



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

March 29, 2019

Nina S. Rao
Regulatory Manager
BASF Corporation
26 Davis Drive
PO Box 13528
Research Triangle Park, NC 27709-3528

Subject: Label Amendment – Amendment to off-label Fastac CS Insecticide, from the following uses in California: Citrus fruits, at-plant application on Legume vegetables, dried shelled pea and bean (except soybean), subgroup 6c, and at-plant Sugar beet, and additional minor edits
Product Name: Fastac CS Insecticide
EPA Registration Number: 7969-364
Application Date: 10/05/2018
Decision Number: 545521

Dear Ms. Rao:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

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Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Anna Briley by phone at (703) 347-0262, or via email at briley.anna-katrina@epa.gov.

Sincerely,



Catherine Aubee, Chief
Invertebrate-Vertebrate Branch 1
Registration Division (7505P)
Office of Pesticide Programs

Enclosure

RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

Group **3A** Insecticide



We create chemistry

Fastac® CS

Insecticide

Microencapsulated product

Active Ingredient*:

alpha-cypermethrin: mixture of

(S)- α -cyano-3-phenoxybenzyl (1R,3R)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate and

(R)- α -cyano-3-phenoxybenzyl (1S,3S)-3-

(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate 9.88%

Other Ingredients:** 90.12%

Total: 100.00%

* Contains 0.83 pound active ingredients per gallon

** Contains petroleum distillate

ACCEPTED

03/29/2019

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.

7969-364

EPA Reg. No. 7969-364

EPA Est. No.

KEEP OUT OF REACH OF CHILDREN

CAUTION/PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See inside for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

Net Contents:

BASF Corporation
26 Davis Drive, Research Triangle Park, NC 27709

FIRST AID	
If on skin	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth to mouth, if possible. • Immediately call a poison control center or doctor.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor. • DO NOT induce vomiting unless told to do so by the poison control center or doctor. • DO NOT give any liquid to the person. • DO NOT give anything by mouth to an unconscious person.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes; then continue rinsing. • Call a poison control center or doctor for treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).	
Note to Physician: May pose an aspiration pneumonia hazard. Contains petroleum distillate.	

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Harmful if absorbed through skin. Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material (such as barrier laminate, butyl rubber, nitrile rubber, and/or viton)
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates, oysters, and shrimp. **DO NOT** apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. **DO NOT** apply this product or allow it to drift to blooming crops if bees are foraging the treatment area.

Directions For Use

RESTRICTED USE PESTICIDE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in possession of the user at time of product application.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Observe all precautions and limitations in this label and the labels of products used in combination with **Fastac® CS insecticide**. The use of **Fastac CS** not consistent with this label can result in injury to crops, animals, or persons. Keep containers closed to avoid spills and contamination.

Resistance

Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours**.

For early entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water, wear:

- Coveralls
- Chemical-resistant gloves (made of any waterproof material)
- Shoes plus socks

STORAGE AND DISPOSAL

Pesticide Storage

Store in a cool, dry, well-ventilated place. **DO NOT** store below 0° C (32° F). **DO NOT** use near heat, open flame or hot surfaces. Store in original containers only. Carefully open containers. After partial use, replace lids and close tightly. **DO NOT** put concentrate or dilute material into food or drink containers. **DO NOT** contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Keep out of reach of children and animals.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state Pesticide or Environmental Control Agency or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Triple rinse containers too large to shake (capacity > 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

(continued)

STORAGE AND DISPOSAL *(continued)*

Container Handling *(continued)*

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

In Case of Emergency

In case of large-scale spill of this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

Steps to take if material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing, and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

Chemigation Use Directions

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. **DO NOT** apply this product through any other type of irrigation system. **DO NOT** connect any irrigation system (including greenhouse systems) used for pesticide application to a public water system.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum-relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.

The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Apply **Fastac® CS insecticide** continuously for the duration of the water application. Dilute **Fastac CS** in sufficient volume to ensure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the target pest. Agitation is not required when a suitable diluent is used.

Vegetative Filter Strips

Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as, but not limited to, lakes, reservoirs, rivers,

permanent streams, marshes, natural ponds, estuaries, and commercial fish farm ponds).

Only apply products containing alpha-cypermethrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers: *Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. USDA, NRCS. 2000. Fort Worth, Texas. 21pp.* http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_023819.pdf

Spray Buffers

Ground Application

(groundboom, overhead chemigation, or airblast)

DO NOT apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Aerial Application

- **Ultra-low volume (ULV)** - **DO NOT** apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).
- **Non-ULV** - **DO NOT** apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Spray Drift Requirements

Wind Direction and Speed

Only apply this product if the wind direction favors on-target deposition. **DO NOT** apply when the wind velocity exceeds 15 mph.

Temperature Inversion

DO NOT make aerial or ground application into temperature inversions. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

Droplet Size

Use only medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

Additional Requirements for Ground Application

- Wind speed must be adjacent to the application site on the upwind side immediately before application.
- For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy.
- For airblast applications, turn off outward-pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

Additional Requirements for Aerial Application

- The spray boom should be mounted on the aircraft as to minimize drift caused by wing tip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of the wing span or 80% of rotor blade diameter.
- Flight speed and nozzle orientation must be considered in determining droplet size.
- Spray must be released at the lowest height consistent with pest control and flight safety. **DO NOT** release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.
- When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

Use Information

DO NOT use any products containing cypermethrin or zeta-cypermethrin during a crop season when using this product.

Use low rate under light-to-moderate infestation. Higher rates should be used under heavy insect pressure. The rate of application is variable according to insect pressure, timing of spray and field scouting. **DO NOT** exceed maximum allowable rate.

Preventive Use

For cutworm, armyworm, or stalk borer control, **Fastac® CS insecticide** may be applied before, during, or after planting. For soil-incorporated applications, use higher rates for improved control.

Rotational Crops

With the exception of the crops listed in **Table 1** and **Table 2**, rotational crops should not be planted within 30 days of last application.

