~~DEB (ORANGE)~~
~~R. Taylor~~
M. Nelson

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

MAR 29 1989

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: FAP#8H5568. Glyphosate in or on Instant Tea: TAS Dietary Exposure Analysis.

FROM: Susan L. Stanton S.L. Stanton 03/28/89
Tolerance Assessment Staff
HED/SACB (H7509C)

THRU: Bruce Jaeger BJ 3/29/89
Head, Special Analysis and Outreach Section
HED/SACB (H7509C)

TO: Robert J. Taylor/V. Walters, PM #25
Fungicide-Herbicide Branch
Registration Division (H7505C)

Action Requested

SACB has been asked to provide a TAS analysis of dietary exposure resulting from the proposed increase in the tolerance for residues of glyphosate in or on instant tea. Dietary Exposure Branch (DEB) has recommended that the food additive tolerance for instant tea be increased from 4 ppm to 7 ppm (memo. M.J. Nelson to R. Taylor/V. Walters, 03/22/89).

Discussion

1. Toxicology Endpoint: A TAS chronic exposure analysis was conducted using a Reference Dose (ADI) of 0.1 mg/kg body wt/day, based on the No Observable Effect Level (NOEL) of 10.0 mg/kg/day from a 3-generation rat reproduction study with an uncertainty factor of 100. This value has been approved by HED (02/28/86) and verified by the Agency reference dose committee (03/11/86).

2. Residue Data Used in the Analysis: The food uses evaluated include those for which tolerances have been established under 40 CFR 180.364 and 185.3500 and the proposed tolerance increase for instant tea. Exposure estimates provided by this analysis assume that residues would be present at tolerance levels on all foods and that 100% of all crops would be treated with glyphosate. The attached Table 1 contains a complete listing of residues used in the analysis.

3. Analysis Summary: The TAS chronic exposure analysis estimates average daily exposure for the overall U.S. population

and each of 22 population subgroups and compares these estimates to the acceptable daily intake (See Table 2). The Theoretical Maximum Residue Contribution (TMRC) for the overall U.S. population from the established uses and the proposed increase on instant tea is estimated to be 0.005188 mg/kg body wt/day, which occupies approximately 5% of the ADI. The TAS subgroup with the greatest estimated overall exposure is non-nursing infants less than 1 year old (TMRC = 0.016248 mg/kg/day or 16% of the ADI). Nursing females, 13 years and older are estimated to have the greatest additional exposure from the proposed increase in the tolerance for tea. A summary of exposure from established tolerances and the proposed increase in the tea tolerance is shown below for the overall population and these two subgroups:

	Established Uses	New Action (Tea)[a]	Total Exposure
U.S. Population	0.005094[b] (5.1%)[c]	0.000095 (0.1%)	0.005188 (5.2%)
Non-Nursing Infants	0.016216 (16.2%)	0.000032 (0.03%)	0.016248 (16.2%)
Nursing Females	0.004590 (4.6%)	0.000174 (0.2%)	0.004764 (4.8%)

[a]Includes the exposure from the increase of 3 ppm in the instant tea tolerance only (from 4 to 7 ppm).
[b]Exposure expressed as mg/kg body wt/day.
[c]Exposure expressed as a percent of the ADI.

The above estimates are based on tolerance level residues and assume 100% of all crops are treated. Actual exposure would likely be lower, since tolerances generally overestimate residues that would be found in foods as eaten. However, since no TAS subgroups have estimated exposures which exceed the acceptable daily intake using this conservative approach, a more refined analysis is not deemed necessary.

CC: Stanton (SACB), Caswell File #661A, TAS File, DEB (Loranger), Dykstra (HFASB), Jaeger (SACB).

