UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

DP BARCODE No: D274795
PC Code No: 128997

SUBJECT: Section 18-Use of Tebuconazole on Michigan Asparagus

TO: Robert Forrest PM 05
Registration Division (7505C)

FROM: Lewis Ross Brown, III, Environmental Biologist
Environmental Risk Branch I
Environmental Fate and Effects Division

THRU: Sid Abel, Acting Chief 6/1/2007
Environmental Risk Branch I
Environmental Fate and Effects Division (7507C)

I. Risk Conclusions:

Attached is the Environmental Fate and Effects Division (EFED) Section 18 exemption environmental risk assessment for the use of tebuconazole (Folicur 3.6F) on asparagus in Michigan. Available data show that tebuconazole is persistent in the environment, has a relatively low potential for mobility, and is not expected to leach to ground groundwater (in soils of high organic content). Its mobility, however, increases as the soil organic matter decreases. For the drinking water assessment, a Tier II PRZM-EXAMS modeling simulation was performed using the index reservoir (IR) scenario and the percent crop area (PCA) adjustment factor for the use of tebuconazole on cherries. This scenario simulated six applications of 0.225 lbs ai/acre with a 7-day interval between applications. Although the use of tebuconazole on turf represents the highest annual use rate at 2.0 lbs ai/acre, not having a Tier II scenario for turf prevented us from performing the drinking water assessment on turf. Therefore, the use with the second highest application rate was used.

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The simulated 1 in 10 year annual peak (acute) concentration of tebuconazole in drinking water was **38.7** µg /L in a Wisconsin cherries index reservoir scenario adjusted for a default PCA factor of 0.87. The simulated 1 in 10 year annual mean (chronic) concentration of tebuconazole in drinking water from this scenario was **23.1** µg /L. However, since the cherry scenario does not represent the highest proposed labeled use rate for tebuconazole, EFED cannot be certain that these numbers represent the most conservative values. Since groundwater monitoring data are not available for tebuconazole, SCI-GROW screening model was used to estimate tebuconazole concentrations in ground water. SCI-GROW estimated concentration of tebuconazole in drinking water from shallow ground water sources was 0.43 µg/L.

For aquatic exposure assessment, Tier I EECs for aquatic organisms were calculated using GENEEC 2 Modeling for asparagus at the highest application rate of 0.168 lbs ai/A applied three times per year. Estimated peak surface water concentrations of tebuconazole are not likely to exceed 14.40 ug/L for aerial applications and 13.26 ug/L for ground applications. The 56-day (chronic) EEC is not expected to exceed 13.39 ug/L for aerial applications and 12.30 ug/L for ground applications.

Tebuconazole use on asparagus in Michigan is not expected to result in a significant risk to freshwater invertebrates, estuarine/marine fishes and invertebrates or terrestrial organisms. No levels of concern (LOCs) were exceeded at the acute or chronic levels for these organisms. Levels of concern (LOCs) were not exceeded for freshwater fishes on an acute level. Levels of concern were marginally exceeded for freshwater fishes on a chronic level. Based on a review of the Endangered Species Index and the risk quotients (RQ's), there is no apparent threat to aquatic fish and invertebrate or terrestrial organisms from the use of tebuconazole in Michigan.

II. Background

The Michigan Department of Agriculture has filed an emergency exemption request to use Folicur 3.6F fungicide (tebuconazole) on asparagus for the annual control of *Puccinia asparagi*. At the maximum allowable annual application rate of 0.50 lbs ai/A, on a maximum 12,000 acres, a maximum of 13,500 gallons of product (or 3,750 lbs of a.i.) may be applied.

Product Information:

Product Name: Baythroid 2 manufactured by the Bayer Corporation
Active Ingredient:..... α-[2-94-chlorophenyl)ethyl]-α-(1,1-dimethyl ethyl1H-1,2,4-triazole-1ethanol.....38.7%
Inert Ingredients.....61.3%
Total.....100%

2

III. Environmental Fate Summary

Tebuconazole is persistent in soil (aerobic metabolism $T_{1/2}$ = 796 days) and moderately mobile to relatively immobile (K_d's of adsorption range from 7.69 to 16.39, K_{oc}'s range from 906 to 1251 ml/g). Its mobility increases as the soil organic matter decreases. Tebuconazole has little potential to reach ground water, except in soils of high sand and low organic matter content. However, during a runoff event, tebuconazole adsorbed onto the soil particles could enter adjacent bodies of surface water via runoff.