Tank Mixing Information

DO NOT tank mix this product with any product containing the active ingredients (ai) cypermethrin or zeta-cypermethrin.

Fastac® CS insecticide can be tank mixed with other crop protection products approved for use in a given crop according to the specific tank mixing instructions in this label and respective product labels if the product labels do not prohibit such mixing. The most restrictive labeling applies to tank mixes. Physical incompatibility, reduced insect control, or crop injury can result from mixing **Fastac CS** with other products. Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing. Test the mixture on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of application. Evaluate for crop response 3 to 7 days before making an application to the entire crop.

Mixing Order

Water - Begin by agitating a thoroughly clean sprayer tank 3/4 full of clean water.

Agitation - Maintain constant agitation throughout mixing and application.

Inductor - If an inductor is used, rinse it thoroughly after each component has been added.

Products in PVA bags - Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.

Water-dispersible products (dry flowables, wettable powders, microencapsulated suspensions, other suspension concentrates, or suspo-emulsions)

Water-soluble products

Emulsifiable concentrates (such as oil concentrates when applied)

Water-soluble additives (such as AMS or UAN when applicable)

Fastac CS

Remaining quantity of water

Make sure each component is thoroughly mixed and suspended before adding tank mix partners. Maintain constant agitation during application.

Restrictions and Limitations

- **Maximum Seasonal Use Rate** - 11.4 fl ozs/acre (0.075 lb ai)
- **DO NOT** use any products containing cypermethrin or zeta-cypermethrin during a crop season when using this product.
- Refer to **Table 2** for complete directions and exceptions.

Table 1. Fastac® CS insecticide Crop-specific Maximum Seasonal Use and Preharvest Interval

Crop	Maximum Seasonal Total/Acre		Preharvest Interval (PHI) (days)
	(lb ai)	(fl ozs)	
Alfalfa	0.075	11.4	3 (cutting or grazing) 7 (harvesting seed)
<i>Brassica</i> vegetables (Head and Stem <i>Brassica</i>)	0.075	11.4	1
Citrus fruits	0.075	11.4	1
Corn, field Corn, pop Corn, seed	0.075	11.4	30 (grain and stover) 60 (forage)
Corn, sweet	0.075	11.4	3
Cotton	0.075	11.4	14
Cucurbits	0.075	11.4	1
Fruiting vegetables	0.075	11.4	1
Leafy vegetables	0.075	11.4	1
Legume vegetables	0.075	11.4	1 (succulent shelled or edible-pod peas or beans) 21 (dried shelled peas or beans)
Root and tuber vegetables (except sugar beet)	0.075	11.4	1
Sorghum (and other cereals)	0.075	11.4	14 (grain and stover) 45 (forage)
Soybeans	0.075	11.4	21
Sugar beets	0.075	11.4	50
Tree nuts	0.075	11.4	7
Wheat	0.075	11.4	14

Refer to **Table 2. Crop-specific Application Instructions** for detailed information on crops, application timing, and any use restrictions.

DO NOT use any products containing cypermethrin or zeta-cypermethrin during a crop season when using this product.

Table 2. Crop-specific Application Instructions

Crop	Insects Controlled	Application Rate/Acre	Application Method
Alfalfa Alfalfa grown for seed	Alfalfa caterpillar Alfalfa looper Alfalfa weevil Aphids ¹ Cutworms Egyptian alfalfa weevil (larva and adult) Flea beetles Green cloverworm Hornworms Meadow spittlebug Potato leafhopper Threecornered alfalfa hopper Velvetbean caterpillar Webworms	2.2 to 3.8 fl ozs ^[2] (0.014 to 0.025 lb ai)	Apply when pests appear; use sufficient volume of water to ensure thorough coverage of foliage. Use higher specified rate for increased pest pressure or for increased residual pest control. Minimum Spray Volume/Acre • Aerial - 2 gallons • Ground - 10 gallons ULV oil spray application is prohibited. Higher volumes of finished spray may improve insect control under high temperatures, when foliage is dense, and/or when insect pressure is high.
	Armyworms Grasshoppers Plant bugs (including <i>Lygus</i> spp.) Stink bugs	2.8 to 3.8 fl ozs ^[2] (0.018 to 0.025 lb ai)	
<ul style="list-style-type: none"> • Maximum Application Rate/Acre - 3.8 fl ozs (0.025 lb ai) of Fastac® CS insecticide per cutting • Maximum Seasonal Application Rate/Acre - 11.4 fl ozs (0.075 lb ai) of Fastac CS • Minimum Application Interval - 7 days • Preharvest Interval (PHI) - 3 days (cutting or grazing) 7 days (harvesting seed) <p>¹ Aphid control may be variable depending on species present and host-plant relationships. [OPTIONAL TEXT: ² For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of Fastac CS.]</p>			

Table 2. Crop-specific Application Instructions *(continued)*

Crop	Insects Controlled	Application Rate/Acre	Application Method
<p>Brassica Vegetables</p> <p>Head and Stem Brassica, subgroup 5A, including:</p> <p>Broccoli</p> <p>Brussels sprouts</p> <p>Cabbage</p> <p>Cauliflower</p> <p>Cavalo broccolo</p> <p>Chinese broccoli (gai lon, white flowering broccoli)</p> <p>Chinese cabbage (napa)</p> <p>Chinese mustard cabbage (gai choy)</p> <p>Kohlrabi</p>	<p>Corn earworm</p> <p>Cucumber beetles</p> <p>Cutworms</p> <p>Diamondback moth ¹</p> <p>Flea beetles</p> <p>Imported cabbageworm</p> <p>Leafhoppers</p> <p>Saltmarsh caterpillar</p> <p>Southern cabbageworm</p> <p>Tobacco budworm ¹</p>	<p>2.2 to 3.8 fl ozs ^[4]</p> <p>(0.014 to 0.025 lb ai)</p>	<p>Use sufficient volume of water to ensure thorough coverage of foliage.</p> <p>Minimum Spray Volume/Acre</p> <ul style="list-style-type: none"> • Aerial - 5 gallons • Ground - 15 gallons <p>Use higher rates to control heavy insect populations.</p> <p>In areas where arid climatic conditions persist, such as Arizona, higher than minimum specified rates may be required.</p>
	<p>Alfalfa looper</p> <p>Aphids ²</p> <p>Armyworms</p> <p>Cabbage looper</p> <p>Cabbage webworm</p> <p>Crickets</p> <p>Grasshoppers</p> <p>Ground beetles</p> <p>Leafminers (adult)</p> <p>Lygus bugs</p> <p>Onion thrips</p> <p>Stink bugs</p> <p>Whiteflies ³</p> <p>Wireworms (adult)</p>	<p>3.2 to 3.8 fl ozs ^[4]</p> <p>(0.021 to 0.025 lb ai)</p>	

