

# Deliver<sup>®</sup>

BIOLOGICAL INSECTICIDE

For Control of Listed Insect Pests on Listed Fruits, Nuts, Vegetables, Cotton, and Soybeans

 FOR ORGANIC PRODUCTION



**Active Ingredient:**

*Bacillus thuringiensis* subspecies *kurstaki* strain SA-12 solids, spores, and Lepidopteran active toxins\* 85.0%

**Other Ingredients:** 15.0%

**Total** 100.0%

\*The percentage active ingredient does not indicate product performance and potency measurements are not federally standardized.

**Net Weight:**

Made in the USA  
EPA REG. NO.: 70051-69  
EPA EST. NO.: 70051-CA-001

Lot Number:

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

Refer to attached booklet for additional Precautionary Statements, First Aid Statements, Directions for Use and Storage and Disposal Statements.

**FIRST AID**

**If in eyes:**

- Hold eyes open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

**If on skin or clothing:**

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

**If inhaled:**

- 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.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Hot Line Number: 1-800-255-3924.

Manufactured by  
Certis USA, L.L.C.  
9145 Guilford Road  
Suite 175  
Columbia, MD 21046  
800-250-5024



**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)**

**CAUTION**

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

**Personal Protective Equipment (PPE):**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- 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.

All mixer/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95 or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

**Engineering controls statements:**

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 [40CFR 170.250 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing 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**

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

This product must not be applied aerially within 1/4 mile of any habitats of endangered or threatened Lepidoptera. No manual application can be made within 300 ft. of any threatened or endangered Lepidoptera.

**DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

## 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 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.

Do not allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to 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 is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

## DELIVER® BIOLOGICAL INSECTICIDE

This labeling must be in the possession of the user at the time of the pesticide application.

**Use Restrictions:** Do not apply this product through any type of irrigation system.

## GENERAL INSTRUCTIONS AND INFORMATION

DELIVER® is a biological insecticide specific for the control of lepidopterous larvae (see Application Rates section).

DELIVER® may be applied up to and on the day of harvest.

For most consistent control, apply at first sign of newly hatched larvae (1st and 2nd instar larvae). Instructions for specific crops are located in ADDITIONAL INSTRUCTION sections under APPLICATION RATES.

Reapply as necessary under a pest management program that includes close scouting.

For heavy larvae infestations, use the higher DELIVER® rate. During situations of dense foliage and/or rapid growth, shorter application intervals and increased water carrier volumes will provide better crop coverage and improve DELIVER® performance.

If rapid knockdown of heavy larvae or non-lepidopterous populations is necessary, include an effective contact insecticide in combination with DELIVER®.

### Spray Drift

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

### Tank Mixing

Use tank mixes only in states where the tank mix product and application site are registered.

Read and follow all label directions for use for other pesticides used as tank mix partners with DELIVER® for specific application rates, application timing, and precautions.

Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

Fill spray or mixing tank 3/4 full. Turn on agitation and pour DELIVER® into water while maintaining continuous agitation. Add other spray material (if any) and add balance of water. Agitate as necessary to maintain suspen-

sion. It is recommended that diluted sprays not remain in the tank for more than 48 hours. DELIVER® is formulated to provide desirable coverage and adherence to leaf surfaces. Additional adjuvants, spreaders, or stickers may be added to improve product performance, especially under heavy dew or rainy conditions. Combinations with commonly used insecticides, fungicides, or other spray tank adjuvants are generally not deleterious to DELIVER® if the mix is used promptly. Before mixing in the spray tank, test physical compatibility by mixing all components in a small container in proportionate quantities.

## APPLICATION VOLUMES

DELIVER® can be applied by ground or air in water sufficient to insure thorough and even coverage. Thorough and uniform crop coverage is required for adequate insect control. Applications at higher water volumes have demonstrated improved control of targeted pests. Early morning or evening applications, when air is calm, are generally best for aerial applications.

