

PM 17 275-37 1/3

CENTER PANEL
CONTAINER LABEL

DIPEL® 2X
WORM KILLER

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

C A U T I O N

List No.

EPA REGISTRATION NO. 275-37
EPA EST. NO. 33762-IA-1

Net Wt.

828/1
17-Sep-1987

ACQU...ED

DEC 1 1987

as of...
 registered under
 EPA Reg. No. 275-37

RIGHT PANEL
CONTAINER LABEL
(OPTIONAL)

DIPEL® 2X

WORM KILLER

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

C A U T I O N

Net Wt.

3115

**LEFT PANEL
CONTAINER LABEL**

ENVIRONMENTAL HAZARDS

Keep out of lakes, pond 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 predacious arthropods in pest management programs.

Directions For Use

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

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

Refer to Package Enclosure for crops, rates and general directions.

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
Abbott Laboratories
North Chicago, Illinois 60064

413

**SUPPLEMENTAL LABELING
PAGE 1**

DIPEL® 2X

WORM KILLER

**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

C A U T I O N

EPA Registrations No. 275-37
EPA Est. No. 33762-IA-1

STORAGE AND DISPOSAL
See container label.

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

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

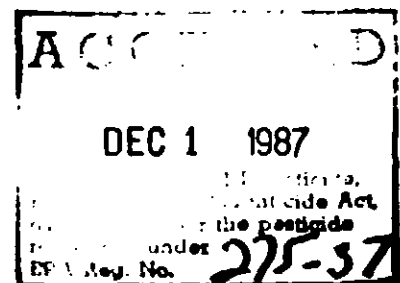
DIRECTIONS FOR USE
It is a violation of Federal law to use this product in a
manner inconsistent with its labeling.

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

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.

829/1
17-Sep-1987



5713

SUPPLEMENTAL LABELING
PAGE 2

For Smaller Spray Volumes:

<u>If Rate is</u>	<u>Use This Amount Per Gallon</u>
1/4 lb./acre or 100 gals.	1/2 tsp.
1/2 lb./acre or 100 gals.	1 tsp.
1 lb./acre or 100 gals.	2 tsps.
2 lb./acre or 100 gals.	4 tsps.

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. 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 directed drop 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 through 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, 5 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.

APPLICATION RATE

<u>Crop</u>	<u>Pest</u>	<u>Pound/Acre</u>
Cole Crops and Vegetables including Leafy, Root, Stalk and Seed and Pod Types (Peas, Beans, Lentils, etc., dry or succulent), Potatoes Cucurbits	Loopers	1/4 to 1/2
	Hornworms	1/8 to 1/4
	Imported Cabbageworm	1/8 to 1/4
	Diamondback Moth	1/6 to 1/3
	Green Cloverworm	1/8 to 1/4
	Webworm	1/4 to 1/2
	Armyworms*	1/2 to 1

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

Tomatoes, Peppers; Eggplant	Loopers	1/4 to 1/2
	Hornworms	1/8 to 1/4
	Tomato Fruitworm*	1/2
	Variegated Cutworm	1/2
	Saltmarsh Caterpillars	1/4 to 1/2
	Armyworms**	1/2 to 1

*Apply weekly in a preventive program.

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

7/12

**SUPPLEMENTAL LABELING
PAGE 4**

<u>Crop</u>	<u>Pest</u>	<u>Pound/Acre</u>
Cucurbits: Melons Squash, Cucumbers, etc.	Rindworm Complex*	1/4 to 1/2
	Melonworms	1/2 to 1

*Apply weekly in a preventive program.

Tobacco	Tobacco Budworm	1/4 to 1/2
	Hornworms	1/8 to 1/4
	Loopers	1/4 to 1/2

DIPEL 2X may be tank mixed with sucker control products at recommended rates. Follow the application directions on the sucker control labels. Observe all label precautions for all products used.

Safflower, Sugar beets Mints	Loopers	1/4 to 1/2
	Saltmarsh	
	Caterpillar	1/4 to 1/2

Soybeans, Sunflowers, Peanuts	Loopers	1/4 to 1/2
	Green Cloverworm	1/8 to 1/4
	Velvetbean	
	Caterpillar	1/6 to 1,3
	Podworm*	1/4 to 1/2

*DIPEL 2X suppresses podworms under pest management conditions

Alfalfa, Hay, and Small Grains	Loopers	1/4 to 1/2
	Alfalfa Caterpillar	1/16 to 1/8
	European Skipper	1/8 to 1/4
	(Essex Skipper)	

Cotton	Tobacco Budworm*	1/8 to 1/2
	Cotton Bollworm*	1/8 to 1/2
	Loopers**	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 1/8 lb. AI chlordimeform¹ (Galecron[®] or Fundal[®]) per acre 1/8 lb. DIPEL 2X. Increase chlordimeform to 1/4 lb. AI if needed.

Once beneficial insects are no longer a factor, DIPEL 2X (at 1/8 to 3/8 lb./acre) may be tank mixed with methomyl (Lannate® or Nudrin®) at .225 to .675 lbs. AI per acre to control light to moderate infestations of early instar larvae. Observe any rate, frequency, or boll load label restrictions for methomyl in your area. Methomyl will likely cause reddening of cotton foliage. Discontinue this tank mix if reddening becomes excessive.