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac® CS** insecticide
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**
- **Minimum Application Interval** - 7 days
- **PHI** - 1 day

¹ See **Resistance** in **Directions For Use** section.

² Aphid control may be variable depending on species present and host-plant relationships.

³ Aids in control

[OPTIONAL TEXT: ⁴ For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**.]

Table 2. Crop-specific Application Instructions (continued)

Crop	Insects Controlled	Application Rate/Acre	Application Method
Citrus Fruits ^[1] , Group 10-10 including: Calamondin Citrus citron Citrus hybrids (includes chironja, tangelo, tangor) Grapefruit Kumquat Lemon Lime Mandarin (tangerine) Orange, sour Orange, sweet Pummelo Satsuma mandarin	Asian cockroach Beet armyworm Blue-green citrus root weevil Cutworms Diaprepes root weevil Fire ants Fuller rose beetle Glassy-winged sharpshooter Grasshoppers Katydids Leafhoppers Leafminers ² Leafrollers Little leaf notcher Loopers ³ Orange tortrix Orangedog caterpillar Plant bugs Psyllids Thrips Whiteflies	3.8 fl oz (0.025 lb ai)	Apply when pests appear. Use sufficient volume of water to ensure thorough coverage of foliage. Minimum Spray Volume/Acre • Aerial - 10 gallons • Ground - 20 gallons

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac® CS** insecticide
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**
- **Minimum Application Interval** - 14 days
- **PHI** - 1 day

[OPTIONAL TEXT: ¹ Not for use on Citrus Fruits in California.]

² For adult control only.

³ Looper control may be variable depending on species present and host-plant relationships.

Crop	Insects Controlled	Application Rate	Application Method
At-plant Use: Corn (Field) Field Corn Grown for Seed Popcorn	Cutworm ^[1]	0.15 fl oz (0.001 lb ai) per 1000 linear feet of row	Apply as an infurrow, band, or T-band treatment using a mini- mum 4-inch band. Use table below to determine the Fastac CS application per acre.

Row Spacing (inches)	40	30	20
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Fastac CS (lb ai/acre)	0.012	0.017	0.025
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Fastac CS (formulated fl ozs/acre)	1.8	2.6	3.8
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- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**, including at planting plus foliar applications of **Fastac CS**.
- **PHI** - 30 days (grain and stover)
 60 days (forage)

[OPTIONAL TEXT: ¹ For California, not registered to control cutworms at 0.15 fl oz.]

Table 2. Crop-specific Application Instructions *(continued)*

Crop	Insects Controlled	Application Rate/Acre	Application Method
Foliar Use: Corn (Field) Field Corn Grown for Seed Popcorn	Cutworm ^[1]	1.3 to 2.8 fl ozs (0.008 to 0.018 lb ai)	Timing and frequency of applications should be determined by scouting and based upon pest populations reaching locally established economic threshold levels.
	Corn earworm ² Green cloverworm Meadow spittlebug Western bean cutworm ²	1.8 to 3.8 fl ozs ^[5] (0.012 to 0.025 lb ai)	
	Aphids ³ Bean leaf beetle Cereal leaf beetle Corn borer, European Corn borer, Southwestern Corn rootworms (adult) Flea beetles Grasshoppers Hop vine borer Hornworms Japanese beetle (adult) Sap beetle (adult) Southern corn leaf beetle Stalk borer Stink bugs Tobacco budworm ⁴ Webworms	2.7 to 3.8 fl ozs ^[5] (0.018 to 0.025 lb ai)	Use sufficient volume of water to ensure thorough coverage of foliage. Minimum Spray Volume/Acre • Aerial - 2 gallons • Ground - 10 gallons Chinch bugs: Scout corn fields and make applications when bugs migrate from small grains or wild grasses to small corn. Direct spray to base of plant. Repeat applications at 3-day to 5-day intervals if needed.
	Armyworms (including fall armyworm) Chinch bugs	3.2 to 3.8 fl ozs ^[5] (0.021 to 0.025 lb ai)	
<ul style="list-style-type: none"> • Maximum Application Rate/Acre - 3.8 fl ozs (0.025 lb ai) of Fastac CS • Maximum Seasonal Application Rate/Acre - 11.4 fl ozs (0.075 lb ai) of Fastac CS, including at planting plus foliar applications of Fastac CS. • Minimum Application Interval - 3 days • PHI - 30 days (grain and stover) 60 days (forage) <p>[OPTIONAL TEXT: ¹ For California, not registered to control cutworm at the rates 1.3 to 2.8 fl ozs.] ² For control before the larva bores into the plant stalk or ear. ³ Aphid control may be variable depending on species present and host-plant relationships. ⁴ See Resistance in Directions For Use section. [OPTIONAL TEXT: ⁵ For California, use maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of Fastac CS.]</p>			