## DELIVER® WILL CONTROL THE FOLLOWING INSECTS WHEN USED AS DIRECTED

Alfalfa caterpillar	European grapevine moth*	Orange tortrix
Almond moth	Fall cankerworm	Oriental fruit moth
Armyworm	Fall webworm	Peach twig borer
Artichoke plume moth	Filbert webworm	Pecan nut casebearer
Bagworm	Fruit tree leafroller	Redbanded leafroller
Banana skipper	Grape leafroller	Redhumped caterpillar
Banana moth	Grapeleaf skeletonizer	Rindworm complex
Beet armyworm	Green cloverworm	Roughskinned cutworm
Blueberry leafrollers	Green fruitworm	Saltmarsh caterpillar
Blueberry spanworm	Gypsy moth	Sod webworm
Bollworm	<i>Helicoverpa spp.</i>	Southwestern corn borer
California oak moth	<i>Heliothis spp.</i>	Spotted cutworm
Cherry fruitworm	Hornworms	Spring cankerworm
Citrus cutworm	Imported cabbageworm	Spruce budworm
Codling moth	Jack pine budworm	Tent caterpillar
Corn Earworm	Light brown apple moth	Tobacco budworm
Cotton leafworm	Loopers	Tobacco hornworm
Cotton leaferforator	Mimosa webworm	Tomato fruitworm
Cutworm	Naval orangeworm	Tomato pinworm
Diamondback moth	Obliquebanded leafroller	Tropical sod webworm
Douglas-fir tussock moth	Ominverous leafroller	Tufted apple bud moth
Elm spanworm	Omniverous leaftier	Variiegated leafroller
European corn borer	Orangedog	Velvetbean caterpillar
		Western tussock moth

\*Apply at blackhead egg stage or when larvae are newly hatched before leaves are rolled or larvae have entered fruit.

## RATE SELECTION CONSIDERATIONS

Application rates are typically given as a range:

Use **Lower rate ranges** when tank mixing with contact insecticides labeled for larvae control or under conditions of light larvae infestations or when uniformly small larvae are present.

Use **Medium rate ranges** when multiple larval life stages are present, continuous egg hatches are occurring or young or light armyworm infestations exist.

Use **Upper rate ranges** for heavy larvae infestations, mature (larger) larvae or for moderate to heavy infestations of armyworm, bollworm or other difficult to control larvae species.

Use application rate amount of DELIVER® in water sufficient to insure thorough coverage depending on type of crop, application equipment and requirements of state regulations. Low volume applications may be used, but proper application equipment must be used to insure adequate coverage. Thorough and uniform crop coverage is required for adequate insect control.

## APPLICATION RATES

CROPS	DELIVER® LBS./ACRE
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### FRUIT, NUT AND VINE CROPS

#### Apples and Pears

0.5-2.00

#### ADDITIONAL INSTRUCTIONS:

Apply when newly hatched larvae appear and before leaves are rolled. Continue applying as a part of the normal cover spray program until pest is adequately controlled. Apply when caterpillars are actively feeding (2nd – 4th instars).

#### Avocados, Papaya, Guava, Lychee, Sugar Apple

0.25-2.00

#### ADDITIONAL INSTRUCTIONS:

Apply as necessary to maintain control. Begin treatment as soon as possible after hatching and before larvae are protected by leaf folds. (*Amorbia [Mexican leafroller]* is suppressed only.)

#### Bananas

0.25-2.00

#### ADDITIONAL INSTRUCTIONS:

Hawaii only. Use calibrated ground equipment with adequate water to apply to point of runoff.

#### Citrus

0.5-1.50

#### ADDITIONAL INSTRUCTIONS:

Use 50-600 gallons of water per acre when using ground equipment and 10 gallons of water minimum per acre by air. (*Amorbia [Mexican leafroller]* is suppressed only.)

#### Blueberries, Caneberries, Currants, Kiwi

0.25-2.00

#### ADDITIONAL INSTRUCTIONS:

Apply by ground equipment only. Begin treatment as soon as possible after hatching. For leafrollers, apply before larvae are protected by leaf folds.

#### Grapes

0.5-2.00

#### ADDITIONAL INSTRUCTIONS:

Start treating as soon as possible after hatching and before larvae are protected by leaf folds.

#### Almonds, Apricots, Cherries, Filberts, Nectarines, Peaches, Pecans, Persimmons, Pistachios, Plums, Pomegranate, Pome Fruit, Pluots, Prunes, Walnuts

0.25-2.00

#### ADDITIONAL INSTRUCTIONS:

For leafrollers, start treating as soon as possible after hatching and before larvae are protected by leaf folds. Apply when caterpillars are actively feeding (2nd to 4th instar).

