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MAR 15 1989

Mr. John S. Thornton  
Manager, Registrations  
Mobay Corporation  
Agricultural Chemicals Division  
P.O. Box 4913  
Kansas City, MO 64120-0013

Dear Mr. Thornton:

Subject: Revised Labeling Regarding Recommended Applications  
BAYTHROID® 2  
EPA Registration No. 3125-351  
Your Amended Application Dated November 3, 1988

The labeling referred to above, submitted in connection with  
registration under the Federal Insecticide, Fungicide, and Rodenticide  
Act, as amended, is acceptable. A stamped copy is enclosed for your  
records.

Sincerely yours,

George T. LaRocca  
Product Manager (15)  
Insecticide-Rodenticide Branch  
Registration Division (H7504C)

Enclosure

50753:I:Heyward:LLR-19:KENCO:03/08/89:04/17/89:aw:VO:EK:CT

CONCURRENCES

SYMBOL							
SURNAME							
DATE							

351-6639.BLD

Base Reg (6639)

U.S. LABEL

Reason to Issue: To add Heliothis (Bollworm/Budworm) Ovicidal to pest list; to show increased use rate for beet armyworm and to add remarks about fall armyworm, beet armyworm and cotton aphid.

Date of Draft: 3/2/89 (M)  
Supersedes Draft Dated: 12/20/88 and  
Pre-Reg Drafts Dated: 8/22/88 and 10/26/88.

EPA Reg. No. 3125-351

**RESTRICTED USE PESTICIDE**  
**Toxic to Fish and Aquatic Organisms**  
For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

~~MOORE-RED~~  
~~COMMENTS~~  
~~Letter Dated:~~

**BAYTHROID® 2**  
Emulsifiable Pyrethroid Insecticide

MAR 15 1989

Not for sale or distribution after March 31, 1990  
Not for use after July 31, 1990.

Under the Federal Insecticide, Fungicide, and Rodenticide Act, this pesticide is registered under FFA Reg. No. 3125-351.

FOR CONTROL OF INSECT  
PESTS ON COTTON

Contains 2 pounds Cyano(4-fluoro-3-phenoxyphenyl)methyl-3-(2, -dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate per gallon

ACTIVE INGREDIENT:  
Cyano(4-fluoro-3-phenoxyphenyl)methyl-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate ..... 25%

INERT INGREDIENTS: ..... 75%  
100%

**STOP - READ THE LABEL BEFORE USE**

(This product contains aromatic petroleum distillates.)

**KEEP OUT OF REACH OF CHILDREN**

EPA Reg. No. 3125-351  
EPA Est. 3125-MO-1  
U. S. Patent No. 4,218,469  
Canadian Patent No. 1,113,477

**DANGER**

(See Rear Panel for Statements of Practical Treatment and Other Precautionary Statements)

**PELIGRO**

**PRECAUTION AL USUARIO:** Si usted no puede leer o entender inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.  
**(TO THE USER:** If you cannot read or understand English, do not use this product until the label has been fully explained to you.)

**NET CONTENTS                      GALLONS**

**MOBAY CORPORATION**  
**A Bayer USA INC. COMPANY**  
**AGRICULTURAL CHEMICALS DIVISION**  
Box 4913, Kansas City, Missouri 64120

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Causes eye damage. May be fatal if inhaled. Harmful if swallowed or absorbed through the skin. Do not get in eyes, on skin or on clothing. Do not breathe vapors, or spray mist.

Do not contaminate feed or food. Keep out of reach of children.

Wear goggles, face shield, or safety glasses. Wash hands, arms, and face thoroughly with soap and warm water after handling. Remove and wash contaminated clothing with soap and hot water before reuse.

SYMPTOMS OF POISONING

In case of poisoning, call a physician immediately. Have patient lie down and keep quiet.

STATEMENTS OF PRACTICAL TREATMENT

If eyes are contaminated, flush with plenty of water. Get medical attention. If swallowed, do not induce vomiting. Call a physician. Gastric lavage should be supervised by a physician or professional medical staff because of possible pulmonary damage via aspiration of the solvent. If on skin, wash skin immediately with soap and warm water. If irritation occurs, get medical attention. If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention.

TO PHYSICIAN: No specific antidote is available. Treat symptomatically.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish. Use with care when applying in areas adjacent to any body of water. Keep out of lakes, streams or ponds. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by disposing of equipment washwaters. Apply this product only as specified on this label.

This pesticide is highly toxic to bees exposed to direct treatment or residues on crops or weeds. Do not apply BAYTHROID 2 or allow it to drift to crops or weeds on which bees are actively foraging. Additional information may be obtained by consulting your Cooperative Extension Service.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

## DIRECTIONS FOR USE

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

**IMPORTANT:** Read these entire Directions and Conditions of Sale before using BAYTHROID 2 emulsifiable pyrethroid insecticide.

