

# CRYMAX® BIOINSECTICIDE

CRYMAX® WDG water dispersible granule is a biological insecticide for the control of lepidopteran pests.

**Active Ingredient:**

*Bacillus thuringiensis* strain EG7841 solids, spores and  
Lepidopteran toxins . . . . . **40.0%**

Inert Ingredients . . . . . **60.0%**

TOTAL . . . . . **100.0%**

6.4 oz. active ingredient per pound.  
Percent active ingredient should not be  
used to adjust use rates beyond those specified  
in the DIRECTIONS FOR USE section.

## KEEP OUT OF REACH OF CHILDREN CAUTION

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

**ENVIRONMENTAL HAZARDS**

Do not apply directly to water or to areas where surface water is present or to inter-tidal areas below the mean high water mark.

Do not contaminate water when disposing of equipment wash waters.

**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:** Do not contaminate water when disposing of equipment washwaters. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility

**Container Disposal:** Completely empty bag into application equipment. Then 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.

<b>FIRST AID</b>	
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.

### 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.

**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.

### PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

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:

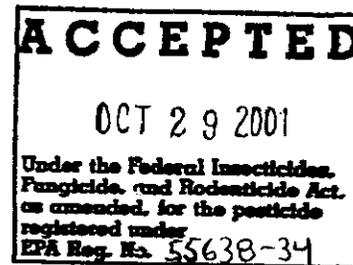
- Long sleeved shirt and long pants
- Shoes plus socks
- Mixer/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, and P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization

EPA REG. No. 55638-34

EPA EST. No. 42761-MS-1

(Subscript refers to last 2 digits of lot number on container.)

Net Contents: 5 U.S. Pound Bag



### Ecogen Inc.

2000 West Cabot Blvd., #170  
Langhorne, PA 19047-1811  
215/757-1590 or 800/220-2135

## 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.

## NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter treated areas without protective clothing until sprays have dried.

**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 Lepinox WDG, 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 and these guidelines:

## APPLICATION INSTRUCTIONS

CRYMAX is a bioinsecticide for use against the lepidopteran larvae listed in the APPLICATION RATE TABLE. Larvae must consume deposits of Lepinox WDG 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 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 small containers 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 limitations 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.

## CHEMIGATION

Apply this product only through center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move sprinkler systems. Do not apply this product through any other type of irrigation system. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.

If you have questions about calibration, contact your State Extension Service Specialist, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.

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.

### CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS:

Public water systems means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 50 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone (RPZ), backflow preventer or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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

The pesticide injection pipeline must 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 shutdown.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, 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.

Do not apply when wind speed favors drift beyond the areas intended for treatment.

### SPRINKLER CHEMIGATION:

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 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 shutdown. 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.

Do not apply when wind speed favors drift beyond the area intended for treatment.

The active ingredient in CRYMAX will settle in the tank and injection lines; adequate agitation must be provided before and during the injection period. Use only in systems that apply uniformly and have appropriate check valves. When application is complete, thoroughly flush the injection system and sprinkler lines.

### MIXING RECOMMENDATIONS FOR CHEMIGATION:

Follow general MIXING INSTRUCTIONS and keep the ratio at 3 parts water to 1 part CRYMAX. Also, provide mild uniform agitation throughout the suspension but do not agitate excessively.

### SPRAY VOLUME:

For chemigation, use irrigation levels of 0.15 to 0.5 inches of water per acre. Up to 1 inch of irrigation water may be used, but efficacy may be reduced. The product should be applied continuously for the duration of the water application.

# APPLICATION RATE TABLE

## I. VEGETABLE AND COLE CROPS

Crop such as:	Insect Pest:
Artichoke	Melons
Arugula	(cantaloupe,
Asparagus	Crenshaw
Beans	honeydew,
Beets	muskmelon,
Bok Choy	watermelon,
Broccoli	etc.)
Brussel sprouts	Napa
Cabbage	Okra
Cardoni	Onions
Carrots	Parsely
Cauliflower	Parasnips
Celeriac	Peas
Celery	Peppers
Chick peas	Potatoes
Chicory	Pumpkins
Chinese cabbage	Radishes
Collards	Rutabaga
Cucumber	Salsify
Cucurbits	Shallots
Dry onion bulbs	Soybean foliage
Eggplant	Spinach
Escarole	Squash
Endive	Sugar beets
Garlic	Sweet potatoes
Green onions	Swiss chard
Greens (Beets, China, Tomatoes	
Dandelion, Mustard, Turnip)	Turnips
Horseradish	
Kale	
Kohlrabi	
Leeks	
Lentils	
Lettuce (Head, Leaf, Roman)	
Malanga	

Rate/Acre: 0.5-2.0 lbs.

