DP Barcode : D178158
PC Code No. : 109901
EFGWB Out :

NOV 23 1992

TO: Rebecca Cool
Product Manger PM 41
Registration Division (H7505C)

FROM: Akiva D. Abramovitch, Ph.D., Head
Environmental Chemistry Review Section #3
Environmental Fate & Ground Water Branch/EFED (H7507C)

THRU: Henry Jacoby, Chief
Environmental Fate & Ground Water Branch/EFED (H7507C)

Attached, please find the EFGWB review of...

Reg./File # :92CA0025

Common Name :Triademifon

Product Name :Bayleton

Company Name :State of California

Purpose :Emergency Exemption for Bayleton to Control Powdery Mildew on Tomatoes in California.

Type Product :Fungicide Action Code: 510 EFGWB #(s): 92-0867 Review Time: 2.0 days

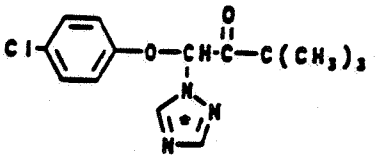
EFGWB Guideline/MRID/Status Summary Table: The review in this package contains...

161-1		162-4		164-4		166-1	
161-2		163-1		164-5		166-2	
161-3		163-2		165-1		166-3	
161-4		163-3		165-2		167-1	
162-1		164-1		165-3		167-2	
162-2		164-2		165-4		201-1	
162-3		164-3		165-5		202-1	

Y = Acceptable (Study satisfied the Guideline)/Concur P = Partial (Study partially satisfied the Guideline, but additional information is still needed)
S = Supplemental (Study provided useful information, but Guideline was not satisfied) N = Unacceptable (Study was rejected)/Non-Concur

1. CHEMICAL:

Chemical Name: 1-(4-chlorphenoxy-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone
CAS No.: 43121-43-3
Common Name: Triademifon
Trade Name: Bayleton
Chemical Structure:



Molecular Formula:
Physical/Chemical Properties of Active Ingredient:

Molecular Weight: 291.73
Physical state: crystals (2 forms)
Color: none
Vapor pressure: 6.7×10^{-9} Torr
Water solubility: 64 ppm at 20 °C
Octanol/water partition coefficient: 1513
Formulations: Various EC and ULV Formulations

2. TEST MATERIAL: Not Applicable

3. STUDY/ACTION TYPE:

The state of California is requesting an Emergency Exemption for the use of triademifon on tomatoes to control powdery mildew (Leveillula taurica) in 1992.

4. STUDY IDENTIFICATION: Not Applicable

5. REVIEWED BY:

James A. Breithaupt
Agronomist, Review Section #3
OPP/EFED/EFGWB

Signature: James Breithaupt
Date: 10/29/92

6. APPROVED BY:

Akiva Abramovitch, Ph.D.
Chief, Review Section #3
OPP/EFED/EFGWB

Signature: For AA
Date: 11/23/92

7. CONCLUSIONS:

EFGWB can support the proposed Emergency Exemption for the 1992 growing season to apply ≤10 ounces triadimefon/acre to a maximum possible area of 140,000 acres of tomatoes. However, soil leaching and consequent ground water contamination may result from continued use of triadimefon at higher application rates, as evidenced by submitted terrestrial field dissipation studies that were conducted in soils that support tomato production in California. Trace levels (0.01-0.07 ppm) of the primary degradate, triadimenol, which is the active in the fungicide Baytan™, were detected to 18-36 inches of depth in sandy loam/loamy sand soils (0.2-0.75 % OC) in California at 181-361 days after treatment with 5.44 lbs triadimefon/A and 18.5-64.9 cumulative inches of precipitation/irrigation.

ENVIRONMENTAL FATE ASSESSMENT

EFGWB has received Environmental Fate data on degradation (161-1,2,3), metabolism (162-1,2), mobility (163-1), field dissipation (164-1), and accumulation in confined rotational crops and in fish (165-1,4). The data are under review and indicate that aerobic soil metabolism is the only apparent mode of degradation in the field, with a half-life of 5.6 days. Triadimefon is moderately mobile in sand, sandy loam, silt loam, and clay loam soils with Freundlich K_{ads} values of 1.9-6.9. However, the primary degradate triadimenol appears to be more persistent and more mobile than parent triadimefon. Soil leaching and consequent ground water contamination may result from continued use of triadimefon at higher application rates, as evidenced by submitted terrestrial field dissipation studies that were conducted in soils that supports tomato production in California. Trace levels (0.01-0.07 ppm) of the primary degradate, triadimenol, which is the active in the fungicide Baytan™, were detected to 18-36 inches of depth in sandy loam/loamy sand soils (0.2-0.75 % OC) in California at 181-361 days after treatment with 5.44 lbs triadimefon/A and 18.5-64.9 cumulative inches of precipitation/irrigation.

8. RECOMMENDATIONS: See CONCLUSIONS Section

9. BACKGROUND:

The state of California is applying for a statewide Emergency Exemption for use of triadimefon (Bayleton 50 DF and 50 WP in water-soluble packets) on tomatoes to control powdery mildew in 1992. The maximum possible use area is 140,000 acres (219 sq. miles), but the submission stated that the infestation of powdery mildew on tomatoes is sporadic and spotty. The attachments stated that the maximum possible amount of triadimefon that may be applied statewide in 1992 is 87,500 lbs/year (maximum of 4 applications of 1-2.5 oz ai/A).

The submissions in this review indicated that triadimefon is the only registered fungicide that appears to have adequate efficacy for powdery mildew on tomatoes. The Bean Sheet indicated that Emergency Exemptions have been granted for control of powdery mildew on tomatoes for the state of California for the last 10 years. The following attachments indicate that registered pesticide alternatives and resistant cultivars of tomatoes

are non-existent. However, research into resistant cultivars is being conducted and the registrant has submitted 164-1 studies on soils used for tomato production in California (see attachments).

