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MAY 0 8 1990

Dr. Ralph J. Hodosh
Manager, Labeling and Product Safety
CAPD Regulatory Affairs (D928)
Abbott Laboratories
1401 Sheridan Road
North Chicago, IL 60064-4000

Dear Dr. Hodosh

Subject: Dipel ES Supplemental Labels East and West
of the Rocky Mountains
EPA Reg. No. 275-65

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provided that you move "Keep Out of Reach of Children" above the signal word Caution at the next printing. A stamped copy is enclosed for your records.

Sincerely yours,

Phil Hutton
Product Manager (17)
Insecticide-Rodenticide Branch
Registration Division (H7505C)

51205:I/WP50:Mendelsohn:C.Disk:KENCO:5/3/90:dg:sw:vo:dd:dg

CONCURRENCES								
SYMBOL								
SURNAME								
DATE								

EPA Form 1320-1 (12-70) OFFICIAL FILE COPY

Emulsifiable Suspension

Active Ingredient:	
Bacillus thuringiensis, var. *kurstaki*, 17,600 International Units of Potency per mg (64 billion International Units per gallon)	3.5%
Inert Ingredients	96.5%
TOTAL	100.0%

List No. 5555 01
EPA Registration No. 275-65

ACCEPTED

CAUTION

Keep Out of Reach of Children

East of The Rocky Mountains

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

SUPPLEMENTAL LABELING

Precautionary Statements Supersede Earlier Labeling

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 other procedures approved by state and local authorities.

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 such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

Re-Entry Statement
Do not enter treated areas without protective clothing until sprays have dried.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. Oral warnings must include the following information:

> Inform workers of area of fields that must not be entered without appropriate protective clothing until sprays have dried. In case of accidental exposure, wash with plenty of water. If there is any irritation in eyes after washing, get medical attention.

When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers.

Written warnings must include the following information:

> "Area treated with DiPel ES on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of accidental exposure, wash with plenty of water. If there is any irritation in eyes after washing, get medical attention."

DiPel ES 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 ES 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 ES at the site of larvae 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.

the hour, and will die within several days. Dying larvae move slowly, discolor, then shrivel, blacken and die.

DiPel ES may be applied in conventional ground, aerial equipment, or center pivot irrigation systems 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.

APPLICATION INSTRUCTIONS

MIXING RECOMMENDATIONS
Important — do not add DiPel ES to the mix tank before introducing the desired quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding DiPel ES. When using a surfactant or spreader-sticker, add it to the water prior to addition of DiPel ES. Add the desired volume of DiPel ES to the mix tank and continue circulation. Include rinse water from the containers. Maintain the suspension while loading and spraying. When using a non-emulsifiable oil or another pesticide, add it after the DiPel ES. Do not mix more DiPel ES than can be used in a 6-day period. Rinse and flush spray equipment thoroughly following each use. Selection of fluid to flush the application system will depend on what type of mixture was used during the application period. Use 20-mesh screens.

SPRAY VOLUME
For aerial application use at least 1 gallons of total volume per acre in water based sprays. For ground application, use at least 7 gallons of volume per acre.

DIPEL ES FOR CORN

Crop	Pest	Pints/Acre Ground Equipment	Pints/Acre Sprinkler Irrigation	Pints/Acre Aerial Application
Corn: Field Corn Seed Corn Sweet Corn Popcorn Silage Corn	European Cornborer and Southwestern Cornborer (First generation population)	1½ - 2	1½ - 2½	—
	European Cornborer & Southwestern Cornborer (Second generation population)	1½ - 2½	1 - 2½	1½ - 2½

Applications should be made when young larvae are present for first or second generation corn borers. One application against the first generation of larvae should provide economic control. Two or more applications may be required against second generation borers if there is an extended period of egg deposition.

Treatments should be made before extensive damage has occurred while larvae are still actively feeding on exposed plant parts. Thorough spray coverage is needed to provide a uniform deposit at the site of larval feeding.

Under heavy pest population pressure, use the higher label rates increased spray volume, and/or multiple applications.

Cool weather may cause cornborer larvae to seek protected areas of the corn plant and to reduce the amount of feeding normally done on exposed plant parts. This alteration in feeding behavior will hamper and effectiveness of DiPel ES.

