

1 of 4 PM 87
275-37

ACCEPTED
NOV 6 1984
U.S. Environmental Protection Agency
Federal Insecticide, Fungicide, and Rodenticide Act
as amended for the pesticide
registered under
EPA Reg. No. 275-37

Draft Labeling
10/17/84

Net Wt. 10 lbs.

WETTABLE POWDER
BIOLOGICAL INSECTICIDE

Active ingredient:
Bacillus thuringiensis,
var. kurstaki, 32,000
international units of potency
per mg. (4.52 Billion
international units per
pound) 6.4% 93.6%

**KEEP OUT OF REACH OF
CHILDREN**

CAUTION

ENVIRONMENTAL HAZARDS
Keep out of lakes, ponds, or streams. Do not
contaminate water by cleaning of equipment or
disposal of waste.

General Insects
Houseflies, houseflies, and other insects are not harmed
by Dipe 2X use.

Directions for Use
This is a violation of Federal law to use this product in a
manner inconsistent with its labeling.
Refer to Package Enclosure for crop, rates and
general directions.

**STORAGE AND
DISPOSAL**
Do not contaminate water, food or feed by
storage or disposal.
STORAGE: Retain in original container of unopened
Dipe 2X. Store in a dry place.
PESTICIDE DISPOSAL: 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 by shaking and turning sides and
bottom to loosen clinging particles. Empty
residue into application equipment. Then
dispose of bags in a separate landfill or by
incineration if allowed by state and local
authorities. Dispose of the outer container
in the same manner.

Chemical and Agricultural
Products Division
Abbott Laboratories
North Chicago, IL 60064

01-31814-03

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Draft Labeling
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ACCEPTED

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Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, this pesticide registered under EPA Reg. No. 275-37

dipel[®]
WORM KILLER
2X

01-3058/R3-00-0884

**WETTABLE POWDER
BIOLOGICAL INSECTICIDE**

Active ingredient:
Bacillus thuringiensis, var. *kurstaki*,
32,000 International Units of Potency per mg.
(14.52 Billion International Units
per pound) 6.4%
Inert Ingredients 93.6%

**KEEP OUT OF REACH
OF CHILDREN**

CAUTION

E.P.A. Registration No. 275-37
E.P.A. Est. No. 33762-1A-1

STORAGE AND DISPOSAL
See container label.

Larvae must eat deposits of DIPEL 2X to be affected. Always follow these directions:

- Treat when larvae are young (early instars) before the crop is extensively damaged.
- Larvae must be actively feeding on treated, exposed plant parts.
- Thorough spray coverage is needed to provide a uniform deposit of DIPEL 2X at the site of larval feeding. For some crops direct-drip nozzles by ground machine are required.
- Under heavy pest population pressure, use the higher label rates, shorten the spray interval, and/or raise gallonage to improve spray coverage.
- Repeat applications at an interval sufficient to maintain control, usually 3 to 14 days depending on plant growth rate, moth activity, rainfall after treating, and other factors. If attempting to control a pest with a single spray, make the treatment when egg hatch is essentially complete, but before extensive crop damage occurs.
- A spreader-sticker which has been approved for use on growing and harvested crops should be added for hard-to-wet crops such as cole crops, or to improve weather-fastness of the spray deposits.

After eating a lethal dose of DIPEL 2X, larvae stop feeding within the hour, and will die within several days. Dying larvae move slowly, discolor, then shrivel, blacken and die.

DIPEL 2X may be applied in conventional ground or aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. The amount of water needed per acre will depend on crop size, weather, spray equipment, and local experience. Unless otherwise indicated, use at least 2 gallons of water by air; except in the far west, 6 to 10 gallons is the usual minimum. Add water to the spray or mixing tank at the level that provides maximum agitation. With the agitator running, slowly sprinkle in the DIPEL 2X. Continue agitation. Then add other spray materials (if any). Add the balance of the water and agitate until mixed. Maintain the suspension while loading and spraying. Do not mix more DIPEL 2X than can be used in a 12-hour period.

BENEFICIAL INSECTS

Honeybees foraging treated areas are not harmed by DIPEL 2X use.

DIPEL 2X does not interrupt the activities of beneficial and predaceous arthropods in pest management programs.

DIRECTIONS FOR USE

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

Days to harvest There are no restrictions on applying DIPEL 2X up to the time of harvest.

Sites: DIPEL 2X may be used for any labeled pest in both field and greenhouse uses.