The main route of tebuconazole dissipation is soil adsorption which increases with increasing soil organic matter content. Tebuconazole is resistant to hydrolysis ($T_{1/2}$ >> 28 days or stable at pH 5, 7, and 9), aqueous and soil photodegradation [$T_{1/2}$= stable (extrapolated $T_{1/2}$ = 590 days and 192.5 days, respectively)], and soil metabolism (aerobic metabolism $T_{1/2}$ = 796 days).

Terrestrial field dissipation half-lives varied from about 1.6 to 4 months. A supplemental study on bare ground in Florida showed vertical movement of tebuconazole. In sand soil of Vero Beach, FL (sand = 92%, silt = 0.4%, clay = 7.6%, and organic matter = 1%) tebuconazole was detected up to 0.12 ppm in the depth of 6 to 12 inches 30 days after surface application of ≈ 1.5 lb. a.i./acre (lower depths were not sampled, MRID 40700963). In addition, tebuconazole has a low potential for bioaccumulation in fish tissues (BCFs = 25X, 228X, and 99X for edible, nonedible, and whole fish tissues).

Fate characteristics of tebuconazole are summarized in the following Table 1 below:

Table 2. Fate Parameters for Tebuconazole		
PARAMETER	**STUDY RESULTS or VALUE PROVIDED by REGISTRANT**	**SOURCE**
Hydrolysis at pH 5, 7, and 9	All treated test solutions were incubated at 25°C for 28 days. The material balances ranged from 97.3 to 106.9% of applied radioactivity during the testing period.	MRID 40700957
Aerobic Soil Metabolism	When applied to sandy loam soil and incubated at 23°C, chlorophenyl labeled tebuconazole degraded with a half-life of 796 days.	MRID # 40700959
Anaerobic Soil Metabolism	Chlorphenyl-labeled tebuconazole degraded with a half-life of 1063 days in a sandy loam soil treated at 10 ppm and incubated anaerobically (flooding) at 23 ± 2°C in the dark for 60 days following 30 days of aerobic incubation.	MRID # 40700959
Leaching, Adsorption/Desorption Organic Matter Partitioning Coefficient (K_i)	Phenyl-labeled tebuconazole, at equilibrium concentrations of 16.0, 11.0, 7.4, and 1.5 mg/L, was determined to be relatively immobile in silt, sand, and two sandy loam soils when equilibrated in the dark for 48 hours at 20 ± 1°C. K_{ads} values were 7.69 mL/g for the sand soil (organic carbon content 0.75%), 16.39 mL/g for the silt soil (organic carbon content 1.8%), and 15.89 and 12.69 mL/g for the two sandy loam soils (organic carbon content 1.3 and 1.4%), respective K_{oc} values were 1025, 911, 1251, and 906 mL/g. Desorption coefficients (K_{des}) were 11.83 mL/g for the sand soil, 22.27 mL/g for the silt soil, and 23.76 and 18.27 mL/g for the two sandy loam soils, respective K_{oc} values were 1577, 1237, 1871, and 1341 mL/g. The desorption 1/n values were 0.77 to 0.83. The material balance ranged from 96 to 104% recovery of applied radioactivity.	MRID # 40995922, 40700960
Field Dissipation	100.4 days - sand soil planted with Bermuda grass near Rowland, NC 163.2 days - turf plot of Dickinson sandy loam soil Belleville, WI 177 days - sandy loam soil planted with grape seedlings near Fresno, CA 178 8 days - peanut plot of Pocalla sand soil in North Carolina 216.3 days - Dickinson sandy loam - planted grass seed Belleville, WI 340.5 days - bare ground plot of Pocalla sand soil in North Carolina 349.4 days - Lakeland sand soil planted in peanuts near Tifton, GA 857 days - sandy loam soil planted w/ grape seedlings Watsonville, CA. -Parent mostly detected in the 6- to 12-inch depths - less frequently detected in 12- to 24-inch depths. -In two studies the degradate 1,2,4-triazole was detected at ≤0.02 µg/g.	MRID #s 44108309 44108310 44108311 44108312 44108313 44108314 44108315 44108316
Molecular Weight	308	Product Chemistry
Solubility	32 mg/L @ 20°C	Product Chemistry
Vapor Pressure	9.8E-9 mm Hg @ 20°C	Product Chemistry
Henry's Constant	1.24E-10	Calculated
Soil Photolysis	192.5 days. Tebuconazole photodegraded slowly on sandy loam soil (half-life=192.5 days when applied at a concentrations of 0.56 lb/A and exposed to sunlight with temperatures ranging from approximately 16 to 27°C	MRID # 40700958
Aqueous Photolysis	590 days. Tebuconazole in sterile pH 7 buffered solution is relatively stable to photodegradation by sunlight.	MRID # 40700958