Table 1

CHEMICAL INFORMATION FOR CASWELL NUMBER 661A DATE: 03/26/89 PAGE: 1

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Glyphosate (+ salts)	3gen reprod- rat	Renal tubular dilation in	ADI SF -->100	Rat oncogenicity (no MTD	HED complete 2/28/86.
Caswell #661A	NOEL= 10.0000 mg/kg	pups.	OPP RfD= 0.100000	in chronic feeding study)	EPA verified 3/11/86.
CAS No. 1071-83-6	0.00 ppm	Equivocal evidence of on-	EPA RfD= 0.100000	Mouse oncogenicity (need	WHO last reviewed 1986.
A.I. CODE: 417300	LEL= 30.0000 mg/kg	cogenicity in the mouse		to resolve kidney tumor	
CFR No. 180.364	0.00 ppm	(kidney adenoma); rat		issue).	
	ONCO: D (SAP); C (HED)	study no MTD.		Not regulated as oncogen.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM) NEW	PENDING	PUBLISHED
01002AA	BLACKBERRIES	3E2930			0.200000
01003AA	BOYSENBERRIES	3E2930			0.200000
01004AA	DEWBERRIES	3E2930			0.200000
01005AA	LOGANBERRIES	3E2930			0.200000
01006AA	RASPBERRIES	3E2930			0.200000
01007AA	YOUNGBERRIES	3E2930			0.200000
01009AA	BLUEBERRIES	3E2930			0.200000
01010AA	CRANBERRIES	0E2421			0.200000
01010JA	CRANBERRIES-JUICE	0E2421			0.200000
01011AA	CURRANTS	3E2930			0.200000
01012AA	ELDERBERRIES	3E2930			0.200000
01013AA	GOOSEBERRIES	3E2930			0.200000
01014AA	GRAPES-FRESH	5F1560			0.200000
01014DA	GRAPES-RAISINS	5F1560			0.200000
01014JA	GRAPES-JUICE	5F1560			0.200000
01015AA	HUCKLEBERRIES (GAYLUSSACIA)	3E2930			0.200000
01016AA	STRAWBERRIES	3E2930			0.200000
02001AA	CITRUS CITRON	6F1733			0.200000
02002AA	GRAPEFRUIT-UNSPECIFIED	6F1733			0.200000
02002AB	GRAPEFRUIT-PULP	6F1733			0.200000
02002JA	GRAPEFRUIT-JUICE	6F1733			0.200000
02003AA	KUMQUATS	6F1733			0.200000
02004AA	LEMONS-UNSPECIFIED	6F1733			0.200000
02004AB	LEMONS-PULP	6F1733			0.200000
02004HA	LEMONS-PEEL	6F1733			0.200000
02004JA	LEMONS-JUICE	6F1733			0.200000
02005AA	LIMES-UNSPECIFIED	6F1733			0.200000
02005AB	LIMES-PULP	6F1733			0.200000
02005HA	LIMES-PEEL	6F1733			0.200000
02005JA	LIMES-JUICE	6F1733			0.200000
02006AA	ORANGES-UNSPECIFIED	6F1733			0.200000
02006AB	ORANGES-PULP	6F1733			0.200000
02006HA	ORANGES-PEEL	6F1733			0.200000
02006JA	ORANGES-JUICE	6F1733			0.200000
02007AA	TANGELOS	6F1733			0.200000
02008AA	TANGERINES	6F1733			0.200000
02008JA	TANGERINE-JUICE	6F1733			0.200000
03001AA	ALMONDS	7F1893			0.200000
03002AA	BRAZIL NUTS	7F1893			0.200000
03003AA	CASHEWS	7F1893			0.200000

Table 1 (con't)

