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

MAY 12 1993

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#1F3974 -- Propiconazole (Tilt®) in/on Grasses Grown for Seed. Ciba-Geigy Amendment Dated 1/14/93.

DP Barcodes: D187417, D190147, D190263. CB #s: 11304, 11769, 11776, 11777, 11778.
MRID #s 424495-01, 426341-01 through -02.

FROM: Michael T. Flood, Ph.D., Chemist
Tolerance Petition Section II
Chemistry Branch I -- Tolerance Support
Health Effects Division (H7509C)

Mike Flood

THROUGH: Debra F. Edwards, Ph.D., Chief
Chemistry Branch I -- Tolerance Support
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Debra Edwards 5/12/93

TO: Susan Lewis/S. Jackson, PM 21
Fungicide-Herbicide Branch
Registration Division (H7505C)

and

Albin Kocialski, Section Head
Registration Section
Chemical Coordination Branch
Health Effects Division (H7509C)

With cover letter dated 1/14/93, Ciba-Geigy Corporation has submitted data for residues of propiconazole {1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-1H-1,2,4-triazole} and its metabolites determined as 2,4-dichlorobenzoic acid and expressed as parent equivalent in/on grass seed screenings, straw (hay) and forage. The submission also includes a revised Section F and results from a market basket survey done on grass seed screening pellets.

1/17

The following tolerances are proposed:

Commodity	Tolerance (ppm)
Grass Seed Screening	60.0
Grass Hay (Straw)	40.0
Grass, Forage	0.5
Cattle, kidney and liver	2.0
Goats, kidney and liver	2.0
Hogs, kidney and liver	2.0
Horses, kidney and liver	2.0
Sheep, kidney and liver	2.0

Tolerances for animal commodities are equal to the tolerances established under 40 CFR 180.434 as a result of PP#9F3706. The current expiration date for these tolerances is 6/1/93. The tolerances have also been proposed in PP#8F3674 (for corn and pineapple).

Tolerances with an expiration date for grass hay, forage and seed screenings are, respectively, 5.0 ppm, 0.5 ppm and 10.0 ppm. These tolerances also expire 6/1/93.

In a previous submission, reviewed in S. Willett's 6/11/91 memo, tolerances on hay (straw), forage and seed screenings were proposed at 40 ppm, 2 ppm and 70 ppm, respectively. Residue data supporting these tolerances were deemed unacceptable because they did not reflect the proposed label use. Application intervals were significantly shorter than the 14 days specified on the label, and samples of seed were taken at less than the 20 day PHI. Additionally, residue levels in control samples were unacceptably high -- as high as 11 ppm.

Because the new studies show residues in excess of the temporary tolerances set for grass seed screenings and hay, Ciba-Geigy has previously submitted results in accordance with FIFRA Section 6(a)(2) by letters 8/18/92 and 11/11/92. The 6(a)(2) data were also included in the residue data submitted in PP#1F3974 and will not be discusses separately.

Summary of Deficiencies Remaining to Be Resolved

----- Nature of residue in ruminants

----- Explanation of recovery calculations

2

----- Explanation of crop field trial protocol

Conclusions

1a. The nature of the residue in plants is adequately understood. The residue to be regulated is parent propiconazole and its metabolites determined as 2,4-dichlorobenzoic acid.

1b. The nature of the residue in ruminants will be understood once details of sample handling and length of storage for animal commodities have been submitted (PP#1F3974, S. Willett, memo of 6/11/91; PP#3674, M. Flood, memo of 5/6/93). The residue to be regulated is, tentatively, the same as for plants.

2a. Adequate enforcement methodology exists to quantify propiconazole and its metabolites in crops and animal commodities (PP#4F3074, PP#4F3007, PP#4E3026, memo of S. Malak, 5/28/87).

2b. Recoveries associated with the residue analyses are acceptable; however the petitioner should verify the calculation of recovery from the forage control fortified with 0.1 ppm propiconazole (ABR-92070, page 37, no. 15).

3. Acceptable residue data were generated from 8 field trials. The residue data support the proposed tolerances on grass seed screenings, hay and forage (regrowth). However, the registrant should state whether the two replicate samples from plots treated at the 1X rate refer to two composites from one treated plot or one composite each from two independently treated plots.

4. Proposed tolerances for ruminant commodities are appropriate.

5a. Anticipated residues (average residues) for grass seed screenings, hay and forage are 21 ppm, 8.8 ppm and 0.12 ppm, respectively. No percent crop treatment factor has been included.

