

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

November 3, 1999

MEMORANDUM

SUBJECT: Methidathion. Chem No. 100301. Updated Acute Dietary Exposure Analysis to Reflect Percent Crop Treated Data for Sunflowers. DP Barcode D260190.

FROM: William Smith, Chemist
Chemistry And Exposure Branch I (CEB-I)
Health Effects Division (7509C)

THROUGH: F. B. Suhre, Branch Senior Scientist
Chemistry And Exposure Branch I (CEB-I)
Health Effects Division (7509C)

TO: J. Rowland, Chief
Reregistration Branch 3 (RRB3)
Health Effects Division (7509C)

and

Michael Goodis, Methidathion Chemical Review Manager
Special Review & Reregistration Division (7509C)

As per your request, attached please find an updated acute dietary exposure analysis for methidathion. This represents an update of the 10/16/98 analysis (W. Smith, D243700) in which it was assumed that residues on sunflower seeds were present at tolerance level and that 100% of the crop is treated with methidathion. Based on information provided by BEAD (Tim Kiely, Methidathion QUA Update, 10/27/99) we have used 1% crop treated in the current assessment. Sunflower residues were input into the DEEM™ software for Monte Carlo analysis as a distribution of residues, assuming a 1% probability of encountering methidathion residues on a sunflower sample at tolerance level (0.5 ppm). All other parameters in the exposure analysis are exactly the same as presented in our 10/16/98 memorandum.

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RESULTS

The results of the acute dietary exposure assessment are provided in the attached Monte Carlo analysis for nine subpopulation groups. A summary of the results is included below in Table 1. The acute dietary RfD is 0.002 mg/kg/day based on an uncertainty factor of 100 (Hazard Identification Assessment Review Committee Report, March 9, 1999) and the FQPA safety factor has been removed (A Combined Report of the Hazard Identification Assessment Review Committee and the FQPA Safety Factor Committee on OPs, August 6, 1998).

Table 1. Summary of DEEM Acute Analysis for Methidathion using 1989-1992 Consumption Data, and an Acute NOAEL of 0.2 mg/kg body-wt/day. The RfD is 0.002 mg/kg body-wt/day.

	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure	MOE	Exposure	MOE	Exposure	MOE
U.S. pop - all seasons:	0.000041	4890	0.000112	1786	0.000318	629
All infants (<1 year):	0.000119	1685	0.000540	370	0.001245	160
Nursing infants (<1 year):	0.000032	6164	0.000246	811	0.001280	156
Non-nursing infants (<1 yr):	0.000156	1279	0.000624	320	0.001144	174
Children (1-6 years):	0.000105	1910	0.000252	792	0.000558	358
Children (7-12 years):	0.000060	3318	0.000147	1360	0.000298	670
Females (13+/preg/not nsg):	0.000031	6374	0.000092	2181	0.000233	859
Females (13+/nursing):	0.000051	3956	0.000123	1624	0.000281	711
Females (13-19 yrs/np/nn):	0.000030	6648	0.000070	2864	0.000163	1224

DISCUSSION

The 10/16/98 assessment was based on the best information available concerning anticipated residues of methidathion on foods. It was stated in that assessment that methidathion residues are generally not expected to occur on any food commodities except citrus. Monitoring data have supported this assessment with the exception of an occasional residue on imported fruits. The assumptions and inputs into the acute analyses were those routinely used by the Agency. These included assuming 1/2 LOD or 1/2 LOQ for nondetectable residues, using percent crop treated data to estimate the probability of encountering residues on foods, and choosing the most refined data available for a crop. Nevertheless, in the absence of information, we did include the conservatively high assumptions of tolerance level residues and 100% crop treated for sunflower seed and some minor food crops. The dietary exposure, as estimated in the 10/16/98 assessment, was well below the reference dose for all population groups. A more recent examination of the major contributors to the acute dietary exposure revealed that sunflower seeds was a major contributor to high exposure events for populations other than infants. The current analysis was

conducted in order to input revised percent crop treated information as a refinement to this analysis. We do not recommend further refinements to the methidathion dietary exposure assessment at this time. Further refinements will be made at a later stage of consideration for OPs when cumulative assessments are conducted.

