



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

MAY 20 1988

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#0F2389. Tolerance Request For Residues of
Permethrin in or on Alfalfa: Revised TAS Dietary
Exposure Analysis.

FROM: Susan L. Stanton
Tolerance Assessment Program
HED/RCB (TS-769C)

Susan L. Stanton 05/20/88

THRU: Karl Arne, Ph.D. *KArne*
Branch Senior Scientist
HED/RCB (TS-769C)

TO: George LaRocca/Adam Heyward, PM #15
Insecticide - Rodenticide Branch
Registration Division (TS-767C)

Action Requested

Provide a revised TAS dietary exposure analysis of the
proposed use of the insecticide permethrin in or on alfalfa.

A previous analysis was conducted using proposed tolerances
from the RCB review of 03/04/88 (memo Dodd to LaRocca). The
petitioner has since been asked to submit a revised Section F
which includes proposed tolerances for hogs, poultry, and eggs as
well as the previously proposed tolerances for alfalfa; meat,
fat, and meat byproducts of cattle, goats, horses, and sheep; and
milk fat (personal communication, Nancy Dodd, 05/20/88). The
present analysis incorporates these changes.

Discussion

1. A routine chronic analysis was conducted using a
Reference Dose (ADI) of 0.05 mg/kg body weight/day based on a
NOEL of 5 mg/kg/day from a 2-year rat feeding study with a
safety factor of 100. This value has been approved by the Tox
Branch ADI Committee (09/12/86) and verified by the Agency
reference dose committee (10/28/86).

2. The food uses evaluated were those for which tolerances are established under 40 CFR 180.378, the proposed use on alfalfa, and other pending tolerances (including proposed tolerances on avocados, papayas, dry bulb onions, and sunflower seeds and a proposed increase in the tolerance for asparagus from 1 to 2 ppm). Table 1 provides a complete listing of residue information.

3. The TAS routine chronic analysis calculates the Theoretical Maximum Residue Contribution (TMRC) for the U.S. population and each of 22 population subgroups (see Table 2) and compares this exposure estimate to the reference dose (ADI in this case).

The TMRC from all food uses (including the new use on alfalfa and other pending tolerances) for the U.S. Population is calculated to be 0.017974 mg/kg body weight/day, which occupies approximately 36% of the ADI. The two most highly exposed population subgroups are infants (TMRC = 0.033779 mg/kg/day or 68% of the ADI) and children, ages 1 to 6 (TMRC = 0.030448 mg/kg/day or 61% of the ADI). Table 3 provides a more detailed summary of the analysis for these 3 populations and includes estimates of exposure by tolerance type (published, new action, and other pending).

4. This analysis uses tolerance level residues with an assumption of 100% crop treated, a conservative approach that likely overestimates exposure significantly. However, since estimated exposure and risk using this approach are acceptable, no further data are required at this time.