10. DISCUSSION OF INDIVIDUAL STUDIES: Not Applicable

11. COMPLETION OF ONE-LINER: Not Applicable

12. CBI INDEX: Not Applicable

DP BARCODE: D178158

CASE: 283585 DATA PACKAGE RECORD DATE: 05/13/92
SUBMISSION: S417573 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: EMERGENCY EXEMP ACTION: 510 SEC18-OC F/F USE
CHEMICALS: 109901 Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1- %

ID#: 92CA0025
COMPANY:
PRODUCT MANAGER: 41 REBECCA COOL 703-305-7717 ROOM: CM2 720
PM TEAM REVIEWER: SUSAN STANTON 703-305-7889 ROOM: CM2 716B
RECEIVED DATE: 05/11/92 DUE OUT DATE: 06/30/92

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 178158 EXPEDITE: N DATE SENT: 05/13/92 DATE RET.: / /
CHEMICAL: 109901 Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-but
DP TYPE: 001 Submission Related Data Package
ADMIN DUE DATE: 06/02/92 CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT
DIV : EFED	05/15/92	/ /
BRAN: EFGB	/ /	/ /
SECT:	/ /	/ /
REVR :	/ /	/ /
CONTR:	/ /	/ /

* * * DATA REVIEW INSTRUCTIONS * * *

Please review California's emergency exemption request for the use of Bayleton on tomatoes. Do the available environmental fate data support the proposed use? Please note that this is the 10th year exemptions for this use have been granted.

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
178155	BAB	05/13/92	06/02/92	Y	N	N
178157	EAB	05/13/92	06/02/92	Y	N	N

Susan

STATE OF CALIFORNIA - ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, *Governor*

DEPARTMENT OF PESTICIDE REGULATION
1220 N Street, P. O. Box 942871
Sacramento, California 94271-0001

April 1, 1992

Ms. Rebecca Cool
Emergency Response Section
Registration Division, OPP (H7505C)
U.S. Environmental Protection Agency
401 M Street, S. W.
Washington, D. C. 20460

Dear Ms. Cool:

Reissuance Request for Section 18 Specific Exemption
Bayleton/Tomatoes/Powdery Mildew

The California Department of Pesticide Regulation requests the reissuance of the subject specific exemption. The subject specific exemption has expired and without effective alternative materials, the emergency situation and the potential for severe losses due to powdery mildew is present again.

This Section 18 was originally requested in 1982 and this will be the tenth year it is being requested. An action level is requested for fresh and processing tomatoes treated under this exemption.

The 1991 specific exemption expires on June 9, 1992. The county pesticide use reports will be sent after we receive them.

The Pest Problem

Powdery mildew was first discovered to be causing problem in California in 1978. Since 1978, the occurrence of powdery mildew has increased significantly and treatment of the crop is necessary to prevent yield loss. Powdery mildew is now endemic and well established throughout California. Triadimefon is the only material which has been found to effectively control powdery mildew in California. Without the use of triadimefon California tomato growers could incur very large losses.

The Pest

Powdery mildew is a fungus, which attacks the leaves of the tomato plant, leading first to a yellowing of the leaves and then sometimes to complete loss of the leaves. Without the protection of the leaves, the young tomatoes are not shielded from the sun and receive more sun than they can withstand. The tomatoes become soft or are burned up before they have a chance to grow to maturity.

If the tomatoes become "sunburned", they are more susceptible to disease and resulting deterioration after harvest than they would otherwise be. Total damage resulting from powdery mildew may not be evident for 1-2 weeks after harvest.

Powdery mildew epidemics on tomatoes occur sporadically and unpredictably. Infection may be severe in one field, but almost nonexistent in adjacent fields. It is not currently known what causes such wide variations. Powdery mildew lesions appear first as very small light green to yellow blemishes on the older leaves of tomato plants. The lesions appear 10 to 15 days after actual infection. Spores and spore-bearing structures are often observable on the undersurface of the young lesions. Later, the lesions expand into bright yellow areas, which often develop brownish centers. These centers expand until the entire leaf turns brown. It may take 20 to 30 days for the entire leaf to turn. Usually, the older leaves are infected first, but the disease spreads throughtout the leaves of the plant. Researches have found that the age of a leaf does not affect its susceptibility to infection. However, the older leaves of a plant do seem to be more heavily impacted.

Once the fungus is established in a tomato leaf, temperatures in excess of 86 degrees Fahrenheit can lead to a more rapid development and earlier loss of the leaf. Researchers have observed the most severe epidemics of powdery mildew during the hottest part of the growing season.

The disease usually appears at or near the time fruit sets, or 45 days after transplanting. However, infection can take place earlier if young plants are set near already-infected plants, and there is a concentration of the fungus in the area.

As noted, powdery mildew does have a latent period of infestation. Therefore, treatment of the plants is recommended once a small percentage(less than 20%) begins to show visual signs of infestation.

The Crop

Fresh market and processing tomatoes are grown statewide in California. The harvest starts in May in the Imperial Valley and moves north into the San Joaquin Valley and finally into the Salinas Valley. The counties which produce fresh market tomatoes are: San Diego, Orange, Imperial, Riverside, San Bernadino, Kern, Kings, Fresno, Madera, Merced, Tulare, Stanislaus, San Joaquin, Sacramento, Contra Costa, Monterey, San Benito, and Santa Clara.

California currently produces 24% of the fresh market and 90% of the processing tomatoes consumed in the United States. Approximately 75% of the fresh market tomatoes produced in California are in the mature-green form, while approximately 20% of the California fresh market tomatoes are of the vine-ripe variety. Occupying the remainder of the fresh market harvest are cherry and Roma (pear-shaped) tomatoes.

Fresh market tomatoes require a narrow range of high growing temperature and high light. These conditions do not occur everywhere. Instead, they occur in specific windows for certain growing areas. When the optimum growing conditions are combined with traditional irrigation methods, the resultant humid conditions encourage a wide diversity of diseases and insects.

Mechanized methods of harvesting fresh market tomatoes have not been perfected yet. The harvesting and packing of fresh market tomatoes is more labor-intensive than many other crops.

It is estimated that there will be 40,000 acres of fresh market tomatoes and 240,000 acres of processing tomatoes planted this year. The amount of acres that will be affected and need treatment this year could be as high as 50%, or 140,000 acres.

Livestock are not allowed to graze the crop but are fed by-products (tomato pomace).

Alternative Control Measures

Research and field tests have confirmed that there are no effective registered alternatives to triodimefon for control of powdery mildew. Attachments B through G contains letters and data from experts in this field.

Research Underway

The letter from Professor Yoder (attachment C) indicates that preliminary work will be done in the summer of 1992 in field tests on a resistance gene. Professor Yoder is the primary researcher working with tomatoes to develop transgenic plants with resistance to powdery mildew. Professor Yoder's work is part of a $10.5 million dollar National Science Foundation grant to study the molecular structure of tomatoes to increase disease resistance. The California tomato industry is helping to fund this project.

