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

OFFICE OF CHEMICAL SAFETY AND
POLLUTION PREVENTION

MEMORANDUM

Date: 11/18/2014

SUBJECT: **Chlorpyrifos** Acute and Steady State Dietary (Food Only) Exposure Analysis to Support Registration Review

PC Code: 059101
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Executive Summary

Acute and steady state dietary (food only) exposure analyses for chlorpyrifos were conducted using the Dietary Exposure Evaluation Model (DEEM) and Calendex software with the Food Commodity Intake Database (FCID). This software uses 2003-2008 food consumption data from the U.S. Department of Agriculture's (USDA's) National Health and Nutrition Examination Survey, What We Eat in America, (NHANES/WWEIA). The most recent previous dietary assessment was performed in 2011 to support chlorpyrifos registration review (D. Soderberg, 6/30/11, D388166, *Chlorpyrifos: Revised Acute (Probabilistic) and Chronic Dietary Exposure and Risk Assessments for Food Only (with and without Food Handling Use included) and for Water Only for the Registration Review Action – Typical Use Rates/Water Included).* This current analysis reflects the latest consumption data as well as more recent food monitoring and percent crop treated data.

This analysis was performed for the purpose of obtaining food exposure values for use in the chlorpyrifos physiologically-based pharmacokinetic-pharmacodynamic (PBPK-PD) modeling as part of EPA's revised human health risk assessment (HHRA, D424485) for chlorpyrifos. Unlike the previous chlorpyrifos dietary assessment (D388166; 2011), this memorandum does not include risk estimates (exposure as a percent of the reference dose or population adjusted dose) but only presents the resulting dietary exposure values, and only for the index population subgroups relevant to the revised chlorpyrifos HHRA. In the revised HHRA, the chlorpyrifos exposure from food sources are compared to the doses calculated by the PBPK-PD model to cause inhibition of acetylcholinesterase (AChE) activity per population subgroup; red blood cell cholinesterase inhibition (ChEI) is the toxicological endpoint of concern for chlorpyrifos exposures.

All residues in food are assumed to be parent chlorpyrifos since the chlorpyrifos oxon is not typically found in foods in monitoring data or crop field trials. Food exposures are based only upon field and livestock use of chlorpyrifos and do not incorporate potential exposure from food handling establishment (FHE) uses since there are no currently registered FHE uses.

This memorandum was reviewed by two peer reviewers of the DESAC per the current DESAC Standard Operating Procedure (SOP).

Acute and Steady State Dietary (Food Only) Exposure Results and Characterization

Both the acute and steady state dietary exposure analyses are highly refined. The large majority of food residues used were based upon U. S. Department of Agriculture's Pesticide Data Program (PDP) monitoring data except in a few instances where no appropriate PDP data were available. The Biological and Economic Analysis Division (BEAD) of OPP provided percent crop treated information. Food processing factors from submitted studies were used as appropriate.

For the acute analysis using DEEM, the highest exposed population subgroup was children 1-2 years old at 0.000423 mg/kg/day at the 99.9[th] percentile of exposure.

Organophosphates may exhibit a phenomenon known as steady state acetylcholinesterase (AChE) inhibition which is the most sensitive endpoint for all lifestages. After repeated dosing at the same dose, the amount of AChE inhibition in a given dose remains consistent across duration. For chlorpyrifos steady state, at the 99.9[th] percentile of exposure, the highest exposed population subgroup was children 1-2 years old at 0.000242 mg/kg, using Calendex.

I. Residue Information

Chlorpyrifos is an organophosphate insecticide that has numerous uses on a wide variety of crops, ornamentals and turf. Chlorpyrifos is also used as an adult mosquitocide and in livestock ear tags to control flies. Tolerances are established for residues of chlorpyrifos on crops and livestock commodities (40 CFR 180.342). There is also a tolerance for food handling uses although there do not appear to be any active registrations for this use. The residue of concern in food and livestock commodities is the parent compound chlorpyrifos. The oxon metabolite is generally not found in food monitoring data or field trials.

Sufficient information was available to conduct highly refined assessments. Chlorpyrifos is routinely included in PDP monitoring. For crops/foods not tested by PDP, translations have been made from tested crops. Occasionally, older PDP data has been used where it represented the best estimate of real residues; the years of PDP data used were from 1998 to 2012. Field trial data or tolerances have been used for a very few crops where translations from PDP data were not possible. The same data were used for both the acute and steady state analyses. In fact, the acute analysis in DEEM and the steady state analysis in Calendex both used the identical input file. Most input residues for the acute and steady state analyses were incorporated as residue data files (RDFs) and the analyses were performed probabilistically. The processing (residue reduction or concentration) factors were taken directly from the previous assessment (D388166; 2011); empirical factors came from guideline studies and a non-guideline cooking study.

Attachment 1 describes in detail the input (residue data sources, processing factors, anticipated residues (ARs) based on either Residue Data Files (RDFs) or point estimates) for the crop and livestock commodities. Attachment 4 contains the acute (and steady state) food only residue input file.

Food exposures are based only upon field use of chlorpyrifos and do not incorporate potential exposure from food handling establishment (FHE) uses since BEAD did not identify any registered FHE uses (although there are FHE tolerances established for residues of chlorpyrifos on *all* foods that do not have a higher tolerance from field uses). The previous (2011) dietary risk assessment did include a chronic analysis for FHE use based on <2% establishments treated (BEAD could not confirm that there was any actual usage although there was a registered use at the time) and half the analytical limit of detection (½ LOD; 0.01 ppm) based on all nondetectable residues in a chlorpyrifos FHE study. That analysis resulted in a chronic dietary exposure of 0.000009 mg/kg for children ages 1-2 years old (highest exposed population subgroup). Using any exposure values in the risk assessment based on a non-registered use would be considered an overestimate of risk. Nonetheless, the exposure from any potential FHE uses may be considered insignificant compared to exposures from field uses.