cc: TAS File
Reading File
circ.
PP#0F2389

TOX (Rathman)
Permethrin SF
PMSD

Table 1

CHEMICAL INFORMATION FOR CASWELL NUMBER 652BB

DATE: 05/20/88

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
			ADI	SF -->	100	No data gaps.	
Permethrin	2yr feeding- rat	Decreased liver weights.					TOX complete 9/12/86.
Caswell #652BB	NOEL= 5.0000 mg/kg	Slight increase in liver	OPP RfD= 0.050000			Slight increase in liver	EPA verified 10/28/86.
CAS No. 52645-53-1	100.00 ppm	Weights noted at 5 mg/kg.	EPA RfD= 0.050000			weights at 5 mg/kg only	WHO last reviewed 1987;
A.I. CODE: 109701	LEL= 25.0000 mg/kg	Evidence of oncogenicity				noted in 1/3 rat studies,	(ADI extended to 25:75
CFR No. 180.378	500.00 ppm	in mice (liver, lung),				not considered toxicolo-	mixture).
	ONCO: Pending WOTE	negative rat.	Q*= 0.022000			gically significant.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			NEW	PUBLISHED
03001AA	ALMONDS	2F2675		0.0500
03005AA	FILBERTS/HAZELNUTS	4F3130		0.0500
03009AA	WALNUTS	4F3130		0.0500
03011AA	PISTACHIO NUTS	4F2995		0.1000
04001AA	APPLES-FRESH	1F2562		0.0500
04001DA	APPLES-DRIED	1F2562		0.0500
04001JA	APPLES-JUICE	1F2562		0.0500
04003AA	PEARS-FRESH	0F2425		3.0000
04003DA	PEARS-DRIED	0F2425		3.0000
05002AA	CHERRIES-FRESH	5F3271		3.0000
05002DA	CHERRIES-DRIED	5F3271		3.0000
05002JA	CHERRIES-JUICE	5F3271		3.0000
05004AA	PEACHES-FRESH	3F2802		5.0000
05004DA	PEACHES-DRIED	3F2802		5.0000
06001AA	AVOCADOS	4E3146	1.0000	
06010AA	PAPAYAS-UNSPECIFIED	4E3146	1.0000	
06010AB	PAPAYAS-PULP	4E3186	1.0000	
06010DA	PAPAYAS-DRIED	4E3186	1.0000	
06010JA	PAPAYAS-JUICE	4E3186	1.0000	
06018AA	KIWI	1E2514		2.0000
08022AA	HORSERADISH	0E2377		1.0000
10002AA	CANTALOUPE-UNSPECIFIED	5E3225		3.0000
10002AB	CANTALOUPE-PULP	5E3225		3.0000
10011AA	PUMPKIN	3E2861		2.0000
11001AA	EGGPLANT	3E2892		1.0000
11003AA	PEPPERS (SWEET/GARDEN)	3E2892		1.0000
11005AA	TOMATOES-WHOLE	4F2985		2.0000
11005JA	TOMATOES-JUICE	4F2985		2.0000
11005RA	TOMATOES-PUREE	4F2985		2.0000
11005TA	TOMATOES-PASTE	4F2985		2.0000
11005UA	TOMATOES-CATSUP	4F2985		2.0000
13002AA	CELERY	8F2099		5.0000
13003AA	CHICORY (FRENCH OR BELGIAN ENDIVE)	4F3018		20.0000
13005AA	BROCCOLI	9F2207		1.0000
13006AA	BRUSSEL SPROUTS	9F2207		1.0000
13007AA	CABBAGE-GREEN AND RED	9F2192		6.0000
13008AA	CAULIFLOWER	9F2207		1.0000
13009AA	COLLARDS	6E3360		20.0000
13010AA	CABBAGE-CHINESE/CELERY (INC. BOK CHOY)	9F2192		6.0000
13013AA	LETTUCE-LEAFY VARIETIES	4F3018		20.0000

Table 1 (cont.)