As the letters from Joseph Jacobs (attachment D) and Jon Watterson (attachment E) indicate, significant work has been done by various seed companies to attempt to breed a tomato seed that is resistant to the powdery mildew. At this time, no such seed has been identified.

Field Tests on Alternatives

The letter from Albert Paulus (attachment G) indicates that numerous materials have been tried since 1982 to control powdery mildew in tomatoes, such as Tilt, Rubigan, Topas, NuStar, Spotless and Systane. Although all of these products resulted in acceptable control, none of these materials are registered for use on tomatoes.

Wettable sulfur resulted only in intermediate control. A Benlate and Phaltan treatment did not result in control at a satisfactory level for commerical production.

Economic Effects

The following chart provides an economic profile of the fresh market tomato crop:

Year	Yield/Acre (cwt)	Price/cwt $	Gross/Acre $	Cost/Acre $	Net/Acre $
1991	240	25.00	6000	4,500-6,000	0-2,500
1990	255	27.40	7191	4,500-6,000	1191-2,691
1989	260	24.00	6240	4,500-6,000	240-2,740
1988	245	29.90	7326	4,500-6,000	1326-2,826
1987	300	21.50	6450	4,500-6,000	450-2,950

The following chart provides an economic profile of the processing tomato crop:

Year	Yield/Acre tons	Price/Ton $	Gross/Acre $	Cost/Acre $	Net/Acre $
1991	31.7	55	1744	1500	244
1990	30.02	55	1651	1500	151
1989	31.05	55	1708	1435	273
1988	28.96	55	1593	1408	131
1987	31.32	55	1723	1408	315

The market price for fresh market tomatoes is volatile, depending on supply and demand. Prices also vary depending on size of the tomato and time of the year. In 1991, prices for large tomatoes in August ran about $5.00 per carton at the farmgate. Prices for medium and extra large tomatoes ran about $1.00 less and more, respectively, for the same time period. The price can be higher early in the season (attachment H).

The market value for processing tomatoes is semi-fixed, with contracts being let prior to the growing season. Final price is determined by quality, grade, and premium paid for special cannery needs primarily based on solids content. The 1992 average price for processing tomatoes at the processor door is expected to be approximately $50 per ton; however, no price is established as of this date.

Production Costs

Production costs for fresh market tomatoes vary somewhat depending on the region of California under discussion, but yields also vary depending on the region. Overall, state-wide production costs average $4.50 per carton. Stated on an acreage basis, total production costs average $4,500 per acre, with an average of 1,000 cartons produced per acre. Production costs can run as high as $6000 per acre depending on the area of the state.

Typical production costs for 1991 in an area where the per acre yield was 1,000 cartons are as shown in attachment I. From 1986 through 1989, the yield of fresh market tomatoes in California averaged 1,060 cartons per acre. (Mature green variety tomatoes are packed in 25-pound cartons, while the vineripe tomatoes is packed in 18-20 pound cartons.)

Material cost for triadimefon will average approximately $24.00 per acre, when used. Without the use of triadimefon, as discussed above, it is estimated there could be a loss of production of as much as 90%.

The production of fresh market tomatoes may only break even for much of the harvest season. Fresh market tomatoes simply do not have a high profit margin. It follows that if the production is reduced by 30%, 50%, or more, as would be the case if powdery mildew affected the crop, the grower would lose money on the crop.

Enforcement Authority

Authority to enforce provisions of this Section 18 are provided in the California Food and Agricultural Code. The County Agricultural Commissioners are given the authority to enforce all of the provisions of the Code. All Section 18 Emergency Exemptions are classified as restricted materials and a permit must be obtained from the County Agricultural Commissioner before they can be applied.

Risk Information

Use of triadimefon under this specific exemption is not expected to result in adverse effects to human health, endangered species or threatened species, beneficial organisms or the environment. This use pattern was reviewed by our Fish and Wildlife staff. They concluded that "In view of low rates of application and limited environmental exposure and low inherent toxicity of triadimefon, fish and wildlife are not considered threatened by the proposed use of triadimefon in tomatoes" (attachment J). The U. S. Fish and Wildlife Service concurred (attachment K).

The Proposed Program

The proposed program is outlined in the enclosed supplemental label (Attachment A). This label includes directions for use, precautions and restrictions. Residue data has been submitted to the U. S. Environmental Protection Agency.

The manufacturer, Mobay, has been notified of this specific exemption request and is in concurrence. In addition, the appropriate state agencies are also being notified of this specific exemption request through routine weekly notices which the California Department of Pesticide Regulation distributes. Comments received after the submission of this request will be forwarded to the United States Environmental Protection Agency (USEPA).

The following knowledgeable experts may be contacted:

Dr. Albert Paulus
Plant Pathologist
University of California, Riverside
Department of Plant Pathology
Riverside, California 92521-0122
(714) 787-4117

Mr. Bob Mullen
Vegetable Crops and Weeds Science Farm Advisor
University of California Cooperative Extension
420 So. Wilson Way
Stockton, California 95205
(209) 468-2085

Mr. Gene Miyao
Farm Advisor
University of California Cooperative Extension
70 Cottonwood Street
Woodland, California 95695
(916) 666-8736

Mr. Bob Schramm
Ms. Nancy Williams
Economist and Coordinator
Schramm & Associates, Inc.
517 C Street, NE
Washington, DC 20002
(202) 543-4455

Thank you for your help with this exemption. If you should have any further questions, please contact Russ Kanz at (916) 654-0495.

Sincerely,

for

Regina Sarracino
Supervisor of Registration
Pesticide Registration Branch
(916) 654-0495

Enclosures

cc: Glenda Dugan, USEPA
Region IX

pm/sec18/bayel.033092

Attachment A

DEPARTMENT OF PESTICIDE REGULATION
1220 N Street, P. O. Box 942871
Sacramento, California 94271-0001

No. Proposed

April 1, 1992

CALIFORNIA AUTHORIZATION FOR PESTICIDE USE UNDER USEPA SECTION 18
SPECIFIC EXEMPTION FOR DISTRIBUTION AND USE ONLY WITHIN CALIFORNIA

Pursuant to authority granted under Section 18 of the Federal Insecticide, Fungicide and Rodenticide Act and 40 CFR, Part 166, approval is granted to use the pesticide shown below to control specified emergency.