Attachment: ACUTE DIETARY EXPOSURE ANALYSIS USING DEEM™

cc: W. Smith (CEB-I), SF, RF

7509C:CEB-I:WOS:wos:Rm810C:CM2:305-5353:11/03/98

RDI: FSuhre (11/03/98).

U.S. Environmental Protection Agency Ver. 6.78
 DEEM ACUTE analysis for METHIDATHION (1989-92 data)
 Residue file: meth_sunrev.R96 Adjustment factor #2 NOT used.
 Analysis Date: 11-02-1999/13:35:01 Residue file dated: 11-02-1999/12:52:35/8
 NOEL (Acute) = 0.200000 mg/kg body-wt/day
 MC iterations = 1000 MC list in residue file MC seed = 10

Summary calculations:

	5th Percentile		1st Percentile		0.1st Percentile	
	Exposure	MOE	Exposure	MOE	Exposure	MOE
U.S. pop - all seasons:	0.000041	4890	0.000112	1786	0.000318	629
All infants (<1 year):	0.000119	1685	0.000540	370	0.001245	160
Nursing infants (<1 year):	0.000032	6164	0.000246	811	0.001280	156
Non-nursing infants (<1 yr):	0.000156	1279	0.000624	320	0.001144	174
Children (1-6 years):	0.000105	1910	0.000252	792	0.000558	358
Children (7-12 years):	0.000060	3318	0.000147	1360	0.000298	670
Females (13+/preg/not nsg):	0.000031	6374	0.000092	2181	0.000233	859
Females (13+/nursing):	0.000051	3956	0.000123	1624	0.000281	711
Females (13-19 yrs/np/nn):	0.000030	6648	0.000070	2864	0.000163	1224

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 MC iterations = 1000 MC list in residue file MC seed = 10

U.S. pop - all seasons	Daily Exposure Analysis 1/ (mg/kg body-weight/day)	
	per Capita	per User
Mean	0.000008	0.000008
Standard Deviation	0.000027	0.000028
Margin of Exposure 2/	24,545	23,642

Percent of Person-Days that are User-Days = 96.32%

Estimated percentile of user-days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000023	8,802
80.00	0.000000	>1,000,000	5.00	0.000042	4,806
70.00	0.000000	>1,000,000	2.50	0.000069	2,914
60.00	0.000000	>1,000,000	1.00	0.000113	1,768
50.00	0.000000	>1,000,000	0.50	0.000156	1,283
40.00	0.000000	702,822	0.25	0.000218	919
30.00	0.000004	53,005	0.10	0.000320	624
20.00	0.000010	20,440			

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Estimated percentile of per-capita days exceeding calculated exposure
in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000022	8,998
80.00	0.000000	>1,000,000	5.00	0.000041	4,890
70.00	0.000000	>1,000,000	2.50	0.000068	2,959
60.00	0.000000	>1,000,000	1.00	0.000112	1,786
50.00	0.000000	>1,000,000	0.50	0.000154	1,296
40.00	0.000000	807,201	0.25	0.000215	929
30.00	0.000003	59,284	0.10	0.000318	629
20.00	0.000009	21,446			

1/ Analysis based on all three-day participant records in CSFII 1989-92 survey.
2/ Margin of Exposure = NOEL/ Dietary Exposure.