4

IV. Drinking Water Assessment

Surface Water Assessment

Although the proposed use of tebuconazole on turf represents the highest annual use rate at 2.0 lbs ai/acre, not having a Tier II scenario for turf prevented us from performing the drinking water assessment on turf. The registered use of tebuconazole on cherries, peaches, and nactarines which represents the second highest annual use rate at 1.35 lbs ai/acre was chosen for performing the drinking water assessment. A Tier II PRZM-EXAM modeling using the index reservoir (IR) scenario and the percent crop area (PCA) adjustment factor for the use of tebuconazole on cherries with an application rate of 0.225 lbs ai/acre, six applications at 7days interval was modeled.

The 1 in 10 year annual peak (acute) concentration of tebuconazole in drinking water is not expected to exceed **38.7** µg /L in a Wisconsin cherries index reservoir scenario adjusted for a default PCA factor of 0.87. The 1 in 10 year annual mean (chronic) concentration of tebuconazole in drinking water from this scenario is not expected to exceed **23.1** µg /L. However, since the cherry scenario does not represent the highest proposed labeled use rate for tebuconazole, EFED cannot be certain that these numbers represent the most conservative values.

TABLE 2. IR/PCA TIER II CONCENTRATION OF TEBUCONAZOLE IN SURFACE WATER FROM SIX APPLICATIONS ON WISCONSIN CHERRIES

PEAK	96 HOUR	21 DAYS	60 days	90 DAYS	YEARLY
38.7 µg /L	38.4 µg /L	37.4 µg /L	35.7 µg /L	34.0 µg /L	23.1 µg /L

Monitoring :

There are no surface water monitoring data readily available for tebuconazole. Tebuconazole was not analyzed under the National Water-Quality Assessment Program of the U.S. Geological Survey.

Ground Water

There are no ground water monitoring data readily available for tebuconazole. Tebuconazole was not listed in the 1992 *Pesticides in Ground Water Database*, U.S. EPA/EFED/EFGWB, and was not included in the National Pesticide Survey, USEPA 1990. Therefore, the SCI-GROW screening model was used to estimate ground water concentrations. The model estimates upper-bound ground water concentrations of pesticides likely to occur when the pesticide is used at the maximum allowable rate in areas where ground water is vulnerable to contamination. The SCI-GROW model input parameters are located in Table 3.

Table 3-SCI-GROW Input Parameters for Tebuconazole	
MODEL INPUT VARIABLE	INPUT VALUES
Koc	1023 ml/g
Application Rate	0.225 lb. a.i./acre
Number of Applications / Season	6
Aerobic Soil Metabolism Half-life	796 days
Hydrolysis	stable

The SCI-GROW model estimated the concentration of tebuconazole in drinking water from shallow ground water sources to be ***0.43*** µg/L. This concentration can be considered as both the acute and chronic value.