CHEMICAL INFORMATION FOR CASWELL NUMBER 661A DATE: 03/26/89 PAGE: 2

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Glyphosate (+ salts)	3gen reprod- rat	Renal tubular dilation in	ADI SF -->100	Rat oncogenicity (no MTD	HED complete 2/28/86.
Caswell #661A	NOEL= 10.0000 mg/kg	pups.	OPP RfD= 0.100000	in chronic feeding study)	EPA verified 3/11/86.
CAS No. 1071-83-6	0.00 ppm	Equivocal evidence of on-	EPA RfD= 0.100000	Mouse oncogenicity (need	WHO last reviewed 1986.
A.I. CODE 417300	LEL= 30.0000 mg/kg	cogenicity in the mouse		to resolve kidney tumor	
CFR No. 180.364	0.00 ppm	(kidney adenoma); rat		issue).	
	ONCO: D (SAP); C (HED)	study no MTD.		Not regulated as oncogen.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM) NEW	PENDING	PUBLISHED
03004AA	CHESTNUTS	7F1893			0.200000
03005AA	FILBERTS & HAZELNUTS	7F1893			0.200000
03006AA	HICKORY NUTS	7F1893			0.200000
03007AA	MACADAMIA NUTS (BUSH NUTS)	7F1893			0.200000
03008AA	PECANS	7F1893			0.200000
03009AA	WALNUTS	7F1893			0.200000
03010AA	BUTTER NUTS	7F1893			0.200000
03011AA	PISTACHIO NUTS	7F1893			0.200000
03013AA	BEECHNUTS	7F1893			0.200000
04001AA	APPLES-FRESH	6F1861			0.200000
04001DA	APPLES-DRIED	6F1861			0.200000
04001JA	APPLES-JUICE	6F1861			0.200000
04002AA	CRABAPPLES	6F1861			0.200000
04003AA	PEARS-FRESH	6F1861			0.200000
04003DA	PEARS-DRIED	6F1861			0.200000
04004AA	QUINCES	6F1861			0.200000
05001AA	APRICOTS-FRESH	260044			0.200000
05001DA	APRICOTS-DRIED	260044			0.200000
05002AA	CHERRIES-FRESH	260044			0.200000
05002DA	CHERRIES-DRIED	260044			0.200000
05002JA	CHERRIES-JUICE	260044			0.200000
05003AA	NECTARINES	260044			0.200000
05004AA	PEACHES-FRESH	260044			0.200000
05004DA	PEACHES-DRIED	260044			0.200000
05005AA	PLUMS(DAMSONS)-FRESH	260044			0.200000
05005DA	PLUMS-PRUNES(DRIED)	260044			0.200000
05005JA	PLUMS/PRUNE-JUICE	260044			0.200000
06001AA	AVOCADOS	8F2021			0.200000
06002AA	BANANAS-UNSPECIFIED	9F2223			0.200000
06002AB	BANANAS-FRESH	9F2223			0.200000
06002DA	BANANAS-DRIED	9F2223			0.200000
06003AA	COCONUT-FRESH	2F2680			0.100000
06003DA	COCONUT-COPRA	2F2680			0.100000
06003JA	COCONUT-WATER	2F2680			0.100000
06005AA	FIGS	3E2929			0.200000
06006AA	GUAVA	1E2443			0.200000
06007AA	MANGOES	1E2490			0.200000
06009AA	OLIVES	3E2929			0.200000
06010AA	PAPAYAS-UNSPECIFIED	1E2443			0.200000
06010AB	PAPAYAS-PULP	1E2443			0.200000

Table 1 (con't)