Product: 1. Bayleton 50% Dry Flowable Fungicide
2. Bayleton 50% Wettable Powder Fungicide in Water Soluble Packets

EPA Reg. No.: 1. 3125-320-ZA
2. 3125-340-AA

Firm Name: Mobay Chemical Corporation

Location: Statewide

Crop/Site/Commodity: Fresh Market and processing tomatoes

Target Pest/Problem: Powdery mildew

Dosage: Apply 2-5 ounces of product (1 to 2.5 ounces triadimefon) per acre

Dilution Rate: Apply using a minimum of 20 gallons of water per acre by ground and a minimum of 10 gallons of water per acre by air.

Method of Application: Ground or aerial

Frequency/Timing of Application: Fresh Market Tomatoes: A maximum of 4 applications at 10-21 day intervals may be applied.

Processing Tomatoes: A maximum of 2 applications at 10-21 day intervals may be applied.

Worker Safety Reentry Interval: Do not enter treated areas until spray residues have dried.

Preharvest Interval: Fresh Market Tomatoes: 24 hours
Processing Tomatoes: 21 days

Effective Date: June 10, 1992

Expiration Date: June 9, 1993

Other Requirements:

1. As stated on the federal label, all crops may be planted 12 months or later after the last application of Bayleton without any restrictions with the following exceptions:

   a. Small grains, corn, sorghum, soybeans, beans, peas and cucurbits may be planted 35 days after the last application BAYLETON; however, forage or vines from these crops may not be used for food or feed.

   b. Root crops may be planted 120 days after the last application BAYLETON but tops must not be used for food or feed.

   c. Tomatoes may be planted 30 days after the last application of BAYLETON.

2. Applications made in accordance with the above provisions are not expected to result in the combined residues of triadimefon and its metabolites containing the chlorophenoxy and triazole moieties in excess of 0.3 ppm in or on tomatoes, 1.0 ppm in tomato catsup and tomato paste, and 5.0 ppm in tomato pomace as a result of the proposed use. Secondary residues are not expected to exceed the established tolerances for meat, milk, poultry, and eggs. The EPA has determined that these levels are adequate to protect the public health. Analytical methodology is available in PAM II. Reference standards are available from the Pesticides and Industrial Chemicals Repository in RTP, N.C. The Food and Drug Administration, DHHS, has been advised of this action.

3. A maximum of 140,000 acres of tomatoes may be treated.

4. Users are advised to be careful in mixing and handling this chemical to avoid spills.

5. This product must not be mixed/loaded or used within 50 feet of sink holes or wells, including abandoned wells and drainage wells.

6. Avoid direct application to bare soil.

7. Do not over irrigate. Avoid use during period of heavy rain.

8. Do not apply this product directly to water or wetlands (swamps, bogs, marshes and potholes).

9. Uniform distribution and thorough canopy penetration is necessary for satisfactory control.

All applicable directions, restrictions, and precautions on the USEPA registered label and this label must be followed.

This labeling must be in the possession of the user at the time of pesticide application.

Tank mixing with other compatible pesticides, spray adjuvants and fertilizers is allowed as long as all labeling and regulatory requirements are met and tank mixing is not otherwise prohibited.

The Department shall be immediately informed of any adverse effects resulting from the use of this exemption.

Please note: The USEPA expects concerned growers or grower groups to work toward the registration of use patterns that may be needed on a continuing basis. It will, therefore, be necessary to require applicants wishing to renew emergency exemptions to provide a progress report on residue tolerance and registration along with requests for reissuance of an emergency exemption renewals. Without substantial progress in pursuing a tolerance and registration for the use in question, it will be difficult to obtain an emergency exemption for a another season. The pesticide manufacturer or Western Region IR-4 may be contacted regarding the initiation of a pesticide petition for residue tolerance.

A final report must be submitted by the county agricultural commissioner to Pesticide Registration, Department of Pesticide Regulation, within 45 days of the expiration date of this exemption. This report must include the following information:

a. Amount of product used.
b. Units (i.e., acres, trees, cattle) treated.
c. Number of applications.
d. Estimate of effectiveness.
e. Any adverse effects noted.

Prior to use under this exemption, a permit must be obtained from the county agricultural commissioner. The permit shall state the maximum amount of acres to be treated, maximum amount of product that may be applied, and dealer from which the product may be purchased. The purchaser (permittee) or purchaser's (permittee's) agent must provide the seller, or person delivering the restricted material, a copy of the permit on the date the restricted material is delivered. The dealer shall maintain a record of each sale which shall be made available to representatives of the Department of Pesticide Regulation or county agricultural commissioner upon request. Such records shall include the date of sale or delivery, permit number, identity and amount of product purchased, and the name of the purchaser. All applications of this material shall be made by or under the supervision of a certified applicator certified for this category of pest control. If this material is a liquid Category I pesticide, all applications will be made in accordance with California closed mixing system regulations.

Agricultural pest control businesses shall submit a pesticide use report to the county agricultural commissioner within seven days of each treatment. Growers who apply this material shall submit a pesticide use report to the county agricultural commissioner by the 10th day of the month following the month in which the applications are made. The county agricultural commissioner in cooperation with the Department of Pesticide Regulation, will monitor the use of the product under this exemption and will prepare a written report describing any unusual or adverse effects attributable to this use.

This exemption does not constitute a recommendation of the Department of Pesticide Regulation and will not prevent quarantine action if illegal residues are found in or on any crop. Neither the Department nor the county agricultural commissioner, manufacturer or formulator makes any warranty of merchantability, fitness of purpose, or otherwise, expressed or implied, concerning the use of a pesticide in accordance with these provisions. The user and/or grower acknowledges the preceding disclaimer and accepts liability for any possible damage or nonperformance resulting from this use.