V. Aquatic Risk Exposure Assessment

Aquatic Exposure

Aquatic exposures for this Section 18 were based on EECs obtained from GENEEC (Version 2) TIER I Modeling using the requested application rate of 0.168 lbs ai/A applied three times per year on asparagus in Michigan. The EECs for use in the ecological assessment are provided in the following table:

TABLE 4 Tier I EECs of Tebuconazole using GENEEC Modeling (ppb)			
Crop	Peak (ug/L)	21 Days (ug/L)	56 Days (ug/L)
Apsapragus	Aerial: 14.40 Ground: 13.26	Aerial: 14.05 Ground: 12.92	Aerial: 13.39 Ground: 12.30

Aquatic Toxicity:

Based on acceptable ecological effects data, tebuconazole is categorized as:

- Moderately toxic to freshwater fishes (rainbow trout LC_{50}= 4400 µg/L , bluegill sunfish LC_{50}=5700 µg/L) on an acute basis
- Moderately toxic to freshwater invertebrates (waterflea EC_{50}=4,000 µg/L) on an acute basis
- Moderately toxic to estuarine/marine fishes (sheepshead minnow LC_{50}=5900 µg/L) on an acute basis
- Moderately toxic to estuarine/marine invertebrates (mysid LC_{50}=490 µg/L) on an acute

basis

- Moderately toxic to estuarine/marine invertebrates (eastern oyster LC_{50}= 2700 µg/L) on an acute basis

- Chronically toxic to freshwater fishes based on a reduction in eggs laid (rainbow trout NOAEC =12 µg/L)

- Chronically toxic to freshwater invertebrates based on a reduction in growth among young daphnids (Waterflea NOAEC=120 µg/L)

- Chronically toxic to estuarine/marine fishes based on reduction in eggs produced and laid (sheepshead minnow NOAEC=19 µg/L)

- Chronically toxic to estuarine/marine invertebrates based on eggs produced in females (mysid NOAEC= 35 µg/L).

Risk Assessment

Based on the EECs generated by GENEEC TIER I Modeling (Version 2), levels of concern were slightly exceeded only at the chronic level for freshwater fishes (Rainbow trout RQ= 1.11) using the suggested highest label application rate of 0.168 lbs ai/A three times per year aerially. However, this risk exceedence is unlikely to be sustained if exposures were estimated using the Tier II Model for PRZM/EXAMs. No levels of concerns were exceeded for freshwater invertebrates and estuarine/marine fishes and invertebrates. Therefore, risk to this fungicide for freshwater invertebrates and estuarine/marine fishes and invertebrates using the label suggested application rate of 0.168 lbs ai/A applied aerially three times per year is expected to be minimal.

Table 5-Freshwater and Estuarine/marine Organism Toxicity/Hazard Estimates						
Species	% A.I.	LC_{50} or EC_{50} or NOAEC (ug/L)	MRID	EEC in ppb (µg/L)	Acute RQ	Chronic RQ
Rainbow trout	87	LC_{50}= 4400	40700911	14.40	<<0.01	
Bluegill sunfish	87	LC_{50} =5700	40700912	14.40	<<0.01	N/A
Rainbow trout	96	NOAEC= 12	40700914	13.39	N/A	1.11
Daphnia magna	96.3	EC_{50}=4000	40700913	14.40	<< 0.01	
Daphnia magna	96.3	NOAEC= 120	40700915	14.05	N/A	0.20
Sheepshead minnow	96.3	LC_{50}= 5900	40995904	14.40	<<0.01	N/A
Sheepshead minnow	96.4	NOAEC=22	42038202	13.39	N/A	0.30
Mysid	96.3	LC_{50}= 490	40995902	14.40	0.03	
Mysid	97.5	NOAEC=35	42038201	14.05		0.40
Eastern oyster	96.3	EC_{50}=2700	40995903	14.40	<<0.01	
Green algae	95.8	EC_{25}=2730	42905401	14.40	<< 0.01	N/A
Duckweed	96.7	EC25= 151.5	44246901	14.40	0.01	

VI. Terrestrial Risk Exposure Assessment

Terrestrial Exposure

Initial tebuconazole residue levels on various types of vegetation from single applications are based on research of Hoerger and Kenaga (1972) and later modified by Fletcher et al. (1994). Estimated terrestrial exposure levels of multiple application residues available for dietary ingestion were generated by calculating first-order decay of a chemical applied to foliar surfaces from single or multiple applications. The foliar dissipation half-life data was set at a default 35 days because foliar dissipitation data were not available. The ELL-FATE Model was used for the purpose of generating terrestrial EECs.