CHEMICAL INFORMATION FOR CASWELL NUMBER 661A DATE: 03/26/89 PAGE: 3

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Glyphosate (+ salts)	3gen reprod- rat	Renal tubular dilation in	ADI SF -->100	Rat oncogenicity (no MTD	HED complete 2/28/86.
Caswell #661A	NOEL= 10.0000 mg/kg	pups.	OPP RfD= 0.100000	in chronic feeding study)	EPA verified 3/11/86.
CAS No. 1071-83-6	0.00 ppm	Equivocal evidence of on-	EPA RfD= 0.100000	Mouse oncogenicity (need	WHO last reviewed 1986.
A.I. CODE. 417300	LEL= 30.0000 mg/kg	cogenicity in the mouse		to resolve kidney tumor	
CFR No. 180 364	0.00 ppm	(kidney adenoma); rat		issue).	
	ONCO: D (SAP); C (HED)	study no MTD.		Not regulated as oncogen.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM) NEW	PENDING	PUBLISHED
06010DA	PAPAYAS-DRIED	1E2443			0.200000
06010JA	PAPAYAS-JUICE	1E2443			0.200000
06013AA	PINEAPPLE-FRESH/PULP	2F2634			0.100000
06013DA	PINEAPPLE-DRIED	2F2634			0.100000
06013JA	PINEAPPLE-FRESH/JUICE	2F2634			0.100000
06016AA	PLANTAINS	9F2223			0.200000
06018AA	KIWI	3E2929			0.200000
06020AA	ACEROLA	3E2929			0.200000
06025AA	SUGAR APPLES (SWEETSOP)	6E3424			0.200000
06029AA	CARAMBOLA	6E3424			0.200000
07002AA	COFFEE	6E1809			1.000000
07003AA	TEA	1H5310			4.000000
07003AA	TEA	8H5568	3.000000		
07006AA	CHICORY	7F2016			0.200000
08015AA	DILL	7F2016			0.200000
08020AA	HOPS				0.100000
10002AA	CANTALOUPES-UNSPECIFIED	3E2845			0.500000
10002AB	CANTALOUPES-PULP	3E2845			0.500000
10003AA	CASABAS	3E2845			0.500000
10004AA	CRENSHAWS	3E2845			0.500000
10005AA	HONEYDEW MELONS	3E2845			0.500000
10007AA	PERSION MELONS	3E2845			0.500000
10008AA	WATERMELON	3E2845			0.500000
10010AA	CUCUMBERS	3E2845			0.500000
10011AA	PUMPKIN	3E2845			0.500000
10013AA	SQUASH-SUMMER	3E2845			0.500000
10014AA	SQUASH-WINTER	3E2845			0.500000
10017AA	BITTER MELON	3E2845			0.500000
10020AA	TOWELGOURD	3E2845			0.500000
11001AA	EGGPLANT				0.100000
11003AA	PEPPERS (SWEET/GARDEN)				0.100000
11003AB	CHILI PEPPERS				0.100000
11003AD	PEPPERS-OTHER				0.100000
11004AA	PIMIENTOS				0.100000
11005AA	TOMATOES-WHOLE				0.100000
11005JA	TOMATOES-JUICE				0.100000
11005RA	TOMATOES-PUREE				0.100000
11005TA	TOMATOES-PASTE				0.100000
11005UA	TOMATOES-CATSUP				0.200000
13001AA	BEETS-TOPS(GREENS)	8E2122			

Table 1 (con't)