Table 2. Crop-specific Application Instructions *(continued)*

Crop	Insects Controlled	Application Rate/Acre	Application Method
Corn, Sweet	Chinch bugs Corn rootworms (adult) Corn silk flies Cutworms Flea beetles Japanese beetle (adult) Leafhoppers Sap beetle (adult) Tarnished plant bug	2.2 to 3.8 fl ozs ^[2] (0.014 to 0.025 lb ai)	Apply at 3- to 5-day intervals or as needed for control. Use sufficient volume of water to ensure thorough coverage of foliage. Minimum Spray Volume/Acre • Aerial - 2 gallons • Ground - 20 gallons
	Aphids ¹ Armyworms Corn borers Corn earworm Grasshoppers	2.8 to 3.8 fl ozs ^[2] (0.018 to 0.025 lb ai)	
<ul style="list-style-type: none"> • Maximum Application Rate/Acre - 3.8 fl ozs (0.025 lb ai) of Fastac® CS insecticide • Maximum Seasonal Application Rate/Acre - 11.4 fl ozs (0.075 lb ai) of Fastac CS • Minimum Application Interval - 3 days • PHI - 3 days (harvest of ears or forage, or livestock grazing) <p>¹ Aphid control may be variable depending on species present and host-plant relationships. [OPTIONAL TEXT: ²For California, use maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of Fastac CS.]</p>			

Crop	Insects Controlled	Application Rate/Acre	Application Method
Preemergence Use: Cotton	Cutworms ^[1]	1.3 to 1.9 fl ozs (0.008 to 0.012 lb ai)	Use Fastac CS in the time period from 14 days before planting up to emergence of the crop. Apply as a broadcast spray by ground or air, banded (including T-band), or infurrow spray using sufficient spray volume to achieve adequate coverage. Reduced volume of water may be used with specialized equipment. Use the higher rate of Fastac CS when incorporating into the soil.
<ul style="list-style-type: none"> • Maximum Application Rate/Acre - 1.9 fl ozs (0.012 lb ai) of Fastac CS • Maximum Seasonal Application Rate/Acre - 11.4 fl ozs (0.075 lb ai) of Fastac CS, including preemergence plus foliar applications of Fastac CS. • Application Timing - 14 days before planting up to crop emergence • DO NOT graze or feed cotton for forage. <p>[OPTIONAL TEXT: ¹ For California, not registered to control cutworms in cotton.]</p>			

Table 2. Crop-specific Application Instructions *(continued)*

Crop	Insects Controlled	Application Rate/Acre	Application Method
Foliar Use: Cotton	Cutworms ^[1] Soybean (banded) thrips ^[1] Tobacco thrips ^[1]	1.3 to 1.9 fl ozs (0.008 to 0.012 lb ai)	Fastac® CS insecticide may be applied in water or refined vegetable oil.
	Armyworm, fall Armyworm, yellowstriped Boll weevil Cabbage looper Corn borer, European Cotton bollworm Cotton fleahopper Cotton leaf perforator Pink bollworm Saltmarsh caterpillar Stink bugs Tobacco budworm ²	2.6 to 3.6 fl ozs ^[6] (0.017 to 0.023 lb ai)	Minimum Spray Volume/Acre <ul style="list-style-type: none"> • Aerial - 1 gallon. A minimum of 1 quart of emulsifiable oil may be substituted for 1 quart of water. • Ground - 5 gallons. A minimum of 1 quart of emulsifiable oil may be substituted for 1 quart of water. Lepidopteran eggs: Control may be achieved with proper timing of applications.
	Aphids ³ Armyworm, beet ⁴ Plant bugs (including Tarnished plant bug) Whiteflies ⁵	2.8 to 3.8 fl ozs ^[6] (0.018 to 0.025 lb ai)	Boll weevil: Apply Fastac CS at 3-day to 4-day intervals until pest numbers are reduced to acceptable levels.
	Grasshoppers	3.0 to 3.8 fl ozs ^[6] (0.019 to 0.025 lb ai)	Grasshoppers: Applications should be made based on careful field scouting with evidence of feeding damage and presence of grasshoppers in cotton. Loss of cotyledon leaves in seedling cotton should be considered more important than leaf loss in older cotton. Applications should be made on a broadcast basis because grasshoppers are highly mobile. Adjust rates based on populations of grasshoppers found in fields. Make applications on a 3-day to 5-day schedule until grasshopper populations are under control or until foliage loss subsides. Increase application rates as grasshopper size and population density increases.

(continued)

Table 2. Crop-specific Application Instructions *(continued)*

Cotton *(continued)*

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac® CS insecticide**
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**, including preemergence plus foliar applications of **Fastac CS**.
- **Minimum Application Interval** - 3 days
- **PHI** - 14 days
- **DO NOT** graze or feed cotton for forage.

[OPTIONAL TEXT: ¹ For California, not registered to control cutworm, soybean (banded) thrips, and tobacco thrips in cotton.]

² See **Resistance** in **Directions For Use** section.

³ Aphid control may be variable depending on species present and host-plant relationships.

⁴ For control of beet armyworm only in the high plains of Texas and Arizona.

⁵ Aids in control

[OPTIONAL TEXT: ⁶ In California, use maximum application rate/acre - 3.6 fl ozs (0.023 lb ai) or 3.8 fl ozs (0.025 lb ai) of **Fastac CS**.]