5b. Results from a market basket survey of seed screening pellets showed a high residue value of 12.6 ppm. Three samples had residues exceeding the temporary tolerance of 10 ppm. Although seed screenings from the Pacific Northwest are commonly made into pellets, it is not clear that this is the practice in the other states for which use is possible, i.e., NE and MN; and therefore,

the results will not be used in determination of anticipated residues. Ciba-Geigy may wish to demonstrate why anticipated residues should be calculated on the basis of pellet analyses rather than from analyses of seed screenings themselves.

6. Anticipated residues in cattle are 0.007 ppm, milk; 0.46 ppm, kidney; 0.42 ppm, liver; 0.02 ppm, fat; 0.01 ppm, meat. These were determined from the cattle feeding study using anticipated residues in grass and barley. As noted in Conclusion 5a, no percent crop treatment factor was applied to the RACS contributing to the animal diets. If a DRES analysis indicates that more accurate anticipated residues should be determined, CBTS will formally request appropriate percent crop treatment factors from BEAD.

7. An International Residue Limit Status sheet is appended to this review. There is a Codex maximum residue limit of 0.05 mg/kg propiconazole, per se, in "edible offal (mammalian)", which would include kidney. It would be impossible to convert U.S. tolerances for propiconazole and metabolites to propiconazole tolerances because the residue data generated in the U.S. were obtained using an analytical method which does not distinguish between propiconazole and its metabolites.

Recommendations

CBTS recommends against establishment of the proposed permanent tolerances for reasons given in Conclusions 1b (nature of residue in ruminants); 2b (recovery calculation); and 3 (information concerning field trials).

CBTS has no objection to extension of the time period for the tolerances having an expiration date provided that the tolerances are changed to those proposed in the current submission.

Because anticipated residues in ruminants are different from those used in previous DRES calculations, CBTS recommends that a new DRES analysis be carried out.

Detailed Considerations

Proposed Use

The current label for Tilt specifies application of 4-8 fl. oz./A (maximum 4 fl. oz. on bluegrass) at 14-21 day intervals. Do not apply more than 32 fl. oz. Tilt/acre/growing season. Make the last application at least 20 days before seed matures. Do

not feed hay cut within 20 days of the last application or graze treated areas within 140 days of the last application. The label specifies application only in NE, OR, WA, ID and MN.

Tilt® Fungicide (Tilt 3.6E) contains 41.8% a.i. or 3.6 lbs ai/gallon of formulated product. Four fl. oz., therefore, contains 0.11 lb ai, or 50 grams ai.

Nature of the Residue

The nature of the residue in plants is adequately understood. The residue to be regulated is propiconazole, per se, and its metabolites determined as 2,4-dichlorobenzoic acid (PP#8F3674, C. Deyrup, memo of 12/14/88).

The nature of the residue in ruminants and poultry will be understood once details of sample handling, length of storage and storage stability data for residues of propiconazole in animal commodities have been submitted (PP#1F3974, S. Willett, memo of 6/11/91; PP#8F3674, M. Flood, 5/6/93). The residue to be regulated is tentatively the same as in plants.

Residue Data

New residue data have been submitted in the following report:

> "Magnitude of Residues of Propiconazole in or on Grasses Grown for Seed Following Application of Tilt 3.6E," J.W. Smith, 12/17/92, Lab Project ID ABR-92070. (MRID # 426341-01)

The analytical work was conducted at EPL-BIO ANALYTICAL SERVICES, Harristown, IL.

Nine field trials were held in ID, OR, MN and WA. Plots of bluegrass, bromegrass, timothygrass, fescue, and perennial ryegrass were treated with four applications of Tilt 3.6E.

Samples were taken during the 1991 growing season and maintained 7-12 months in frozen storage prior to extraction and analysis. Analyses generally followed extraction within two or three weeks, but some extracts were held for over one month. Stability of weathered propiconazole residues in extracts of corn silage and soybeans was shown for three and eight months, respectively. These data can be translated to extracts from grass commodities. The registrant states that a storage stability study for weathered residues of propiconazole in grass seed, straw and forage will run through December, 1992. A summary has been submitted as Table V of ABR-9207, in which data from a market basket survey of grass seed screening pellets are reported. (See discussion below.) The summary shows that

average (weathered) residue levels in forage, straw and seeds are higher after 25 months than initially. Available data for soybean fodder and grain (6 months) and peanut fodder, shells and nutmeats (25 months) can be translated to grass in the interim.