CHEMICAL INFORMATION FOR CASWELL NUMBER 661A DATE: 03/26/89 PAGE: 4

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Glyphosate (+ salts) Caswell #661A CAS No. 1071-83-6 A.I. CODE: 417300 CFR No. 180.364	3gen reprod- rat NOEL= 10.0000 mg/kg 0.00 ppm LEL= 30.0000 mg/kg 0.00 ppm ONCO: D (SAP); C (HED)	Renal tubular dilation in pups. Equivocal evidence of oncogenicity in the mouse (kidney adenoma); rat study no MTD.	ADI SF -->100 OPP RfD= 0.100000 EPA RfD= 0.100000	Rat oncogenicity (no MTD in chronic feeding study) Mouse oncogenicity (need to resolve kidney tumor issue). Not regulated as oncogen.	HED complete 2/28/86. EPA verified 3/11/86. WHO last reviewed 1986. On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM) NEW	PENDING	PUBLISHED
13002AA	CELERY	8E2122			0.200000
13003AA	CHICORY (FRENCH OR BELGIAN ENDIVE)	8E2122			0.200000
13005AA	BROCCOLI	8E2122			0.200000
13006AA	BRUSSEL SPROUTS	8E2122			0.200000
13007AA	CABBAGE-GREEN AND RED	8E2122			0.200000
13008AA	CAULIFLOWER	8E2122			0.200000
13009AA	COLLARDS	8E2122			0.200000
13010AA	CABBAGE-CHINESE/CELERY(INC. BOK CHOY)	8E2122			0.200000
13011AA	KALE	8E2122			0.200000
13012AA	KOHLRABI	8E2122			0.200000
13013AA	LETTUCE-LEAFY VARIETIES	8E2122			0.200000
13014AA	DANDELION	8E2122			0.200000
13015AA	ENDIVE (CURLEY) AND ESCAROLE	8E2122			0.200000
13016AA	FENNEL	8E2122			0.200000
13017AA	CRESS (GARDEN/FIELD)	8E2122			0.200000
13020AA	LETTUCE-UNSPECIFIED	8E2122			0.200000
13021AA	MUSTARD GREENS	8E2122			0.200000
13022AA	PARSLEY	8E2122			0.200000
13023AA	RHUBARB	8E2122			0.200000
13024AA	SPINACH	8E2122			0.200000
13025AA	SWISS CHARD	8E2122			0.200000
13026AA	TURNIPS-TOPS	8E2122			0.200000
13039AA	CRESS (UPLAND)	8E2122			0.200000
13045AA	LETTUCE-HEAD VARIETIES	8E2122			0.200000
14001AA	BEETS-ROOTS	7F2016			0.200000
14003AA	CARROTS	7F2016			0.200000
14007AA	GARLIC	8E3676			0.200000
14009AA	ARTICHOKES-JERUSALEM	7F2016			0.200000
14010AA	LEEKS	8E3676			0.200000
14011AA	ONIONS-DRY-BULB (CIPOLLINI)	8E3676			0.200000
14011DA	ONIONS-DEHYDRATED OR DRIED	8E3676			0.200000
14013AA	POTATOES(WHITE)-WHOLE	7F2016			0.200000
14013AB	POTATOES(WHITE)-UNSPECIFIED	7F2016			0.200000
14013AC	POTATOES(WHITE)-PEELED	7F2016			0.200000
14013DA	POTATOES(WHITE)-DRY	7F2016			0.200000
14013HA	POTATOES(WHITE)-PEEL ONLY	7F2016			0.200000
14014AA	RADISHES-ROOTS	7F2016			0.200000
14015AA	RUTABAGAS-ROOTS	7F2016			0.200000
14016AA	SALSIFY(OYSTER PLANT)	7F2016			0.200000
14017AA	SHALLOTS	8E3676			0.200000

Table 1 (con't)