Table 6-Estimated Environmental Concentrations on Food Sources			
Scenario	**Short Grass**	**Foliage/Insects**	**Seeds/Fruit**
Asparagus	Max.=94.03	Max.=52.89	Max.=5.88

8

Terrestrial Toxicity

Based on valid ecotoxicity data available for this assessment, tebuconazole is categorized as:

- Practically Non-toxic to mammals on an acute basis (LD_{50} >5000 mg/kg-{females} and LD_{50} = 3933 mg/kg-{males}) on an acute basis
- Practically non-toxic to avian species (Northern Bobwhite LD_{50}= 1988 mg/kg; Northern Bobwhite LC_{50}= >5,000 ppm ; and Mallard Duck LC_{50}= >4816 ppm) on an acute and sub-acute basis
- Chronically toxic to mammals based on low survival rate (NOAEL= 300 ppm).
- Chronically toxic to avian species based on low egg production (Northern Bobwhite Quail NOAEL = 75.8 ; Mallard Duck NOAEL= 320 ppm).
- Practically non-toxic to non-targeted insects (LC_{50} = 176 µg /bee) on an acute basis

Terrestrial And Semi-aquatic Plants:

Based on valid ecotoxicity data available for this assessment, tebuconaolze is categorized as the following for Terrestrial and Semi-aquatic plants:

- Highly toxic to green algae (EC_{25}= 2730 ppb and EC_{50}=1450 ppb)
- Highly toxic to duckweed (EC_{25}= 151.5 ppb)

Terrestrial Risk Assessment

The application rates for the Section 18 Emergency Exemption are 0.1125 and 0.168 lbs ai/A applied aerially. The highest application rate of 0.168 lbs ai/A applied three times per year on asparagus was used in the ELL-FATE model. Using the application interval of 14 days, the risk to terrestrial organisms (birds and mammals) on an acute and chronic basis is expected to be low. No levels of concern (LOCs) were exceeded based on the reproductive effects in birds and mammals using the highest application rate of 0.168 lbs ai/A applied three times per year.

Table 7- Terrestrial Sublethal Dietary and ChronicToxicity/Hazard Findings						
Species Tested	**% ai**	**LC_{50} or NOAEL in ppm**	**EECs**	**MRID**	**Acute RQ Range**	**Chronic RQ Range**
Bobwhite Acute Dietary	96.3	>5000 ppm	94.03 43.10 52.69 5.88	40700905	<<0.01-0.01	N/A
Mallard Acute Dietary	96.3	>4816 ppm	94.03 43.10 52.69 5.88	40700907	<<0.01-0.02	N/A
Northern bobwhite Reproduction	97.4	NOAEL <325	94.03 43.10 52.69 5.88	41624201	N/A	>0.04->0.61
Mallard Reproduction	96.9	NOAEL = 320	94.03 43.10 52.69 5.88	41818301	N/A	0.02-0.30
Mammalian Dietary Risk Quotients						
Rat LD_{50} (HED data)	tech	LD_{50} >5,000 mg ai/Kg	94.03 43.10 52.69 5.88	40700917	<<0.01-0.02	
		NOAEL =300 ppm	94.03 43.10 52.69 5.88	40700946 1991		0.02-0.31
		LD_{50}= 3933	94.03 43.10 52.69 5.88	40700917	<<0.01-0.02	
		NOAEL =325 ppm	94.03 43.10 52.69 5.88	40700946 1991		0.02-0.31
Non-target Insects						
Honey bee	N/A	N/A			RQs are not calculated for insects	

Endangered Species Concerns:

There are no exceedences of the LOCs (levels of concern) for endangered species associated with the proposed application rate. According the proposed locations for tebuconazole use in Michigan, there are no endangered species in the proposed use areas.

