

**REGISTERED GRASSHOPPER CONTROL PRODUCTS IN SOUTH DAKOTA<sup>†,‡</sup>**

July 2010 (updated)

Insecticide	Active Ingredient	Rate of Application	Toxicity to Bees	Commodities Labeled for Use in Control of Grasshoppers	Remarks/Comments <sup>*,‡</sup>
Asana XL	fenvalerate, esfenvalerate	5.8-9.6 oz/A; (2.9-5.8 oz/A on non-cropland)	Very Toxic to bees during application; after product dries, toxicity to bees diminishes. Duration of residue in treatment area approximately: 1 day.	corn, soybeans, sunflower, potato, non-cropland	Effective against grasshoppers at 3rd and 4th instars, less effective against adults. 1-21 day harvest interval. Do not feed non-cropland cuttings to livestock, spray ditch banks or areas adjacent to water. Do not apply or allow drifting to blooming crops or bees if bees are visiting the treatment area.
Baythroid 2 and generics	cyfluthrin	2.8 oz/A	Highly toxic to bees exposed to direct contact or residues on blooming crops or weeds. Non-systemic contact and stomach action. Long residual activity.	corn, sorghum, soybean, sunflowers, alfalfa	One application per cutting. Applications may be made up to 7 days before harvest. Do not apply this product or allow it to drift to blooming crops if bees are visiting the treatment area. Refer to label for pre-harvest intervals and grazing restrictions
Dimethoate 4 EC	dimethoate	1/2-1 pt/A	Duration of residue in treatment area approximately: 3 days.	alfalfa, corn, sorghum (milo), soybeans, wheat, potatoes	Do not feed non-cropland cuttings to livestock or spray ditch banks or areas adjacent to water. Do not apply product or allow to drift to blooming crops or bees if bees are visiting the treatment area. Refer to label for pre-harvest intervals and grazing restrictions.
Capture 2EC Brigade, and generics	bifenthrin	2.1 oz – 6.4 oz	Highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds.	Corn, soybean, peas, canola,	The use of bifenthrin is prohibited in areas that may result in exposure of endangered species. Do not apply when bees are present. Refer to label for pre-harvest intervals and grazing restrictions.

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Dimilin 2L	diflubenzuron	2 oz	Dimilin has little or no effect on bees or other beneficial insects	Soybeans, grassland and non-crop areas  **Emergency Crisis for counties west of the Missouri River in SD for use on alfalfa and alfalfa/grass mixes. Expired Oct 31, 2010	Dimilin is an insect growth regulator which is effective on a wide variety of insect pests, predominately from the families of Lepidoptera and Diptera. Dimilin does not harm adult grasshoppers. Apply most grasshoppers have reached the 2 <sup>nd</sup> to 3 <sup>rd</sup> nymph stage of development.
Lorsban 4E and generics	chlorpyrifos	1/2 - 1 pt/A	Highly Toxic to bees; Duration of residue in treatment area approximately: 4-6 days.	alfalfa, corn, sorghum (milo), soybeans, sunflowers	Do not apply product or allow drifting to blooming crops or bees if bees are visiting the treatment area. Refer to label for grazing and pre-harvest restrictions.
Malathion 5EC and generics	malathion	8 oz/A (up to 12 oz/A on some labels for certain crops)	Highly toxic to bees; Duration of residue in treatment area approximately: 5.5 days.	Alfalfa, clover, barley, corn, oats, rye, grain sorghum, wheat, pasture, grass, range grass, grass hay, nonagricultural land, safflower, soybeans (flax on certain labels)	Do not apply product or allow drifting to blooming crops or bees if bees are visiting the treatment area. Do not apply to alfalfa in bloom or seed alfalfa. May be harvested on day of application for some crops. Applications should be timed to provide the maximum possible interval between treatment and the next period of bee activity. Refer to label for grazing and pre-harvest restrictions.
Orthene 75S and generics	acephate	1/8-2/3 lb/A (2 - 10.5 oz/A)	Very toxic to bees during application. Duration of residue in treatment area approximately: > 3 days.	wasteland, non-crop areas (field borders, fence rows, roadsides, ditch banks)	Often used in pastures. Do not apply product or allow to drift to blooming crops or bees if bees are visiting the treatment area. Do not hay or graze treated areas.

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PennCap M, and generics	methyl parathion	2-3 pt/A	Very toxic to bees; Duration of residue in treatment area approximately: 5-8 days.	corn, alfalfa, blooming peas, barley, oats, soybeans, wheat, roadsides, pasture, rangeland, grass grown for seed, potatoes	Do not apply product or allow drifting to blooming crops or bees if bees are foraging in the treatment area. Do not apply to alfalfa grown for seed 7 days prior to bloom or while bloom is present in the treatment area. Other methyl parathion labels differ a great deal in the categories provided.
Gaucha 480 Seed Treatment	Imidacloprid	1.5-3.0 oz per cwt of wheat seed.	No bee restrictions	Wheat seed treatment. Treat 50-60 ft of field margins	Plants are protected from the time they emerge and treatment can be easily limited to field margins to reduce cost. Treatments will be effective for moderate grasshopper densities, but likely will not hold up under severe grasshopper pressure. <b>Seed must be treated by a certified seed treater.</b> 45 day grazing interval.
Sevin XLR	carbaryl	1/2 - 1 1/2 qt/A	Very toxic to bees during application; after product dries, toxicity to bees diminishes. Duration of residue in treatment area approximately: > 1 day.	alfalfa, clover, several garden vegetables, corn, proso millet, rangeland, sorghum, soybeans, sunflower, wheat, fruit trees, pasture, wasteland, etc.	Effective against grasshoppers in 3rd and 4th instars; not very effective against adults. Do not apply product or allow drift to blooming crops or bees if bees are foraging in the treatment area. Refer to label for pre-harvest interval and grazing restrictions.
Mustang Max	Zeta Cypermethrin	3.0 – 4.0oz	Highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds.	Alfalfa, clover, several garden vegetables, corn, peas, lentils, soybean, sorghum, millet, wheat	Do not apply product or allow drift to blooming crops or bees if bees are in treatment area. Refer to label for pre-harvest interval.

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Decis 1.5	Deltamethrin	1.0-1.5oz	Product is highly toxic to bees exposed to direct treatment. Do not apply it or allow it to drift to crops or weeds on which bees are actively foraging.	Corn, soybeans, sunflowers, sorghum	Do not apply product or allow drift to blooming crops or bees if bees are in treatment area. Refer to label for pre-harvest interval.
Warrior w/Zeon technology and generics	Lamdda cyhalothrin	2.56-3.84 oz/A	Very toxic to bees during application; after product dries, toxicity to bees diminishes.	corn, sorghum, soybeans, wheat, wheat hay, triticale	Similar formulation as Asana, but efficacy against grasshoppers has not been determined. Do not apply product or allow drift to blooming crops or bees if bees are visiting the treatment area.

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