CHEMICAL INFORMATION FOR CASWELL NUMBER 661A DATE: 03/26/89 PAGE: 5

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Glyphosate (+ salts)	3gen reprod- rat	Renal tubular dilation in	ADI SF -->100	Rat oncogenicity (no MTD	HED complete 2/28/86.
Caswell #661A	NOEL= 10.0000 mg/kg	pups.	OPP RfD= 0.100000	in chronic feeding study)	EPA verified 3/11/86.
CAS No. 1071-83-6	0.00 ppm	Equivocal evidence of on-	EPA RfD= 0.100000	Mouse oncogenicity (need	WHO last reviewed 1986.
A.I. CODE: 417300	LEL= 30.0000 mg/kg	cogenicity in the mouse		to resolve kidney tumor	
CFR No. 180.364	0.00 ppm	(kidney adenoma); rat		issue).	
	ONCO: D (SAP); C (HED)	study no MTD.		Not regulated as oncogen.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM) NEW	PENDING	PUBLISHED
14018AA	SWEETPOTATOES (INCLUDING YAMS)	7F2016			0.200000
14019AA	TURNIPS-ROOTS	7F2016			0.200000
14021AA	PARSNIPS	7F2016			0.200000
14030AA	PARSLEY ROOTS	7F2016			0.200000
15001AA	BEANS-DRY-GREAT NORTHERN	7F2016			0.200000
15001AB	BEANS-DRY-KIDNEY	7F2016			0.200000
15001AC	BEANS-DRY-LIMA	7F2016			0.200000
15001AD	BEANS-DRY-NAVY (PEA)	7F2016			0.200000
15001AE	BEANS-DRY-OTHER	7F2016			0.200000
15001AF	BEANS-DRY-PINTO	7F2016			0.200000
15002AA	BEANS-SUCCULENT-LIMA	7F2016			0.200000
15003AA	BEANS-SUCCULENT-GREEN	7F2016			0.200000
15003AB	BEANS-SUCCULENT-OTHER	7F2016			0.200000
15003AC	BEANS-SUCCULENT-YELLOW/WAX	7F2016			0.200000
15004AA	CORN (POP)	8E2122			0.100000
15005AA	CORN (SWEET)	8E2122			0.100000
15006AA	PEANUTS-WHOLE	0F2329			0.100000
15007AA	PEAS(GARDEN)-MATURE SEEDS/DRY	7F2016			0.200000
15009AA	PEAS(GARDEN)-GREEN IMMATURE	7F2016			0.200000
15011AA	LENTILES-WHOLE	7F2016			0.200000
15011AB	LENTILES-SPLIT	7F2016			0.200000
15013AA	MUNG BEANS (SPROUTS)	7F2016			0.200000
15015AA	OKRA	7F2016			0.200000
15022AA	BEANS-DRY-BROADBEANS(MATURE SEED)	7F2016			0.200000
15022AB	BEANS-SUCCULENT-BROADBEANS(IMMATURE SEED	7F2016			0.200000
15023AA	BEANS-DRY-PIGEON BEANS	7F2016			0.200000
15027AA	BEANS-UNSPECIFIED	7F2016			0.200000
15029AA	SOYBEANS-SPROUTED SEEDS	5F1536			6.000000
15030AA	BEANS-DRY-HYACINTH(MATURE SEEDS)	7F2016			0.200000
15030AB	BEANS-SUCCULENT-HYACINTH(YOUNG PODS)	7F2016			0.200000
15031AA	BEANS-DRY-BLACKEYE PEAS(COWPEAS)	7F2016			0.200000
15032AA	BEANS-DRY-GARBANZO(CHICK PEA)	7F2016			0.200000
16002AA	ASPARAGUS	8E3648			0.500000
16004AA	ONIONS-GREEN	8E3676			0.200000
24001AA	BARLEY	8E2122			0.100000
24002EA	CORN (GRAIN-ENDOSPERM)	8E2122			0.100000
24002HA	CORN (GRAIN-BRAN)	8E2122			0.100000
24002SA	CORN SUGAR	8E2122			0.100000
24003AA	OATS	8E2122			0.100000
24004AA	RICE-ROUGH	8E2122			0.100000

Table 1 (con't)