VII. Ecological Incidents Summary:

The Agency incident database contained one 6(a) 2 incident report involving a registered use of tebuconazole in Minnesota on June 25, 1998. According to the incident report, an unknown number of flathead minnows were killed along a fairly long stretch of a creek. Two adjacent wheat fields had been treated with Folicur, one of them by means of aerial application.

VIII . References

1. Kellogg, R.L., Maizel, M.S., and Goss, D.W. Agricultural chemical use and ground water quality: Where are the potential problems areas? Soil Conservation Service, USDA, 1992.

2. Al-Mudallal, Amer IR-4 Registration Requests for The Use of Tebuconazole on Okra and Lychee (D271515, D271508), March 2001.

3. Fletcher, J.S., J.E. Nellessen and T.G. Pfleeger, 1994. Literature review and evaluation of the EPA food-chain (Kenaga) nomogram, an instrument for estimating pesticide residues on plants. *Environmental Toxicology and Chemistry*, **13**:1383-1391.

4. Hoerger, F. and E.E. Kenaga, 1972. Pesticide residues on plants: correlation of representative data as a basis for estimation of their magnitude in the environment. In: F. Coulston and F. Korte, eds., *Environmental Quality and Safety: Chemistry, Toxicology and Technology.* Georg Thieme Publishers, Stuttgard, West Germany, pp. 9-28.

5. Kellogg, R.L., Maizel, M.S., and Goss, D.W. Agricultural chemical use and ground water quality: Where are the potential problems areas? Soil Conservation Service, USDA, 1992.

6. Effland, W., N. Thurman, I. Kennedy, and S. Abel. 1999. " *Proposed Methods for Determining Watershed-derived Percent Crop Areas and Considerations for Applying Crop Area Adjustments to Surface Water Screening Models*, presented to the FIFRA Science Advisory Panel, March 1999. http://www.epa.gov/pesticides/SAP/1999/pca_sap.pdf

7. Jones, R.D., S.W. Abel, W. Effland, R. Matzner, and R. Parker. 1998. "An Index Reservoir for Use in Assessing Drinking Water Exposures. Chapter IV in *Proposed Methods for Basin-Scale Estimation of Pesticide Concentrations in Flowing Water and Reservoirs for Tolerance Reassessment.*, presented to the FIFRA Science Advisory Panel, July 1998. http://www.epa.gov/pesticides/SAP/1998/index.htm

Risk Quotient (RQ) Summary Table

Chemical Name: Tebuconazole
Use: Michigan Asparagus
Formulation: spray

Inputs

Application Rate	0.168	lbs a.i./acre
Half-life	35	days
Frequency of Application	14	days
Maximum # Apps./Year	3	

Outputs

	Maximum Concentration (PPM)	56 Day Average Concentration (PPM)	
Short Grass	94.03	60.97	
Tall Grass	43.10	27.94	# days
Broadleaf plants/Insects	52.89	34.29	Exceeded
Seeds	5.88	3.81	on short grass (in first 56)

Avian

Acute LC50 (ppm)	5,000	0
Chronic NOAEC (ppm)	320	0

	Acute RQ	Chronic RQ (Max. res. mult. apps.)	
Short Grass	**0.02**	**0.29**	
Tall Grass	**0.01**	**0.13**	# days
Broadleaf plants/Insects	**0.01**	**0.17**	Exceeded
Seeds	**0.00**	**0.02**	on short grass (in first 56)