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DATE: 05/20/88

CHEMICAL INFORMATION FOR CASWELL NUMBER 652BB

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	SF -->		
Permethrin	2yr feeding- rat	Decreased liver weights.		100	No data gaps.	TOX complete 9/12/86.
Caswell #652BB	NOEL= 5.0000 mg/kg	Slight increase in liver	OPP RfD= 0.050000		Slight increase in liver	EPA verified 10/28/86.
CAS No. 52645-53-1	100.00 ppm	weights noted at 5 mg/kg.	EPA RfD= 0.050000		weights at 5 mg/kg only	WHO last reviewed 1987;
A.I. CODE: 109701	LEL= 25.0000 mg/kg	Evidence of oncogenicity			noted in 1/3 rat studies,	(ADI extended to 25:75
CFR No. 180.378	500.00 ppm	in mice (liver, lung),			not considered toxicolo-	mixture).
	ONCO: Pending WOTE	negative rat.	Q*= 0.022000		gically significant.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			PENDING	PUBLISHED
13014AA	DANDELION	4F3018		20.0000
13015AA	ENDIVE (CURLEY AND ESCAROLE)	4F3018		20.0000
13016AA	FENNEL	8F2099		5.0000
13017AA	CRESS (GARDEN/FIELD)	4F3018		20.0000
13018AA	ARTICHOKES-GLOBE	4F3114		10.0000
13020AA	LETTUCE-UNSPECIFIED	4F3018		20.0000
13022AA	PARSLEY	4F3018		20.0000
13023AA	RHUBARB	4F3018		20.0000
13024AA	SPINACH	2E2701		20.0000
13025AA	SWISS CHARD	4F3018		20.0000
13026AA	TURNIPS-TOPS	6E3360		20.0000
13027AA	WATERCRESS	4E3113		5.0000
13039AA	CRESS/UPLAND	4F3018		20.0000
13045AA	LETTUCE-HEAD VARIETIES	9F2192		20.0000
14007AA	GARLIC	8E3583	0.1000	
14011AA	ONIONS-DRY-BULB (CIPOLLINI)	8E3583	0.1000	
14011DA	ONIONS-DEHYDRATED OR DRIED	8E3583	0.1000	
14013AA	POTATOES(WHITE)-WHOLE	0F2307		0.0500
14013AB	POTATOES(WHITE)-UNSPECIFIED	0F2307		0.0500
14013AC	POTATOES(WHITE)-PEELED	0F2307		0.0500
14013DA	POTATOES(WHITE)-DRY	0F2307		0.0500
14013HA	POTATOES(WHITE)-PEEL ONLY	0F2307		0.0500
14017AA	SHALLOTS	8E3583	0.1000	
14019AA	TURNIPS-ROOTS	6E3360		1.0000
15004AA	CORN/POP	1F2476		0.0500
15005AA	CORN/SWEET	3F2781		0.1000
15018AA	SUNFLOWER-SEEDS	4F2981		
15029AA	SOYBEANS-SPROUTED SEEDS	9F2196	0.0500	0.0500
16002AA	ASPARAGUS	3E2914		1.0000
16002AA	ASPARAGUS	8F3595		
16003AA	MUSHROOMS	2F2752	1.0000	6.0000
24002EA	CORN/GRAIN-ENDOSPERM	1F2476		0.0500
24002HA	CORN/GRAIN-BRAN	1F2476		0.0500
24002SA	CORN SUGAR	1F2476		0.0500
270020A	CORN/GRAIN-OIL	1F2476		0.0500
270030A	COTTONSEED-OIL			0.5000
27003WA	COTTONSEED-MEAL			0.5000
270100A	SOYBEANS-OIL			0.0500
270110A	SUNFLOWER-OIL		0.0500	
28023AA	SOYBEANS-UNSPECIFIED			0.0500

Table 1 (con't)