U.S. Environmental Protection Agency
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All infants (<1 year)	Daily Exposure Analysis (mg/kg body-weight/day)	
	per Capita	per User
Mean	0.000025	0.000046
Standard Deviation	0.000099	0.000131
Margin of Exposure	8,025	4,340

Percent of Person-Days that are User-Days = 54.09%

Estimated percentile of user-days exceeding calculated exposure
in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000103	1,936
80.00	0.000000	>1,000,000	5.00	0.000205	975
70.00	0.000000	>1,000,000	2.50	0.000374	534
60.00	0.000003	74,084	1.00	0.000757	264
50.00	0.000007	29,552	0.50	0.000863	231
40.00	0.000014	14,022	0.25	0.001023	195
30.00	0.000027	7,475	0.10	0.001534	130
20.00	0.000048	4,146			

Estimated percentile of per-capita days exceeding calculated exposure
in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000057	3,536
80.00	0.000000	>1,000,000	5.00	0.000119	1,685
70.00	0.000000	>1,000,000	2.50	0.000231	867
60.00	0.000000	>1,000,000	1.00	0.000540	370
50.00	0.000000	>1,000,000	0.50	0.000773	258
40.00	0.000000	>1,000,000	0.25	0.000887	225
30.00	0.000005	44,006	0.10	0.001245	160

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20.00 0.000018 11,086

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NOEL (Acute) = 0.200000 mg/kg body-wt/day

Nursing infants (<1 year)	Daily Exposure Analysis (mg/kg body-weight/day)	
	per Capita	per User
Mean	0.000010	0.000044
Standard Deviation	0.000077	0.000156
Margin of Exposure	19,830	4,516

Percent of Person-Days that are User-Days = 22.77%

Estimated percentile of user-days exceeding calculated exposure
in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000090	2,220
80.00	0.000000	>1,000,000	5.00	0.000189	1,060
70.00	0.000000	>1,000,000	2.50	0.000426	469
60.00	0.000000	>1,000,000	1.00	0.000827	241
50.00	0.000000	>1,000,000	0.50	0.001221	163
40.00	0.000006	35,723	0.25	0.001464	136
30.00	0.000015	12,962	0.10	0.001593	125
20.00	0.000037	5,467			

Estimated percentile of per-capita days exceeding calculated exposure
in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000003	57,857
80.00	0.000000	>1,000,000	5.00	0.000032	6,164
70.00	0.000000	>1,000,000	2.50	0.000085	2,357
60.00	0.000000	>1,000,000	1.00	0.000246	811
50.00	0.000000	>1,000,000	0.50	0.000508	394
40.00	0.000000	>1,000,000	0.25	0.000801	249
30.00	0.000000	>1,000,000	0.10	0.001280	156
20.00	0.000000	>1,000,000			

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U.S. Environmental Protection Agency
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Non-nursing infants (<1 yr)	Daily Exposure Analysis (mg/kg body-weight/day)	
	per Capita	per User
Mean	0.000031	0.000046
Standard Deviation	0.000107	0.000128
Margin of Exposure	6,417	4,317

Percent of Person-Days that are User-Days = 67.27%

Estimated percentile of user-days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000104	1,918
80.00	0.000000	>1,000,000	5.00	0.000206	972
70.00	0.000000	>1,000,000	2.50	0.000369	541
60.00	0.000004	46,095	1.00	0.000746	268
50.00	0.000008	26,479	0.50	0.000845	236
40.00	0.000015	13,428	0.25	0.000948	211
30.00	0.000028	7,227	0.10	0.001239	161
20.00	0.000050	3,977			

Estimated percentile of per-capita days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000078	2,564
80.00	0.000000	>1,000,000	5.00	0.000156	1,279
70.00	0.000000	>1,000,000	2.50	0.000290	690
60.00	0.000000	>1,000,000	1.00	0.000624	320
50.00	0.000000	>1,000,000	0.50	0.000797	250
40.00	0.000005	44,330	0.25	0.000898	222
30.00	0.000012	17,362	0.10	0.001144	174
20.00	0.000028	7,072			

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U.S. Environmental Protection Agency
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Ver. 6.78
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Adjustment factor #2 NOT used.