Fa. Smaller Spray Volumes:

Use This Amount Per Gallon	Use This Amount Per Gallon
1/4 lb./acre or 100 gals.	1/4 tsp
1/2 lb./acre or 200 gals.	1 tsp
1 lb./acre or 400 gals.	2 tsp
2 lb./acre or 800 gals.	4 tsp

DIRECTIONS FOR USE

DIPEL 2X is a highly selective insecticide for use against listed caterpillars (larvae) of lepidopterous insects. Close scouting and early attention to infestations is highly recommended.

APPLICATION RATE

Crop	Pest	Pounds/Acre
Cole Crops and Vegetables including Leafy, Root, Stem, and Seed and Pod Types (Peas, Beans, Lentils, etc., dry or succulent) Potatoes, Cucurbits	Loopers Hornworms Imported Cabbageworm Diamondback Moth Green Cloverworm Webworm Armyworms*	1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2
Tomatoes, Peppers, Eggplant	Loopers Hornworms Tomato Fruitworm** Variable Cutworm Sawfly Caterpillars Armyworms**	1/4 to 1/2 1/4 to 1/2 1/2 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2

*DIPEL 2X may be used to suppress small armyworms (1st and 2nd instar) when populations are light and full coverage ground sprays are applied.

Crop	Pest	Pounds/Acre
Cucurbits: Melons, Squash, Cucumbers, etc.	Rootworm Complex* Hornworms	1/4 to 1/2 1/4 to 1
Tobacco	Tobacco Budworm Hornworms Loopers	1/4 to 1/2 1/4 to 1/2 1/4 to 1/2

*Apply weekly in a preventive program.

Tobacco	Tobacco Budworm	1/4 to 1/2
	Hornworms	1/4 to 1/2
	Loopers	1/4 to 1/2
Safflower, Sugar beets, Mints	Loopers Sawfly Caterpillar	1/4 to 1/2 1/4 to 1/2 1/4 to 1/2
Soybeans, Sunflowers, Peanuts	Loopers Green Cloverworm Velvetbean Caterpillar Podworm*	1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2

*DIPEL 2X suppresses podworms under pest management conditions.

Alfalfa, Pastures, Hay, Small Grains and Forage Crops	Loopers All-leaf Caterpillar European Skipper (Essex Skipper)	1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2
Rangeland	Range Caterpillar	1/4 to 1/2
Cotton	Tobacco Budworm* Cotton Budworm* Loopers**	1/4 to 1/2 1/4 to 1/2 1/4 to 1/2

*Use to suppress light to moderate populations of newly hatched worms in pest management conditions. Use under close scouting when beneficial insects are active or building. Repeat treatments at 4 to 5 day intervals as long as necessary and results are acceptable. If 15% or more terminals have eggs, add 1/4 lb. AI chlordaneform (Kalecron® or Fundal®) per acre to 1/4 lb. DIPEL 2X. Increase chlordaneform to 1/2 lb. AI if needed.

Once beneficial insects are no longer a factor, DIPEL 2X (at 1/4 to 1/2 lb./acre) may be tank mixed with methomyl (Bannate® or No-don®) at 275 to 875 lb. AI per acre to control light to moderate infestations of early instar larvae. Observe any rate frequency, or tank load label restrictions for methomyl in your area. Methomyl will likely cause reddening of cotton foliage. Discontinue the tank mix if reddening becomes excessive.

Before using any tank mix, read the product labels for all environmental and usage cautions. Chlordaneform is restricted to aerial application and to states where registered.

**Full plant coverage needed.

*The mixture of B.X. with chlordaneform for inhibiting the growth of lepidopterous larvae on plants is covered by Abbott U.S. patent 3,937,813.

Turf	Sod Webworm	1 to 2
Crop	Pest	Lbs./100 Gals.
Flowers and (Innards) (ground only)	Loopers Tobacco Budworm Omnivores Loopers Omnivores Leafroller Diamondback Moth Armyworms* (No Moth) (Hornworm) to Moth Diamond Moth	1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2 1/4 to 1/2

*DIPEL 2X may be used to suppress small armyworms (1st and 2nd instar) when populations are light and full coverage ground sprays are applied.