Application timing is very important for good pecan nut casebearer suppression. Consult your local university or extension agent for information concerning specific modeling that predicts egg lay, typical application dates, and scouting techniques for your area. DELIVER® must be present at egg hatch for best control. Make application when the majority of eggs are in the pink stage. Make two applications 7 days apart. If only one application is made, a minimum of 0.5 lb. should be applied.

#### Coffee

0.25-2.00

#### ADDITIONAL INSTRUCTIONS:

Apply as necessary to maintain control.

#### Olives

0.25-2.00

#### ADDITIONAL INSTRUCTIONS:

Apply as necessary to maintain control.

#### Cotton

#### Except Arizona and California

#### ADDITIONAL INSTRUCTIONS:

#### *Helicoverpa zea* and *Heliothis virescens*

#### Early Season

0.25-1.50

Begin applications when at least 50% of plants are at pinhead square stage and *Helicoverpa zea* or *Heliothis virescens* are present at damaging levels. If *Helicoverpa zea* is the predominant species or if larvae populations are high, use a higher rate or tank mix with a labeled ovicide (see below).

#### Mid-Season

0.25-1.50

Repeat as necessary throughout season to maintain control. Time application at peak egg hatch or 1st instar larvae. If egg laying is heavy and constant over a three-to-five day period, time application when eggs laid on the first day have developed into 2nd instar larvae. During periods of high temperature, larvae will progress through 1st and 3rd instars very rapidly and early application timing is necessary for control. Continue applications as needed based on field scouting up to pyrethroid spray window.

DELIVER® spray must be deposited at the larval feeding site. When plant cover is dense and larvae are feeding in the lower 2/3 portion of the plant, aerial application of DELIVER® may not provide adequate control.

For added control of *Helicoverpa zea* and *Heliothis virescens*, tank mix DELIVER® with a labeled ovicide, such as amitraz (0.125-0.25 lb a.i./acre), methomyl (0.125 lb a.i./acre), profenofos (0.25 lb a.i./acre), or thiodicarb (0.125 lb a.i./acre). For added control of pyrethroid resistant *Heliothis virescens*, include DELIVER® as a tank mix partner with pyrethroid applications.

#### *Spodoptera exigua*

0.5-1.50

Apply when *Spodoptera exigua* population densities are damaging. Time application when the majority of the larvae population is in the egg-hatch to 3rd instar stage. If populations are dense, use higher rate.

DELIVER® spray must be deposited at the larval feeding site. When the plant canopy is dense, for best control tank mix DELIVER® with a labeled larvicide, such as chlorpyrifos (0.25-1.0 lb a.i./acre), methomyl (0.33-0.75 lb a.i./acre), profenofos (0.5-1.0 lb a.i./acre), or thiodicarb (0.6-0.9 lb a.i./acre).

### VEGETABLE CROPS

#### Artichokes

0.5-1.50

#### ADDITIONAL INSTRUCTIONS:

For ground applications, apply in a minimum of 100 gal. of water per acre with a spray interval of 10 days or less.

To aid in resistance management of the artichoke plume moth, apply 0.5 lb/A in combination with a pyrethroid by ground or air. Use and follow all label directions of the tank mix partner regarding application, timing, gallonage, and schedules.

#### Asparagus, Beans (Green, Lima, Mung), Broccoli, Broccoli Raab (Rapini), Brussels Sprouts, Cabbage, Cardoon, Carrots, Cauliflower, Celeriac, Celery, Chick Peas, Chinese Broccoli, Chinese Cabbage, Collards, Cucumbers, Dry Bulb Onions, Eggplants, Garlic, Green Onions, Greens (Dandelion, Turnip, Mustard, Beet, China), Herbs (Basil, Cilantro, Dill, Oregano, Thyme), Horseradish, Kale, Kohlrabi, Leeks, Lettuce (Endive, Romaine, Head Lettuce, Escarole, Butter Crunch, Leaf, etc.), Melons (Cantaloupe, Crenshaw, Honeydew, Muskmelon, Watermelon), Okra, Onions, Parsley, Parsnips, Peas, Peppers, Potatoes, Pumpkins, Radishes, Rutabaga, Salsify, Spinach, Squash (Summer and Winter), Sweet Corn, Sweet Potatoes, Swiss Chard, Table Beets, Tomatoes, Turnip Root, Watercress, Yams

0.25-1.50

#### ADDITIONAL INSTRUCTIONS:

Apply as necessary to maintain control.