Residue file dated: 11-02-1999/12:52:35/8

Children (1-6 years)

Daily Exposure Analysis
 (mg/kg body-weight/day)
 per Capita per User

	per Capita	per User
Mean	0.000025	0.000025
Standard Deviation	0.000054	0.000055
Margin of Exposure	8,124	7,926

Percent of Person-Days that are User-Days = 97.56%

Estimated percentile of user-days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000069	2,878
80.00	0.000000	>1,000,000	5.00	0.000106	1,894
70.00	0.000000	>1,000,000	2.50	0.000157	1,273
60.00	0.000000	>1,000,000	1.00	0.000254	787
50.00	0.000002	125,979	0.50	0.000352	567
40.00	0.000013	15,683	0.25	0.000451	443
30.00	0.000025	8,143	0.10	0.000560	357
20.00	0.000040	5,019			

Estimated percentile of per-capita days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000069	2,909
80.00	0.000000	>1,000,000	5.00	0.000105	1,910
70.00	0.000000	>1,000,000	2.50	0.000156	1,283
60.00	0.000000	>1,000,000	1.00	0.000252	792
50.00	0.000001	143,216	0.50	0.000350	571
40.00	0.000012	17,189	0.25	0.000449	445
30.00	0.000024	8,448	0.10	0.000558	358
20.00	0.000039	5,117			

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U.S. Environmental Protection Agency
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 Adjustment factor #2 NOT used.

Residue file dated: 11-02-1999/12:52:35/8

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Children (7-12 years)	Daily Exposure Analysis (mg/kg body-weight/day)	
	per Capita	per User
Mean	0.000013	0.000013
Standard Deviation	0.000030	0.000030
Margin of Exposure	15,881	15,704

Percent of Person-Days that are User-Days = 98.89%

Estimated percentile of user-days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000037	5,367
80.00	0.000000	>1,000,000	5.00	0.000061	3,304
70.00	0.000000	>1,000,000	2.50	0.000093	2,150
60.00	0.000000	>1,000,000	1.00	0.000147	1,357
50.00	0.000000	>1,000,000	0.50	0.000193	1,036
40.00	0.000002	101,662	0.25	0.000247	809
30.00	0.000010	20,900	0.10	0.000299	669
20.00	0.000018	10,825			

Estimated percentile of per-capita days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000037	5,398
80.00	0.000000	>1,000,000	5.00	0.000060	3,318
70.00	0.000000	>1,000,000	2.50	0.000093	2,159
60.00	0.000000	>1,000,000	1.00	0.000147	1,360
50.00	0.000000	>1,000,000	0.50	0.000192	1,039
40.00	0.000002	105,989	0.25	0.000246	811
30.00	0.000009	21,477	0.10	0.000298	670
20.00	0.000018	10,944			

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U.S. Environmental Protection Agency
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Females (13+/preg/not nsg)	Daily Exposure Analysis (mg/kg body-weight/day)	
	per Capita	per User
Mean	0.000007	0.000008
Standard Deviation	0.000019	0.000019
Margin of Exposure	26,953	26,142

Percent of Person-Days that are User-Days = 96.99%

Estimated percentile of user-days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000020	9,913
80.00	0.000000	>1,000,000	5.00	0.000032	6,302
70.00	0.000000	>1,000,000	2.50	0.000049	4,050
60.00	0.000000	>1,000,000	1.00	0.000093	2,160
50.00	0.000000	>1,000,000	0.50	0.000115	1,732
40.00	0.000002	94,399	0.25	0.000192	1,041
30.00	0.000007	30,532	0.10	0.000234	855
20.00	0.000012	17,029			

Estimated percentile of per-capita days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000020	10,044
80.00	0.000000	>1,000,000	5.00	0.000031	6,374
70.00	0.000000	>1,000,000	2.50	0.000049	4,095
60.00	0.000000	>1,000,000	1.00	0.000092	2,181
50.00	0.000000	>1,000,000	0.50	0.000115	1,743
40.00	0.000002	106,820	0.25	0.000190	1,054
30.00	0.000006	32,584	0.10	0.000233	859
20.00	0.000011	17,510			