From PDP data it appears that chlorpyrifos is either applied illegally to a variety of crops or that residues occur on several crops that are rotated in after use of chlorpyrifos on a legally registered crop, or contamination is occurring by other means. Data on crops without tolerances are not ordinarily included in EPA assessments. Omission of residues on these crops may lead to some underestimation of exposure. However, the only commodity with a relatively high percentage of detects and with a fairly high maximum chlorpyrifos residue level, cilantro, would not be expected to result in appreciable consumption levels and would not be expected to have a significant impact on dietary exposure. Attachment 2 lists illegal residues found by PDP on crops which do not have a chlorpyrifos registered use or tolerance.

II. Percent Crop Treated Information

BEAD has provided a Screening Level Usage Analysis (SLUA; May 1, 2014), a list of percent crop treated estimates to be used for this assessment, which is included as Attachment 3. A separate memorandum (DP#345255, *Addendum to the Screening Level Use Analysis and Update to the Percent of Food Handling Establishments Treated Estimates*, full text found in D388166, 2011, Attachment 3) details percent crop treated estimates for food handling establishments and kiwifruit.

III. Drinking Water Data

This analysis does not include drinking water as the chlorpyrifos PBPK-PD model predicts ChEI separately for food and water sources of exposure.

IV. DEEM-FCID Program and Consumption Information

A chlorpyrifos acute dietary exposure analysis was conducted using the DEEM-FCID, Version 3.16, which incorporates 2003-2008 consumption data from USDA's NHANES/WWEIA. The data are based on the reported consumption of more than 20,000 individuals over two non-consecutive survey days. Foods "as consumed" (e.g., apple pie) are linked to EPA-defined food commodities (e.g., apples, peeled fruit - cooked; fresh or N/S; baked; or wheat flour - cooked; fresh or N/S, baked) using publicly available recipe translation files developed jointly by USDA/ARS and EPA. For chronic exposure assessment, consumption data are averaged for the entire U.S. population and within population subgroups. However, for acute exposure assessment, consumption data are retained as individual consumption events. Based on analysis of the 2003-2008 WWEIA consumption data, which took into account dietary patterns and survey respondents, HED concluded that it is most appropriate to include the following population subgroups: the general U.S. population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, adults 20-49, females 13-49, and adults 50-99 years old.

For an acute exposure assessment, individual one-day food consumption data are used on an individual-by-individual basis. The reported consumption amounts of each food item can be multiplied by a residue point estimate and summed to obtain a total daily pesticide exposure for a

deterministic exposure assessment, or "matched" in multiple random pairings with residue values and then summed in a probabilistic assessment.

V. CALENDEX-FCID Program

A chlorpyrifos steady state dietary exposure analysis was conducted using Calendex-FCID™ . Calendex provides a focus detailed profile of potential exposures to individuals across a calendar year. A calendar-based approach provides the ability to estimate daily exposures from multiple sources over time to an individual and is in keeping with two key tenets of aggregate risk assessment: 1) that exposures when aggregated are internally consistent and realistic; and 2) that appropriate temporal and geographic linkages or correlations/associations between exposure scenarios are maintained. Calendex also enables HED to identify potential risks caused by co-occurrence of exposures from multiple routes and pathways (e.g., near simultaneous same-day exposures through drinking water and residential uses). For chlorpyrifos, only food exposures were estimated. An aggregate with water and/or residential exposures was not performed for this exercise.

HED's steady state assessment considers the potential risk from a 21-day exposure duration using a 3-week rolling average (sliding by day) across the year. For this assessment, the same food residue values used in the acute assessment were used for the 21-day duration. In the Calendex software, one diary for each individual in the WWEIA is selected to be paired with a randomly selected set of residue values for each food consumed. The steady state analysis calculated exposures for the sentinel populations for infant, child, youth, and adult (infants <1 yr, children 1-2 yrs, children 6-12 yrs, females 13-49 yrs).

VI. Toxicological Information

This analysis was performed for the purpose of obtaining food exposure values for use in the chlorpyrifos physiologically-based pharmacokinetic-pharmacodynamic (PBPK-PD) modeling as part of EPA's revised human health risk assessment (HHRA, D424485) for chlorpyrifos. Unlike the previous chlorpyrifos dietary assessment (D388166; 2011), this memorandum does not include risk estimates (exposure as a percent of the reference dose or population adjusted dose) but only presents the resulting dietary exposure values, and only for the index population subgroups relevant to the revised chlorpyrifos HHRA. In the revised HHRA, the chlorpyrifos exposure from food sources are compared to the doses calculated by the PBPK-PD model to cause inhibition of acetylcholinesterase (AChE) activity per population subgroup; red blood cell cholinesterase inhibition (ChEI) is the toxicological endpoint of concern for chlorpyrifos exposures.

VII. Results/Discussion

Results of Acute Dietary (Food Only) Exposure Analysis

For acute food only exposure, the highest exposed population subgroup was children 1-2 years old at 0.000423 mg/kg/day at the 99.9[th] percentile of exposure. See Attachment 5, acute food only results.

Table 1. DEEM Results of Acute Dietary (Food Only) Exposure Analysis for Chlorpyrifos.			
Population Subgroup	95th Percentile Exposure (mg/kg/day)	99th Percentile Exposure (mg/kg/day)	99.9th Percentile Exposure (mg/kg/day)
General U.S. Population	0.000031	0.000064	0.000197
All Infants (<1 year old)	0.000050	0.000088	0.000273
Children 1-2 years old*	0.000082	0.000143	**0.000423**
Children 3-5 years old	0.000062	0.000107	0.000319
Children 6-12 years old	0.000040	0.000072	0.000189
Youth 13-19 years old	0.000024	0.000042	0.000126
Adults 20-49 years old	0.000021	0.000042	0.000167
Adults 50-99 years old	0.000022	0.000044	0.000186
Females 13-49 years old	0.000021	0.000041	0.000150

*The subpopulation with the highest exposure estimates.

Results of Steady State Dietary (Food Only) Exposure Analysis

For the steady state dietary exposure analyses, children 1-2 years old was the population subgroup with the highest estimated exposure of 0.000242 mg/kg (average of 0.000189 mg/kg) at the 99.9th percentile of exposure. See Attachment 6, examples of steady state (food only) results.

