

# Crymax<sup>®</sup>

## BIOINSECTICIDE

CRYMAX<sup>®</sup> WDG water dispersible granule bioinsecticide is a biological insecticide for the control of lepidopteran pests.

### Active Ingredient:

*Bacillus thuringiensis* subspecies *kurstaki* strain EG7841 solids,  
spores and Lepidopteran active toxins\* .....40.0%

**Other Ingredients:** .....60.0%

**Total** .....100.0%

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

### Net Contents:

**5 U.S. Pound Bag**

EPA Reg. No. 70051-86

EPA Est. No. 62171-MS-001

Lot No.:

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



**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

### 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 further treatment advice.

Hot Line Number: 1-800-255-3924

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

#### Personal Protective Equipment (PPE):

Applicators and other handlers must wear:

- Long sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves
- Mixers/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.

Follow the 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.

### User Safety Recommendations

Users should:

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

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. 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.

### 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 intervals. The requirements in this section 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 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, protective eyewear, shoes plus socks.

**Preharvest Interval:** CRYMAX may be applied to the crops listed in the APPLICATION RATE TABLE at any time, up to and on the day of harvest.

**Mode of Action:** After consuming a lethal dose of CRYMAX, larvae will cease to feed, but may remain alive on foliage for several days before disappearing. Immediately after ingestion of Crymax larvae begin to move slowly, become discolored, shrivel and blacken prior to death.

**MIXING INSTRUCTIONS**

CRYMAX may be applied with conventional ground, aerial or hand held application equipment with quantities of water sufficient to provide thorough coverage of infested plants. Do not apply this product through any type of irrigation system. To obtain a suitable mixture with water, add enough water to allow maximum agitation. With agitator running, slowly add in the CRYMAX. Continue agitation. Add remainder of water and other spray materials and agitate until mixed. Maintain suspension while loading and spraying. Do not mix more CRYMAX than can be used in a 24-hour period. Rinse and flush spray equipment thoroughly following each use. Do not contaminate water when disposing of equipment washwaters.

In order to make proper decisions on application rates to be used, follow the recommendations in the APPLICATION RATE TABLE.

**APPLICATION INSTRUCTIONS**

**Aerial Application**

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.

CRYMAX is a biological insecticide for use against the lepidopteran larvae listed in the APPLICATION RATE TABLE. Larvae must consume deposits of CRYMAX to be affected. Always follow these directions:

- Make applications when larvae are still small (early instars <1/2" in length) and actively feeding on foliage or other plant parts.
- Make applications before noticeable foliar damage occurs.
- Thorough spray coverage is essential for good insect control.
- For ground applications, directed drop nozzles should be used for certain vegetable crops. For orchard applications, a spray volume of 100 gallons per acre and treatment of each orchard row is recommended.
- Do not use screens smaller than 50 mesh.
- For ground applications, use a minimum spray volume of 20 gallons per acre. For aerial applications, use a spray volume of at least 5 gallons per acre. (See cotton and soybeans for special instructions.)
- When insect infestations are heavy, use the higher label rates, shorten the spray interval, and/or use larger total spray volume to improve spray coverage.
- Applications should be repeated at an interval sufficient to maintain control, depending upon plant growth, insect pressure and weather conditions after spraying.
- Local conditions may affect the use of CRYMAX. Consult your State Agricultural Extension Specialist for specific recommendations related to local crop protection problems.
- Spray water/spray tank solutions should not exceed pH 8.0. If necessary, buffer water to near neutral pH.

**HAND HELD EQUIPMENT**

When using hand held equipment, mix 2 teaspoons per gallon of water or 1-1/2 pounds per 100 gallons of spray solution. Spray to wet, but not to runoff.

**TANK MIX**

CRYMAX may be tank mixed with contact pesticides. Combinations of CRYMAX with commonly used insecticides, fungicides, or other spray tank adjuvants are generally not deleterious to performance. It is advisable to test physical compatibility by mixing all components in a small container in proportionate quantities prior to mixing in spray tank. This product cannot be mixed with any product containing a label prohibition against such mixing. No label dosage rate should be exceeded. Application must be made in accordance with the more restrictive of label limitation and precautions.

For improved durability of spray deposits, a spreader/sticker approved for use on growing crops may be used for hard-to-wet crops such as cole crops.