10/2/90

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 Females (13+/nursing)

Daily Exposure Analysis
 (mg/kg body-weight/day)
 per Capita per User

Mean	0.000010	0.000011
Standard Deviation	0.000025	0.000025
Margin of Exposure	19,556	18,829

Percent of Person-Days that are User-Days = 96.28%

Estimated percentile of user-days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE

90.00	0.000000	>1,000,000	10.00	0.000031	6,485
80.00	0.000000	>1,000,000	5.00	0.000051	3,895
70.00	0.000000	>1,000,000	2.50	0.000079	2,528
60.00	0.000000	>1,000,000	1.00	0.000124	1,609
50.00	0.000000	>1,000,000	0.50	0.000163	1,225
40.00	0.000001	163,412	0.25	0.000199	1,004
30.00	0.000008	25,406	0.10	0.000283	706
20.00	0.000016	12,715			

Estimated percentile of per-capita days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE

90.00	0.000000	>1,000,000	10.00	0.000030	6,610
80.00	0.000000	>1,000,000	5.00	0.000051	3,956
70.00	0.000000	>1,000,000	2.50	0.000078	2,562
60.00	0.000000	>1,000,000	1.00	0.000123	1,624
50.00	0.000000	>1,000,000	0.50	0.000162	1,237
40.00	0.000001	188,512	0.25	0.000198	1,011
30.00	0.000007	28,159	0.10	0.000281	711
20.00	0.000015	13,225			

11/4/99

U.S. Environmental Protection Agency
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Residue file dated: 11-02-1999/12:52:35/8

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Females (13-19 yrs/np/nn)	Daily Exposure Analysis (mg/kg body-weight/day)	
	per Capita	per User
Mean	0.000006	0.000006
Standard Deviation	0.000016	0.000016
Margin of Exposure	33,597	32,612

Percent of Person-Days that are User-Days = 97.07%

Estimated percentile of user-days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000019	10,309
80.00	0.000000	>1,000,000	5.00	0.000030	6,576
70.00	0.000000	>1,000,000	2.50	0.000044	4,563
60.00	0.000000	>1,000,000	1.00	0.000070	2,842
50.00	0.000000	>1,000,000	0.50	0.000105	1,899
40.00	0.000000	>1,000,000	0.25	0.000135	1,481
30.00	0.000002	91,299	0.10	0.000164	1,220
20.00	0.000009	21,511			

Estimated percentile of per-capita days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding Margin of Exposure (MOE)

Percentile	Exposure	MOE	Percentile	Exposure	MOE
90.00	0.000000	>1,000,000	10.00	0.000019	10,474
80.00	0.000000	>1,000,000	5.00	0.000030	6,648
70.00	0.000000	>1,000,000	2.50	0.000043	4,606
60.00	0.000000	>1,000,000	1.00	0.000070	2,864
50.00	0.000000	>1,000,000	0.50	0.000104	1,919
40.00	0.000000	>1,000,000	0.25	0.000134	1,491
30.00	0.000002	99,625	0.10	0.000163	1,224
20.00	0.000009	22,553			

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Summary of Residue Distribution Files (RDF) used in DEEM Analyses