Table 2. Calendex Results of Steady State Dietary (Food Only) Exposure Analysis for Chlorpyrifos				
Population Subgroup	50th Percentile Max. Exposure (mg/kg) [ave]	70th Percentile Max. Exposure (mg/kg) [ave]	95th Percentile Max. Exposure (mg/kg) [ave]	99.9th Percentile Max. Exposure (mg/kg) [ave]
All Infants (< 1 year old)	0.000011 [0.000010]	0.00002 [0.00002]	0.000045 [0.000044]	0.000186 [0.00014]
Children (1-2 years old)*	0.000027 [0.000027]	0.000038 [0.000037]	0.000072 [0.000069]	**0.000242** [0.000189]
Children (6-12 years old)	0.000014 [0.000013]	0.000019 [0.000018]	0.000039 [0.000038]	0.000128 [0.000096]
Females (13-49 years old)	0.000007 [0.000007]	0.000009 [0.000009]	0.000018 [0.000018]	0.000075 [0.000057]

*The subpopulation with the highest exposure estimates

VIII. Characterization of Inputs/Outputs

This is a highly refined assessment, using monitoring data for almost all crops, using extensive percent crop treated information, and using a large set of processing and cooking factors. Most input residues for the acute and steady state analyses were incorporated as residue distribution files (RDFs) and the analyses were performed probabilistically. See Attachment 1 which details all of the input assumptions.

IX. Conclusions

Both the acute and steady state dietary (food only) exposure analyses for chlorpyrifos were highly refined and incorporated monitoring data for almost all crops/foods, used extensive percent crop treated information, and used a large set of processing and cooking factors. The analyses were performed probabilistically.

This analysis was performed for the purpose of obtaining food exposure values for comparison with PBPK-PD modeling predictions of doses causing red blood cell cholinesterase inhibition as part of the chlorpyrifos registration review preliminary human health risk assessment. Unlike the previous chlorpyrifos dietary assessment, this memorandum does not include risk estimates (exposure as a percent of the population adjusted dose, or PAD) but only presents the resulting dietary exposure values for the relevant population subgroups. This analysis does not include drinking water as the PBPK-PD model predicts ChEI inhibition from exposures to the chlorpyrifos oxon metabolite in water independent of exposures of chlorpyrifos from food sources.

X. List of Attachments

1. Summary of Data and Residue Estimates Used in the Dietary Analyses.
2. List of Residue Found by PDP on Crops for Which Use of Chlorpyrifos is Not Registered.
3. SLUA from BEAD.
4. Acute (and Steady State) Food only Residue Input File
5. Acute (Food Only) Result File
6. Examples of Steady State (Food Only) Result Files

Attachment 1. Data Sources and Residue Estimates Used in the Dietary Exposure Analyses

Table A1a. **Data Sources and Residue Estimates for Chlorpyrifos Dietary Analysis**

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
Root and Tuber Vegetables (CG 1)								
Beet, sugar/molasses	B	Sugar beet tolerance(1.0) adjusted w/ calculated processing factor (0.02)	NA	NA		10	20	0.004
Radish, root	NB/PB	Sweet Potato PDP 2008, 2009, 2010	1454/47	0.0013		100	100	RDF (Potato_Sweet) Total Samples=1454, Total Detects=47, Total LODs=1407, Total Zeros=0
Rutabaga	NB/PB	Sweet Potato PDP 2008, 2009, 2010	1454/47	0.0013		100	100	RDF (Potato_Sweet)
Sweet Potato	NB/PB	Sweet Potato PDP 2008, 2009, 2010	1454/47	0.0013	0.15 (peeling factor)	100	100	RDF (Potato_Sweet)
Sweet Potato, baby food	NB/PB	Sweet Potato, baby food, PDP 2010, 2011	776/0	0.0014		100	100	RDF (Potato_Sweet_BF) Total Samples=776, Total Detects=0, Total LODs=776, Total Zeros=0

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm) Acute (and Steady State) (Tol., AR, or RDF w/filename)
						Ave	Max.	
Turnip, root	NB/PB	Sweet Potato PDP 2008, 2009, 2010	1454/47	0.0013		100	100	RDF (Potato_Sweet)
Yam	NB	Sweet Potato PDP 2008, 2009, 2010	1454/47	0.0013	0.15 (peeling factor)	100	100	RDF (Potato_Sweet)
Leaves of Root and Tuber Vegetables (CG2)								
Radish, top	PB	Kale PDP 2006, 2007, 2008	802/36	0.0019		100	100	RDF (Kale) Total Samples=802, Total Detects=36, Total LODs=766, Total Zeros=0
Turnip, top	PB	Kale PDP 2006, 2007, 2008	802/36	0.0019		100	100	RDF (Kale)
Bulb Vegetables (CG3)								
Onion, bulb	NB/PB	Onion Bulb PDP 2011, 2012	744/0	0.0078		40	50	RDF (Onion_Bulb) Total Samples=744, Total Detects=0, Total LODs=372, Total Zeros=372
Onion, bulb, dried	B	Onion Bulb PDP 2011, 2012	744/0	0.0078	9.0 dried	40	50	0.0039
Leafy Vegetables except Brassica Vegetables (CG 4)								
Brassica Cole Leafy Vegetables (CG5) [CROP GROUP TOLERANCE EXISTS]								
Broccoli	NB/PB	Broccoli PDP 2006, 2007, 2008	1475/108	0.0006	0.94 (cooking)	45	60	RDF (Broccoli) Total Samples=1475,