Table 2. Crop-specific Application Instructions *(continued)*

Crop	Insects Controlled	Application Rate/Acre	Application Method
<p>Cucurbit Vegetables, Group 9, including:</p> <p>Includes all types and hybrids of:</p> <p>Chayote (fruit)</p> <p>Chinese waxgourd (Chinese preserving melon)</p> <p>Citron melon</p> <p>Cucumber</p> <p>Gherkin</p> <p>Pumpkin</p> <p>Watermelon</p> <p>Edible Gourd</p> <p>Chinese okra</p> <p>Cucuzza</p> <p>Hechima</p> <p>Hyotan</p> <p>Momordica spp.</p> <p>Balsam apple</p> <p>Balsam pear</p> <p>Bittermelon</p> <p>Chinese cucumber</p> <p>Muskmelon</p> <p>Cantaloupe</p> <p>Casaba</p> <p>Crenshaw melon</p> <p>Golden pershaw melon</p> <p>Honey balls</p> <p>Honeydew melon</p> <p>Mango melon</p> <p>Persian melon</p> <p>Pineapple melon</p> <p>Santa Claus melon</p> <p>Snake melon</p> <p>True cantaloupe</p> <p>Summer Squash</p> <p>Crookneck squash</p> <p>Scallop squash</p> <p>Straightneck squash</p> <p>Vegetable marrow</p> <p>Zucchini</p> <p>Winter Squash</p> <p>Acorn squash</p> <p>Butternut squash</p> <p>Calabaza</p> <p>Hubbard squash</p> <p>Spaghetti squash</p>	Cutworms	1.4 to 3.8 fl ozs ^[4] (0.009 to 0.025 lb ai)	<p>Timing and frequency of applications should be determined by scouting and based upon pest populations reaching locally established economic threshold levels.</p> <p>Use sufficient volume of water to ensure thorough coverage of foliage.</p> <p>Minimum Spray Volume/Acre</p> <ul style="list-style-type: none"> • Aerial - 2 gallons • Ground - 10 gallons
	Cabbage looper Cucumber beetles (adult) Leafhoppers Melonworm Pickleworm Rindworm Squash bug Squash vine borer	3.0 to 3.8 fl ozs ^[4] (0.019 to 0.025 lb ai)	
	Aphids ^{1,2,3} Armyworm, beet ^{1,2} Corn earworm Leafminers ² Plant bugs Stink bugs	3.2 to 3.8 fl ozs ^[4] (0.021 to 0.025 lb ai)	

(continued)

Table 2. Crop-specific Application Instructions (continued)

Cucurbit Vegetables, Group 9 (continued)

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac® CS** insecticide
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**
- **Minimum Application Interval** - 7 days
- **PHI** - 1 day

¹ See **Resistance** in **Directions For Use** section.

² Aids in control

³ Aphid control may be variable depending on species present and host-plant relationships.

[OPTIONAL TEXT: ⁴For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**.]

Crop	Insects Controlled	Application Rate/Acre	Application Method
<p>Fruiting Vegetables (except Cucurbits), Group 8-10 including:</p> <p>Eggplant Groundcherry Okra Pepino (melon pear) Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper) Tomatillo Tomato</p>	<p>Armyworm, southern Armyworm, true Armyworm, yellowstriped Celery leaf tier Colorado potato beetle Corn borer, European Corn borer, Southwestern Corn earworm Cucumber beetles Cutworms Flea beetles Garden webworm Green stink bug Hornworms Leafhoppers Leafminers (adult) Meadow spittlebug Pepper maggot (adult) Pepper weevil Plant bugs Tobacco budworm¹ Tomato fruitworm Tomato pinworm</p>	<p>2.2 to 3.8 fl ozs^[4] (0.014 to 0.025 lb ai)</p>	<p>Timing and frequency of applications should be determined by scouting and based upon pest populations reaching locally established economic threshold levels.</p> <p>Use sufficient volume of water to ensure thorough coverage of foliage.</p> <p>Minimum Spray Volume/Acre</p> <ul style="list-style-type: none"> • Aerial - 2 gallons • Ground - 10 gallons
	<p>Aphids^{1,2} Armyworm, beet¹ Armyworm, fall Brown stink bug Cabbage looper Grasshopper Lygus bug Thrips^{1,3} Tomato psyllid Whiteflies^{1,3}</p>	<p>3.2 to 3.8 fl ozs^[4] (0.021 to 0.025 lb ai)</p>	

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**
- **Minimum Application Interval** - 7 days
- **PHI** - 1 day

¹ See **Resistance** in **Directions For Use** section.

² Aphid control may be variable depending on species present and host-plant relationships.

³ Aids in control

[OPTIONAL TEXT: ⁴For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**.]

Table 2. Crop-specific Application Instructions (continued)

Crop	Insects Controlled	Application Rate/Acre	Application Method
<p>Leafy Vegetables (except <i>Brassica</i>), Group 4, including:</p> <p>Amaranth (Chinese spinach, leafy amaranth, tampala) Arugula (roquette) Cardoon Celery Celery, Chinese Celtuce Chervil Chrysanthemum (edible-leaved, garland) Cilantro (not for use on cilantro grown for seed or coriander) Corn salad Cress, garden Cress, upland (yellow rocket, winter cress) Dandelion Dock (sorrel) Endive (escarole) Fennel, Florence (finocchio) Lettuce (head, leaf) Orach Parsley Purslane (garden, winter) Radicchio (red chicory) Rhubarb Spinach (including: Indian, Malabar, New Zealand, vine) Swiss chard</p>	<p>Corn earworm Cucumber beetles Cutworms Diamondback moth Flea beetles Imported cabbageworm Leafhoppers Saltmarsh caterpillar Tobacco budworm¹ Whiteflies^{1,2}</p>	<p>2.2 to 3.8 fl ozs^[4] (0.014 to 0.025 lb ai)</p>	<p>Use sufficient volume of water to ensure thorough coverage of foliage.</p> <p>Minimum Spray Volume/Acre</p> <ul style="list-style-type: none"> • Aerial - 5 gallons • Ground - 10 gallons <p>Use higher rates to control heavy insect populations.</p>
	<p>Aphids^{1,3} Armyworms Crickets Ground beetles Loopers Lygus bug Onion thrips Stink bugs Wireworms (adult)</p>	<p>3.2 to 3.8 fl ozs^[4] (0.021 to 0.025 lb ai)</p>	<p>In areas where arid climatic conditions persist, such as Arizona, higher than minimum specified rates may be required.</p>

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac® CS insecticide**
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**
- **Minimum Application Interval** - 7 days
- **PHI** - 1 day

¹ See **Resistance** in **Directions For Use** section.

² Aids in control

³ Aphid control may be variable depending on species present and host-plant relationships.

[OPTIONAL TEXT: ⁴ For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**.]