RDF #	File Name	N residues w freq's	N residues w/o freq's	N LODs	LOD Value	N Zeros
1	oj.rdf	5	10	0	0	0
2	Apple.rdf	0	3	0	0	97
3	pear.rdf	0	11	0	0	89
4	Aj.rdf	4	0	0	0	0
5	olive.rdf	0	2	0	0	98
6	orangmax.rdf	0	11	0	0	89
7	apricot.rdf	0	18	0	0	82
8	cher.rdf	0	4	0	0	96
9	nect.rdf	0	38	0	0	62
10	peach.rdf	0	13	0	0	87
11	plum.rdf	0	3	0	0	7
12	almond.rdf	0	22	0	0	78
13	pecan.rdf	0	1	0	0	99
14	walnut.rdf	0	12	0	0	88
15	grpfrtmin.rdf	0	5	0	0	95
16	orangmin.rdf	0	11	0	0	89
17	lemonmin.rdf	0	2	0	0	98
18	peachcan.rdf	5	0	0	0	0
19	cot_oil.rdf	0	1	0	0	99
20	kiwi.rdf	0	26	0	0	74
21	nutmax.rdf	0	22	0	0	78
22	Tangerin.rdf	0	11	0	0	89
23	sunflower.rdf	0	1	0	0	99

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RESIDUE INPUTS FILE FOR DEEM ANALYSES

Food Code	Crop Grp	Food Name	RESIDUE (ppm)	RDF #	Adj. Factors #1	Adj. Factors #2
020	10	Citrus citron	004.000000	6	01.000	01.000
022	10	Grapefruit-peeled fruit	004.000000	15	01.000	01.000
023	10	Grapefruit-juice	004.000000	1	01.000	01.000
024	10	Kumquats	004.000000	6	01.000	01.000
026	10	Lemons-peeled fruit	004.000000	17	01.000	01.000
027	10	Lemons-peel	004.000000	17	46.000	01.000
028	10	Lemons-juice	004.000000	1	01.000	01.000
030	10	Limes-peeled fruit	004.000000	16	01.000	01.000
031	10	Limes-peel	004.000000	16	46.000	01.000
032	10	Limes-juice	004.000000	1	01.000	01.000
033	10	Oranges-juice-concentrate	004.000000	1	03.700	01.000
034	10	Oranges-peeled fruit	004.000000	16	01.000	01.000
035	10	Oranges-peel	004.000000	16	46.000	01.000
036	10	Oranges-juice	004.000000	1	01.000	01.000
037	10	Tangelos	004.000000	16	01.000	01.000
038	10	Tangerines	006.000000	22	01.000	01.000
039	10	Tangerines-juice	006.000000	1	01.000	01.000
040	14	Almonds	000.025000	12	01.000	01.000
041	14	Brazil nuts	000.025000	21	01.000	01.000
042	14	Cashews	000.025000	21	01.000	01.000
043	14	Chestnuts	000.025000	21	01.000	01.000
044	14	Filberts (hazelnuts)	000.025000	21	01.000	01.000
045	14	Hickory nuts	000.025000	21	01.000	01.000
046	14	Macadamia nuts (bush nuts)	000.025000	21	01.000	01.000
047	14	Pecans	000.025000	13	01.000	01.000
048	14	Walnuts	000.025000	14	01.000	01.000
049	14	Butter nuts	000.025000	21	01.000	01.000
051	14	Beechnuts	000.025000	21	01.000	01.000
052	11	Apples	000.025000	2	01.000	01.000
053	11	Apples-dried	000.025000	2	01.000	01.000
054	11	Apples-juice/cider	000.025000	4	01.000	01.000
055	11	Crabapples	000.025000	3	01.000	01.000
056	11	Pears	000.025000	3	01.000	01.000
057	11	Pears-dried	000.025000	3	01.000	01.000
058	11	Quinces	000.025000	3	01.000	01.000
059	12	Apricots	000.025000	7	01.000	01.000
060	12	Apricots-dried	000.025000	7	01.000	01.000
061	12	Cherries	000.025000	8	01.000	01.000
062	12	Cherries-dried	000.025000	8	01.000	01.000
063	12	Cherries-juice	000.025000	8	01.000	01.000
064	12	Nectarines	000.025000	9	01.000	01.000
065	12	Peaches	000.025000	10	01.000	01.000
		11-Uncooked	000.025000	10	01.000	01.000
		12-Cooked: NFS	000.025000	10	01.000	01.000
		13-Baked	000.025000	10	01.000	01.000
		14-Boiled	000.025000	10	01.000	01.000
		31-Canned: NFS	000.025000	18	01.000	01.000
		41-Frozen: NFS	000.025000	10	01.000	01.000

