

12-MAR-2009

2008-5215

DIPEL® 2X DF

Biological Insecticide

Dry Flowable (Wettable Granules)

COMMERCIAL

READ THE LABEL AND ATTACHED BROCHURE BEFORE USING

GUARANTEE: *Bacillus thuringiensis* subsp. *kurstaki*. Strain HD-1 32,000 International Units of potency per mg  
(equivalent to 32 Billion International Units of potency per kg)

WARNING CONTAINS THE ALLERGEN SOY

REGISTRATION NO. 26508

PEST CONTROL PRODUCTS ACT

CAUTION EYE IRRITANT

CAUTION SKIN IRRITANT

POTENTIAL SENSITIZER

KEEP OUT OF REACH OF CHILDREN

Lot No.

Date of Manufacture:

Net Contents:

Registrant  
Valent BioSciences Corporation  
870 Technology Way  
Libertyville, Illinois 60048  
USA

Canadian Agent  
Valent BioSciences Canada, Ltd.  
40 King Street West, Suite 2100  
Toronto, Ontario M5H 3C2

#### DIRECTIONS FOR USE

Do not apply this product through any type of irrigation system.

Always follow these directions:

- Treat when larvae are young (early instars) before the crop is damaged.
- Larvae must be actively feeding on treated, exposed plant surfaces.
- Thorough spray coverage is needed to provide a uniform deposit of DiPel 2X DF Biological Insecticide at the site of larval feeding. Use overhead and drop nozzles to obtain good spray coverage on both side of foliage. Use sufficient spray volume to ensure uniform deposition on all plant surfaces.
- Repeat applications at an interval sufficient to maintain control, usually 3 to 14 days,

depending on plant growth rate, moth activity, rainfall after treatment and other factors. If attempting to control a pest with a single spray, make the treatment when egg hatch is essentially complete, but before crop damage occurs.

- Consult provincial guidelines and regional advisors for specific information about the timing and number of applications.
- A spreader-sticker approved for use on growing and harvested crops should be used for hard-to-wet crops such as cabbage or to improve weather fastness of the spray deposits.
- DiPel 2XDF may be applied up to the day of harvest.

#### MIXING INSTRUCTIONS:

Partially fill spray tank with water and provide moderate agitation. Add the required amount of DiPel 2X DF Biological Insecticide while maintaining agitation. Add remaining water, if any. Maintain moderate agitation while loading and spraying. Do not mix more DiPel 2X DF Biological Insecticide than can be used in a 12-hour period.

#### PRECAUTIONS

##### KEEP OUT OF REACH OF CHILDREN

May cause sensitization and/or eye irritation. Harmful if swallowed, inhaled, or absorbed through the skin. Avoid breathing dust or spray mist. Avoid contact with skin, eyes, or clothing. Wear a long-sleeved shirt, long pants, and waterproof gloves when handling, mixing/loading or applying the product and during all cleanup and repair activities Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

#### TOXICOLOGICAL INFORMATION

Treat symptomatically.

#### FIRST AID

IF SWALLOWED  
(petroleum distillates  
in formulation):

Call a poison control centre or doctor immediately for treatment advise. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

IF ON SKIN/CLOTHING:

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

IF INHALED:

Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advise.

IF IN EYES:

Hold eye 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 centre or doctor for treatment advice.

**GENERAL:**

Seek medical attention immediately if irritation or signs of toxicity occur and persist or are severe. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**STORAGE:**

Store at temperatures between 0°C and 25°C. Store container upright and keep tightly closed when not in use. This product should be used within 24 months of the date of manufacture.