Regina Sarracino
Supervisor of Registration
Pesticide Registration Branch
(916) 654-0495

dt/sec18/bay1.040192

Attachment B

VEGETABLE DIVISION
FEBRUARY 5, 1992

Attachment # D

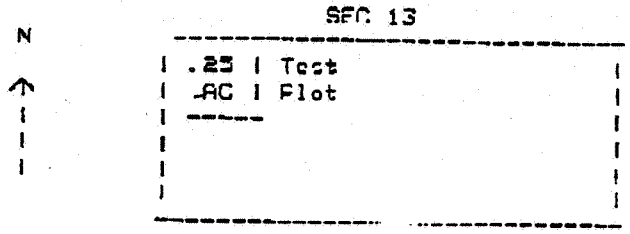
SUBJECT: YIELD ANALYSIS OF WESTERN AG RESEARCH TEST PLOT

FARM: JOHNSTON FARMS

LOCATION: SEC 13, T20S, R17E NW 20 ACRES

PLANTING DATE: 8/3/91 - 8/4/91

HARVEST DATE: 11/5/91 - 11/6/91



1) BAYLETON WAS NOT APPLIED ON THE .25 AC TEST PLOT

2) BAYLETON APPLICATIONS ON THE REMAINING 19.75 AC WERE APPLIED

1ST	9/16/91	@ 3.0 OZ/AC
2ND	9/28/91	@ 4.8 OZ/AC
3RD	10/10/91	@ 4.8 OZ/AC

3) YIELD ANALYSIS

A) FIELD AVERAGE: 1075 BOXES/ACRE

B) TEST PLOT AVERAGE: 92 BOXES/ACRE

4) CONCLUSIONS

WHERE BAYLETON WAS NOT UTILIZED, MILDEW DEDICATED THE TOMATO VINES. FRUIT ON THESE VINES WERE LEFT UNPROTECTED AND EXPOSED TO DIRECT SUNLIGHT. FRUIT THAT WAS NOT SUNBURNED AND SUNSCALDED RIPENED SO RAPIDLY THAT HARVESTABLE FRUIT WAS ALMOST NON-EXISTANT. FRUIT FROM THE TEST PLOT THAT WAS HARVESTABLE WAS ALSO MUCH SMALLER.

February 6, 1992

Fred Leavitt
Sun Pacific Farming
P.O. Box 817
Exeter, CA 93221

Dear Fred:

I would like to thank you, Steve Fortner and Sun Pacific for the valuable cooperation in locating a site on the Johnston Farms ranch for our tomato research program last year (Sec. 13, T20S, R17E [NW 20 acres]). I would also like to acknowledge your efforts to insure the exclusion of the approximately one-half acre test plot (12 rows by 350') from treatment with pesticides which might have interfered with the intent of the research study.

It was unfortunate that the test plot area never was infested by the lepidopterous insect complex normally expected to appear in fall grown tomatoes. Weekly monitoring of plants selected at random from within the study area from early August through October demonstrated that insect population numbers were inadequate to initiate a performance evaluation.

Nonetheless I can report that during this period of continuous monitoring a serious powdery mildew infection was observed to develop within the test plot area. Early plant injury associated with the disease increased in severity as the season progressed and without the necessary control procedures. The vines subsequently became desiccated by this organism and fruit which had developed was exposed to sunburn and sunscalding, ripened prematurely and generally was undersized at harvest. I understand that the test plot area ultimately yielded the equivalent of 92 boxes of marketable tomatoes per acre.

In contrast, tomato plants in the remaining 19.8 acres received applications of Bayleton fungicide on 9/18 (3.0 oz/A), 9/28 (4.8 oz/A) and 10/10/91 (4.8 oz/A) to control this disease organism. The Bayleton treated plants were observed to develop, fruit, size and ripen normally. The applicator obviously was very conscientious and proficient at excluding the test plot area from treatment as disease expression was clearly visible precisely to the borders and within the test plot.

I understand that the 19.8 acres treated with Bayleton on these dates yielded an average of 1075 boxes per acre, an apparent increase of 91% in tomato yield over the untreated test plot area (92 boxes per acre). This dramatic difference in yield apparently resulted exclusively from the use of Bayleton for control of powdery mildew as our weekly monitors of the test plot area demonstrated that insect pressure was minimal.

1729 Rockville Rd. • Suisun, CA 94585 • (707) 864-2064

Hopefully we will have subsequent opportunities to cooperate with evaluations of the performance of other new products.

Sincerely,

John E. Lauck, Ph.D.
Research Director

Attachment C

Attachment #C

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

COLLEGE OF AGRICULTURAL AND
ENVIRONMENTAL SCIENCES
AGRICULTURAL EXPERIMENT STATION
COOPERATIVE EXTENSION

DEPARTMENT OF VEGETABLE CROPS
DAVIS, CALIFORNIA 95616-8746
FAX: 916-752-9659

February 12, 1992

Ed Beckman
California Fresh Market Tomato Board
2017 N. Gateway, Suite 102
Fresno, CA 93727

Dear Ed,

The following is in response to your letter of January 28, as support for continued Bayleton use on tomato.

1) The utilization of genetic resistance to control powdery mildew is still several years away. Single gene resistance has been identified by a group in Bulgaria, but the incorporation of this genetic resistance into California cultivars and the identification of other sources of resistance will take many years using traditional breeding methods. One problem with traditional breeding methods is developing a reliable screening procedure to detect resistance. Research on this has been conducted for several years at various seed companies in California with little success. Under greenhouse conditions in California, spore production is typically low, and infection rate and symptom expression in inoculated plants is erratic. Attempts in our lab and by others to develop a detached leaf assay in vitro proved unsuccessful due to the long incubation period (four weeks) between inoculation and symptom expression. Field screening can be useful but is unpredictable because disease severity varies with location and year depending on environmental conditions. These barriers to screening for powdery mildew along with the time involved in transferring genes to useful cultivars using traditional breeding methods inhibit rapid identification and utilization of genetic resistance to powdery mildew.

2) Untreated, powdery mildew can cause serious yield losses in tomato. Defoliation of the canopy can be severe, leading to sunburn and infection by fruit rotting pathogens. While powdery mildew does not directly rot fruit, loss of the foliar canopy leaves fruit exposed to prolonged periods of dew formation which are ideal for pathogenic infections. In some cases, entire untreated fields have been abandoned and disked because the damage by powdery mildew was so severe. Certainly, the largest yield loss due to sunburned fruit molds occurs at harvest, but latent infection can continue to grow and spread in transit.

3) I am not aware of any health hazards associated with this disease.

Sincerely,

John

John I. Yoder
Assistant Professor

JIY:yds

Attachment D

HM™

HARRIS MORAN™ SEED COMPANY

DAVIS RESEARCH CENTER
R.R. 1 Box 1243
Davis, CA 95616 USA
TEL: (916) 756-1382 • FAX: (916) 756-1016

February 3, 1992

Mr. Russ J Kanz
State of California
Environmental Protection Agency
Department of Pesticide Regulation
Pesticide Registration Branch
1220 N Street, PO Box 942871
Sacramento, CA 94271-001

Dear Mr. Kanz,

I am writing regarding the continued section 18 registration of Bayleton on tomato. Although Harris Moran Seed has a breeding program for powdery mildew resistance in tomato, we do not currently have any commercial processing tomato varieties available with genetic resistance to powdery mildew. Nor do I anticipate releasing a resistant variety within the next two growing seasons.