**APPLICATION RATE TABLE**

**I. VEGETABLE AND COLE CROPS**

Crop such as:	Insect Pest
Artichokes	Alfalfa looper
Arugala	Armyworm*
Asparagus	Artichoke plume moth
Beans	Beet armyworm*
Beets	Cabbage budworm
Bok Choy	Cabbage looper
Broccoli	Celery leaf-tier
Brussels sprouts	Corn earworm
Cabbage	Cross-striped
Cardoni	cabbageworm
Carrots	Diamondback moth**
Cauliflower	European corn borer
Celeriac	European Grapevine moth
Celery	Green cloverworm
Chick peas	Imported cabbageworm
Chicory	Light brown apple moth***
Chinese cabbage	Melonworm
Collards	Omnivorous leafroller
Cucumber	Pickleworm
Cucurbits	Rindworm complex
Dry bulb onions	Saltmarsh caterpillar
Eggplant	Soybean looper
Escarole	Tobacco budworm
Endive	Tomato fruitworm
Garlic	Tomato hornworm
Green onions	Tomato pinworm
Greens: Beets,	Velvetbean caterpillar
China,	Yellowstriped armyworm*
Dandelion,	
Mustard,	
Turnip	
Horseradish	
Kale	
Kohlrabi	
Leeks	
Lentils	
Lettuce (Head,	
Leaf, Romaine)	
Malanga	
Melons	
(Cantaloupe,	
Crenshaw,	
Honeydew,	
Muskmelon,	
Watermelon,	
etc.)	
Napa	
Okra	
Olives	
Onions	
Parsley	
Parsnips	
Peas	
Peppers	
Potatoes	
Pumpkins	
Radishes	
Rutabaga	
Salsify	
Shallots	
Soybean foliage	
Spinach	
Squash	
Sugar beets	
Sweet potatoes	
Swiss chard	
Tomatoes	
Turnips	

**Rate/Acre: 0.5 - 2.0 pounds**

\* Recommended rate is 1.0 - 1.5 pounds/acre unless tank-mixed with contact insecticide.

\*\* CRYMAX will control Bt resistant and susceptible diamondback moth

\*\*\* All crops

**II. HERBS AND SPICES**

Crop:	Insect Pest
Basil	Alfalfa looper
Chives	Armyworm
Cilantro	Diamondback moth
Dill	European corn borer
Oregano	Green cloverworm
Peppermint	Imported cabbageworm
Thyme	Loopers
	Saltmarsh caterpillar

**Rate/Acre: 0.5 - 2.0 pounds**

### III. PASTURE AND HAY CROPS

Crop:	Insect Pest
Alfalfa (hay & seed) Pasture (grasses & hay) Silage	Alfalfa caterpillar Armyworm Beet armyworm* European skipper Loopers* Webworm Yellowstriped armyworm*

#### Rate/Acre: 0.5 - 2.0 pounds

\* Product should be applied when early instar larvae first appear. If infestation persists, make a second application 7-10 days later. Combination of CRYMAX with contact insecticide is recommended for control of 4th and 5th instar larvae.

### IV. FRUIT, NUT AND VINE CROPS

Crop:	Insect Pest	
<b>Pome and Stone Fruit Trees:</b> Apples Apricots Cherries Nectarines Peaches Pears Plums Prunes Quince	Cankerworm (Spring & Fall) Cherry fruitworm Eastern tent caterpillar European grapevine moth* Fruittree leafroller Green fruitworm Gypsy moth Navel orangeworm Obliquebanded leafroller Omnivorous leafroller Oriental fruit moth	Pandemis leafroller Peach twig borer Redbanded leafroller Redhumped caterpillar Fall webworm Tortrix moth (Orange and Garden) Tufted apple budmoth Variegated leafroller Walnut caterpillar Western tent caterpillar
<b>Nut Trees:</b> Almonds Chestnuts Filberts Pecans Pistachios Walnuts	Citrus cutworm European grapevine moth Filbert webworm Fruittree leafroller Hickory shuckworm Navel orangeworm Obliquebanded leafroller	Omnivorous leafroller Filbert leafroller Pecan nut casebearer Peach twig borer Redhumped caterpillar Roughskinned cutworm Western tent caterpillar
<b>Citrus:</b>	Amorbia Citrus cutworm Fruittree leafroller	Omnivorous leafroller Orangedog
<b>Small Fruit and Berries:</b> Blackberries Blueberries Boysenberries Cranberries Currants Longanberries Raspberries Strawberries	Achema sphinx moth Armyworms Blackheaded fireworm Blueberry leafroller Cranberry girdler European grapevine moth* Fruittree leafroller Grape berry moth Gypsy moth Loopers	Obliquebanded leafroller Omnivorous looper Tobacco budworm
<b>Grapes:</b>	European grapevine moth* Grape berry moth Cherry fruitworm Grape leafroller Grapeleaf skeletonizer	Green fruitworm Omnivorous leafroller Orange tortrix Saltmarsh caterpillar Yellowstriped armyworm
<b>Tropical and Other Fruit:</b> Avocados	Amorbia Loopers Orange tortrix	Omnivorous leafroller Omnivorous looper Spanworm
Bananas	Banana skipper	Banana moth
Kiwi	Omnivorous leafroller	
Persimmons Pomegranate	Citrus cutworm European grapevine moth* Fall webworm	Filbert webworm Omnivorous leafroller Redhumped caterpillar Tent caterpillar