**DISPOSAL**

Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank. Follow provincial instruction for any required additional cleaning of the container prior to its disposal. Make the empty container unsuitable for further use. Dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

**If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U. S., visit CropLife Canada's website at: [www.croplife.ca](http://www.croplife.ca)**

**NOTICE TO USER**

This pest control product is to be used only in accordance with the directions on this label. It is an offence under the PEST CONTROL PRODUCTS ACT to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

## APPLICATION RATES

CROP	PEST	Rate (g/ha)
APPLES	Leafrollers* (Fruitree, European, Oblique-banded, Three-lined)	1125-1675
	Winter moth**  *Apply in 600-800 L/ha at pink stage and, if populations are heavy, at petal fall using an air-blast orchard sprayer. Weekly applications may be necessary if egg hatch is asynchronous. Best results are obtained if applications are made in the evening or on a cloudy day.  **For use in combination with Ripcord or Cymbush. See the respective labels for specific instructions.	280
LOWBUSH BLUEBERRIES	Blueberry spanworm ( <i>Itame argillacearia</i> ) Chainspotted geometer ( <i>Cingilia catenaria</i> ) Rannoch looper ( <i>Itame brunneata</i> )  Maximum of four applications per year. Apply in a minimum of 300L/ha. Apply when larvae are in the first or second instar are present at or above the economic threshold.	550-1125
BROCCOLI	Cabbage looper	275-550
	Diamondback moth	55-140
	Imported cabbageworm	55-140
CABBAGE	Cabbage looper	275-550
	Imported cabbageworm	55-275
	Diamondback moth	275
CAULIFLOWER	Cabbage looper	275-550
	Imported cabbageworm	55-140
CHINESE CABBAGE BOK CHOY CHINESE BROCCOLI ASIAN RADISH	Diamondback moth	275
	Cabbage looper	275-550
	Imported cabbageworm	55-140
	Maximum of five (5) applications. Ground application only. Apply in 400L water/ha. Treat when larvae are young and actively feeding	

CROP	PEST	Rate (g/ha)
CHOKECHERRY ORCHARDS and SHELTERBELTS	Fall Webworm  One application per year; Mix 0.288 kg product in 1000L of water; apply at a rate of 22L mixture per 100 m <sup>2</sup> apply as soon as tents are visible; ground application; apply as a foliar spray until foliage is wet but not dripping.	635
COLLARDS	Cabbage looper	275-550
CRANBERRIES	Green and Brown spanworm	275-550
GINSENG	Leafrollers  Maximum of two applications per year; ground application; apply in 760-1250 L/ha water; for best control apply when larvae are in early instar stage; apply again if scouting indicates heavy infestation or if egg hatch is asynchronous.	565 - 1125
GRAPE	Grape Berry Moth - Applications should be timed to target the first generation, particularly where there is a history of a problem. Use a high water volume to ensure complete coverage. Monitor moth activity. The application may be repeated if needed every 7-10 days up to 6 applications per year.  Leafrollers - The application may be repeated if needed every 3-14 days up to 4 applications per year.  Bagworms including snailcase bagworm - One application per year to be applied when larvae are feeding on grape, in late summer.	1125  1125  125-250g/ 400L water
HERB AND SPICES GROUP (including celery seed, parsley (dried), mustard seed, nasturtium, basil, caraway, catnip, chervil (dried), coriander, dill and fennel); mint	Cabbage Looper ( <i>Trichoplusia ni</i> Hubner)  Maximum of 5 application per year; apply in 600 - 800 L of water. Use diluted spray mixture within a 12 hour period. Apply after egg hatch when the majority of larvae are young and actively feeding.	275 - 550 (8.2 - 17.6 BIU/ha)

CROP	PEST	Rate (g/ha)
HIGHBUSH BLUEBERRIES	Cranberry Fruitworm* Cherry Fruitworm* <i>*Apply at egg hatch of the target pest, from petal fall through to green fruit stage in a minimum of 300 L/ha of water using an air blast orchard sprayer or suitable alternative ground application equipment. Best results are obtained if applications are made in the evening or on a cloudy day. DiPel 2X DF Biological Insecticide may be applied up to the day of harvest.</i> <i>*Maximum of four applications per season, usually 3-14 days apart. Weekly applications may be necessary if the egg hatch is asynchronous.</i>	1680 g/ha or 1,68 kg/ha  (54 BIU/ha)
KALE	Cabbage Looper	275-550
LETTUCE	Cabbage Looper	275-550
MUSTARD GREENS	Cabbage Looper	275-550
NUT CROPS - Hazelnuts, Walnuts, Sweet chestnuts, Pecans	Leafrollers* (Fruitree, European, Oblique-banded, Three-lined)	1125-1675
PARSLEY	Cabbage Looper	275
PEARS	Leafrollers* (Fruitree, European, Oblique-banded, Three-lined) Fruitworm** <i>*Apply in 600-800 L/ha at pink stage and, if populations are heavy, at petal fall using an air-blast orchard sprayer. Weekly applications may be necessary if egg hatch is asynchronous. Best results are obtained if applications are made in the evening or on a cloudy day.</i> <i>**Apply in 2000 L/ha at pink stage to petal drop in evening or on cloudy days using an air-blast orchard sprayer.</i>	1125-1675  1125-1675
POTATOES	Cabbage Loopers ( <i>Trichoplusia ni</i> ) Maximum of 4 applications per season; apply in a minimum of 600 L/ha of water. <b>Ground application only.</b>	560-1120