DiPEL ES FOR OTHER CROPS

Crop	Pest	Pints/Acre
Alfalfa (Hay and Seed) Hay and Other Forage Crops	Armyworms[1]	2 - 2½
	Loopers	1 - 2
	Alfalfa Caterpillar	1 - 2
	European Skipper	1 - 2
	Webworm	1 - 2
Cotton	Tobacco Budworm[2]	1 - 2½
	Cotton Boilworm[2]	1 - 2½
	Armyworms[1]	2 - 2½
	Loopers	1 - 2
	Saltmarsh Caterpillar	1 - 2
Cranberries	Spanworms	2
	Gypsy Moth	2
	Blossom Worm	2
	False Armyworm	2
Hops	Armyworms[1]	1 - 4
	Loopers	1 - 2
Legume Vegetables such as Beans, Peas Lentils and Soybeans	Loopers	1 - 2
	Green Cloverworm	1 - 2
	Velvetbean Caterpillar	1 - 2
	Podworms[3]	1 - 2
	Armyworms[1]	1 - 4
	Soybean Loopers	1 - 2
	Saltmarsh Caterpillar	1 - 2
Rangeland	Range Caterpillar[4]	½ - 1
Root and Tuber Crops such as Sugar Beets, Carrots, or Potatoes	Armyworms[1]	1 - 4
	Cutworms	1 - 2
	Diamondback Moth	1 - 2
	Hornworms	1 - 2
	Loopers	1 - 2
	European Corn Borer	1 - 2
Small Grains such as Barley, Sorghum, Wheat or Oats	Armyworms[1]	1 - 4
	Variegated Cutworm	1 - 2
	Loopers	1 - 2
	Corn Earworm	1 - 2
	Webworm	1 - 2
Sunflowers Oil Seed and Confectionary	Sunflower Moth[5]	1½ - 2½
	Banded Sunflower Moth[5]	1½ - 2½

APPLICATION TIMING

[1] DiPel ES may be used to control small armyworms (1st and 2nd instar) when populations are light and full coverage sprays are applied. Repeat treatment as necessary. If mature worms or heavy populations are present a contact insecticide should be used to enhance control.

[2] Use Dipel ES to control light to moderate populations of newly hatched worms in pest management programs. Use under close scouting when beneficial insects are active or building. Repeat treatments at 4 to 5 day intervals or as long as necessary and results are acceptable. This product can be mixed with Larvin (thiodicarb 3.2 lbs/gallon) for use on cotton against tobacco budworm and cotton bollworm in accordance with the more restrictive of label limitations and precautions. No label dosage rates should be exceeded. This product can not be mixed with any product containing a label prohibition against such mixing. DiPel ES may be used alone for Heliothis control only on preblooming cotton where few or no eggs are present. If significant eggs are present, use only in combination with ovicidal rates of Larvin. Larvin is a trademark of Rhone Poulenc.

[3] DiPel ES may be used to control podworms (1st and 2nd instar) when populations are light and full coverage sprays are applied. Repeat treatment as necessary. If mature worms or heavy populations are present a contact insecticide should be used to enhance control.

[4] Use in 1 to 2 qts. water per acre against 1st through 4th instar larvae.

[5] For moderate pest pressure make a single application prior to 75% bloom. A second application, 5 days later, may be necessary to control severe infestations. Treat when larvae are exposed and small.

In Texas, begin treatment when early-instar larvae are present and no more than 20% of the heads are in bloom. Use a spray interval of 4-6 days for a total of 3 applications, if necessary, to reduce the worm population to an acceptable level, especially if continued egg deposition occurs during the period.

CHEMIGATION

Apply this product only through sprinkler systems such as center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, or hand move. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, 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.

The active ingredient in DiPel ES 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. Do not apply where wind speed favors drift beyond the area intended for treatment. When application is complete, thoroughly flush the injection system and sprinkler lines.

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 connected to the system interlock located on the intake side of the injection pump and to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. 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.

Public water system 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 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) 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 shut down.

NOTES:

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 area intended for treatment.

MIXING RECOMMENDATIONS FOR CHEMIGATION

Follow general mixing recommendations and keep the ratio at 3 parts water to 1 part DiPel ES. Also, provide mild uniform agitation throughout the solution but do not agitate excessively. For undiluted injection for chemigation: flush and clean nurse tank, lines, screen canister, and pump with diesel fuel or a non-emulsifiable oil until they are water free before and after application. Use a 20-mesh screen. Continue agitation during injection.

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. Apply DiPel ES only through sprinkler irrigation systems such as center-pivot, lateral move, end-tow, side (wheel) roll, traveler, solid-set or hand move. Do not apply this product through any other type of irrigation system.

APPLICATION TIMING FOR CHEMIGATION

For all crops except cranberries, application of DiPel ES may be made continuously during irrigation. For cranberries, apply during the end of the irrigation period, after it is determined that the heads are operating properly, for 8-20 minutes depending on the size of the system.

NOTICE TO USER

Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning 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.

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