Table 2. Crop-specific Application Instructions *(continued)*

Crop	Insects Controlled	Application Rate/Acre	Application Method
<p>At-plant application:</p> <p>Legume vegetables ^[1]: Dried shelled pea and bean (except soybean), subgroup 6c, including:</p> <ul style="list-style-type: none"> Adzuki bean Blackeyed pea Broad bean (dry) Catjang Chickpea Cowpea Crowder pea Field bean Grain lupin Guar Kidney bean Lablab bean (hyacinth bean) Lentil Lima bean (dry) Moth bean Mung bean Navy bean Pea (field, pigeon) Pinto bean Rice bean Southern pea Sweet lupin Tepary bean Urd bean White lupin White sweet lupin 	<p>Cutworms White grubs Wireworms</p>	<p>3.8 fl ozs (0.025 lb ai)</p>	<p>Cutworms: Apply at planting on the soil surface in a 5 to 7 inch band in a minimum of 2 to 7 gallons per acre or broadcast in a minimum of 10 gallons per acre.</p> <p>White grubs and wireworms: Apply in-furrow or in a 3 to 4 inch T-band (band over the open furrow) at planting in a minimum of 2 to 7 gallons per acre.</p>
<ul style="list-style-type: none"> • Maximum Application Rate/Acre - 3.8 fl ozs (0.025 lb ai) of Fastac[®] CS insecticide • Maximum Seasonal Application Rate/Acre - 11.4 fl ozs (0.075 lb ai) of Fastac CS • Minimum Application Interval - 5 days • PHI - 21 days (dried shelled peas or beans) <p>[OPTIONAL TEXT: ¹ Not for at-plant application on dried shelled peas and beans in California.]</p>			

Table 2. Crop-specific Application Instructions *(continued)*

Crop	Insects Controlled	Application Rate/Acre	Application Method
<p>Legume Vegetables:</p> <p>Edible-pod pea and bean, subgroup 6a, Succulent pea and bean, subgroup 6b, and dried shelled pea and bean (except soybean), subgroup 6c, including:</p> <p>Adzuki bean Asparagus bean Blackeyed pea Broad bean (fava bean) Catjang Chickpea (garbanzo bean) Chinese longbean Cowpea Crowder pea Dwarf pea Edible-pod pea English pea Field bean Field pea Garden pea Grain lupin Green pea Guar Jackbean Kidney bean Lablab bean Lentil Lima bean Moth bean Mung bean Navy bean Pigeon pea Pinto bean Rice bean Runner bean Snap bean Snow pea Southern pea Soybean (immature seed) Sugar snap pea Sweet lupin Swordbean Tepary bean Urd bean Wax bean White lupin White sweet lupin Yardlong bean</p>	<p>Cutworms Saltmarsh caterpillar Silverspotted skipper Thistle caterpillar (painted lady)</p>	<p>1.3 to 3.8 fl ozs^[4] (0.008 to 0.025 lb ai)</p>	<p>Timing and frequency of applications should be determined by scouting and based upon pest populations reaching locally established economic threshold levels.</p>
	<p>Alfalfa caterpillar Armyworm, southern Armyworm, true Armyworm, yellowstriped Bean leaf beetle Blister beetles Colorado potato beetle Corn borer, European Corn borer, Southwestern Corn earworm Corn rootworms (adult) Cowpea curculio Cucumber beetles Flea beetle Green cloverworm Ground beetles Imported cabbageworm Japanese beetle Leafhoppers Leafminers (adult) Leaf skeletonizers Mexican bean beetle Pea leaf weevil Pea weevil Plant bugs Potato leafhopper Seedcorn beetle Seedcorn maggot (adult) Spittlebug Threecornered alfalfa hopper Tobacco budworm¹ Velvetbean caterpillar Webworms Woollybear caterpillar</p>	<p>2.7 to 3.8 fl ozs^[4] (0.018 to 0.025 lb ai)</p>	<p>Use sufficient volume of water to ensure thorough coverage of foliage.</p> <p>Minimum Spray Volume/Acre</p> <ul style="list-style-type: none"> • Aerial - 2 gallons • Ground - 10 gallons
	<p>Aphids^{1,2} Armyworm, beet¹ Armyworm, fall Grasshoppers Lesser cornstalk borer³ Loopers¹ Stink bugs Thrips^{1,3} Whiteflies^{1,3}</p>	<p>3.2 to 3.8 fl ozs^[4] (0.021 to 0.025 lb ai)</p>	

(continued)

Table 2. Crop-specific Application Instructions *(continued)*

Legume Vegetables: Edible-pod pea and bean, subgroup 6a, Succulent pea and bean, subgroup 6b, and dried shelled pea and bean (except soybean), subgroup 6c *(continued)*

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac[®] CS** insecticide
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**
- **Minimum Application Interval** - 5 days
- **PHI** - 1 day (succulent shelled or edible-pod peas or beans)
21 days (dried shelled peas or beans)

¹ See **Resistance** in **Directions For Use** section.

² Aphid control may be variable depending on species present and host-plant relationships.

³ Aids in control

[OPTIONAL TEXT: ⁴ For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**.]

Table 2. Crop-specific Application Instructions (continued)

Crop	Insects Controlled	Application Rate/Acre	Application Method
Root and Tuber Vegetables (except sugar beet*), Group 1, including: Arracacha Arrowroot Artichoke (Chinese and Jerusalem) Black salsify Carrot Cassava (bitter and sweet) Celeriac (celery root) Chayote (root) Chicory Chufa Dasheen (taro) Edible burdock Edible canna Garden beet Ginger Ginseng Horseradish Leren Oriental radish (daikon) Parsnip Potato Radish Rutabaga Salsify (oyster plant) Skirret Spanish salsify Sweet potato Tanier (cocoyam) Turmeric Turnip Turnip-rooted chervil Turnip-rooted parsley Yam bean Yam (true)	Cutworms	1.3 to 3.8 fl ozs ^[5] (0.008 to 0.025 lb ai)	Timing and frequency of applications should be determined by scouting and based upon pest populations reaching locally established economic threshold levels. Use sufficient volume of water to ensure thorough coverage of foliage. Minimum Spray Volume/Acre • Aerial - 2 gallons • Ground - 10 gallons
	Cabbage looper Cucumber beetles European corn borer Flea beetles Leafhoppers Southern corn rootworm (adult) Vegetable weevil Whitefringed beetle (adult)	1.8 to 3.8 fl ozs ^[5] (0.012 to 0.025 lb ai)	
	Aphids ^{1,2,3} Armyworm, beet ^{1,2} Armyworm, yellowstriped Cabbage maggot ^[4] Colorado potato beetle ¹ Grasshoppers Imported cabbageworm Potato leafhopper Tarnished plant bug	3.2 to 3.8 fl ozs ^[5] (0.021 to 0.025 lb ai)	

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac® CS insecticide**
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**
- **Minimum Application Interval** - 4 days
- **PHI** - 1 day
- **DO NOT** use leaves of root and tuber vegetables for food or feed.