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
								Total Detects=108, Total LODs=777, Total Zeros=590
Broccoli rabi	NB	Kale PDP 2006, 2007, 2008	802/36	0.0019	0.83 (cooking)	100	100	RDF (Kale)
Broccoli Chinese	NB	Broccoli PDP 2006, 2007, 2008	1475/108	0.0006	0.94 (cooking)	100	100	RDF (Broccolito_chinese) Total Samples=1475, Total Detects=108, Total LODs=1367, Total Zeros=0
Brussels sprouts	NB/PB	Cabbage PDP 2010, 2011	1483/0	0.0135	0.83 (cooking)	100	100	RDF (Cabbageto_sprouts_napa_kohlrabi) otal Samples=1483, Total Detects=0, Total LODs=1483, Total Zeros=0
Cabbage	NB/PB	Cabbage PDP 2010, 2011	1483/0	0.0135	0.83 (cooking)	15	25	RDF (Cabbage) Total Samples=1483, Total Detects=0, Total LODs=371, Total Zeros=1112
Cabbage, Chinese, bok choy	PB	Kale PDP 2006, 2007, 2008	802/36	0.0019	0.83 (cooking)	100	100	RDF (Kale)
Cabbage, Chinese, mustard	NB/PB	Broccoli PDP 2006, 2007, 2008	1475/108	0.0006	0.94 (cooking)	100	100	RDF (Broccolito_chinese)
Cabbage, Chinese,	NB/PB	Cabbage PDP 2010,	1483/0	0.0135	0.83	100	100	RDF

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
napa		2011			(cooking)			(Cabbageto_sprouts_ napa_kohlrabi)
Cauliflower	NB/PB	Cauliflower PDP 2011,2012	923/0	0.0015	0.94 (cooking)	40	60	RDF (Cauliflower) Total Samples=923, Total Detects=0, Total LODs=554, Total Zeros=369
Collard	PB	Collard PDP 2006,2007,2008	679/22	0.0021	0.83 (cooking)	100	100	RDF (Collard) Total Samples=679, Total Detects=22, Total LODs=657, Total Zeros=0
Kale	PB	Kale PDP 2006, 2007, 2008	802/36	0.0019	0.83 (cooking)	100	100	RDF (Kale)
Kohlrabi	NB	Cabbage PDP 2010, 2011	1483/0	0.0135	0.83 (cooking)	100	100	RDF (Cabbageto_sprouts_ napa_kohlrabi)
Mustard green	PB	Kale PDP 2006, 2007, 2008	802/36	0.0019	0.83 (cooking)	100	100	RDF (Kale)
Rape green	PB	Kale PDP 2006, 2007, 2008	802/36	0.0019	0.83 (cooking)	100	100	RDF (Kale)
Legume Vegetables Succulent and Dried(CG6) [CROP GROUP TOLERANCE EXISTS; except soybean]								
Bean, seed /dry pea	B	Bean FT LOD/tolerance (0.05 ppm)	<0.05	0.025		< 2.5	5	0.00125
Bean, succulent	PB	Bean green PDP	1480/14	0.0017		< 2.5	5	RDF

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm) Acute (and Steady State) (Tol., AR, or RDF w/filename)
						Ave	Max.	
		2007, 2008						(Bean_Green_Fresh) Total Samples=1480, Total Detects=14, Total LODs=60, Total Zeros=1406
Bean, succulent, babyfood	PB	Bean green baby food PDP 2010, 2011	776/0	0.0014		< 2.5	5	RDF (Bean_Green_BF) Total Samples=776, Total Detects=0, Total LODs=39, Total Zeros=737
Bean, succulent, frozen	PB	Bean green frozen PDP 2005	555/1	0.0023		< 2.5	5	RDF (Bean_Green_Frozen) Total Samples=555, Total Detects=1, Total LODs=27, Total Zeros=527
Bean, succulent, canned	PB	Bean green canned PDP 2003, 2004	928/0	0.0024		< 2.5	5	RDF (Bean_Green_Canned) Total Samples=928, Total Detects=0, Total LODs=46, Total Zeros=882
Pea, snap	PB	Pea snap PDP 2011, 2012	1487/46	0.0015		100	100	RDF (Pea_Snap) Total Samples=1487, Total Detects=46,

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm) Acute (and Steady State) (Tol., AR, or RDF w/filename)
						Ave	Max.	
								Total LODs=1441, Total Zeros=0
Pea, snap, seed	B	Pea snap PDP 2011, 2012	1487/46	0.0015		100	100	0.0016
Pea, succulent (sweet peas, fresh or frozen)	PB	Pea sweet frozen PDP 2006	744/0	0.0021		< 2.5	< 2.5	RDF (Pea_Sweet_Frozen) Total Samples=744, Total Detects=0, Total LODs=19, Total Zeros=725
Pea, canned	PB	Pea sweet canned PDP 2003, 2004	729/0	0.0019		< 2.5	< 2.5	RDF (Pea_Sweet_Canned) Total Samples=729, Total Detects=0, Total LODs=18, Total Zeros=711
Pea, baby food	PB	Pea sweet canned PDP 2003, 2004	729/0	0.0019		< 2.5	< 2.5	RDF (Pea_Sweet_Canned)
Soybean	B	Soybean PDP 2011	300/8	0.0015		5	10	RDF (Soybean_Grain) Total Samples=300, Total Detects=8, Total LODs=22, Total Zeros=270
Soybean, oil	B	Soybean PDP 2011	300/8	0.0015	0.14	5	10	0.00016
Fruiting Vegetable (CG8)								
Pepper bell	NB/PB	Pepper bell PDP	1671/146	0.0086		<2.5	5	RDF

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm) Acute (and Steady State) (Tol., AR, or RDF w/filename)
						Ave	Max.	
		2010, 2011, 2012						(Pepper_Bell) Total Samples=1671, Total Detects=146, Total LODs=0, Total Zeros=1525
Pepper non-bell	NB/PB	Pepper non-bell PDP 2010, 2011	739/65	0.0014		<2.5	5	RDF (Pepper_Nonbell) Total Samples=739, Total Detects=65, Total LODs=0, Total Zeros=674
Cucurbit Vegetables (CG9)								
Cucumber	NB/PB	Cucumber PDP 2009, 2010	1488/50	0.0008		<2.5	5	RDF (Cucumber) Total Samples=1488, Total Detects=50, Total LODs=24, Total Zeros=1414
Pumpkin	NB/PB	Winter Squash PDP 2011, 2012	928/4	0.003	0.32 (cooking)	<2.5	5	RDF (Squash_Winter_Fresh) Total Samples=928, Total Detects=4, Total LODs=42, Total Zeros=882
Pumpkin seed	B	Winter Squash PDP 2011, 2012	928/4	0.003		<2.5	5	0.0002
Citrus (CG10) [CROP GROUP TOLERANCE EXISTS]								
Citron	NB	Orange PDP 2009,	1488/11	0.0014		100	100	RDF