CHEMICAL INFORMATION FOR CASWELL NUMBER 661A DATE: 03/26/89 PAGE: 6

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Glyphosate (+ salts)	3gen reprod- rat	Renal tubular dilation in	ADI SF -->100	Rat oncogenicity (no MTD	HED complete 2/28/86.
Caswell #661A	NOEL= 10.0000 mg/kg	pups.	OPP RfD= 0.100000	in chronic feeding study)	EPA verified 3/11/86.
CAS No. 1071-83-6	0.00 ppm	Equivocal evidence of on-	EPA RfD= 0.100000	Mouse oncogenicity (need	WHO last reviewed 1986.
A.I. CODE 417300	LEL= 30.0000 mg/kg	cogenicity in the mouse		to resolve kidney tumor	
CFR No. 180.364	0.00 ppm	(kidney adenoma); rat		issue).	
	ONCO: D (SAP); C (HED)	study no MTD.		Not regulated as oncogen.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM) NEW	PENDING	PUBLISHED
24004AB	RICE-MILLED	8E2122			0.100000
24005AA	RYE-ROUGH	8E2122			0.100000
24005GA	RYE-GERM	8E2122			0.100000
24005WA	RYE-FLOUR	8E2122			0.100000
24006AA	SORGHUM (INCLUDING MILO)	8E2122			0.100000
24007AA	WHEAT-ROUGH	8E2122			0.100000
24007GA	WHEAT-GERM	8E2122			0.100000
24007HA	WHEAT-BRAN	8E2122			0.100000
24007WA	WHEAT-FLOUR	8E2122			0.100000
24012AA	MILLET	8E2122			0.100000
25003SA	CANE SUGAR				0.200000
25003SB	SUGAR-MOLASSES	9H5196			30.00000
26001AA	BUCKWHEAT	8E2122			0.100000
27002OA	CORN/GRAIN-OIL	8E2122			0.100000
27003OA	COTTONSEED-OIL	8E2122			15.00000
27003WA	COTTONSEED-MEAL	8E2122			15.00000
27007OA	PEANUTS-OIL	0F2329			0.100000
27010OA	SOYBEANS-OIL	5F1536			6.000000
27015OA	COCONUT-OIL	2F2680			0.100000
27016OA	OLIVE OIL	3E2929			0.200000
27019OA	PALM OIL	6H5115			0.100000
28023AA	SOYBEANS-UNSPECIFIED	5F1536			6.000000
28023AB	SOYBEANS-MATURE/SEEDS DRY	5F1536			6.000000
28023WA	SOYBEANS-FLOUR/FULL FAT	5F1536			6.000000
28023WB	SOYBEANS-FLOUR/LOW FAT	5F1536			6.000000
28023WC	SOYBEANS-FLOUR/DEFATTED	5F1536			6.000000
53001KA	BEEF(ORGAN MEATS)-KIDNEY	0F2329			0.500000
53001LA	BEEF(ORGAN MEATS)-LIVER	0F2329			0.500000
53002KA	GOAT(ORGAN MEATS)-KIDNEY	0F2329			0.500000
53002LA	GOAT(ORGAN MEATS)-LIVER	0F2329			0.500000
53003AA	HORSE	0F2329			0.500000
53005KA	SHEEP(ORGAN MEATS)-KIDNEY	0F2329			0.500000
53005LA	SHEEP(ORGAN MEATS)-LIVER	0F2329			0.500000
53006KA	PORK(ORGAN MEATS)-KIDNEY	0F2329			0.500000
53006LA	PORK(ORGAN MEATS)-LIVER	0F2329			0.500000
53010AA	FISH-UNSPECIFIED	9F2163			0.250000
53013AA	FISH-SHELLFISH	3F2956			3.000000
53016AA	FISH-FRESHWATER FINFISH	9F2163			0.250000
53017AA	FISH-SALTWATER FINFISH	9F2163			0.250000
53017DA	FISH-FINFISH-SALTWATER-DRIED	9F2163			0.250000

Table 1 (con't)

CHEMICAL INFORMATION FOR CASWELL NUMBER 661A DATE: 03/26/89 PAGE: 7

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Glyphosate (+ salts)	3gen reprod- rat	Renal tubular dilation in	ADI SF -->100	Rat oncogenicity (no MTD	HED complete 2/28/86.
Caswell #661A	NOEL= 10.0000 mg/kg	pups.	OPP RfD= 0.100000	in chronic feeding study)	EPA verified 3/11/86.
CAS No. 1071-83-6	0.00 ppm	Equivocal evidence of on-	EPA RfD= 0.100000	Mouse oncogenicity (need	WHO last reviewed 1986.
A.I. CODE: 417300	LEL= 30.0000 mg/kg	cogenicity in the mouse		to resolve kidney tumor	
CFR No. 180.364	0.00 ppm	(kidney adenoma); rat		issue).	
	ONCO: D (SAP); C (HED)	study no MTD.		Not regulated as oncogen.	On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	NEW	TOLERANCE (PPM) PENDING	PUBLISHED
55008LA	TURKEY-GIBLETS (LIVER)	0F2329			0.500000
55013LA	POULTRY/OTHER-GIBLETS(LIVER)	0F2329			0.500000
55015LA	CHICKEN-GIBLETS(LIVER)	0F2329			0.500000