* For Sugar Beet, see separate crop-specific application instructions table.

¹ See **Resistance** in **Directions For Use** section.

² Aids in control

³ Aphid control may be variable depending on species present and host-plant relationships.

[OPTIONAL TEXT: ⁴ For California, not registered to control cabbage maggot.]

[OPTIONAL TEXT: ⁵ For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**.]

Table 2. Crop-specific Application Instructions (continued)

Crop	Insects Controlled	Application Rate/Acre	Application Method
Sorghum (Grain) and Millet	Cutworms Sorghum midge	1.3 to 3.8 fl ozs ^[5] (0.008 to 0.025 lb ai)	<p>Timing and frequency of applications should be determined by scouting and based upon pest populations reaching locally established economic threshold levels.</p> <p>Use sufficient volume of water to ensure thorough coverage of foliage.</p> <p>Minimum Spray Volume/Acre</p> <ul style="list-style-type: none"> • Aerial - 2 gallons. Addition of 1 quart to 2 quarts of emulsifiable oil/acre to the spray solution may improve spray deposition and insect control. • Ground - 10 gallons. Addition of 1 quart to 2 quarts of emulsifiable oil/acre to the spray solution may improve spray deposition and insect control. <p>Sorghum midge: Begin applications when 25% of sorghum heads have emerged and are in tip bloom. Repeat applications at 10-day intervals if needed.</p> <p>Chinch bugs: Begin applications when bugs migrate from small grains or grass weeds to small sorghum. Direct spray to the base of plants with sufficient spray volume to penetrate the soil/stem interface, leaf collars, and sheaths.</p>
	Armyworm, fall Armyworm, southern Armyworm, true Armyworm, yellowstriped Corn borer, European ¹ Corn borer, Southwestern ¹ Corn earworm Flea beetles Hornworm Stink bugs Webworms	1.8 to 3.8 fl ozs ^[5] (0.012 to 0.025 lb ai)	
	Aphids ^{2,3} Armyworm, beet ³ Chinch bugs False chinch bug Grasshoppers Lesser cornstalk borer ¹ Thrips ^{3,4} Whiteflies ^{3,4}	3.2 to 3.8 fl ozs ^[5] (0.021 to 0.025 lb ai)	
<ul style="list-style-type: none"> • Maximum Application Rate/Acre - 3.8 fl ozs (0.025 lb ai) of Fastac® CS insecticide • Maximum Seasonal Application Rate/Acre - 11.4 fl ozs (0.075 lb ai) of Fastac CS • Minimum Application Interval - 10 days • PHI - 14 days (grain and stover) 45 days (forage) <p>¹ For control before the larva bores into the plant stalk. ² Aphid control may be variable depending on species present and host-plant relationships. ³ See Resistance in Directions For Use section. ⁴ Aids in control [OPTIONAL TEXT: ⁵ For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of Fastac CS.]</p>			

Table 2. Crop-specific Application Instructions (continued)

Crop	Insects Controlled	Application Rate/Acre	Application Method
Soybeans	Cutworms Painted lady (thistle) caterpillar Saltmarsh caterpillar Silverspotted skipper	1.3 to 3.8 fl ozs ^[5] (0.008 to 0.025 lb ai)	Timing and frequency of applications should be determined by scouting and based upon pest populations reaching locally established economic threshold levels.
	Alfalfa caterpillar Armyworm, southern Armyworm, true Armyworm, yellowstriped Bean leaf beetle ¹ Blister beetles Colorado potato beetle Corn borer, European Corn earworm Corn rootworms (adult) Cowpea curculio Cucumber beetles Flea beetle Green cloverworm Hornworms Imported cabbageworm Japanese beetle Leaf skeletonizers Leafhoppers Leafminers (adult) Mexican bean beetle Pea leaf weevil Plant bugs Potato leafhopper Seedcorn maggot (adult) Soybean aphid Spittlebugs Three-cornered alfalfa hopper Tobacco budworm ² Velvetbean caterpillar Webworms Woollybear caterpillar	2.8 to 3.8 fl ozs ^[5] (0.018 to 0.025 lb ai)	Use sufficient volume of water to ensure thorough coverage of plant and foliage. Minimum Spray Volume/Acre • Aerial - 2 gallons. Addition of 1 quart to 2 quarts of emulsifiable oil/acre to the spray solution may improve spray deposition and insect control. • Ground - 10 gallons. Addition of 1 quart to 2 quarts of emulsifiable oil/acre to the spray solution may improve spray deposition and insect control.
	Armyworm, beet Armyworm, fall Grasshoppers Kudzu bug ^[3] Lesser cornstalk borer ⁴ Loopers ² Stink bugs Thrips ^{2,4} Whiteflies ^{2,4}	3.2 to 3.8 fl ozs ^[5] (0.021 to 0.025 lb ai)	

(continued)

Table 2. Crop-specific Application Instructions *(continued)*

Soybeans *(continued)*

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac® CS insecticide**
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**
- **Minimum Application Interval** - 7 days
- **PHI** - 21 days
- **DO NOT** graze or harvest treated soybean forage, straw, or hay for livestock feed.

¹ Use higher specified dosage for increased pest pressure, increased residual pest control, or later-season applications.

² See **Resistance** in **Directions For Use** section.

[OPTIONAL TEXT: ³For California, not registered to control Kudzu bug.]