Residues of propiconazole and metabolites analyzed as 2,4-dichlorobenzoic acid were determined by Analytical Method AG-454B, similar to AG-454A, which has been validated by EPA. Samples are extracted by refluxing with 20% concentrated ammonium hydroxide/methanol for one hour. An aliquot is concentrated and refluxed with potassium permanganate in sodium hydroxide, which converts propiconazole and its metabolites to the 2,4-dichlorobenzoate salt. After acidification, the benzoic acid is partitioned into 10% diethylether/hexane and the organic phase taken to dryness. The acid is converted to the methyl ester with diazomethane, and the methyl ester is quantitated by capillary gas chromatography/electron capture detection. Procedural recoveries from controls fortified from 0.10 to 25 ppm averaged 93.3%±16.9% (n = 78). Submitted chromatograms show well resolved methyl ester peaks. Recoveries associated with the chromatograms can be verified -- unlike those in PP#8F3674 -- although the registrant should explain how 0.09 ppm recovered from 0.10 ppm is 72% recovery, not 90% (Forage control 1-8-A).

Residues in control samples ranged from <0.05 ppm to 0.50 ppm in seed, <0.05 ppm to 0.30 ppm in straw, <0.05 ppm to 0.36 ppm in seed screenings and <0.05 ppm to 0.11 ppm in forage (regrowth). These levels are well below the proposed tolerances and would not invalidate the residue data.

Residue data results are given in the following tables. We assume that replicate samples (A and B), from plots treated at the 1X rate, refer to two composite samples taken from the same treated plot rather than to composites from two independently treated plots. This should be confirmed.

Table 1a

Residues of Propiconazole in Grass Seed
Following Applications of Tilt 3.6E to
Grasses Grown for Seed

Field Test No./Location/Variety	Total Application Rate (grams ai/A)	PHI (Days)	Propiconazole Residue (ppm)
OW-FR-123-91 Oregon Bluegrass	200(1X)	21	9.0
	200(1X)		4.5
	400(2X)		7.0
	200(1X)	29	6.6
	200(1X)		5.2

6

	400(2X)		10
OW-FR-125-91 Oregon Tall Fescue	400(1X)	20	3.3
	400(1X)		2.1
	800(2X)		1.6
	400(1X)	28	2.0
	400(1X)		3.2
	800(2X)		3.6
OW-FR-628-91 Washington Fescue	400(1X	20	13
	400(1X)		12
	800(2X)		26
	400(1X)	28	9.3
	400(1X)		11
	800(2X)		27
OW-FR-629-91 Washington Bromegrass	400(1X)	20	19
	400(1X)		14
	800(2X)		22
	400(1X)	28	16
	400(1X)		17
	800(2X)		11
OW-FR-630-91 Idaho Bluegrass	200(1X)	20	2.0
	200(1X)		1.6
	400(2X)		2.7
	200(1X)	28	1.9
	200(1X)		0.85
	400(2X)		5.6
MW-FR-502-91 Minnesota Bluegrass	200(1X)	11	4.6
	200(1X)		4.8
	400(2X)		10
	200(1X)	20	4.3
	200(1X)		6.4
	400(2X)		13
MW-FR-503-91 Minnesota Ryegrass	400(1X)	20	21
	400(1X)		23
	400(1X)	28	7.6
	400(1X)		5.8

MW-FR-504-91 Minnesota Timothygrass	400(1X)	20	1.2
	400(1X)		1.2
	400(1X)	28	0.52
	400(1X)	28	0.57

Table 1b

Residues of Propiconazole in Grass Straw Following Applications of Tilt 3.6E to Grasses Grown for Seed

Field Test No./Location/Variety	Total Application Rate (grams ai/A)	PHI (Days)	Propiconazole Residue (ppm)
OW-FR-123-91 Oregon Bluegrass	200(1X)	21	5.3
	200(1X)		6.1
	400(2X)		8.8
	200(1X)	29	3.5
	200(1X)		4.8
	400(2X)		4.9
OW-FR-125-91 Oregon Tall Fescue	400(1X)	20	1.4
	400(1X)		2.4
	800(2X)		5.9
	400(1X)	28	1.5
	400(1X)		2.6
	800(2X)		3.4
OW-FR-628-91 Washington Fescue	400(1X)	20	16
	400(1X)		9.4
	800(2X)		11
	400(1X)	28	3.6
	400(1X)		2.3
	800(2X)		21
OW-FR-629-91 Washington Bromegrass	400(1X)	20	36
	400(1X)		28
	800(2X)		43
	400(1X)	28	23
	400(1X)		17
	800(2X)		17