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm) Acute (and Steady State) (Tol., AR, or RDF w/filename)
						Ave	Max.	
		2010						(Orangeto_othercitrus) Total Samples=1488, Total Detects=11, Total LODs=1477, Total Zeros=0
Citrus hydrid	NB	Orange PDP 2009, 2010	1488/11	0.0014		100	100	RDF (Orangeto_othercitrus
Grapefruit	NB/PB	Grapefruit PDP 2005, 2006	1485/24	0.0018		20	35	RDF (Grapefruit) Total Samples=1485, Total Detects=24, Total LODs=496, Total Zeros=965
Grapefruit juice	NB	OJ PDP 2004, 2005, 2006	1517/4	0.002	1.17	20	35	RDF (Orange_Juice) Total Samples=1517, Total Detects=4, Total LODs=527, Total Zeros=986
Kumquat	PB	Orange PDP 2009, 2010	1488/11	0.0014		100	100	RDF (Orangeto_othercitrus
Lemon	NB/PB	Orange PDP 2009, 2010	1488/11	0.0014		35	60	RDF (Orangeto_lemon) Total Samples=1488, Total Detects=11, Total LODs=882,

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
								Total Zeros=595
Lemon juice	PB	OJ PDP 2004, 2005, 2006	1517/4	0.002	1.11	35	60	RDF (Orange_Juiceto_Lemon) Total Samples=1517, Total Detects=4, Total LODs=906, Total Zeros=611
Lemon peel	PB	Orange PDP 2009, 2010	1488/11	0.0014	15	35	60	RDF (Orangeto_lemon)
Lime	NB	Orange PDP 2009, 2010	1488/11	0.0014		100	100	RDF (Orangeto_othercitrus
Lime juice	PB	OJ PDP 2004, 2005, 2006	1517/4	0.002	1.11	100	100	RDF (Orange_Juiceto_Lime) Total Samples=1517, Total Detects=4, Total LODs=1530, Total Zeros=0
Orange	NB/PB	Orange PDP 2009, 2010	1488/11	0.0014		20	35	RDF (Orange) Total Samples=1488, Total Detects=11, Total LODs=510, Total Zeros=967
Orange juice	PB	OJ PDP 2004, 2005, 2006	1517/4	0.002		20	35	RDF (Orange_Juice) Total Samples=1517,

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT Ave	% CT Max.	Anticipated Residue Estimates/Tolerance (ppm) Acute (and Steady State) (Tol., AR, or RDF w/filename)
								Total Detects=4, Total LODs=527, Total Zeros=986
Orange peel	PB	Orange PDP 2009, 2010	1488/11	0.0014	15	20	35	RDF (Orange)
Pummelo	NB	Orange PDP 2009, 2010	1488/11	0.0014		100	100	RDF (Orangeto_othercitrus
Tangerine	NB	Tangerine PDP 2011, 2012	1426/4	0.005		10	20	RDF (Tangerine) Total Samples=1426, Total Detects=4, Total LODs=281, Total Zeros=1141
Tangerine juice	PB	OJ PDP 2004, 2005, 2006	1517/4	0.002	1.28	10	20	RDF (Orange_Juiceto_Tangerine) Total Samples=1517, Total Detects=4, Total LODs=299, Total Zeros=1214
Pome Fruits (CG11)								
Apple (unpeeled)	NB/PB	Apple PDP 2009, 2010	1488/19	0.0007		55	65	RDF (Apple_Fresh) Total Samples=1488, Total Detects=19, Total LODs=948, Total Zeros=521
Apple (peeled)	NB/PB	Apple PDP 2009,	1488/19	0.0007	0.15	55	65	RDF

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
		2010			(peeling factor) 1.2			(Apple_Fresh)
Apple, dried	B	Apple PDP 2009, 2010	1488/19	0.0007		55	65	0.0006
Apple juice	PB	Apple PDP 2009, 2010	1488/19	0.0007	0.15	55	65	RDF (Apple_Fresh)
Apple sauce	PB	Apple sauce PDP 2006	714/0	0.001		55	65	RDF (Apple_Sauce) Total Samples=714, Total Detects=0, Total LODs=464, Total Zeros=250
Apple, baby food	PB	Apple baby food PDP 2012	396/0	0.0005		55	65	RDF (Apple_Sauce_BF) Total Samples=396, Total Detects=0, Total LODs=257, Total Zeros=139
Pear	NB/PB	Pear PDP 2009, 2010	1485/10	0.0015	0.15	15	30	RDF (Pear) Total Samples=1485, Total Detects=10, Total LODs=436, Total Zeros=1039
Pear, dried	B	Pear PDP 2009, 2010	1485/10	0.0015	0.93	15	30	0.0005
Pear, baby food	PB	Pear baby food PDP 2010, 2011	776/0	0.0006		15	30	RDF (Pear _BF) Total Samples=776, Total Detects=0,

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
								Total LODs=233, Total Zeros=543
Pear, canned	PB	Pear canned PDP 1999, 2000	737/0	0.0023		15	30	RDF (Pear_Canned) Total Samples=737, Total Detects=0, Total LODs=221, Total Zeros=516
Pear, juice	PB	Pear PDP 2009, 2010	1485/10	0.0015	0.15	15	30	RDF (Pear)
Stone Fruit (CG12)								
Cherry	PB	Cherry PDP 2007	419/0	0.0014	0.59 (canning) 1.16 (cooking)	30	45	RDF (Cherry) Total Samples=419, Total Detects=0, Total LODs=189, Total Zeros=230
Cherry juice	PB	Cherry PDP 2007	419/0	0.0014	0.3 (grape juice)	30	45	RDF (Cherry)
Cherry baby food	PB	Cherry PDP 2007	419/0	0.0014	0.59 (canning) 1.16 (cooking)	30	45	RDF (Cherry)
Nectarine	NB	Nectarine PDP 2007, 2008	1235/156	0.0025		10	20	RDF (Nectarine) Total Samples=1235, Total Detects=156, Total LODs=91, Total Zeros=988