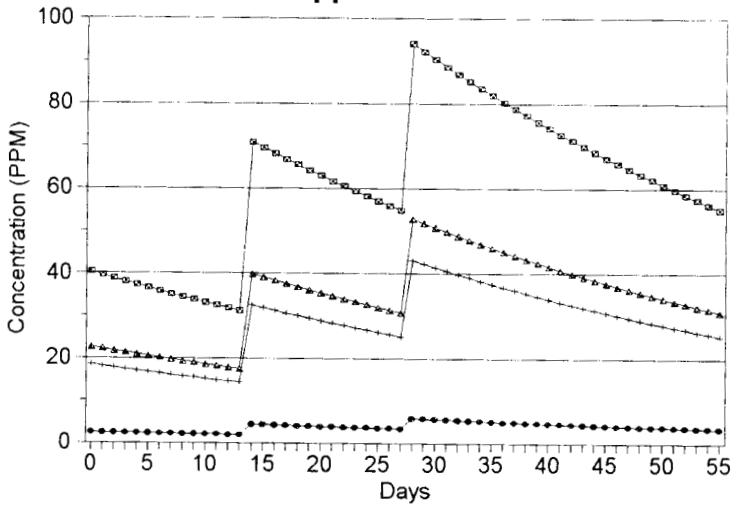
Mammalian

Acute LD50 (mg/kg)	3,933	0
Chronic NOAEL (mg/kg)	300	0

Rat Calculated LC50 (ppm): 78660

	15 g mammal		35 g mammal		1000 g mammal			
	Acute RQ (mult. apps)	Chronic RQ (Max. res.) mult. apps.)	Acute RQ (mult. apps)	Chronic RQ (Max. res.) mult. apps.)	Acute RQ (mult. apps)	Chronic RQ (Max. res.) mult. apps.)	Rat Acute Diatary RQ	Rat Chronic Diatary RQ
Short Grass	0.02	0.30	0.02	0.21	0.00	0.05	**0.00**	**0.31**
Tall Grass	0.01	0.14	0.01	0.09	0.00	0.02	**0.00**	**0.14**
Broadleaf plants/Insects	0.01	0.17	0.01	0.12	0.00	0.03	**0.00**	**0.18**
Seeds	0.00	0.02	0.00	0.01	0.00	0.00	**0.00**	**0.02**

Terresterial Application Residues



Max Single Application which does NOT exceed

Avain Acute	20.833	
Avian Chronic	1.333	(lb a.i.)
Mammalian Acute	109.25	
Mammalian Chronic	8.33	

DP BARCODE: D274795

CASE: 294176 DATA PACKAGE RECORD DATE: 05/09/01
SUBMISSION: S596663 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: EMERGENCY EXEMP ACTION: 510 SEC18-OC F/F USE
RANKING : 0 POINTS ()
CHEMICALS: 128997 Tebuconazole %

ID#: 01MI0014
COMPANY:
PRODUCT MANAGER: 05 ROBERT FORREST 703-308-9376 ROOM: CM2 248
PM TEAM REVIEWER: BARBARA MADDEN 703-305-6463 ROOM: CM2 278
RECEIVED DATE: 05/03/01 DUE OUT DATE: 06/22/01

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 274795 EXPEDITE: N DATE SENT: 05/09/01 DATE RET.: / /
CHEMICAL: 128997 Tebuconazole
DP TYPE: 001
CSF: N LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT
DIV : EFED	5/14/01	/ /
BRAN: ERB1	5/14/01	/ /
SECT: I.O.	5/14/01	/ /
REVR : K. Costello	5/14/01	/ /
CONTR:	/ /	/ /

ADMIN DUE DATE: 05/29/01
NEGOT DATE: / /
PROJ DATE: / /

* * * DATA REVIEW INSTRUCTIONS * * *

Please review the attached specific emergency exemption request from Michigan for use of tebuconazole on asparagus to control rust. This is the 1st year Michigan has requested this use. Please assess the environmental risks associated with this use and indicate whether there are concerns for non-target organisms, including endangered/threatened species. If EFED has concerns for the proposed use please provide labeling restrictions or mitigation measures if available.

Please also provide drinking water estimates that can be used to conduct a human health aggregate risk assessment.

Please let me know if you need any additional information.

Thank you

Barbara Madden
305-6463

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

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

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

DP BARCODE: D274793

CASE: 294176 DATA PACKAGE RECORD (CONTINUED) DATE: 05/09/01
SUBMISSION: S596663 BEAN SHEET

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

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
274793	APPB	05/09/01	05/29/01	Y	N	Y
274794	EAB	05/09/01	05/29/01	Y	N	Y