

Insecticide Options for Control of Adult Japanese Beetle on Leaves and Flowers

Common Name (Insecticide Class)	Trade Names	Persistence of control	Labeled Uses on Food Crops	Pollinator Hazards, Cautions
acetamiprid (neonicotinoid)	Tristar, Ortho Flower, Fruit, and Vegetable Insect Killer	Moderate persistence; provides control of damage for days-week. Moves systemically within plants.	Label allows use on some fruits and vegetables.	Can be used on plants that are in blossom but cannot be applied at times when bees are visiting (i.e., dusk, dawn applications allowed).
azadirachtin (unspecified, botanical origin)	BioNeem, Azasol, AzaGuard, AzaMax, others	Short persistence; provides control of damage for a couple of days.	Uses allowed for essentially all food crops.	Hazardous to bees if directly sprayed. Can be used on plants that are in blossom but cannot be applied at times when bees are visiting (i.e., dusk, dawn applications allowed).
<i>Bacillus thuringiensis var. galleriae</i> (microbial)	beetleGONE!, beetleJUS!	Persistence is 2-3 days. Acts as stomach poison that causes beetles to stop feeding very shortly (hours) after it is eaten. Beetles may not die for several days.	Many food crop uses are allowed.	Very low hazard to bees. Can be applied to plants that are in flower and are being visited by pollinators.
bifenthrin (pyrethroid)	Ortho Max Insect Killer for Lawns and Gardens, Talstar, Onyx	Persistence moderate- long; provides control of damage for about a week.	No food crop uses are allowed.	High hazard and can kill bees for days after application. Cannot be used on plants bees visit that are in bloom.
carbaryl (carbamate)	Sevin, Carbaryl	Persistence moderate- long; provides control of damage for about a week.	Label allows many food crop uses.	High hazard and can kill bees for days after application. Cannot be used on plants bees visit that are in bloom.

chlorantraniliprole (diamide)	Acelepryn	Persistence moderate-long; provides control of damage for about a week.	No food crop uses are allowed.	Very low hazard to bees. Can be applied to plants that are in flower and are being visited by pollinators.
beta-cyfluthrin (pyrethroid)	Tempo, Bayer Advanced Rose and Flower Insect Killer (with imidacloprid), Bayer Advanced Vegetable and Garden Insect Spray	Moderate persistence; provides control of damage for days-week.	Some uses allowed for products that solely contain beta-cyfluthrin; formulations with imidacloprid do not allow food crop uses.	High hazard and can kill bees for a day or two after application. Cannot be used on plants bees visit that are in bloom.
gamma-cyhalothrin (pyrethroid)	Triazicide Insect Killer for Lawns and Landscapes	Persistence moderate; provides control of damage for days-week.	Labeled for use on many vegetable and most fruit crops.	High hazard and can kill bees for days after application. Cannot be used on plants bees visit that are in bloom.

<p>imidacloprid (neonicotinoid)</p>	<p>Merit, Mallet, Zenith, Bonide Systemic Insect Spray, Bayer Advanced 2-in-1 Systemic Rose & Flower Care, Bayer Advanced Tree & Shrub Protect & Feed (with chlothianidan), Bayer Advanced Fruit, Citrus and Vegetable Insect Killer Hi-Yield Systemic Insect Granules, Ortho Bug B Gon Year-Long Tree & Shrub Insect Control, ferti-lome Tree & Shrub Systemic Insect Drench, others</p>	<p>Moderate persistence; sprays can provide control of damage for days-week. Moves systemically within plants.</p>	<p>Variable, depending on formulation. Many products that have imidacloprid as the sole active ingredient also allow use on some fruits and vegetables.</p>	<p>High hazard to bees. Do not apply when bees are foraging. Do not apply to plants that are flowering. Only apply after all petals have fallen off.</p>
<p>permethrin (pyrethroid)</p>	<p>Bonide Eight Insect Control Vegetable, Fruit & Flower; Bayer Advanced Complete Insect Dust for Gardens; Ace House & Garden Bug Killer², Astro, Permethrin, others</p>	<p>Short to moderate persistence. Provides control of injury for a few days.</p>	<p>Label uses include most vegetable and many fruit crops.</p>	<p>High hazard and can kill bees for a day or two after application. Cannot be used on plants bees visit that are in bloom.</p>

pyrethrins (botanical)	Pyrenone, Pyganic, many retail formulations	Very short persistence; provides control for a day or two.	Uses allowed for essentially all food crops.	Hazardous to bees if directly sprayed. Can be used on plants that are in blossom but cannot be applied at times when bees are visiting (i.e., dusk, dawn applications allowed).
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