**CONDITIONS OF SALE:** THE DIRECTIONS ON THIS LABEL WERE DETERMINED THROUGH RESEARCH TO BE THE DIRECTIONS FOR CORRECT USE OF THIS PRODUCT. THIS PRODUCT HAS BEEN TESTED FOR A RANGE OF WEATHER CONDITIONS SIMILAR TO THOSE WEATHER CONDITIONS THAT ARE ORDINARY AND CUSTOMARY IN THE GEOGRAPHIC AREA WHERE THE PRODUCT IS USED. INSUFFICIENT CONTROL OF PESTS AND/OR INJURY TO THE CROP TO WHICH THE PRODUCT IS APPLIED MAY RESULT FROM THE OCCURRENCE OF EXTRAORDINARY OR UNUSUAL WEATHER, OR FROM FAILURE TO FOLLOW LABEL DIRECTIONS. IN ADDITION, FAILURE TO FOLLOW LABEL DIRECTIONS MAY CAUSE INJURY TO OTHER CROPS, ANIMALS, MAN, OR THE ENVIRONMENT. MOBAY OFFERS, AND THE BUYER ACCEPTS AND USES, THIS PRODUCT SUBJECT TO THE CONDITIONS THAT EXTRAORDINARY OR UNUSUAL WEATHER, OR FAILURE TO FOLLOW LABEL DIRECTIONS ARE BEYOND THE CONTROL OF MOBAY AND ARE, THEREFORE, THE RESPONSIBILITY OF THE BUYER.

BAYTHROID 2 emulsifiable pyrethroid insecticide may be used for control of a broad spectrum of insect pests by contact action. Because of this contact activity, good spray coverage of the crop is needed for the highest level of control.

## USE IN CHEMIGATION SYSTEMS

### Types of Irrigation Systems

Apply BAYTHROID 2 only through sprinkler, including center pivot, lateral move, side roll, or overhead solid set irrigation systems. Do not apply BAYTHROID 2 through any other type of irrigation system.

### GENERAL DIRECTIONS FOR ALL RECOMMENDED TYPES OF IRRIGATION SYSTEMS

#### Uniform Water Distribution and System Calibration

The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

The system must be calibrated to uniformly apply the rates specified for chemigation application for specific crops. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

#### Chemigation Monitoring

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.

#### Drift

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

USE IN CHEMIGATION SYSTEMS (Continued)

Required System Safety Devices

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 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.

Using Water from Public Water Systems

DO NOT APPLY BAYTHROID 2 THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM. 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.

BAYTHROID 2 may be applied through any of the recommended types of irrigation systems which may be supplied by a public water system only if the water from the public water system is 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. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Any irrigation system using water supplied from a public water system must also meet the following requirements.

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.

USE IN CHEMIGATION SYSTEMS (Continued)

Using Water from Public Water Systems (Continued)

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) 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.

Posting Requirements

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to the follow requirements: Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2 1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

Posting required for chemigation does not replace other posting and reentry interval requirements for farmworker safety.

Agitation

For application of BAYTHROID 2 alone, a chemical supply tank is not necessary or premixing since BAYTHROID 2 mixes well with water in the irrigation line. If a chemical supply tank is used for application of BAYTHROID 2, constant strong mechanical or hydraulic agitation must be maintained in the chemical supply tank during the entire period of application.

USE IN CHEMIGATION SYSTEMS (Continued)

Chemical Supply Tank Dilution

If a chemical supply tank is used, you must determine the required amounts of BAYTHROID 2 and water to mix in the tank.

The amount of BAYTHROID 2 needed equals the number of fluid ounces of BAYTHROID 2 to be applied per acre multiplied by the number of acres to be chemigated.

The amount of emulsion needed equals the gallons of emulsion delivered per hour by the injection pump multiplied by the number of hours chemigation will take place.

The amount of water needed equals the amount of emulsion needed minus the amount of BAYTHROID 2 needed.

For example, if you want to apply 1.6 fluid ounces of BAYTHROID 2 per acre to 130 acres in 20 hours and your irrigation pump delivers 15 gallons per hour, you need: 1.6 fluid ounces of BAYTHROID 2 X 130 acres = 208 fluid ounces or 13 pints of BAYTHROID 2. And, you need: 15 gallons per hour X 20 hours = 300 gallons of emulsion, minus 1.625 gallons (13 pints) of BAYTHROID 2 = 298.375 gallons of water.

Cleaning the Chemical Injection System

In order to accurately apply pesticides, the chemical injection system must be kept clean; free from chemical or fertilizer residues and sediments. Refer to your owners manual or ask your equipment supplier for the cleaning procedure for your injection system.