⁴Aids in control

[OPTIONAL TEXT: ⁵For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**.]

Crop	Insects Controlled	Application Rate/Acre	Application Method
At-plant Use: Sugar Beet ^[2]	Cutworms	3.8 fl ozs (0.025 lb ai)	Apply at planting on the soil surface in a 5 to 7 inch band or broadcast in a minimum of 3 to 5 gallons/acre.
	White grubs Wireworms	3.8 fl ozs (0.025 lb ai)	Apply in-furrow or in a 3 to 4 inch T-band (band over the open furrow) at planting in a minimum of 3 to 5 gallons/acre.
	Sugar beet root maggot (larva) ¹	3.8 fl ozs (0.025 lb ai)	For light to moderate infestations only. Apply in a 3 to 4 inch T-band at planting in a minimum of 3 to 5 gallons/acre.

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**, including at planting plus foliar applications of **Fastac CS**.
- **PHI** - 50 days

¹ Suppression only

[OPTIONAL TEXT: ²Not for at-plant application on Sugar Beet in California.]

Table 2. Crop-specific Application Instructions (continued)

Crop	Insects Controlled	Application Rate/Acre	Application Method
Foliar Use: Sugar Beet	Aphids ¹ Armyworms Cutworms Flea beetles Grasshoppers <i>Heliothis</i> spp. Leafminers (adult) Loopers Sugar beet root maggot (adult)	2.2 to 3.8 fl ozs ^[2] (0.014 to 0.025 lb ai)	Timing and frequency of applications should be determined by scouting and based upon pest populations reaching locally established economic threshold levels. Use sufficient volume of water to ensure thorough coverage of foliage. Minimum Spray Volume/Acre • Aerial - 2 gallons • Ground - 10 gallons
<ul style="list-style-type: none"> • Maximum Application Rate/Acre - 3.8 fl ozs (0.025 lb ai) of Fastac[®] CS insecticide • Maximum Seasonal Application Rate/Acre - 11.4 fl ozs (0.075 lb ai) of Fastac CS, including at planting plus foliar applications of Fastac CS. • Minimum Application Interval - 4 days • PHI - 50 days • DO NOT graze or harvest sugar beet tops for livestock feed. <p>¹ Aphid control may vary depending on species present and host-plant relationships. [OPTIONAL TEXT: ² For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of Fastac CS.]</p>			

Crop	Insects Controlled	Application Rate/Acre	Application Method
Tree Nuts, Group 14-12 including: Almond Beech nut Brazil nut Butternut Cashew Chestnut Chinquapin Filbert (hazelnut) Hickory nut Macadamia nut Pecan Pistachio Walnut (black, English)	Black pecan aphid Codling moth Filbertworm Hickory shuckworm Leaffooted bugs Navel orangeworm Obliquebanded leafroller Peach twig borer Pecan leaf casebearer Pecan nut casebearer Pecan phylloxera Pecan weevil Plant bugs Stink bugs Walnut aphid Walnut husk fly Yellow pecan aphid	3.2 to 3.8 fl ozs ^[1] (0.021 to 0.025 lb ai)	Timing and frequency of applications should be determined by scouting and based upon pest populations reaching locally established economic threshold levels. Use sufficient volume of water to ensure thorough coverage of foliage. Minimum Spray Volume/Acre • Aerial - 2 gallons • Ground - 10 gallons
<ul style="list-style-type: none"> • Maximum Application Rate/Acre - 3.8 fl ozs (0.025 lb ai) of Fastac CS • Maximum Seasonal Application Rate/Acre - 11.4 fl ozs (0.075 lb ai) of Fastac CS • Minimum Application Interval - 7 days • PHI - 7 days <p>[OPTIONAL TEXT: ¹ For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of Fastac CS.]</p>			

Table 2. Crop-specific Application Instructions (continued)

Crop	Insects Controlled	Application Rate/Acre	Application Method
Wheat and Triticale	Cutworms (including army cutworm) Painted lady (thistle) caterpillar	1.3 to 3.8 fl ozs ^[5] (0.008 to 0.025 lb ai)	Timing and frequency of applications should be determined by scouting and based upon pest populations reaching locally established economic threshold levels. Use sufficient water to ensure thorough coverage of foliage. Minimum Spray Volume/Acre • Aerial - 2 gallons • Ground - 10 gallons Chinch bugs: Begin applications when bugs migrate from small grains or grass weeds. Apply sufficient spray volume to penetrate the soil/stem interface, leaf collars, and sheaths.
	Armyworm, southern Armyworm, true Armyworm, yellowstriped Cereal leaf beetle Flea beetles Pale western cutworm Plant bugs Spittlebug Webworms	1.8 to 3.8 fl ozs ^[5] (0.012 to 0.025 lb ai)	
	Aphids ^{1,2} Armyworm, beet ² Armyworm, fall Chinch bugs Grass sawfly Grasshoppers Greenbug ^{2,3} Leafhoppers ^[4] Stink bugs Thrips ^{2,3} Wheat stem sawfly (adult) ³ Whiteflies ^{2,3}	3.2 to 3.8 fl ozs ^[5] (0.021 to 0.025 lb ai)	

- **Maximum Application Rate/Acre** - 3.8 fl ozs (0.025 lb ai) of **Fastac® CS insecticide**
- **Maximum Seasonal Application Rate/Acre** - 11.4 fl ozs (0.075 lb ai) of **Fastac CS**
- **Minimum Application Interval** - 14 days
- **PHI** - 14 days (grain, forage, and hay)

¹ Aphid control may be variable depending on species present and host-plant relationships.

² See **Resistance** in **Directions For Use** section.

³ Aids in control

[OPTIONAL TEXT: ⁴ For California, not registered to control Leafhopper spp. in wheat and triticale.]

[OPTIONAL TEXT: ⁵ For California, use the maximum application rate/acre - 3.8 fl ozs (0.025 lb ai) of **Fastac CS**.]

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The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

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007969-00364.20181002.**NVA 2018-04-357-0085**
Supersedes: NVA 2017-04-357-0082

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