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066	12	Peaches-dried	000.025000	10	01.000	01.000
067	12	Plums (damsons)	000.025000	11	01.000	01.000
068	12	Plums-prunes (dried)	000.025000	11	01.000	01.000
069	12	Plums/prune-juice	000.025000	11	01.000	01.000
080	0	Mangoes	000.025000		01.000	01.000
081	11	Loquats	000.025000	3	01.000	01.000

Food Code	Crop Grp	Food Name	RESIDUE (ppm)	RDF #	Adj. Factors #1	#2
082	O	Olives	000.050000	5	01.000	01.000
097	O	Kiwi fruit	000.100000	20	01.000	01.000
106	O	Carambola (starfruit)	000.100000		01.000	01.000
108	O	Longan fruit	000.100000		01.000	01.000
181	O	Artichokes-globe	000.025000		01.000	01.000
290	O	Cottonseed-oil	000.025000	19	01.000	01.000
291	O	Cottonseed-meal	000.025000	19	01.000	01.000
294	O	Safflower-seed	000.500000		01.000	01.000
295	O	Safflower-oil	000.010000		01.000	01.000
298	O	Sunflower-oil	000.010000		01.000	01.000
300	O	Olive oil	000.050000	5	01.000	01.000
377	11	Apples-juice-concentrate	000.025000	4	01.000	01.000
402	12	Peaches-juice	000.025000	10	01.000	01.000
404	11	Pears-juice	000.025000	3	01.000	01.000
410	12	Apricot juice	000.025000	7	01.000	01.000
417	O	Sunflower-seeds	000.500000	23	01.000	01.000
420	10	Tangerines-juice-concentrate	006.000000	1	03.200	01.000
431	14	Walnut oil	000.025000	14	01.000	01.000
441	10	Grapefruit-juice-concentrate	004.000000	1	03.900	01.000
442	10	Lemons-juice-concentrate	004.000000	1	05.700	01.000
443	10	Limes-juice-concentrate	004.000000	1	03.000	01.000
448	10	Grapefruit peel	004.000000	15	46.000	01.000

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Residue Distribution files used in Current Analysis

1. oj.rdf (orange juice)

USDA PDP 1997 DATA. Assumes no zeros.

TOTALNZ=10

TOTALFREQ=5

0.005 0.005 0.005 0.005 0.005

0.005 0.005 0.005 0.005 0.005

182,0.002

165,0.004

101,0.0065

98,0.0015

136,0.0025

2. apple.rdf

TOTALNZ=3 assume 1/2 LOQ and 3% crop treated

TOTALZ=97

.025 .025 .025

3. pear.rdf

TOTALNZ=11 assume 1/2 LOQ and 11% crop treated

TOTALZ=89

0.025 0.025 0.025 0.025 0.025 0.025

0.025 0.025 0.025 0.025 0.025

4. aj.rdf (apple juice)

USDA PDP 1997 DATA assumes no zeroes

TOTALFREQ=4

173,0.002

242,0.0015

93,0.004

175,0.005

5. olive.rdf

TOTALNZ=2 assume 1/2 LOQ and 2% crop treated

TOTALZ=98

0.025 0.025

6. orangmax.rdf (used for citron & kumquats)

orange based on max fld trial= 3.4 ppm (pulp=0.082x whole fruit)

TOTALNZ=11 assume 11% crop treated

TOTALZ=89

0.28 0.28 0.28 0.28 0.28 0.28

0.28 0.28 0.28 0.28 0.28

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7. apricot.rdf

TOTALNZ=18 assume 1/2 LOQ and 18% crop treated

TOTALZ=82

.025	.025	.025	.025	.025	.025
.025	.025	.025	.025	.025	.025
.025	.025	.025	.025	.025	.025