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
Peach	NB/PB	Peach PDP 2006, 2007, 2008	1261/218	0.0038	0.52 (canning) 0.50 (cooking)	25	40	RDF (Peach_Fresh) Total Samples=1261, Total Detects=218, Total LODs=286, Total Zeros=757
Peach, dried	B	Peach PDP 2006, 2007, 2008	1261/218	0.0038	7.0 dried	25	40	0.0038
Peach, canned	NB/PB	Peach canned PDP 2003, 2004	1485/0	0.005		25	40	RDF (Peach_Canned) Total Samples=1485, Total Detects=0, Total LODs=594, Total Zeros=891
Peach, baby food	PB	Peach baby food PDP 2012	777/4	0.0027		25	40	RDF (Peach_BF) Total Samples=777, Total Detects=4, Total LODs=307, Total Zeros=466
Peach juice	PB	Peach canned PDP 2003, 2004	1485/0	0.005		25	40	RDF (Peach_Canned)
Plum	NB/PB	Plum PDP 2011, 2012	840/12	0.003		10	15	RDF (Plum) Total Samples=840, Total Detects=12, Total LODs=114, Total Zeros=714
Plum, baby food	PB	Plum PDP 2011, 2012	840/12	0.003		10	15	RDF

| Commodity | DEEM Food Form/ (Classification[1]) | Data Source | No. of Samples/ No. of Detectable Residues | ½ LOQ/LOD (ppm) | Processing Factors | % CT | | Anticipated Residue Estimates/Tolerance (ppm) |
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
								(Plum)
Prune, fresh	NB	Plum PDP 2011, 2012	840/12	0.003		10	15	RDF (Plum)
Prune, dried	PB	Plum prune PDP 2005, 2006	377/0	0.0027		10	15	RDF (Plum_Prune) Total Samples=377, Total Detects=0, Total LODs=57, Total Zeros=320
Prune juice	PB	Plum prune PDP 2005, 2006	377/0	0.0027	0.28	10	15	RDF (Plum_Prune)
Berries (CG13)								
Cranberry	PB	Cranberry PDP 2006	316/71	0.0023		100	100	RDF (Cranberry) Total Samples=316, Total Detects=71, Total LODs=245, Total Zeros=0
Cranberry, dried	PB	Cranberry PDP 2006	316/71	0.0023		100	100	RDF (Cranberry)
Cranberry, juice	PB	Cranberry PDP 2006	316/71	0.0023	0.3 (grape juice)	100	100	RDF (Cranberry)
Grape	PB	Grape PDP 2009, 2010	1489/17	0.0029		10	20	RDF (Grape_Fresh) Total Samples=1489, Total Detects=17, Total LODs=281, Total Zeros=1191

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
Grape juice	PB	Grape juice PDP 2008	745/0	0.0029		10	20	RDF (Grape_Juice) Total Samples=745, Total Detects=0, Total LODs=149, Total Zeros=596
Grape, raisin	PB	Grape raisin PDP 2006,2007	744/5	0.0026		10	20	RDF (Grape_Raisin) Total Samples=744, Total Detects=5, Total LODs=144, Total Zeros=595
Grape, wine and sherry	PB	Grape juice PDP 2008	745/0	0.0029		10	20	RDF (Grape_Juice)
Kiwifruit	NB	Kiwifruit Tolerance (2.0)	NA	NA	0.15 (peeling factor)	1	2.5	RDF (Kiwi) TOTALZ=975 TOTALNZ=25
Strawberry	PB	Strawberry PDP 2008, 2009	1485/17	0.003		20	35	RDF (Strawberry_Fresh) Total Samples=1485, Total Detects=17, Total LODs=503, Total Zeros=965
Strawberry, frozen	PB	Strawberry frozen PDP 1998, 1999, 2000	155/0	0.0028		20	35	RDF (Strawberry_Frozen) Total Samples=155, Total Detects=0,

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
								Total LODs=54, Total Zeros=101
Strawberry juice	PB	Strawberry PDP 2008, 2009	1485/17	0.003	0.3 (grape juice)	20	35	RDF (Strawberry_Fresh)
Tree Nuts (CG14)								
Almond	PB	Almond PDP 2007, 2008	547/232	0.0005		25	40	RDF (Almond) Total Samples=547, Total Detects=232, Total LODs=0, Total Zeros=315
Almond oil	B	Almond PDP 2007, 2008	547/232	0.0005	2.0	25	40	0.0018
Hazelnut (filbert)	PB	Almond PDP 2007, 2008	547/232	0.0005		15	25	RDF (Almond) Total Samples=547, Total Detects=232, Total LODs=0, Total Zeros=315
Pecan	PB	Almond PDP 2007, 2008	547/232	0.0005		30	40	RDF (Almond) Total Samples=547, Total Detects=232, Total LODs=0, Total Zeros=315
Walnut	PB	Almond PDP 2007, 2008	547/232	0.0005		45	55	RDF (Almondto_walnut) Total Samples=547, Total Detects=232,

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm) Acute (and Steady State) (Tol., AR, or RDF w/filename)
						Ave	Max.	
								Total LODs=69, Total Zeros=246
Cereal Grains (CG15)								
Corn, field (bran, flour, meal, starch)	B	Corn grain PDP 2007, 2008	1300/311	0.0005	0.22 (processing/ endosperm washing)	<2.5	5	0.0007
Corn, pop	B	Corn grain PDP 2007, 2008	1300/311	0.0005		<2.5	5	0.0007
Corn syrup	B	Corn Syrup PDP 1998, 1999	454/0	0.0005		<2.5	5	0.0005
Corn, sweet	NB/PB	Corn Sweet PDP 2008, 2009, 2010	1301/0	0.0065		10	20	RDF (Corn_Sweet_Fresh) Total Samples=1301, Total Detects=0, Total LODs=260, Total Zeros=1041
Corn, sweet canned	NB/PB	Corn Sweet canned PDP 2001, 2002	723/0	0.002		10	20	RDF (Corn_Sweet_Canned) Total Samples=723, Total Detects=0, Total LODs=145, Total Zeros=578
Sorghum syrup	B	Wheat Grain PDP 2005, 2006	1361/8	0.003	0.05	<1	<2.5	0.0004
Wheat grain	B	Wheat Grain PDP 2005, 2006	1361/8	0.003	2.7 (germ) 3 (bran)	5*	10*	RDF (Wheat_Grain) Total Samples=1361,