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CHEMICAL INFORMATION FOR CASWELL NUMBER 652BB

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	SF -->		
Permethrin	2yr feeding- rat	Decreased liver weights.		100	No data gaps.	TOX complete 9/12/86.
Caswell #652BB	NOEL= 5,000 mg/kg	Slight increase in liver	OPP RD= 0.050000		Slight increase in liver	EPA verified 10/28/86.
CAS No. 52645-53-1	100.00 ppm	weights noted at 5 mg/kg.	EPA RD= 0.050000		weights at 5 mg/kg only	WHO last reviewed 1987;
A.I. CODE: 109701	LEL= 25,000 mg/kg	Evidence of oncogenicity			noted in 1/3 rat studies,	(ADI extended to 25:75
CFR No. 180.378	500.00 ppm	in mice (liver, lung),			not considered toxicolo-	mixture).
	ONCO: Pending NOTE	negative rat.	Q*= 0.022000		gically significant.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			NEW	PENDING PUBLISHED
28023AB	SOYBEANS-NATURE/SEEDS DRY	9F2196		0.0500
28023WA	SOYBEANS-FLOUR/FULL FAT	9F2196		0.0500
28023WB	SOYBEANS-FLOUR/LOW FAT	9F2196		0.0500
28023WC	SOYBEANS-FLOUR/DEFATTED	9F2196		0.0500
50000FA	MILK-FAT SOLIDS	3F2781		3.7500 H
50000FA	MILK-FAT SOLIDS	OF2389	2.5000	H
53001BA	BEEF-MEAT BYPRODUCTS	1F2564		1.0000
53001BA	BEEF-MEAT BYPRODUCTS	OF2389	1.0000	
53001BB	BEEF (ORGAN MEATS)-OTHER	1F2564		1.0000
53001BB	BEEF (ORGAN MEATS)-OTHER	OF2389	1.0000	
53001DA	BEEF-DRIED	1F2564		0.1500
53001DA	BEEF-DRIED	OF2389	0.1000	
53001FA	BEEF (BONELESS)-FAT (BEEF TALLOW)	1F2564		2.0000
53001FA	BEEF (BONELESS)-FAT (BEEF TALLOW)	OF2389	1.0000	
53001KA	BEEF (ORGAN MEATS)-KIDNEY	1F2564		1.0000
53001KA	BEEF (ORGAN MEATS)-KIDNEY	OF2389	1.0000	
53001LA	BEEF (ORGAN MEATS)-LIVER	1F2564		1.0000
53001LA	BEEF (ORGAN MEATS)-LIVER	OF2389	1.0000	
53001MA	BEEF (BONELESS)-LEAN (W/O REMOVABLE FAT)	1F2564		0.1500
53001MA	BEEF (BONELESS)-LEAN (W/O REMOVABLE FAT)	OF2389	0.1000	
53002BA	GOAT-MEAT BYPRODUCTS	1F2564		1.0000
53002BA	GOAT-MEAT BYPRODUCTS	OF2389	1.0000	
53002BB	GOAT (ORGAN MEATS)-OTHER	1F2564		1.0000
53002BB	GOAT (ORGAN MEATS)-OTHER	OF2389	1.0000	
53002FA	GOAT (BONELESS)-FAT	1F2564		2.0000
53002FA	GOAT (BONELESS)-FAT	OF2389	1.0000	
53002KA	GOAT (ORGAN MEATS)-KIDNEY	1F2564		1.0000
53002KA	GOAT (ORGAN MEATS)-KIDNEY	OF2389	1.0000	
53002LA	GOAT (ORGAN MEATS)-LIVER	1F2564		1.0000
53002LA	GOAT (ORGAN MEATS)-LIVER	OF2389	1.0000	
53002MA	GOAT (BONELESS)-LEAN (W/O REMOVABLE FAT)	1F2564		0.1500
53002MA	GOAT (BONELESS)-LEAN (W/O REMOVABLE FAT)	OF2389	0.1000	
53003AA	HORSE	1F2564		2.0000
53003AA	HORSE	OF2389	1.0000	
53005BA	SHEEP-MEAT BYPRODUCTS	1F2564		1.0000
53005BA	SHEEP-MEAT BYPRODUCTS	OF2389	1.0000	
53005BB	SHEEP (ORGAN MEATS)-OTHER	1F2564		1.0000
53005BB	SHEEP (ORGAN MEATS)-OTHER	OF2389	1.0000	
53005FA	SHEEP (BONELESS)-FAT	1F2564		2.0000
53005FA	SHEEP (BONELESS)-FAT	OF2389	1.0000	

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Table 1 (con't)