I hope this information may be of assistance in the decision to reregister (section 18) bayleton for use as chemical control of powdery mildew on processing tomato.

Sincerely,

Joseph Jacobs,
Plant Breeder

Attachment E

PETOSEED®

Petoseed Company, Inc.
The Hybrid Vegetable Seed Company
Post Office Box 4206
Saticoy, CA 93004-0206 USA

Telephone: (805) 647-1188
Cable: PETOSEED
Fax: (805) 656-4818
Telex: 65-9247

Reply to:

37437 State Hwy. 16
Woodland, Ca. 95695

Telephone: (916) 666-0931
Fax: (916) 668-0219

January 27, 1992

Mr. Russ J. Kanz
State of California
Environmental Protection Agency
Department of Pesticide Regulation,
Pesticide Registration Branch
1220 N Street
P.O. Box 942871
Sacramento, CA 94271-0001

Dear Mr. Kanz:

As director of plant pathology for Petoseed Company, I am keenly aware of the potential for serious damage to California's tomato crops due to the disease powdery mildew. I have seen this develop from an oddity in the early 1980's to the single most important disease today affecting our tomato production. The fungus Leveillula taurica, which causes powdery mildew has, in other arid production areas of the world, been a limiting factor to sustained high yields. Fungicides such as Bayleton have been widely used to help control this disease worldwide. California as you know has granted a section 18 emergency exemption for use of Bayleton on tomatoes. The questions now being raised is are there effective alternatives for disease control. The answer is an unqualified no.

We at Petoseed have been actively searching for genetic sources of resistance to diseases for twenty years. We have successfully found and introduced into tomato genes for resistance to Verticillium wilt, Fusarium wilt races 1 and 2, root knot nematode and bacterial speck. These resistance genes have helped assure consistent, high yielding tomato crops for California farmers while at the same time reducing needs for some previously used pesticides. Unfortunately, this success story cannot be applied to the powdery mildew situation. We do not have tomato varieties for California which carry resistance to L. taurica. Furthermore, I do not expect that we in the tomato seed industry will have new resistant varieties in the near term. We are presently increasing our efforts to identify sources of resistance to powdery mildew. As soon as we do locate adequate genetic resistance, I can assure you that Petoseed will be putting this program on a fast track. Until then, I see no good alternatives to chemical control for tomato powdery mildew. Bayleton should continue to be approved for disease control of tomatoes.

If you have any questions regarding our efforts in tomato disease resistance research, please write or call me at 916-666-0931.

Sincerely,

Jon C. Watterson
Director of Plant Pathology

JCW/tf

Attachment F

COOPERATIVE EXTENSION
UNIVERSITY OF CALIFORNIA
YOLO COUNTY
Agriculture, 4-H Youth, Family & Consumer Sciences

University of California
United States Department
of Agriculture and
Yolo County Cooperating

70 Cottonwood Street
Woodland, California 95695
(916) 666-8143
FAX (916) 666-8736

January 22, 1992

Russ J. Kanz
CAL EPA, Department of Pesticide Regulation
Pesticide Registration Branch
P.O. Box 942871
Sacramento, CA 94271-0001

RE: Bayleton Registration, Section 18

Dear Dr. Kanz:

I was asked by Agricultural Commissioner Ray Perkins to provide additional supporting documentation as to the necessity of Bayleton® in processing tomatoes for California. As a UC farm advisor working primarily with processing tomatoes, my field research experience and observations lead me to strongly support the registration of Bayleton for processing tomatoes.

The alternative controls for tomato powdery mildew caused by *Leveillula taurica* are grossly inadequate compared to Bayleton. Damage caused by powdery mildew of tomatoes has historically been highly variable in severity, geographic location, and impact. Because of a latent period between infection and initial symptoms, treatment programs have not been as precise as some pest control strategies. With UC research results documenting up to 30% yield losses from powdery mildew in processing tomatoes, the seriousness of the problem should be clearly evident.

One alternative, multiple applications of sulfur, preferably the dust formulation, has been used with limited and erratic success when applied as an early or preventive treatment. Plant resistance to mildew is not available. Time of planting might offer some reduction in impact of disease, but the processing industry necessitates a harvest schedule with evenly distributed deliveries over a prolonged season. The pathogen has a wide weed host range, so exclusion programs are not practical even if they had been implemented earlier.

The alternative which would offer a better strategy for control would be an IPM program which focused on disease forecasting. Since the pathogen favors certain climatic conditions, diligent monitoring of micro-climate weather parameters, such as temperature and relative humidity, might be an effective strategy to signal when control measures are needed. This program, if developed, would still require the availability of an effective treatment, such as Bayleton.

Though we are learning more about mildew as we gain further experience with this relatively new disease in California, we currently have no acceptable alternative controls beyond Bayleton. I fully support the Bayleton section 18 registration.

Sincerely,

Gene Miyao

Gene Miyao
Farm Advisor, Yolo and Solano Counties

Attachment G

UNIVERSITY OF CALIFORNIA, RIVERSIDE

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ

Department of Plant Pathology
Riverside, California 92521-0122
Telephone: (714) 787-4117

College of Natural and Agricultural Sciences
Citrus Research Center and Agricultural Experiment Station

February 20, 1992

Ms. Regina Sarracino
Supervisor of Registration
Pesticide Registration Branch
Department of Pesticide Regulation
1220 N Street, P.O. Box 942871
Sacramento, CA 94271-0001

Re: Section 18 for Bayleton for Use on Tomatoes

Dear Ms. Sarracino:

The purpose of this letter is to describe the current status of our knowledge on what fungicides can be used to control powdery mildew on tomatoes in California.

In the 1982-1985 time period, I and a team of other scientists carried out significant work to test various fungicides for their effectiveness in controlling powdery mildew. At that time, we determined that no pesticide that was registered for use in California was comparable to Bayleton for purposes of controlling this fungus. We did test sulfur, as well, (which can be used in California) but the effectiveness was significantly inferior to Bayleton.