Table 2

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS DATE: 03/26/89 PAGE: 1

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Glyphosate (+ salts)	3gen reprod- rat	Renal tubular dilation in	ADI SF -->100	Rat oncogenicity (no MTD	HED complete 2/28/86.
Caswell #661A	NOEL= 10.0000 mg/kg	pups.	OPP RfD= 0.100000	in chronic feeding study)	EPA verified 3/11/86.
CAS No. 1071-83-6	0.00 ppm	Equivocal evidence of on-	EPA RfD= 0.100000	Mouse oncogenicity (need	WHO last reviewed 1986.
A.I. CODE: 417300	LEL= 30.0000 mg/kg	cogenicity in the mouse		to resolve kidney tumor	
CFR No. 180.364	0.00 ppm	(kidney adenoma); rat		issue).	
	ONCO: D (SAP); C (HED)	study no MTD.		Not regulated as oncogen.	On IRIS.

POPULATION SUBGROUP	TOTAL TMRC (MG/KG BODY WEIGHT/DAY) CURRENT TMRC*	NEW TMRC**	NEW TMRC AS PERCENT OF RFD	DIFFERENCE AS PERCENT OF RFD	EFFECT OF ANTICIPATED RESIDUES ARC	%RFD
U.S. POPULATION - 48 STATES	0.005094	0.005188	5.188489	0.094408		
U.S. POPULATION - SPRING SEASON	0.005005	0.005103	5.103194	0.098639		
U.S. POPULATION - SUMMER SEASON	0.005151	0.005267	5.266669	0.115399		
U.S. POPULATION - FALL SEASON	0.005145	0.005227	5.227458	0.082706		
U.S. POPULATION - WINTER SEASON	0.005062	0.005143	5.142718	0.080936		
NORTHEAST REGION	0.005076	0.005161	5.160798	0.084864		
NORTH CENTRAL REGION	0.005016	0.005085	5.085113	0.068644		
SOUTHERN REGION	0.004942	0.005081	5.080852	0.138561		
WESTERN REGION	0.005476	0.005545	5.544658	0.068376		
HISPANICS	0.005115	0.005162	5.162186	0.047277		
NON-HISPANIC WHITES	0.005142	0.005246	5.245650	0.103238		
NON-HISPANIC BLACKS	0.004665	0.004723	4.723201	0.058403		
NON-HISPANIC OTHERS	0.005788	0.005893	5.893298	0.105587		
NURSING INFANTS (< 1 YEAR OLD)	0.005827	0.005837	5.836696	0.010051		
NON-NURSING INFANTS (< 1 YEAR OLD)	0.016216	0.016248	16.248021	0.031820		
FEMALES (13+ YEARS, PREGNANT)	0.003595	0.003700	3.699961	0.105099		
FEMALES 13+ YEARS, NURSING	0.004590	0.004764	4.764125	0.173845		
CHILDREN (1-6 YEARS OLD)	0.010180	0.010277	10.277300	0.097316		
CHILDREN (7-12 YEARS OLD)	0.007114	0.007191	7.190819	0.076437		
MALES (13-19 YEARS OLD)	0.004911	0.004983	4.982662	0.071173		
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)	0.004209	0.004286	4.285785	0.076936		
MALES (20 YEARS AND OLDER)	0.003999	0.004082	4.082078	0.083472		
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)	0.003886	0.004002	4.001667	0.116056		

*Current TMRC does not include new or pending tolerances.
**New TMRC includes new, pending, and published tolerances.

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