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
								Total Detects=8, Total LODs=1353, Total Zeros=0
Wheat flour	B	Wheat Grain PDP 2005, 2006	1361/8	0.003	0.145	5	10	0.0031
Herbs and Spices (CG19)								
Oilseeds								
Cottonseed oil	B	Cotton FT (D21646)			0.375	<2.5	<2.5	0.003
Sunflower seed	B	Sunflower FT (D220463)	5/5	0.25		5	10	0.0012
Sunflower oil	B	Sunflower FT (D220463)	5/5	0.25	2.5	5	10	0.0012
Miscellaneous								
Asparagus, fresh	NB	Asparagus PDP 2008, 2009, 2010	1488/41	0.0081	0.94 (cooking)	40	60	RDF (Asparagus) Total Samples=1488, Total Detects=41, Total LODs=852, Total Zeros=595
Asparagus, frozen	PB	Asparagus PDP 2008, 2009, 2010	1488/41	0.0081	0.94 (cooking)	40	60	RDF (Asparagus)
Asparagus, canned	PB	Asparagus canned PDP 2003	354/6	0.0019		40	60	RDF (Asparagus_Canned) Total Samples=354, Total Detects=6, Total LODs=206, Total Zeros=142
Banana	PB	Banana PDP 2012	559/1	0.0025		100	100	RDF

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
								(Banana) Total Samples=559, Total Detects=1, Total LODs=558, Total Zeros=0
Banana, dried	B	Banana PDP 2012	559/1	0.0025	3.9 dried	100	100	0.0025
Banana baby food	NB/PB	Banana PDP 2012	559/1	0.0025		100	100	RDF (Banana)
Fig	NB	Fig tolerance (0.01)	NA	NA		100	100	0.01
Peanut	B	Peanut FT	5/2	0.01		5	15	0.0011
Peanut oil	B	Peanut FT	5/2	0.01	2	5	15	0.0011
Peanut butter	B	Peanut butter PDP 2006	739/0	0.0135		5*	15*	0.014
Peppermint	B	Peppermint tops tolerance (0.8)	NA	NA		100	100	0.8
Peppermint oil	B	Peppermint oil tolerance (8.0)	NA	NA		100	100	8.0
Meat, Milk, Eggs								
Beef, meat**	NA	Beef meat PDP 2009	292/0	0.0005	0.5 (cooking)			0.0005
Beef, meat, dried	NA	Beef meat PDP 2009	292/0	0.0005	1.92			0.0005
Beef, fat	NA	Beef fat PDP 2009	292/0	0.0005	0.5			0.0005
Beef (meat byproducts, liver, kidney)	NA	Beef liver PDP 2001, 2002	624/0	0.0014	0.5			0.0014
Milk, fat	NA	Butter,cream PDP 2012	792/3	0.0005				RDF (Milk_CreamButter)

Commodity	DEEM Food Form/ (Classification[1])	Data Source	No. of Samples/ No. of Detectable Residues	½ LOQ/LOD (ppm)	Processing Factors	% CT		Anticipated Residue Estimates/Tolerance (ppm)
						Ave	Max.	Acute (and Steady State) (Tol., AR, or RDF w/filename)
								Total Samples=792, Total Detects=3, Total LODs=789, Total Zeros=0
Milk, non-fat (non-fat solids, water, sugar)	NA	Milk PDP 2011	743/0	0.0006				0
Pork, meat	NA	Pork meat PDP 2005	352/0	0.0004	0.5			0.00038
Pork, fat	NA	Pork fat PDP 2005	352/1	0.0007	0.5			RDF (Pork_Fat) Total Samples=352, Total Detects=1, Total LODs=351, Total Zeros=0
Pork (meat byproducts, liver, kidney)	NA	Pork meat PDP 2005	352/0	0.0004	0.5			0.00038
Poultry, meat	NA	Chicken meat PDP 2006	1310/0	0.0008	0.5			0.00075
Poultry, fat	NA	Chicken fat PDP 2000, 2001	631/0	0.0049	0.5			0.0049
Poultry (meat byproducts, liver, kidney)	NA	Chicken meat PDP 2006	1310/0	0.0008	0.5			0.00075
Eggs	NA	Egg PDP 2010, 2011	742/0	0.0015				0.0015

NB= Not Blended; PB=Partially Blended; B=Blended

* 100% CT assumed for blended commodities when using monitoring data for that specific commodity.

** Values for all beef commodities are applied to beef, goat, sheep, game, and rabbit commodities.

GENERAL RESIDUE INFORMATION:

Residue Distribution Files (RDFs): RDFs were created where appropriate in accordance with The USEPA, HED, DESAC guidance document for *Dietary Exposure Analysis*, November 2011. Translation from commodities with monitoring data to other commodities were also performed where appropriate in accordance with the 9/12/2012 USEPA SOP 2000.1 (*Guidance for Translation of Field Trail Data from Representative Commodities in the Crop Group Regulation to Other Commodities in Each Crop Group/Subgroup, HED Standard Operating Procedure 2000.1*). The section below briefly summarizes the data source used per commodity. For details regarding how RDFs were created with regard to number of actual detects, number and level of ½ LODs (for treated nondetects) and number of zeros (for untreated nondetects), and for the percent crop treated estimates, and other assumptions such as peeling, cooking, or processing factors, please see Table A1a above. For full details on the source of the processing, peeling, and cooking factors, see D388166, 2011.