Since the period of our work, and as of this date, no new fungicide registered for use in California is available to replace Bayleton for purposes of controlling powdery mildew. Systhane or Rally from Rohm and Haas may be available in a few years.

Following is a brief description of the work done in 1982-85 (more detail is provided in the enclosed article).

In 1982, the following fungicides were tested in San Diego County: Bayleton, Tilt, wettable sulfur, and Benlate plus Phaltan. In addition to Bayleton, Tilt achieved excellent results. However, Tilt is not a registered product and will probably never be registered for tomatoes in California. The sulfur only gave medium results, and the Benlate plus Phaltan did not result in enough control for commercial purposes.

FAX: (714) 787-4294 BITNET: PLPATH@UCRVMS TELEX: IPM45CA

In 1983, trials were run in Merced and Stanislaus counties using Tilt, Bayleton, and Elanco 228. However, there was not enough incidence of disease in the treated plots to reach a conclusion as to the effectiveness of the various products.

In 1984, a trial was run on the west side of Merced County. Bayleton and Topas were both effective in controlling powdery mildew. However, Ciba Geigy has stopped development of Topas in the USA. NuStar was tested, but may have been applied at too low a rate. Conversations with DuPont suggest NuStar will probably never be registered for use on tomatoes. Results were significantly better from all of the fungicides as compared to no treatment at all.

Also in 1984, a trial was run at the UC South Coast Field Station in Orange County. Products tested in this trial were Spotless, NuStar, Summit, Systhane, Bayleton and Topas. Any of these treatments were significantly better than no treatment, and all resulted in excellent control of powdery mildew.

In 1985, in one trial that was run on the west side of Merced County, Systhane, Summit and Topas gave significant control. Systhane, Rally or Eagle which are the same material is at least two years off for registration. NuStar did not result in control significantly different from no treatment. Another trial was conducted in San Diego County with the same four products, and all four resulted in effective control of powdery mildew.

So the bottom line is there are lots of excellent materials but none registered for use on tomatoes to control powdery mildew. Sulfur gives some control but is definitely not the equal of Bayleton. I do not know of any other effective fungicides. Bayleton is the best fungicide available.

If you have any questions about this matter, I would be pleased to talk with you.

Sincerely,

Albert O. Paulus
Plant Pathologist

Enc.

cc: Mr Russ Kanz

Attachment H

Attachment # 4

California Tomato FOB Pricing, 1990-1991
Average Price of Mature Green/Vine Ripes

Year	Month/Day	ExLarge	Large	Medium
90	May 15	6.00	6.00	5.00
91	"	18.00	15.00	12.00
90	June 1	6.00	5.00	5.00
91	"	18.00	16.00	14.00
90	June 15	4.00	3.00	4.00
91	"	12.00	10.00	8.00
90	July 1	4.50	3.00	3.00
91	"	9.00	9.00	9.00
90	July 15	6.00	5.00	4.00
91	"	6.00	5.00	4.00
90	August 1	7.00	6.00	6.00
91	"	6.00	4.00	3.00
90	August 15	8.00	7.00	6.00
91	"	6.50	5.50	5.00
90	Sept. 1	6.00	5.00	3.50
91	"	6.00	5.00	4.00
90	Sept. 15	6.00	5.00	4.50
91	"	5.00	5.00	3.50
90	Oct. 1	7.00	5.50	4.50
91	"	6.00	5.00	4.00
90	Oct. 15	10.00	8.00	6.00
91	"	6.00	5.00	4.00
90	Nov. 1	7.00	5.00	4.50
91	"	6.00	5.00	5.00

Attachment I

Expense	Per Acre
Salaries and wages	206
Management and overhead	546
Fertilizer	
Fertilizer material	131
Soil amendment	40
Nutrient spray	21
Application cost	5
Soil leaf analysis	4
Irrigation	
Water cost	32
Irrigation taxes and assessment	14
Drip irrigation system	123
Land preparation	46
Seed, plants and planting equipment and supervision	13
Planting labor	16
Seed	45
Plant	210
Weed control and cultivation	
Cultivation	25
Contract weeding labor	70
Pest Control	
Pesticide material	187
Spray application	63
Pest control management	25
Land Rent	266
Other expenses	
Property tax	5
SUBTOTAL-FARMING EXPENSES:	$2,092
HARVEST COST:	$1.00 per carton ($1,000 per acre)
PACKING:	$2.75 per carton ($2,750 per acre)
TOTAL PRODUCTION COST:	$4,842 (per acre)

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Attachment J

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STATE OF CALIFORNIA — GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF FOOD AND AGRICULTURE

1220 N Street
Sacramento, CA 95814

ID# EE107326

January 14, 1988

Mr. David L. Harlow, Assistant Project Leader
U.S. Fish and Wildlife Service
Room E - 1823, Federal Building
2800 Cottage Way
Sacramento, California 95825

Subject: Section 18: Bayleton (triadimefon)
Crop: tomatoes
Location: Statewide
Rate: 2 to 5 oz./acre
Total Acreage: 12,000 acres
Maximum apps/acre: 8 applications/acre/year
Maximum usage: 20 oz/season

Dear Mr. Harlow:

The California Department of Food and Agriculture requests a consultation with the U.S. Fish and Wildlife Service regarding the proposed renewal of authorization for use of Bayleton (triadimefon) in fresh market and processing tomatoes per FIFRA Section 18. The product is intended for use statewide for control of powdery mildew (Odiopsis taurica). About 90% of the tomatoes in California are grown for processing and most of the acreage is located in the central valley. Fresno and Yolo counties lead production and represent nearly half of the acreage. These counties are located at the southern and northern extremes of the main producing area. About 250,000 acres of tomatoes were grown in California in 1985. O.E.S. reviewed a similar use in artichokes in October of last year.

BACKGROUND: Powdery mildew is a common disease of tomatoes in the Mediterranean but was unknown in California until 1978. Although originally thought to be of limited importance here, the disease has caused major damage in certain fields. The disease attacks mature leaves in the late spring and early summer and may cause defoliation and death of plants. Defoliation leads to loss of yield potential and sunburn of fruit which reduces quality.

Triadimefon was introduced by Bayer AG in 1974 as a fungicide with systemic activity in plants and particular efficacy against many

biodegraded. Residues which contact water are rapidly photodegraded. With low to moderate inherent toxicity, low rates of application and brief environmental exposure, CDFA concludes that triadimefon use in tomatoes should not pose a hazard to fish and wildlife generally, nor to endangered species in particular.

