = Carbamates, 1B = Organophosphates
- Group 3 = Sodium channel modulators
- Group 5 = Nicotinic acetylcholine receptor agonists (allosteric), Spinosyns
- Group 11 = Microbial disruptors of insect midgut membranes (includes transgenic crops expressing *Bacillus*); 11A = *B. t.* subsp. *kurstaki*
- Group 18 = Ecdysone receptor agonists, Diacylhydrazines
- Group 22 = Voltage-dependent sodium channel blockers; 22A = Oxadiazines
- Group 28 = Ryanodine receptor modulators, Diamides

**R** = Restricted-Use Product

Mode Of Action	Product Name	Common Name	Rate (Formulation/Acre)	Restrictions/Comments
3 <b>R</b>	Ambush 2EC	permethrin	At Planting: 0.5 fl oz/1000 row ft  Pre-Emergence, and Post-Emergence: 6.4-12.8 fl oz	Apply in an in-furrow, band, or t-band at planting in a minimum of a 4-inch band. PHI 30 days for grain or fodder (stover). Forage may be harvested on the day of application.

3 R	Arctic 3.2EC	permethrin	At Planting: 0.3 fl oz/1000 row ft  Pre-Plant Incorporated or Pre-Emergence: 0.3-0.6 fl oz/1000 row ft or 4-6 fl oz/acre  Post Emergence: 4-6 fl oz/acre	Planting time: apply as an in-furrow, band or t-band treatment using a minimum 4 inch band. Pre-Plant Incorporated and Pre-Emergence: apply in time period from 5 days prior to planting up to emergence of the crop. PHI 30 days for harvest of grain or fodder (stover). Forage may be harvested on the day of application.
3 R	Asana XL	esfenvalerate	5.8-9.6 fl oz	PHI 21 days.
3 R	Baythroid XL	cyfluthrin	1.6-2.8 fl oz	PHI 21 days for grain or fodder and 0 days for green forage. Recommended for use against 1st and 2nd instar larvae.
28	Belt SC	flubendiamide	2-3 fl oz	PHI 1 day for green forage and silage and 28 days for grain or stover.
3, 28 R	Besiege	lambda-cyhalothrin, chlorantraniliprole	6-10 fl oz	PHI 21 days. Do not feed treated corn fodder or silage to meat or dairy animals within 21 days after last treatment. Use higher listed rates within the listed rate range for large larvae.
11A	Biobit, Deliver, Dipel, Lepinox, XenTari, etc.	<i>Bacillus thuringiensis</i>	See Product Label	PHI 30 days.
3R	Brigade 2EC, Fanfare 2EC, Bifenture EC, Discipline 2EC, Sniper, Tundra EC	bifenthrin	At Planting: 0.15-0.30 fl oz/1000 row ft  Pre-Plant Incorporated: 3-4 fl oz/acre	PHI 30 days. Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment. Do not apply to soil where there is greater than 30% cover of crop residue remaining.

			Pre-Emergence: 2.56 fl oz/acre  Post Emergence: 2.1-6.4 fl oz/acre	
3 R, 4A	Brigadier	bifenthrin, imidacloprid	3.8 – 6.1 fl oz	PHI 21 days. PHI 45 days for feeding of dry vines. PHI 18 days for feeding of green vines.
3 R	Capture LFR	bifenthrin	At Planting: 3.4 – 6.8 fl oz  Pre-Plant Incorporated: 4.0-5.3 fl oz  Pre Emergence: 3.4 fl oz  Foliar: 2.8 – 8.5 fl oz	Capture LFR insecticide is for mixing directly with liquid fertilizer to control soil insect pests. Do not apply to soil where there is greater than 30% cover of crop residue remaining.  Foliar restrictions: Do not make applications less than 30 days apart. PHI 18 days.
1B, 3 R	Cobalt	chlorpyrifos and gamma cyhalothrin	PrePlant, At-Plant, or Pre-Emergence: 13-38 fl oz  Post-Emergence: 13-26 fl oz	PHI 21 days for grain, ears, forage or fodder.
1B, 3 R	Cobalt Advanced	chlorpyrifos and gamma cyhalothrin	PrePlant, At-Plant, or Pre-Emergence: 11-38 fl oz  Post-Emergence:	PHI 21 days for grain, ears, forage or fodder.