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CHEMICAL INFORMATION FOR CASWELL NUMBER 652BB

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
			ADI	SF -->	100	No data gaps.	
Permethrin	2yr feeding- rat	Decreased liver weights.					
Caswell #652BB	NOEL= 5.0000 mg/kg	Slight increase in liver	OPP RfD= 0.050000			Slight increase in liver	TOX complete 9/12/86.
CAS No. 52645-53-1	100.00 ppm	Weights noted at 5 mg/kg.	EPA RfD= 0.050000			weights at 5 mg/kg only	EPA verified 10/28/86.
A.I. CODE: 109701	LEL= 25.0000 mg/kg	Evidence of oncogenicity				noted in 1/3 rat studies,	WHO last reviewed 1987;
CFR No. 180.378	500.00 ppm	in mice (liver, lung),				not considered toxicologically significant.	(ADI extended to 25:75 mixture).
	ONCO: Pending note.	negative rat.	Q*= 0.022000				On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			NEW	PENDING PUBLISHED
53005KA	SHEEP(ORGAN MEATS)-KIDNEY	1F2564		1.0000
53005KA	SHEEP(ORGAN MEATS)-KIDNEY	OF2389	1.0000	
53005LA	SHEEP(ORGAN MEATS)-LIVER	1F2564		1.0000
53005LA	SHEEP(ORGAN MEATS)-LIVER	OF2389	1.0000	
53005MA	SHEEP(BONELESS)-LEAN (W/O REMOVEABLE FAT	1F2564		0.1500
53005MA	SHEEP(BONELESS)-LEAN (W/O REMOVEABLE FAT	OF2389	0.1000	
53006BA	PORK-MEAT BYPRODUCTS	1F2546		3.0000
53006BB	PORK(ORGAN MEATS)-OTHER	1F2546		3.0000
53006FA	PORK(BONELESS)-FAT (INCLUDING LARD)	1F2546		2.0000
53006FA	PORK(BONELESS)-FAT (INCLUDING LARD)	OF2389	1.0000	
53006KA	PORK(ORGAN MEATS)-KIDNEY	1F2546		3.0000
53006LA	PORK(ORGAN MEATS)-LIVER	1F2546		3.0000
53006MA	PORK(BONELESS)-LEAN (W/O REMOVEABLE FAT)	1F2546		0.1500
53006MA	PORK(BONELESS)-LEAN (W/O REMOVEABLE FAT)	OF2389	0.1000	
55008BA	TURKEY-BYPRODUCTS	1F2564		0.0500
55008BA	TURKEY-BYPRODUCTS	OF2389	0.2000	
55008LA	TURKEY-GIBLETS (LIVER)	1F2564		0.0500
55008LA	TURKEY-GIBLETS (LIVER)	OF2389	0.2000	
55008NA	TURKEY-FLESH(W/O SKIN & W/O BONES)	1F2564		0.0500
55008NB	TURKEY-FLESH(+SKIN & W/O BONES)	1F2564		0.0500
55008NB	TURKEY-FLESH(+SKIN, W/O BONES)	OF2389	0.1000	
55008NC	TURKEY-UNSPECIFIED	1F2564		0.0500
55008NC	TURKEY-UNSPECIFIED	OF2389	0.2000	
55013BA	POULTRY/OTHER-BYPRODUCTS	1F2564		0.0500
55013BA	POULTRY/OTHER-BYPRODUCTS	OF2389	0.2000	
55013LA	POULTRY/OTHER-GIBLETS (LIVER)	1F2564		0.0500
55013LA	POULTRY/OTHER-GIBLETS (LIVER)	OF2389	0.2000	
55013MA	POULTRY/OTHER-FLESH (+SKIN & W/O BONES)	1F2564		0.0500
55013MA	POULTRY/OTHER-FLESH (+SKIN, W/O BONES)	OF2389	0.1000	
55014AA	EGGS-WHOLE	1F2564		0.0500
55014AA	EGGS-WHOLE	OF2389	0.9500	
55014AB	EGGS-WHITE ONLY	1F2564		0.0500
55014AB	EGGS-WHITE ONLY	OF2389	0.9500	
55014AC	EGGS-YOLK ONLY	1F2564		0.0500
55014AC	EGGS-YOLK ONLY	OF2389	0.9500	
55015BA	CHICKEN-BYPRODUCTS	1F2564		0.0500
55015BA	CHICKEN-BYPRODUCTS	OF2389	0.2000	
55015LA	CHICKEN-GIBLETS(LIVER)	1F2564		0.0500
55015LA	CHICKEN-GIBLETS(LIVER)	OF2389	0.2000	
55015MA	CHICKEN-FLESH(W/O SKIN & W/O BONES)	1F2564		0.0500

Table 1 (con't)

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CHEMICAL INFORMATION FOR CASWELL NUMBER 652BB

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	SF -->		
Permethrin	2yr feeding- rat	Decreased liver weights.		100	No data gaps.	TOX complete 9/12/86.
Caswell #652BB	NOEL= 5.0000 mg/kg	Slight increase in liver	OPP RfD= 0.050000		Slight increase in liver	EPA verified 10/28/86.
CAS No. 52645-53-1	100.00 ppm	weights noted at 5 mg/kg.	EPA RfD= 0.050000		weights at 5 mg/kg only	WHO last reviewed 1987;
A.I. CODE: 109701	LEL= 25.0000 mg/kg	Evidence of oncogenicity			noted in 1/3 rat studies,	(ADI extended to 25:75
CFR No. 180.378	500.00 ppm	in mice (liver, lung),			not considered toxicolo-	mixture).
	ONCO: Pending NOTE	negative rat.	Q*= 0.022000		gically significant.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			NEW	PUBLISHED
55015MB	CHICKEN-FLESH(+SKIN & W/O BONES)	1F2564		0.0500
55015MB	CHICKEN-FLESH(+SKIN W/O BONES)	OF2389	0.1000	
90997AA	INEST. RACS--TOLERANCE TOO SPECIFIC	1F2546		
90999AA	FEED RACS--INEST. FROM USDA SURVEY	2F2675		