8. cher.rdf (cherries)

TOTALNZ=4 assume 1/2 LOQ and 4% crop treated

TOTALZ=96

.025	.025	.025	.025
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9. Nect.rdf (Nectarines)

TOTALNZ=38 assume 1/2 LOQ and 38% crop treated

TOTALZ=62

0.025	0.025	0.025	0.025	0.025	0.025
0.025	0.025	0.025	0.025	0.025	0.025
0.025	0.025	0.025	0.025	0.025	0.025
0.025	0.025	0.025	0.025	0.025	0.025
0.025	0.025	0.025	0.025	0.025	0.025
0.025	0.025	0.025	0.025	0.025	0.025
0.025	0.025				

10. Peach.rdf

TOTALNZ=13 assume 1/2 LOQ and 13% crop treated

TOTALZ=87

0.025	0.025	0.025	0.025	0.025	0.025
0.025	0.025	0.025	0.025	0.025	0.025
0.025					

11. plum.rdf

TOTALNZ=3 assume 1/2 LOQ and 3% crop treated

TOTALZ=7

.025	.025	.025
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12. almond.rdf

TOTALNZ=22 assume 1/2 LOQ and 22% crop treated

TOTALZ=78

0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005		

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13. pecan.rdf

TOTALNZ=1 assume ½ LOQ and 1% crop treated

TOTALZ=99

0.025

14. walnut.rdf

TOTALNZ=12 assume ½ LOQ and 12% crop treated

TOTALZ=88

0.025 0.025 0.025 0.025 0.025 0.025

0.025 0.025 0.025 0.025 0.025 0.025

15. Grpfrtmin.rdf (peeled grapefruit)

assume residue at LOQ in peeled fruit

TOTALNZ=5 assume 5% crop treated

TOTALZ=95

0.05 0.05 0.05 0.05 0.05

16. Orangmin.rdf (peeled oranges)

assume residue at LOQ in peeled fruit

TOTALNZ=11 assume 11% CT

TOTALZ=89

0.05 0.05 0.05 0.05 0.05 0.05

0.05 0.05 0.05 0.05 0.05

17. Lemonmin.rdf (peeled lemons)

assume residue at LOQ in peeled fruit

TOTALNZ=2 assume 2% crop treated

TOTALZ=98

0.05 0.05

18. peachcan.rdf (canned peaches)

1997 PDP data assume no zeroes

TOTALFREQ=5

115,0.0015

195,0.002

152,0.0025

177,0.004

117,0.065

19. cot_oil.rdf(cottonseed oil and meal)

TOTALNZ=1 assume ½ LOQ and 1% crop treated

TOTALZ=99

0.025

194.30

20. kiwi.rdf

Tolerance level residues

TOTALNZ=26 assume 26% crop treated

TOTALZ=74

0.10	0.10	0.10	0.10	0.10	0.10
0.10	0.10	0.10	0.10	0.10	0.10
0.10	0.10	0.10	0.10	0.10	0.10
0.10	0.10	0.10	0.10	0.10	0.10
0.10	0.10				

21. Nutmax.rdf(nuts other than walnuts, almonds and pecans)

TOTALNZ=22 assume ½ LOQ and 22% crop treated

TOTALZ=78

0.025	0.025	0.025	0.025	0.025	0.025
0.025	0.025	0.025	0.025	0.025	0.025
0.025	0.025	0.025	0.025	0.025	0.025
0.025	0.025	0.025	0.025		

22. Tangerin.rdf

assume max residue in peeled fruit (0.06) and 11% CT

TOTALNZ=11

TOTALZ=89

0.06	0.06	0.06	0.06	0.06	0.06
0.06	0.06	0.06	0.06	0.06	

23. Sunflower.rdf

Based on tolerance level residues and 1% CT

TOTALNZ=1

TOTALZ=99

0.50

2096