OW-FR-630-91 Idaho Bluegrass	200(1X)	20	3.0
	200(1X)		3.3
	400(2X)		2.5
	200(1X)	28	2.8
	200(1X)		2.9
	400(2X)		6.0
MW-FR-502-91 Minnesota Bluegrass	200(1X)	11	2.1
	200(1X)		1.7
	400(2X)		3.2
	200(1X)	20	1.8
	200(1X)		2.1
	400(2X)		3.7
MW-FR-503-91 Minnesota Ryegrass	400(1X)	20	15
	400(1X)		14
	400(1X)	28	11
	400(1X)		16
MW-FR-504-91 Minnesota Timothygrass	400(1X)	20	13
	400(1X)		13
	400(1X)	28	5.8
	400(1X)		7.9

Table 1c

Residues of Propiconazole in Grass Seed Screenings Following Applications of Tilt 3.6E to Grasses Grown for Seed

Field Test No./Location/Variety	Total Application Rate (grams ai/A)	PHI (Days)	Propiconazole Residue (ppm)
OW-FR-123-91 Oregon Bluegrass	200(1X)	21	8.4
	200(1X)		8.5
	400(2X)		15
	200(1X)	29	15
	200(1X)		12
	400(2X)		12
OW-FR-125-91 Oregon Tall Fescue	400(1X)	20	6.9
	400(1X)		9.3
	800(2X)		13

	400(1X)	28	2.6
	400(1X)		6.6
	800(2X)		6.6
OW-FR-628-91 Washington Fescue	400(1X)	20	19
	400(1X)		22
	800(2X)		25
	400(1X)	28	12
	400(1X)		11
	800(2X)		21
OW-FR-629-91 Washington Bromegrass	400(1X)	20	41
	400(1X)		35
	800(2X)		62
	400(1X)	28	11
	400(1X)		13
	800(2X)		18
OW-FR-630-91 Idaho Bluegrass	200(1X)	20	2.2
	200(1X)		2.1
	400(2X)		3.0
	200(1X)	28	2.1
	200(1X)		3.7
	400(2X)		4.4
MW-FR-502-91 Minnesota Bluegrass	200(1X)	11	3.7
	200(1X)		5.9
	400(2X)		12
	200(1X)	20	2.9
	200(1X)		7.3
	400(2X)		9.3
MW-FR-503-91 Minnesota Ryegrass	400(1X)	20	43
	400(1X)		38
	400(1X)	28	35
	400(1X)		38
MW-FR-504-91 Minnesota Timothygrass	400(1X)	20	39
	400(1X)		52
	400(1X)	28	36
	400(1X)		30

Table 1d

Residues of Propiconazole in Grass Forage
Following Applications of Tilt 3.6E to
Grasses Grown for Seed

Field Test No./Location/Variety	Total Application Rate (grams ai/A)	PHI (Days)	Propiconazole Residue (ppm)
OW-FR-123-91 Oregon Bluegrass	200(1X)	140	0.07,0.06
	200(1X)		0.07,0.11
	400(2X)		0.18,0.10
OW-FR-125-91 Oregon Tall Fescue	400(1X)	140	0.31
	400(1X)		0.28
	800(2X)		0.37
OW-FR-628-91 Washington Fescue	400(1X)	140	<0.05
	400(1X)		<0.05
	800(2X)		<0.05
OW-FR-630-91 Idaho Bluegrass	200(1X)	140	<0.05
	200(1X)		<0.05
	400(2X)		<0.05

These data support the proposed tolerances on seed screenings, hay and forage.

Anticipated Residues

Average Residues (reflecting 1X use rates and PHI 20-21 days) for seed screenings, hay and forage are, respectively, 21.0±17.7 ppm, 8.8±9.7 ppm and 0.12±0.12 ppm. Data reviewed in S. Willett's 6/11/91 memo were obtained at lower PHI's and short application intervals and were not used in calculating the averages. Earlier data, reviewed by H. Fonouni in his memo of 2/7/89 (PP#9F3706), contained only one data point for seed screenings (chaff) at PHI 28 days and was not used in calculation of the average residue. Results from two field trials could be used in calculating the average for hay -- 8624/Oregon, 0.8 ppm (from maximum total application 200 g ai/A on bluegrass with PHI 22 days), and 8626/Oregon, 2.5 ppm (from maximum total application 400 g ai/A on ryegrass with PHI 20 days).