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DIPEL 2X for Fruits, Nuts, Trees, Ornamentals

Crop	Pest	Pounds/Acre	
Grapes, Small Fruits, Cane and Bush Berries	Grapeleaf Skeletonizer (ground only)	1/2 to 1/2	
	Grape Leafhopper	1/2 to 3/4	
	Achaea Sphinx Moth (Hornworm)	1/2 to 3/4	
	Saltmarsh Caterpillar (ground only)	1/2	
	Omnivorous Leafroller (ground only)	1/2 to 1/2	
	Loopers	1/2 to 1/2	
		Pounds/100 Gallons* (Ground Equipment)	Pounds/Acre (Aerial** Applications)
Stone Fruits, Nut Trees, Pomegranates	Redhumped Caterpillar	1/2 to 1/2	1/2 to 1/2
	Tent Caterpillars	1/2 to 1/2	1/2 to 1/2
	Omnivorous Leafroller	1/2 to 1/2	1/2
	Fall Webworm	1/2 to 1/2	1/2
	Walnut Caterpillar	1/2 to 1/2	1/2 to 1/2
	Cankerworms	1/2 to 1/2	1/2 to 1/2
Pome Fruits*	Cankerworms	1/2 to 1/2	1/2 to 1/2
	Gypsy Moth	1/2 to 1/2	1/2
	Variegated Leafroller	1/2 to 1/2	1/2
	Redbanded Leafroller	1/2 to 1/2	1/2
	Tufted Apple Budmoth	1/2 to 1/2	1/2 to 1/2
	Tent Caterpillars	1/2 to 1/2	1/2 to 1/2
Citrus†	Fruticose Leafroller	1/2 to 1/2	1/2 to 1/2
	Orangeador	1/2 to 1/2	1/2 to 1/2
Tropical Fruits‡	Hornworm	1/2 to 1/2	1/2 to 1/2
	Leafrollers	1/2 to 1/2	1/2 to 1/2
	Omnivorous Looper	1/2 to 1/2	1/2 to 1/2
	Loopers	1/2 to 1/2	1/2 to 1/2
Forest, Shade Sugar Maple Trees and Ornamentals	Gypsy Moth	1/2 to 1/2	1/2
	Bagworm	1/2 to 1/2	1/2 to 1/2
	Redhumped Caterpillar	1/2 to 1/2	1/2 to 1/2
	Spring and Fall Cankerworm	1/2 to 1/2	1/2 to 1/2
	Fall Webworm	1/2	1/2
	Elm Spanworm	1/2 to 1/2	1/2 to 1/2
	Tent Caterpillars	1/2 to 1/2	1/2
	California Oakworm	1/2 to 1/2	1/2 to 1/2
	Pine Butterfly	1/2	1/2
	Spruce Budworms*	1/2	1/2
	Saddle Prominent Caterpillar	1/2 to 1/2	1/2
	Douglas Fir Tussock Moth	1/2	1/2
	Western Tussock Moth	1/2 to 1/2	1/2
	Fruticose Leafroller	1/2 to 1/2	1/2
	Blackheaded Budworm	1/2	1/2
	Memosa Webworm	1/2 to 1/2	1/2 to 1/2
	Jack Pine Budworm	1/2 to 1/2	1/2 to 1/2
	Saddleback Caterpillar	1/2 to 1/2	1/2 to 1/2

*Rate for hydraulic sprayer. For mist blowers, mix the applicable amount (lbs) in 10 gallons of water.

**For aerial application, use in one to ten gallons of water depending on type and density of trees. For best results, spray systems which deliver droplet size of 200 microns should be used.

†Use 400-450 gallons/acre to suppress listed pests in pest management programs.

‡Use 100 to 400 gallons/acre.

§Use at least 700 gallons/acre.

*Use against populations below 35 larvae per 18 inch branch tip. Use a minimum of 1/2 gallon/acre by air.

DIPEL 2X FOR STORED AGRICULTURAL COMMODITIES

GRAINS, SOYBEANS, SUNFLOWER SEED, CROP SEED, CONDIMENTS, SPICES, HERBS

Pest	Rate
Indian Meal Moth, Almond Moth	3/4 lb/100 bu*

*As a surface treatment, apply 1/2 lb DIPEL 2X in 10 gal. of water per 500 sq. ft. of grain surface area. Mix into top 4 inches.**

For the control and prevention of these pests, apply DIPEL 2X in a constantly agitated water suspension to the top four inch surface layer of grain in the bin. Use a sprinkler can or sprayer to apply the dosage into the grain stream on the last (top) four inch layer is augered into the bin. Mix 1/20 lb DIPEL 2X per gallon of water. Apply 0.6 pint of this mixture per bushel as grain is augered into storage. Or, sprinkle the dosage onto the surface of the grain in the bin and mix thoroughly with a scoop or rake to the depth of four inches. More thorough coverage may be achieved by dividing the recommended dosage into three applications and mixing the grain between applications.