			11-26 fl oz	
3 R	Declare	gamma-cyhalothrin	0.77 – 1.54 fl oz	PHI 45 days. Do not graze or harvest treated soybean forage, straw, or hay for livestock feed.
3 R	Delta Gold	deltamethrin	1.5-1.9 fl oz	PHI 21 days for grain or fodder. PHI 12 days for cutting or grazing for forage.
11A	Dipel ES	<i>Bacillus thuringiensis kurstaki</i> strain ABTS-351	2.0-4.0 pts	Treat when plants first exhibit feeding signs in the whorl of leaves.
3A R, 44 (fungicide)	Ethos XB	bifenthrin, ( <i>B. amyloliquefaciens</i> )	2.8 – 8.5 fl oz	Do not make applications less than 30 days apart. PHI 18 days.
3 R	Fastac EC	alpha-cypermethrin	3.2-3.8 fl oz	PHI 30 days for grain and stover. PHI 60 days for forage.
3 R	Hero	zeta-cypermethrin and bifenthrin	4.0-10.3 fl oz	Labelled for at planting-time and foliar applications. For armyworm spp. at planting, apply on the soil surface in a 5-7 inch band in a minimum of 3-7 gallons per acre. PHI 30 days for grain and stover and 60 days for forage.
18	Intrepid 2F	methoxyfenozide	4-16 fl oz	PHI 21 days.
1A R	Lannate LV	methomyl	0.75-1.50 pts	PHI 21 days for ears and stover, and 3 days for forage.
1A R	Lannate SP	methomyl	0.25-0.50 lb	PHI 21 days for ears and stover, and 3 days for forage.
1B R	Lorsban Advanced, Lorsban 4E, Govern 4E, Hatchet, Warhawk, Yuma 4E	chlorpyrifos	1-2 pts	PHI 21 days before harvest of grain, ears, forage or fodder.

1B R	Methyl 4EC	methyl parathion	0.5 pt	PHI 12 days. Do not apply during the pollen shed period.
3 R	Mustang Maxx, Respect	zeta-cypermethrin	3.2-4.0 fl oz	PHI 30 days for grain and stover. PHI 60 days for forage.
1B R	Lorsban Advanced, Lorsban 4E, Govern 4E, Hatchet, Nufos 4E, Warhawk, Yuma 4E	chlorpyrifos	1-2 pts	For aerial applications use 2 - 5 gal of spray per acre. Do not apply within 35 days of harvest of grain.
1B R	Penncap-M	microencapsulated methyl parathion	2-3 pts	PHI 12 days for harvest, forage and grazing.
3 R	Pounce 1.5G	permethrin	6.7-10.0 lbs broadcasted, 8 oz/1000 row ft	May be applied as a pre-plant incorporated, pre-emergence, planting time or foliage use application. Do not make treatments less than 7 days apart. PHI 30 days for grain and fodder (stover). Forage may be harvested on the day of application.
3 R	Pounce 25WP	permethrin	6.4-9.6 oz	Up to 0.6 lb ai per acre may be used per season.
28	Prevathon	chlorantraniliprole	14 - 20 fl oz	PHI 1 day. Minimum interval between treatments is 3 days. Make no more than 4 applications per acre per crop.
3 R	Proaxis	gamma-cyhalothrin	2.56-3.84 fl oz	For control of 1st and 2nd instars only. PHI 21 days.
5	Radiant SC	spinetoram	3-6 fl oz	*Not labelled for control of yellow-striped armyworm or western yellow-striped armyworm. PHI 28 days for grain and 3 days for fodder or forage.
1A	Sevin XLR Plus	carbaryl	1-2 qts	PHI 48 days for grain and fodder or 14 days for

				grazing and silage.
1B, 3 R	Stallion	chlorpyrifos + zeta-cypermethrin	9.25-11.75 fl oz	PHI 30 days for grain or stover and 60 days for forage.
3 R	Steed	zeta-cypermethrin and bifenthrin	3.5-4.7 fl oz	PHI 30 days for grain or stover and 60 days for forage. Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.
22A	Steward EC	indoxacarb	4.6 – 11.3 fl oz	Do not feed or graze livestock on treated fields.
5	Tracer	spinosad	1-3 fl oz	PHI 28 days for grain and 3 days for fodder or forage harvest.
3 R	Tombstone	cyfluthrin	1.6-2.8 fl oz	PHI 21 days for grain or fodder and 0 days for green forage. Recommended for use against 1st and 2nd instar larvae.
1B, 3 R	Tundra Supreme	chlorpyrifos and bifenthrin	At Planting: 0.4-0.8 fl oz  Post-Emergence: 5.6-16.8 fl oz	PHI 30 days for grain and silage. Shallow incorporation using a rotary hoe or other equipment may improve control.
3 R	Warrior w/ Zeon Technology, Silencer	lambda-cyhalothrin	2.56-3.84 fl oz	Recommended for control of 1st and 2nd instars only. PHI 21 days for harvest, grazing or cutting treated crops for feed.
3 R	Warrior II w/ Zeon Technology	lambda-cyhalothrin	1.28-1.92 fl oz	Recommended for control of 1st and 2nd instars only. PHI 21 days for harvest, grazing or cutting treated crops for feed.