Grass Seed Screening Pellets (GSSP's) were analyzed in a market basket survey. According to Ciba-Geigy, in commercial practice, unprocessed grass seed screenings are not fed directly to livestock; rather, they are blended with screenings from

untreated grass seed, straw and waste seeds from grasses, sugarbeets, etc. and pelletized. The following report has been submitted:

"Propiconazole Magnitude of the Residue in or on Grass Seed Screening Pellets Obtained from Market Basket Samplings," R.E.M. Wurz, 1/5/93, Lab Project ID ABR-92071. (MRID # 426341-02) Analyses were conducted at Ciba-Geigy's laboratory in Greensboro, NC.

GSSP samples were taken on a monthly basis from three commercial processors in Oregon from mid-November, 1991 to mid-October, 1992. Two replicate samples were randomly collected from current pellet production bins and sent frozen to Greensboro, NC. where they were placed under frozen storage. Samples were analyzed from <1 mo. to 8 mo. after sampling. Pellets were analyzed by Analytical Method AG-454B with some minor modifications. Because there were no untreated control samples -- all analyzed samples contained residues >0.5 ppm -- the lowest fortification level analyzed was 1.0 ppm. Recoveries, corrected for levels found in the unfortified samples, averaged 80±8%.

Residues found varied from 0.47 ppm to 12.6 ppm with an average of 4.1 ppm. Average residues for each of the three field tests (30 samples for each test, including replicate samples) were 6.48±3.17 ppm, 2.85±2.06 ppm and 3.11±2.67 ppm. Residues were found in all samples. Three samples from Field Test #OW-MB-101-92 contained residues which exceed the temporary tolerance of 10 ppm.

Comment

The use of grass seed screenings in animal feed was addressed in a memo from Joseph A. Ferrante, BEAD, to Chuck Trichilo dated 1/10/89 (PP#9F3706). According to the memo, almost all of the seed screenings (99%) from the Pacific Northwest are pelletized for cattle feed. The remaining 1 percent is used as mulch. The Pacific Northwest accounts for up to 70% of the national grass seed production.

Although seed screenings are pelletized in the Pacific Northwest, this practice is apparently not followed in Nebraska or Minnesota. We therefore prefer to use the average residue value of 21 ppm for seed screenings in estimation of residues in meat and milk. Ciba-Geigy may wish to present arguments as to why its market basket survey results are more appropriate.

Although complete information is not available, W.H. Kosesan, Oregon Department of Agriculture, in a 11/30/88 letter addressed To D. Stubbs, EPA, has estimated that grass seed screenings may comprise up to 25% of the diet of dairy cattle and

up to 30% of the diet of beef cattle. These percentages will be used in our calculations.

Meat, Milk, Poultry and Eggs

Tolerances. In our concurrent memo for PP#8F3674, worst case diets for beef and dairy cattle were estimated using a diet consisting of grass seed screenings, corn forage and corn grain. Proposed tolerances for these commodities are 60 ppm, 12 ppm and 0.1 ppm, respectively. Corn forage/silage can constitute up to 30% of the diet of beef cattle and 50% of the diet of dairy cattle. Respective percentages for corn grain are 80% and 50%. Maximum percentages for grass seed screenings and corn forage were used to estimate the maximum residues. We conclude that proposed tolerances of 2.0 ppm for kidney and liver, 0.1 ppm for fat and meat, and 0.05 ppm for milk are appropriate. Note that propiconazole is not currently registered for use in/on corn. A diet consisting of grass commodities and other registered crops would produce lower estimated concentrations in animal commodities.

Anticipated Residues.

1. Including Corn Forage in the Diet. The anticipated residue (AR) for corn forage can be determined by averaging the residue values for that rac given in Table X, Report ABR-88054 (MRID # 407833-03) in PP#8F3674. Because most of the residue values were obtained using a seasonal maximum of 175 g ai/A rather than the maximum 200 g ai/A, residue values reflecting the lower dosage have been multiplied by 1.14. The average for forage is determined to be 2.65±2.30 ppm. Corn forage consists of about 25% dry matter. Therefore, on a dry weight basis the level for forage is 10.4 ppm, which will be used in determination of meat and milk AR's. Using 21 ppm as the AR for grass seed screenings, the AR's in meat and milk can be determined as shown in Tables 2a and 2b.