CROP	PEST	Rate (g/ha)
RED RASPBERRIES	Early Season Oblique-banded Leafroller* *Apply with ground equipment at prebloom and bloom	550-1125
SPINACH	Cabbage looper	275-550
STONE FRUIT Apricot, Cherry Plum/Prune	Leafrollers* (Fruittree, European, Oblique-banded, Three-lined)  Fruitworm**  *Apply in 600-800 L/ha at pink stage and, if populations are heavy, at petal fall using an airblast orchard sprayer. Weekly applications may be necessary if egg hatch is asynchronous. Best results are obtained if applications are made in the evening or on a cloudy day.  **Apply in 2000 L/ha at pink stage to petal drop in evening or on cloudy days using an airblast orchard sprayer.	1125-1675  1125-1675
CROP	PEST	Rate (g/ha)
SUNFLOWERS	Sunflower Moth*  *Applied aerially, mix the applicable amount (grams) per minimum of 20 liters of water. Apply when 20-50% heads in bloom. Thorough coverage of larval feeding sites within flowers is necessary for adequate control. Apply when provincial authorities recommend treatment based on pheromone trap counts. A second application may be required if trap counts are high.	315-625
SWEET and FIELD CORN	European Corn Borer  Apply when pinhole feeding is observed in at least 5% of the plants. Repeat at 7-day intervals if corn borer population increases, or as advised by regional advisors. DiPel is only effective against small larvae and must be applied before larvae begin stalk-boring.	560-1120
TIMOTHY	Essex (European) skipper	140-275
TURNIP GREEN	Cabbage looper	275-550

CROP	PEST	Rate (g/ha)
TOBACCO	Hornworm	55-140
TOMATOES	Cabbage looper Tomato fruitworm* Tomato hornworm  *Apply ever 5 to 7 days	275-550 550 140-275
GREENHOUSE ORNAMENTALS GREENHOUSE HERBS AND GREENHOUSE VEGETABLES (PEPPERS, TOMATOES, CUCUMBERS) FOR FRUIT AND TRANSPLANT PRODUCTION	<i>Duponchelia fovealis</i>  Make applications when egg hatch is essentially complete but before crop damage occurs. Apply the product such that it flows along the stem, coating it well, and into the top layer of the soil around the base of the plant. Thorough coverage of foliage and stem is necessary.  Apply every 7 days as required by monitoring	625g/1000L water

ORNAMENTAL AND SHADE TREES	g per 400L Hydraulic Sprayer*
Spruce budworm (Spruce)	125-250
Gypsy moth	125-250
Bagworm	125-250
Spring and Fall cankerworm	125
Fall webworms	125
Elm spanworm	250
Tent caterpillar	65-125
*For most blowers, mix the application amount (grams) with 40 liters of water.	

SEA BUCKTHORN	g per 400L Hydraulic Sprayer*
Gypsy moth	125-250
*For most blowers, mix the application amount (grams) with 40 liters of water.	

FOR GREENHOUSE USE		
Roses	Omnivorous leafroller*	250g/400L
Chrysanthemums	Cabbage looper*	125-250g/400L
Tomatoes	Cabbage looper	75-150g/250L/4000 sq. meters
Peppers	Cabbage looper	75-150g/250L/4000 sq. meters
* Apply to upper and lower portions of the leaves to run-off. Repeat applications will be necessary if a new hatch occurs.		

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