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

**Full plant coverage needed.

¹The mixture of B.t. with chlordimeform 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
		lbs./100
<u>Crop</u>	<u>Pest</u>	<u>Gals.</u>
Flowers and Ornamentals (ground only)	Loopers	1/4 to 1/2
	Tobacco Budworm	1/4 to 1/2
	Omnivorous Looper	1/4 to 1/2
	Omnivorous Leafroller	1/4 to 1/2
	Diamondback Moth	1/6 to 1/3
	Armyworms*	1/2 to 1
	Ello Moth (Hornworm)	1/8 to 1/4
	Io Moth	1/4 to 1/2
	Oleander Moth	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.

DIPEL 2X FOR STORED AGRICULTURAL COMMODITIES

GRAINS, SOYBEANS, SUNFLOWER SEED, CROP SEED, CONDIMENTAL SEEDS, SPICES, HERBS, BIRDSEED¹ and POPCORN¹.

113

SUPPLEMENTAL LABELING
PAGE 6

<u>Pest</u>	<u>Rate</u>
Indian Meal Moth Almond Moth	3/8 lb. 100 bu (undiluted and diluted)*

*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.**

¹For all States except California

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 as 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 into 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 including popcorn, apply the dosage to the entire grain mass and mix thoroughly prior to bagging.

Treatments can be applied to 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 recurs.

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, increased depth of treatment according to the habit of the pest.

DIPEL for Fruits, Nuts, Trees, Ornamentals

<u>Crop</u>	<u>Pest</u>		<u>lbs/100 Gallons*</u> <u>(Ground Equipment)</u>
Grapes, Small Fruits, Cane and Bush Berries	Grapeleaf Skeletonizer (ground only)		
	Grape Leaf folder		
	Achema Sphinx Moth (Hornworm)		
	Saltmarsh Caterpillar (ground only)		
	Omnivorous Leafroller (ground only)		
	Loopers		
Stone Fruits, Nut Trees, Pomegranates	Redhumped Caterpillar	1/8 to 1/4	
	Tent Caterpillars	1/8 to 1/4	
	Omnivorous Leafroller	1/4 to 1/2	
	Fall Webworm	1/8 to 1/4	
	Walnut Caterpillar	1/4 to 1/2	
	Cankerworms	1/8 to 1/4	
Pome Fruits ¹	Cankerworms	1/8 to 1/4	
	Gypsy Moth	1/4 to 1/2	
	Variegated Leafroller	1/4 to 1/2	
	Redbanded Leafroller	1/4 to 1/2	
	Tufted Apple Budmoth	1/4 to 1/2	
	Tent Caterpillars	1/8 to 1/4	
Citrus ²	Fruittree Leafroller	1/4 to 1/2	
	Orangedog	1/8 to 1/4	
Tropical Fruits ³	Hornworm	1/4 to 1/2	
	Leafrollers	1/4 to 1/2	
	Omnivorous Looper	1/4 to 1/2	
	Loopers	1/4 to 1/2	

SUPPLEMENTAL LABELING
PAGE 8

<u>Crop</u>	<u>Pest</u>	<u>lbs/100 gallons*</u> <u>(Ground Equipment)</u>	<u>lbs/Acre</u> <u>(Aerial**</u> <u>Application)</u>
Forest, Shade, Sugar Maple Trees and Ornamentals	Gypsy Moth	1/4 to 1/2	1/2
	Bagworm	1/4 to 1/2	1/4 to 1/2
	Redhumped Caterpillar	1/8 to 1/4	1/8 to 1/4
	Spring & Fall Cankerworm	1/8 to 1/4	1/8 to 1/4
	Fall Webworm	1/4	1/4
	Elm Spanworm	1/4 to 1/2	1/4 to 1/2
	Tent Caterpillars	1/8 to 1/4	1/4
	California Oakworm	1/8 to 1/4	1/8 to 1/4
	Pine Butterfly	1/2	1/2
	Spruce Budworms ⁴	1/2	1/2
	Saddle Prominent Caterpillar	1/4 to 1/2	---
	Douglas Fir Tussock Moth	1/2	1/2
	Western Tussock Moth	1/4 to 1/2	---
	Fruittree Leafroller	1/4 to 1/2	---
	Blackheaded Budworm	1/2	---
	Mimosa Webworm	1/4 to 1/2	---
Jack Pine Budworm	1/4 to 1/2	3/8 to 1/2	
Saddleback Caterpillar	1/4 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.

¹Use 400-450 gallons/acre to suppress listed pests in pest management programs.

²Use 100 to 400 gallons/acre.

³Use at least 200 gallons/acre.

⁴Use against populations below 35 larvae per 18-inch branch tip. Use a minimum of 1/2 gallon/acre by air.

*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 3-3/4 lbs. 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 indicate above.

FLUE-CURED TOBACCO

<u>Pest</u>	<u>Rate</u>
Tobacco Moth	4/20 oz./100 lbs*

*Apply 0.2 ounce (approximately 2 1/2 teaspoonsful) 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 with out shattering at the time of application.

Tobacco to be Stored up to Twelve Months.

Spray loose leaves as the tobacco is being bundled 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, fluff 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, treatment 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 in which the moth might breed. Make a spray mixture containing 1/2 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.

®Fundal, Galecron, Lannate, Nudrin, are trademarks of companies other than Abbott Laboratories.

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

List