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

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

## II. HERBS AND SPICES

Crop such as:	Insect Pest
Basil	Alfalfa looper
Chives	Amyworm*
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 such as:	Insect Pest
Alfalfa (hay & seed)	Alfalfa caterpillar
Pasture (grasses & hay)	Amyworm
Siage	Beet armyworm*
	European skipper
	Fall armyworm
	Loopers*
	Webworm
	Yellowstriped amyworm*

Rate/Acre: 0.5 - 2.0 pound

\*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 a contact insecticide is recommended for control of 4<sup>th</sup> and 5<sup>th</sup> instar larvae.

## IV. FRUITS, NUT & VINE CROPS

Crops such as:	Insect Pest
Pome and Stone Fruit	Cankerworm (Spring and Fall)
Trees:	Cherry fruitworm
Apples	Eastern tent caterpillar
Apricots	Fall webworm
Cherries	Fruittree leafroller
Nectarines	Greenfruitworm
Peaches	Gypsy moth
Pears	Navel orangeworm
Plums	Obliquebanded leafroller
Prunes	Omnivorous leafroller
Quince	Oriental fruit moth
	Pandemis leafroller
	Peach twig borer
	Redbanded leafroller
	Redhumped caterpillar
	Tortrix moth (Orange and Garden)
	Tufted apple budmoth
	Variogated leafroller
	Walnut caterpillar
	Western tent caterpillar
Nut Trees:	Citrus cutworm
Almonds	Filbert leafroller
Chestnuts	Filbert webworm
Filberts	Fruittree leafroller
Pecans	Hickory shuckworm
Pistachios	Navel orangeworm
Walnuts	Oblique banded leafroller
	Omnivorous leafroller
	Pecan nut casebearer
	Peach twig borer
	Redhumped caterpillar
	Roughskinned cutworm
	Western tent caterpillar
Citrus	Amorbia
	Citrus cutworm
	Fruittree leafroller
	Omnivorous leafroller
	Orangedog
Small Fruit and Berries:	Achema sphinx moth
Blackberries	Amyworms
Blueberries	Blackheaded fireworm
Boysenberries	Blueberry leafroller
Cranberries	Cranberry girdler
Currants	Fruittree leafroller
Loganberries	Grape berry moth
Raspberries	Gypsy moth
Strawberries	Loopers
	Obliquebanded leafroller
	Omnivorous leafroller
	Tobacco budworm
Grapes	Grape berry moth
	Cherry fruitworm
	Grape leafroller
	Grapeleaf skeletonizer
	Green fruitworm
	Omnivorous leafroller
	Orange tortrix
	Saltmarsh caterpillar
	Yellowstriped armyworm
Tropical and other Fruit:	Amorbia
Avocados	Loopers
	Orange tortrix
	Omnivorous leafroller
	Omnivorous looper
	Spanworm
Bananas	Banana skipper
Kivi	Omnivorous leafroller
Perseimons	Citrus cutworm
Pomegranate	Fall webworm
	Filbert webworm

	Omnivorous leafroller Redhumped caterpillar Tent caterpillar
Pineapple	Gummosis-Batrachedra Commosae Thecia-Thecia basillides
Tropical fruits	Hornworms Leafrollers Loopers Omnivorous leafroller

Rate/Acre: 0.5 - 2.0 Pounds

**V. FIELD CROPS**

Crop such as:	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** Cabbage looper Bollworm** Cotton leaf perforator Saltmarsh caterpillar Soybean looper Tobacco budworm Yellowstriped Armyworm**
Hops	Armyworm Loopers Obliquebanded leafroller Omnivorous leafroller Spotted cutworm
Jujuba	Looper ( <i>Anacamptodes</i> sp.)
Peanuts	Green cloverworm Loopers Podworms 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

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 4<sup>th</sup> and 5<sup>th</sup> instar larvae

**VI. COMMERCIAL FLOWERS & ORNAMENTAL PLANTS**

Crop such as:	Insect Pest
Bedding plants Flowers (Greenhouse and Field) Greenhouse ornamentals Greenhouse vegetables Container stock	Armyworm Azalea moth Beet armyworm Diamondback moth Ello moth (hornworm) Florida fern caterpillar Io moth Loopers Oleander moth Omnivorous leafroller Omnivorous looper Tobacco budworm

Rate/Acre: 1.0 - 2.0 pounds

**VII. FOREST, SHADE TREES & NURSERY STOCK**

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

Rate/Acre: 0.5-2.0 pounds

**VIII. TURF**

Crop such as:	Insect Pest
Turf	Armyworm Sod webworm Tropical sod webworm

Rate/Acre: 0.5 - 2.0 pounds

**WARRANTY AND CONDITIONS OF SALE**

Ecogen warrants that this product conforms to the description on this label and is reasonably fit for the purposes stated on this label when used in accordance with the directions on this label under normal conditions of use.

ECOGEN MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

If this product is defective, Buyer's exclusive remedy shall be the replacement of the product, or if replacement is impracticable, refund of the purchase price. In no case will Ecogen be liable for incidental, consequential or special damages resulting from the handling, storage or use of this product.

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