CONCLUSION: In view of low rates of application, and limited environmental exposure and low inherent toxicity of triadimefon, fish and wildlife are not considered threatened by the proposed use of triadimefon in tomatoes. Therefore, the statement, "Keep out of lakes, streams and ponds" and "Do not contaminate water by cleaning of equipment or disposal of wastes" are considered adequate for the protection of fish and wildlife, including endangered species.

We would appreciate the opportunity to respond to any concerns you may have about triadimefon in tomatoes. However, if you concur that no mitigation is necessary in this case, your response directly to EPA with a copy to us would be appreciated to expedite their approval. Please address your comments to:

Mr. Donald Stubbs
Emergency Response Section, Room 716
Registration Division (TS-767C)
U.S. Environmental Protection Agency
Crystal Mall, Building 2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Your response within 30 days would be appreciated.

Sincerely,

Richard A. Marovich, APRS
Pesticide Registration Branch
Division of Pest Management, Environmental
Protection and Worker Safety

Attachment K

RF

United States Department of the Interior

FISH AND WILDLIFE SERVICE

SACRAMENTO ENDANGERED SPECIES OFFICE
2800 Cottage Way, Room E-1823
Sacramento, California 95825-1846

JAN 22 1988

In Reply Refer To:
DLH/1-1-88-I-193

Mr. Donald Stubbs
Emergency Response Section, Room 716
Registration Division (TS-767C)
Crystal Mall, Building 2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Subject: California Section 18 Application for Bayleton on Tomatoes

Dear Mr. Stubbs:

The California Department of Food and Agriculture (Department) has requested our review of their Section 18 application for use of Bayleton on tomatoes and its possible impacts to species listed pursuant to the Endangered Species Act of 1973. We have evaluated the information by the Department (attachment) and information in our files, and concur that there should be no impact to federally-listed species from this use. This assessment is based on the low to moderate toxicity of triadimefon to wildlife and the very low probability of exposure to listed species.

If you have any questions or comments regarding this issue, please phone David Harlow at FTS 460-4866 or 916/978-4866. Thank you for your concern for endangered species.

Sincerely,

David L. Harlow

for Gail C. Kobetich
Field Supervisor

Attachment L

Mobay

A Bayer USA INC COMPANY

Agricultural Chemicals Division

Mobay Corporation
P.O. Box 4913
Hawthorn Road
Kansas City, MO 64120-0013
Phone: 816 242-2000

November 8, 1991

Mr. Alan Carlisle
Vaquero Farms Inc.
2800 West March Lane - No. 330
Stockton, California 95207

Dear Mr. Carlisle:

We recently heard that the tomato industry may be concerned about the continued use of BAYLETON to control powdery mildew on tomatoes under the Section 18 Emergency Exemption in California. We at Mobay are frustrated by the "rumors" and "talk" that future Section 18 usage for BAYLETON on tomatoes may not be allowed under the apparent presumption that Mobay is not working toward a Federal (Section 3) label for this use.

The following is a chronology of our attempts to obtain a BAYLETON registration for use on tomatoes. Our application was first submitted on September 7, 1984. EPA responded on April 8 and May 30, 1985, requesting data in various areas including residue data on cherry tomatoes and in animal commodities, processing data on metabolites, and questions on tolerance levels and revised labeling. Since additional field residue data were needed, Mobay was not able to answer these questions until June 24, 1987 (residue trials alone require a crop season plus lab time).

In addition, Mobay received another letter from EPA on November 5, 1985, regarding method trials and reiterating requirements contained in their May 30, 1985 letter. Revised copies of our analytical method, as requested, were submitted to EPA on December 30, 1985. EPA's other questions were addressed on June 24, 1987, with the submission of new data.

The next request came on November 2, 1987. The EPA had additional questions on metabolites in tests from Indiana, Texas, and Florida and questions on storage stability of residue samples. Mobay responded to these questions on September 8, 1988 with additional data.

On January 18, 1989, the EPA indicated that questions on metabolites, residues on small tomato varieties, and storage stability still remained. Mobay responded to these questions on March 8, 1989 with additional storage stability data and a revised residue report on cherry tomatoes.

On October 2, 1989, the EPA stated that the residue and processing data were now adequate to support a tolerance on tomatoes. However, the EPA required that the proposed tolerances on tomato fruit and tomato pomace be revised and that the methodology regarding metabolites be clarified. We then responded

to these requests on January 3, 1990, On May 7, 1990, the EPA indicated that all the deficiencies were resolved and that the Dietary Exposure Branch recommended that tolerances be established to permit the use of BAYLETON on tomatoes.

This did not happen however, because on November 30, 1990, the EPA's Environmental Fate and Ground Water Branch requested a field dissipation study specifically on tomatoes. They indicated that the principle compound of concern was the BAYLETON metabolite triadimenol due to its persistence and mobility in the soil. Since the EPA's principal concern was the metabolite, Mobay responded on March 22, 1991, by citing a soil dissipation study on this metabolite already on file at the EPA. The study was conducted at rates of triadimenol that were higher than would be expected when BAYLETON was used on tomatoes and applied to a loamy sand soil. Therefore, the study would represent a "worst case scenario".

The EPA responded that the regulations do not permit the substitution of a study on the major metabolite in lieu of the parent compound, even though the request centers on the metabolite. Therefore, they reiterated their request for a BAYLETON field dissipation study conducted at the highest rate recommended for use on tomatoes. They also wanted us to document the amount of spray which reaches the soil and the amount retained by the foliage. We have yet to confirm the reasoning for the request of the latter information.

In summary, Mobay has been working toward a tomato registration for BAYLETON, and has answered the agency's questions to date except for the most recent questions on soil dissipation. Studies cannot be initiated until the next growing season to generate data to answer these questions.

It is our contention that adequate data are on file with the EPA to support a federal tolerance for use of BAYLETON on tomatoes. For any other product to be used under a Section 18 would negate Mobay's efforts to register BAYLETON, and would result in a product with a far less complete database being used.

We appreciate your interest in and support of BAYLETON. If there are additional questions, please let us know.

Yours very truly,

MOBAY CORPORATION
AGRICULTURAL CHEMICALS DIVISION

John S. Thornton

John S. Thornton, Manager
Research & Development Department

DAS/jcm
DAS91239
cc: A. C. Scoggan