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Permethrin	2yr feeding- rat	Decreased liver weights.	ADI SF --> 100	No data gaps.	TOX complete 9/12/86.
Caswell #528B	NOEL= 5.0000 mg/kg	Slight increase in liver	OPP RfD= 0.050000	Slight increase in liver	EPA verified 10/28/86.
CAS No. 52645-53-1	100.00 ppm	weights noted at 5 mg/kg.	EPA RfD= 0.050000	weights at 5 mg/kg only	WHO last reviewed 1987;
A.I. CODE: 109701	LEL= 25.0000 mg/kg	Evidence of oncogenicity		noted in 1/3 rat studies,	(ADI extended to 25:75
CFR No. 180.378	500.00 ppm	in mice (liver, lung),		not considered toxicolo-	mixture).
ONCO: Pending NOTE		negative rat.	Q*= 0.022000	gically significant.	On IRIS.
POPULATION SUBGROUP					
U.S. POPULATION - 48 STATES		TOTAL TMRC (MG/KG BODY WEIGHT/DAY)	NEW TMRC AS PERCENT OF RFD	DIFFERENCE AS PERCENT OF RFD	EFFECT OF ANTICIPATED RESIDUES
U.S. POPULATION - SPRING SEASON		CURRENT TMRC*	NEW TMRC**		
U.S. POPULATION - SUMMER SEASON		0.015461	0.017974	35.948832	5.027798
U.S. POPULATION - FALL SEASON		0.015735	0.018212	36.423944	4.954038
U.S. POPULATION - WINTER SEASON		0.016169	0.018662	37.324700	4.987208
		0.014907	0.017471	34.941252	5.128212
		0.015028	0.017549	35.098264	5.041490
NORTHEAST REGION		0.015873	0.018435	36.869668	5.123958
NORTH CENTRAL REGION		0.015109	0.017575	35.150138	4.931980
SOUTHERN REGION		0.014257	0.016649	33.297192	4.782686
WESTERN REGION		0.017503	0.020235	40.470886	5.463946
HISPANICS		0.015958	0.019141	38.281344	6.365884
NON-HISPANIC WHITES		0.015344	0.017807	35.613224	4.926208
NON-HISPANIC BLACKS		0.015686	0.018174	36.347486	4.975310
NON-HISPANIC OTHERS		0.017983	0.020832	41.663826	5.697294
NURSING INFANTS (< 1 YEAR OLD)		0.013301	0.014399	28.798442	2.197358
NON-NURSING INFANTS (< 1 YEAR OLD)		0.029004	0.033779	67.557100	9.549880
FEMALES (13+ YEARS, PREGNANT)		0.012279	0.014030	28.060902	3.503328
FEMALES 13+ YEARS, NURSING		0.016248	0.018528	37.055570	4.559784
CHILDREN (1-6 YEARS OLD)		0.024570	0.030448	60.896800	11.756676
CHILDREN (7-12 YEARS OLD)		0.020830	0.024604	49.208344	7.548582
MALES (13-19 YEARS OLD)		0.014273	0.016970	31.940272	5.394036
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)		0.013113	0.015231	30.461088	4.235910
MALES (20 YEARS AND OLDER)		0.012813	0.014811	29.622612	3.995984
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)		0.013810	0.015477	30.953904	3.334078

*Current TMRC does not include new or pending tolerances.