Flushing the Irrigation System

At the end of the application period, allow time for all lines to flush the pesticide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

SPRINKLER IRRIGATION SYSTEMS

All directions and requirements listed under the GENERAL DIRECTIONS AND REQUIREMENTS FOR ALL RECOMMENDED TYPES OF IRRIGATIONS SYSTEMS section of this label must be followed for sprinkler irrigation systems.

In addition, the following directions apply to sprinkler irrigation systems.

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

It is recommended that nozzles in the immediate area of control panels, chemical supply tanks, pumps and system safety devices be plugged to prevent chemical contamination of these areas.

Center-Pivot and Automatic-Move Linear Systems

Inject the specified dosage per acre continuously for one complete revolution or move of the system. DO NOT USE END GUNS. The system should be run at maximum speed.

Solid Set and Manually Controlled Linear Systems

Injection should be during the last 30 to 60 minutes of a regular irrigation period or as a separate 30 to 60 minute application not associated with a regular irrigation. DO NOT USE END GUNS.

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BAYTHROID 2 insecticide

RECOMMENDED APPLICATIONS

CROP	PEST	DOSAGE		REMARKS
		Pounds AI Per Acre	BAYTHROID 2 Fl. Ozs. Per Acre	
Cotton	Beet armyworm Fall armyworm Thrips Soybean looper	0.05 to 0.1	3.2 to 6.4	Apply specified dosage per acre as needed in sufficient water, at least one gallon, for thorough coverage of foliage. Applications may also be made with ground or aircraft equipment adapted and calibrated for ULV application. BAYTHROID 2 may be mixed with once-refined vegetable oil and applied in a total volume of at least one quart per acre.
	Boll weevil Cotton bollworm Tobacco budworm Cabbage looper Cotton aphid Lygus bugs Flea beetles Pink bollworm  <u>Heliothis</u> (Bollworm/ Budworm) Ovicidal	0.025 to 0.05	1.6 to 3.2	For application by sprinkler irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label.  Timing of applications should be based on careful scouting and local economic thresholds. A 3 to 5 day application schedule may be required to maintain control of heavy boll weevil infestations. Lower dosage rates are adequate for low to moderate insect pressure, but require careful scouting and may require more frequent applications. Ask your supplier for more detailed information for your area.
	Leafworm Cotton leaf- perforator	0.0125 to 0.025	0.8 to 1.6	For armyworm control, careful scouting and early detection are necessary. Subsequent applications are necessary to maintain control.  For cotton aphid, thorough coverage under light infestation pressure is necessary to achieve control. Under heavy infestation pressure a systemic insecticide may be necessary.  For maximum contact <u>Heliothis</u> ovicidal effect, time application to correspond to peak egg deposition.  A total of 57 fluid ounces of BAYTHROID 2 per acre may be applied per crop season.  Do not graze treated fields.  Applications may be made up to day of harvest.



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BAYTHROID 2 insecticide

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RATE CONVERSION CHART:

Lb. AI/A	Fl Oz/A	Acres Treated:	
		/Gallon	Pint
0.0125	0.8	160	20
0.025	1.6	80	10
0.028	1.8	71	9.0
0.033	2.1	61	7.6
0.05	3.2	40	5
0.1	6.4	20	2.5

CROP ROTATION STATEMENT

Do not rotate with small grain crops for a period of one (1) year following application of this active ingredient.

RE-ENTRY STATEMENTS

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. Do not enter treated areas without protective clothing until sprays have dried. Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

(The following may appear on supplemental labeling accompanying the product.)  
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 should include those statements found under the label heading "Precautionary Statements" and "Re-entry Statements" included on this label. 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: DANGER, area treated with BAYTHROID 2 on (date of application). Do not enter without appropriate protective clothing until sprays have dried. If eyes are contaminated, wash with flowing water for at least 15 minutes. If on skin, remove contaminated clothing and wash skin immediately with soap and warm water. If swallowed, do not induce vomiting. Call a physician. (See Precautionary Statements on label.)

STORAGE AND DISPOSAL

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

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Store in a cool, dry place and away from open flame and extreme heat. Store in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

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BAYTHROID 2 insecticide

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STORAGE AND DISPOSAL (Continued)

Handle and open container in a manner as to prevent spillage. If container is leaking invert to prevent leakage. If the container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides above. In spill or leak incidents, keep unauthorized people away. You may contact the Mobay Emergency Response Team for decontamination procedures or any other assistance that may be necessary. The Mobay Kansas City Emergency Response Telephone No. is 816-242-2582, or contact Chemtrec at 800-424-9300.

BAYTHROID is a Reg. TM of Bayer AG, Germany.