Crop:	Insect Pest
Pineapple	Gummosos-Batrachedra commosae Thecla-Thecla basilides
Tropical / Sub-tropical fruits Avocado, Guava, Lychee Sugar Apple	European grapevine moth* Hornworms Leafrollers Loopers Omnivorous leafroller

#### Rate/Acre: 0.5 - 2.0 pounds

\*Apply at blackhead egg stage or when larvae are newly hatched before leaves are rolled or larvae have entered fruit. Continue applications as necessary for larval control.

### V. FIELD CROPS

Crop:	Insect Pest	
Canola/ Rape Seed Evening Primrose Meadow foam	Armyworm Diamondback moth Imported cabbageworm Loopers	
Corn (Field, Sweet, Popcorn, Seed)	Armyworm European corn borer Southwestern corn borer	
Cotton*	Beet armyworm** Bollworm** Cabbage looper Cotton leaf perforator	Saltmarsh caterpillar Soybean looper Tobacco budworm Yellowstriped armyworm**
Hops	Armyworm Loopers Obliquebanded leafroller	Omnivorous leaf-tier Spotted cutworm
Joboba	Looper ( <i>Anacamptodes</i> spp.)	
Peanuts	Green cloverworm Loopers	Podworm Velvetbean caterpillar
Rice	Armyworm Green cloverworm Loopers	Saltmarsh caterpillar Velvetbean caterpillar
Safflower	Armyworm** Loopers	Saltmarsh caterpillar
Small Grains (Barley, Oats, Rye, Wheat, etc.)	Armyworm** Loopers	
Sorghum	European corn borer Saltmarsh caterpillar	Velvetbean caterpillar
Soybeans	Green cloverworm Soybean looper	Velvetbean caterpillar
Sunflowers	Banded sunflower moth Beet armyworm** Headmoth	Loopers Sunflower moth
Tobacco	Tobacco budworm Tobacco hornworm Loopers	
Coffee	Banana moth	

#### Rate/Acre: 0.5 - 2.0 pounds

\* Use CRYMAX at 0.25 lb/acre to control light to moderate populations of newly hatched tobacco budworm and bollworm in integrated pest management programs. Repeat treatments at four to five day intervals or as long as necessary until results are acceptable. Ovicides or synthetic pyrethroids can be combined with CRYMAX in accordance with the more restrictive of label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing.

\*\* Combination of CRYMAX with a contact insecticide is recommended for infestations that include 4th and 5th instar larvae.

## VI. COMMERCIAL FLOWERS AND ORNAMENTAL PLANTS

Crop:	Insect Pest	
Bedding plants	Armyworm	Loopers
Flowers	Azalea moth	Oleander moth
(Greenhouse and Field)	Beet armyworm	Omnivorous leafroller
Greenhouse	Diamondback moth	Omnivorous looper
Ornamentals	Ello moth (hornworm)	Tobacco budworm
Greenhouse	European grapevine moth*	
Vegetables	Florida fern caterpillar	
Container Stock	Io moth	

**Rate/Acre: 1.0 - 2.0 pounds**

\*Apply at blackhead egg stage or when larvae are newly hatched before leaves are rolled or larvae have entered fruit. Continue applications as necessary for larval control.

## VII. FOREST, SHADE TREE AND NURSERY STOCK

Crop:	Insect Pest	
Forest	Bagworm	Pine butterfly
Shade trees	Blackheaded budworm	Redhumped caterpillar
Nursery trees	Browntail moth	Saddleback caterpillar
	California oakworm	Saddle prominent caterpillar
	Douglas fir tussock moth	Spring and Fall cankerworm
	Elm spanworm	Spruce budworm
	Fall webworm	Tent caterpillar
	Fruittree leafroller	Tortix
	Greenstriped mapleworm	Western tussock moth
	Gypsy moth	
	Jack pine budworm	
	Mimosa webworm	

**Rate/Acre: 0.5 - 2.0 pounds**

## VIII. TURF

Crop:	Insect Pest	
Turf	Armyworm	
	Sod webworm	
	Tropical sod webworm	

**Rate/Acre: 0.5 - 2.0 pounds**

## STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store in a cool, dry place inaccessible to children.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**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.

## 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, the insect problem, 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. NO OTHER EXPRESS OR IMPLIED WARRANTY OF THE FITNESS OR MERCHANTABILITY IS MADE.

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