Table 2a

Diet for Beef and Dairy Cattle Based on Anticipated Residues of Propiconazole in Grass Seed Screenings and Corn

COMMODITY	ANTICIPATED RESIDUE (PPM)	% DIET	DIET PPM
Beef Cattle			
Grass, screenings	21	30	6.3
Corn Forage	10.4	30	3.12
Corn Grain	0.05	40	0.02
		Total	**9.4 ppm**
Dairy Cattle			
Grass, screenings	21	25	5.25
Corn Forage	10.4	50	5.2
Corn Grain	0.05	25	0.01
		Total	**10.4 ppm**

Table 2b

Anticipated Residues in Cattle Determined from a Diet Including Corn

Cattle Sample	Residue @ 75 ppm	Anticipated Residue (ppm)
Milk	0.08	0.01
Kidney	4.7	0.59
Liver	4.3	0.54
Fat	0.23	0.03
Meat	0.11	0.01

The feeding level of 75 ppm was used rather than 15 ppm because measurable residues in fat, meat and milk were found from the higher dose level.

Note that corrections have <u>not</u> been made for percent crop

treated. Should such information be useful for a DRES analysis, a formal request will be made to BEAD.

2. Excluding Corn Forage in the Diet. Because the petition for use of propiconazole in/on corn is still active, a DRES analysis necessary for extension of the tolerance expiration date for grass grown for seed should use AR's determined only with currently registered commodities. One such diet (Debra Edwards, memo of 5/23/89) would be that shown in Table 3a. The average value for grass forage was converted to dry weight basis by dividing by 0.3.

Table 3a

Diet for Beef and Dairy Cattle Based on Anticipated Residues of Propiconazole in Grass Seed Screenings, Hay and Barley Grain

COMMODITY	ANTICIPATED RESIDUE (PPM)	% DIET	DIET PPM
Beef Cattle			
Grass, screenings	21	30	6.3
Grass, hay	8.8	10	0.88
Grass, forage	0.40	40	0.16
Barley, grain	0.05	20	0.01
		Total	**7.4 ppm**
Dairy Cattle			
Grass, screenings	21	25	5.25
Grass, Hay	8.8	10	0.88
Grass, forage	0.40	65%	0.26
		Total	**6.4 ppm**

Table 3b

Anticipated Residues in Cattle Determined from a Diet Including Grass and Barley

Cattle Sample	Residue @ 75 ppm	Anticipated Residue (ppm)
Milk	0.08	0.007
Kidney	4.7	0.46
Liver	4.3	0.42
Fat	0.23	0.02
Meat	0.11	0.01

Because these levels are significantly different from those used in earlier calculations, CBTS recommends that a new DRES analysis be carried out using the values given in Table 3b. Percent crop treated has not been included. [Our memo of 5/23/89 (D.Edwards) did include percent crop treated.]

Other Considerations

An International Residue Limit Status sheet is appended to this review. There is a Codex maximum residue limit of 0.05 mg/kg propiconazole, per se, in "edible offal (mammalian)", which would include kidney. It would be impossible to convert U.S. tolerances for propiconazole and metabolites to propiconazole tolerances because the residue data generated in the U.S. were obtained using an analytical method which does not distinguish between propiconazole and its metabolites.

Attachment: International Residue Limit Status sheet

cc: RF, Circu., Mike Flood, E. Haeberer, PP#1F3974, PP#8F3674.

H7509C:CBTS:Reviewer(MTF):CM#2:Rm804P:703-305-7990:typist(mtf):5/12/93.
RDI:SectionHead:ETHaeberer:5/11/93:BranchSeniorScientist:RALoranger:
5/11/93.

Attachment

INTERNATIONAL RESIDUE LIMIT STATUS

J. Knese 9/10/93

CHEMICAL Propiconazole

CODEX NO. 160

CODEX STATUS:

☐ No Codex Proposal Step 6 or above

Residue(if Step 8): _____

Propiconazole per se

Crop(s)	Limit (mg/kg)
edible offal (mammalian)	0.05

PROPOSED U.S. TOLERANCES:

Petition No. 1F3974

RCB Reviewer F Lucas

Residue: Propiconazole + metabolite ~~CGA~~ 1-(1,2,4-dichlorobenzoyl)

Crop(s)	Limit (mg/kg)
Grass, seed screenings	60
hay (straw)	40
forage	0.5
Cattle, goats, hogs, horses, sheep kidney and liver	2

CANADIAN LIMITS:

☑ No Canadian limit

Residue: _____

Crop(s)	Limit (mg/kg)

MEXICAN LIMITS:

☑ No Mexican limit

Residue: _____

Crop(s)	Limit (mg/kg)

NOTES: _____

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