### FIELD CROPS

#### Alfalfa (Hay and Seed), Sudan Grass, Hay Crops

0.25-1.50

#### ADDITIONAL INSTRUCTIONS:

Under conditions of rapid plant growth and rapidly increasing armyworm populations (10 larvae or greater per 180° sweep) use the highest rate. Use a contact insecticide in combination with DELIVER® if 4th and 5th instars of multiple larval species are present in the crop and continuous egg laying is occurring. The addition of a spreader sticker to DELIVER® may provide improved performance.

#### Canola and Evening Primrose

0.25-1.50

#### ADDITIONAL INSTRUCTIONS:

Apply as necessary to maintain control.

#### Dry Beans and Peas, Lentils, Mint, Peanuts, Rice, Safflower, Soybeans, Sugar Beets, Sunflower, Sorghum

0.25-2.00

#### ADDITIONAL INSTRUCTIONS:

Apply as necessary to maintain control.

#### Field Corn, Pop Corn, Seed Corn

0.5-1.50

#### ADDITIONAL INSTRUCTIONS:

Make initial application when economically damaging population exist. Repeat as necessary to maintain control. Applications must be made to early instars prior to entering the ear or plant.

#### Hops

0.5-1.50

#### ADDITIONAL INSTRUCTIONS:

Begin treatment as soon as possible after hatching and before larvae are protected by leaf folds.

**APPLICATION RATES (continued)**

<b>CROPS</b>	<b>DELIVER® LBS./ACRE</b>
<b>Jojoba</b> ADDITIONAL INSTRUCTIONS: Apply in a minimum of 50 gallons of water per acre by ground equipment or a minimum of 10 gallons of water by aerial equipment. Thorough coverage of foliage is essential and dictates the minimum spray volumes necessary.	0.5-1.50
<b>Small Grains Wheat, Oats, Barley, Rye</b> ADDITIONAL INSTRUCTIONS: Apply as necessary to maintain control.	0.5-1.50
<b>Tobacco</b> ADDITIONAL INSTRUCTIONS: Apply as necessary to maintain control.	0.25-1.50
<b>Melons</b> (Also see vegetables) ADDITIONAL INSTRUCTIONS: Apply at first sign of hatch before larvae enter fruit. Repeat as necessary to maintain control.	0.25-1.50
<b>Strawberries</b> ADDITIONAL INSTRUCTIONS: Apply as necessary to maintain control. In a tank mix with contact insecticides, use a minimum of 1/2 lb. of DELIVER® for the control of armyworm.	0.25-1.50
<b>SHADE TREES and ORNAMENTALS (INCLUDING ROSES)</b> ADDITIONAL INSTRUCTIONS: Apply when leaf expansion reaches 40% to 50% as infestation warrants. If eggs hatch over a long period of time, or if reinfestation occurs, spray about 14 days after first application. Apply when most larvae are 3rd – 4th instar. Also consider the opening of the bud cap to ensure foliage exposure. Apply after eggs have hatched and early instar larvae are feeding on exposed foliage.	0.25-1.50
<b>TURF AND GRASS SEED PRODUCTION</b> ADDITIONAL INSTRUCTIONS: Repeat as necessary throughout season to maintain control.	0.50-1.50
<b>FLOWERS AND ORNAMENTALS</b> DELIVER® may also be used on flowers and ornamentals outdoors and in the greenhouse at a rate of 0.25- 1.50 lb. per 100 gallons of water for control of listed insects on this label.	

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage and disposal.

**Pesticide Storage:** Store in original container in a cool, dry place inaccessible to children and pets and away from heat and direct sunlight. Protect from freezing. Storage at temperatures above 90°F may impair effectiveness.

**Pesticide Disposal:** Pesticide, spray mixture, or rinse water that cannot be used according to label instruction must be disposed of according to Federal, State, or Local procedures.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**NOTICE:** Read “Warranty” on the container before buying or using. If terms are not acceptable, return at once unopened.

**WARRANTY**

CERTIS USA, L.L.C. warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purposes referred to in the directions for use. Timing and method of application, weather, watering practices, nature of soil, condition of the crop, incompatibility with other chemicals not specifically recommended, and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risks of use, storage or handling of this material not in strict accordance with directions given herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS OR IMPLIED WARRANTY OF THE FITNESS OR MERCHANTABILITY IS MADE.

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