For the protection of bagged grain, apply the dosage to the entire grain mass and mix thoroughly prior to bagging. Treatments can be applied to the stored grain at any time, but for best results, make application immediately after harvest before moth activity occurs. In areas where late fall harvested grain is not subject to infestation because of low temperatures, application can be delayed until late winter or early spring before moth activity begins. Control for a full storage season should normally be expected, however, repeat application if infestation occurs.

This treatment controls the moth larvae. If an infestation is present when the grain is treated, moth emergence may continue

for several days. If immediate control of severe infestations is desired, grain should be fumigated prior to application of this treatment. DIPEL 2X will not control weevils or other beetles.

DIPEL 2X is exempt from tolerance restrictions and the treated grain can be used at any time after treatment for any use.

**For commodities coarser than shelled corn, increase depth of treatment according to the habit of the pest.

PEANUTS

Pest	Rate
Indian Meal Moth, Almond Moth	1/2 lb/bu**

*Apply this rate to the top four to eight feet of nuts when filling the warehouse.

To prevent and control these pests, spray an even coating of DIPEL 2X on the farmer stock peanuts while filling the warehouse. To make the spray solution, mix 3 1/2 lb DIPEL 2X per 5 gallons of water. Apply to 15 tons of commodity. Do not pre-mix more spray solution than will be used within 12 hours. Keep the spray suspension agitated during application, and use pressures and nozzles sufficient to handle this suspension.

Before filling the warehouse, clean thoroughly, then spray interior of the facility with a DIPEL 2X suspension at the rate of 1/2 lb DIPEL 2X per 100 gallons water. Spray enough suspension to wet all cracks and crevices.

For bagged peanuts, treat the whole mass of commodity at the rate indicated above.

FLUE-CURED TOBACCO

Pest	Rate
Tobacco Moth	1/50 oz/100 lbs*

*Apply 0.2 ounce (approximately 2 1/2 teaspoonful) of DIPEL 2X in one quart of water per 100 pounds of tobacco as a fine mist spray. Avoid overwetting. Tobacco should have just enough moisture to be handled without shattering at the time of application.

Tobacco to be stored up to Twelve Months.

Spray loose leaves as the tobacco is being banded from the curing barn. For tobacco on sticks, treat both sides of leaves.

Stored Tobacco.

For tobacco which is to be carried over, rebundle or restack sticks. Huff up tobacco and spray loose leaves.

For tobacco that has been stored over three weeks, apply at first signs of infestation, promptly open bundles, spray loose leaves, then bundle.

Treatment of Storage Barns.

If tobacco has been treated, or is going to be treated, treat most of the floors and walls may be made to aid in control. Sweep out the area, especially cracks and corners, and all of the loose tobacco pieces at which the moth might breed. Make a spray mixture containing 1/5 oz DIPEL 2X per 2 1/2 gallons of water. Apply this at a rate of 1/2 gallon per 1000 sq. ft. of surface area. Be sure to spray into cracks and between floorboards.

NOTICE TO USER

Seller makes no warranty express or implied of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

*Fendal, Galecron, Lannate, Nudrin are trademarks of companies other than Abbott Laboratories.



Chemical and Agricultural Products Division
Abbott Laboratories
North Chicago, Illinois 60064

E-5709

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ENVIRONMENTAL HAZARDS

Keep out of lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes.

Beneficial Insects

Honeybees foraging treated areas are not harmed by Dipel 2X use.

Dipel 2X does not interrupt the activities of beneficial and predaceous arthropods in pest management programs.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Refer to Package Enclosure for crops, rates and general directions.

WETTABLE POWDER BIOLOGICAL INSECTICIDE

Active Ingredient:

Bacillus thuringiensis, var.
kurstaki, 32,000 International
Units of Potency per mg (14.52
Billion International Units per
pound) 6.4%
Inert Ingredients 93.6%

KEEP OUT OF REACH OF
CHILDREN

CAUTION

List No. 5206

E.P.A. Registration No. 275-37

E.P.A. Est. No. 33762-1A-1

STORAGE AND DISPOSAL

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

STORAGE: Reclose containers of unused

Dipel 2X. Store in a dry place.

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

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Chemical and Agricultural
Products Division
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North Chicago, IL 60064

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