***New TMRC includes new, pending, and published tolerances.

Table 3

TOLERANCE ASSESSMENT SUMMARY FOR Permethrin
CASWELL #652BB

DATE: 05/20/88

ANALYSIS FOR POPULATION SUB-GROUP: U.S. POPULATION - 48 STATES

EXISTING TOLERANCES (PUBLISHED ONLY)		
RESULT IN A TMRC OF:	0.015461	MG/KG/DAY
THE EXISTING TMRC IS EQUIVALENT TO:	30.921034	% OF THE ADI.
PROPOSED NEW TOLERANCES (CURRENT PETITION ONLY)		
RESULT IN A TMRC OF:	0.002456	MG/KG/DAY
THESE NEW TOLERANCES WILL OCCUPY:	4.912926	% OF THE ADI.
IF THE NEW TOLERANCES (CURRENT PETITION ONLY)		
ARE APPROVED THE RESULTANT TMRC WILL BE:	0.017917	MG/KG/DAY
THE NEW TMRC WILL OCCUPY	35.833960	% OF THE ADI.
OTHER PENDING TOLERANCES EXCLUDING THE		
CURRENT NEW PETITION HAVE A TMRC OF:	0.000057	MG/KG/DAY
THIS TMRC WILL OCCUPY	0.114872	% OF THE ADI.
IF ALL PENDING TOLERANCES (INCLUDING THE		
CURRENT NEW PETITION) ARE GRANTED		
THE RESULTANT TMRC WILL BE:	0.017974	MG/KG/DAY
THE TOTAL TMRC WILL OCCUPY	35.948832	% OF THE ADI.

ANALYSIS FOR POPULATION SUB-GROUP: NON-NURSING INFANTS (< 1 YEAR OLD)

EXISTING TOLERANCES (PUBLISHED ONLY)		
RESULT IN A TMRC OF:	0.029004	MG/KG/DAY
THE EXISTING TMRC IS EQUIVALENT TO:	58.007220	% OF THE ADI.
PROPOSED NEW TOLERANCES (CURRENT PETITION ONLY)		
RESULT IN A TMRC OF:	0.004762	MG/KG/DAY
THESE NEW TOLERANCES WILL OCCUPY:	9.523884	% OF THE ADI.
IF THE NEW TOLERANCES (CURRENT PETITION ONLY)		
ARE APPROVED THE RESULTANT TMRC WILL BE:	0.033766	MG/KG/DAY
THE NEW TMRC WILL OCCUPY	67.531104	% OF THE ADI.
OTHER PENDING TOLERANCES EXCLUDING THE		
CURRENT NEW PETITION HAVE A TMRC OF:	0.000013	MG/KG/DAY
THIS TMRC WILL OCCUPY	0.025996	% OF THE ADI.
IF ALL PENDING TOLERANCES (INCLUDING THE		
CURRENT NEW PETITION) ARE GRANTED		
THE RESULTANT TMRC WILL BE:	0.033779	MG/KG/DAY
THE TOTAL TMRC WILL OCCUPY	67.557100	% OF THE ADI.

ANALYSIS FOR POPULATION SUB-GROUP: CHILDREN (1-6 YEARS OLD)

EXISTING TOLERANCES (PUBLISHED ONLY)		
RESULT IN A TMRC OF:	0.024570	MG/KG/DAY
THE EXISTING TMRC IS EQUIVALENT TO:	49.140124	% OF THE ADI.
PROPOSED NEW TOLERANCES (CURRENT PETITION ONLY)		
RESULT IN A TMRC OF:	0.005814	MG/KG/DAY
THESE NEW TOLERANCES WILL OCCUPY:	11.627006	% OF THE ADI.
IF THE NEW TOLERANCES (CURRENT PETITION ONLY)		
ARE APPROVED THE RESULTANT TMRC WILL BE:	0.030384	MG/KG/DAY
THE NEW TMRC WILL OCCUPY	60.767130	% OF THE ADI.
OTHER PENDING TOLERANCES EXCLUDING THE		
CURRENT NEW PETITION HAVE A TMRC OF:	0.000065	MG/KG/DAY
THIS TMRC WILL OCCUPY	0.129670	% OF THE ADI.
IF ALL PENDING TOLERANCES (INCLUDING THE		
CURRENT NEW PETITION) ARE GRANTED		
THE RESULTANT TMRC WILL BE:	0.030448	MG/KG/DAY
THE TOTAL TMRC WILL OCCUPY	60.896800	% OF THE ADI.