Percent Crop Treated (%CT): %CT estimates were taken from BEADs May 1, 2014 SLUA report. A separate memorandum (DP#345255, *Addendum to the Screening Level Use Analysis and Update to the Percent of Food Handling Establishments Treated Estimates*, full text found in D388166, 2011, Attachment 3) details %CT estimates for food handling establishments and kiwifruit. For the acute and steady state anticipated residues the maximum %CT estimates were incorporated. A very conservative default 100% CT was assumed for commodities that do not appear on BEADs SLUA report, unless otherwise stated. For crops reported as <2.5% treated, the 2.5 value was used. %CT information, where appropriate, were incorporated into the RDF construction and the point estimate residue calculations.

Residue Data Source by Crop Group (CG)

Root and Tuber Vegetables (CG1)

PDP data exist only for sweet potatoes. 2008-2010 PDP data for fresh sweet potatoes had detectable residues. 2010-2011 PDP data for sweet potato baby food had no detects. The fresh sweet potato data were translated to radish root, rutabaga, turnip root and yam. RDFs were created for these commodities. For sweet potato baby food, the PDP data for the baby food was used to create an RDF file. A peeling factor was used for fresh sweet potatoes and yams.

For sugar beets (consumed as processed blended commodities sugar and molasses), a processing factor of 0.02 was applied to the tolerance of 1 ppm and corrected for 20% crop treated to come up with a residue of 0.004 ppm (see D388166, 2011).

Leaves of Root and Tuber Vegetables (CG2)

In the absence of a more appropriate source of data for root and tuber leaves, the PDP residue data for kale (see leafy Brassica below) were translated to radish tops and turnip tops. This translation should be very conservative as there were detectable residues on kale.

Bulb Vegetables (CG3)

PDP analyzed a total of 744 bulb onion samples in 2011 and 2012 with no detects. An RDF file was created for bulb onions. A point estimate residue was created for the blended commodity dried onion and a drying factor was used.

Brassica Cole Leafy Vegetables (CG5)

A crop group tolerance exists for chlorpyrifos on brassica cole leafy vegetables (CG5) so all crops in this group were included in the analysis. PDP data exist for broccoli, kale, cabbage, cauliflower and collards (2006-2011) with detectable residues found on broccoli, kale, and collards. The appropriate PDP data were translated to other cole commodities as follows: broccoli was translated to Chinese broccoli and Chinese mustard cabbage; cabbage was translated to Brussels sprouts, Chinese napa cabbage, and kohlrabi; kale was translated to broccoli rabi, Chinese bok choy cabbage, mustard greens and rape greens. Cooking factors were applied to the cooked food forms in DEEM/Calendex.

Legume Vegetables Succulents and Dried (CG6)

PDP data (2003-2011) were available for green beans (fresh, baby food, frozen and canned) with detectable residues in fresh green beans. RDFs were created for individual food forms.

PDP data (2011-2012) for snap peas, with detectable residues, were used to create an RDF for snap peas and a point estimate for the blended commodity snap pea seed.

PDP data (2003-2012) were available for sweet peas (frozen, canned, and baby food) with no detectable residues. The frozen pea data were used to create RDFs for fresh and frozen peas. The canned pea data were used to create RDFs for canned peas and for baby food. The baby food data were not used because of the very high levels of detection in that dataset (LODs up to 0.15 ppm vs. up to 0.004 ppm for canned peas). Using inflated LODs may miss actual residues and can skew the exposure estimate (using inflated 1/2LODs in the RDF for treated nondetects).

PDP data (2011) with detectable residues for soybeans were used to create an RDF for soybean commodities and to create a point estimate for the blended commodity soybean oil.

For the blended commodity dry bean seed or dry pea, the tolerance for chlorpyrifos on dry beans was used to calculate a point estimate residue. The tolerance is based on nondetectable residues in the dry bean field trials.

Fruiting Vegetable (CG8)

PDP data (2010-2012) exist for both bell pepper and non-bell pepper with detectable residues. Individual RDFs were created from these data for peppers.

Cucurbit Vegetables (CG9)

PDP data (2009-2012) are available for cucumbers and winter squash with detectable residues. The cucumber data were used to create a cucumber RDF. The winter squash data were translated to pumpkin. A cooking factor was applied to cooked pumpkin foods. The winter squash data were also used to create a point estimate residue for the blended commodity pumpkin seed.

Citrus (CG10)

A crop group tolerance exists for chlorpyrifos on citrus (CG10) so all crops in this group were included in the analysis. PDP data exist for oranges (2009-2010), grapefruit (2005-2006), tangerine (2011-2012) and orange juice (2004-2006 and 2010-2012) with some detectable residues found except in 2011-2012 orange juice. Orange data were translated to citron, citrus hybrid, kumquat, lemon (and peel), lime, orange peel, and pummelo. Orange juice data were translated to other juices using adjustment factors as spelled out in DESAC policy: 1.17 for grapefruit juice, 1.11 for lime juice and lemon juice and 1.28 for tangerine juice. The 2004-2006 orange juice data were used as the 2010-2012 dataset had a high LOD value (up to 0.02 ppm vs. 0.004 ppm for 2004-06 dataset). Using inflated LODs may miss actual residues and can skew the exposure estimate (using inflated 1/2LODs in the RDF for treated nondetects). RDFs were generated for all citrus commodities. Drying factors were used for peels.

Pome Fruits (CG11)

There are PDP data for apples [fresh (2009-2010), apple sauce (2006) and baby food (2012) and apple juice (2007-2008)] with detectable residues only in fresh apples. The fresh apple data were used to create RDFs for apple and apple juice and a point estimate for dried apples (including a drying factor). PDP analyzed a total of 740 apple juice samples during the years 2007-8. Of these samples, none contained detectable residue levels. Since there were no detects the estimated residues are based upon the LOD, not upon real residues, yet apple juice is a critical commodity for exposure. Therefore the data (with actual residues) for the 2009-2010 apples, along with a processing factor for juicing, was used for apple juice, which will yield a more realistic estimate of the actual exposure. A peeling factor was applied to apples eaten peeled. Apple sauce and apple baby food RDFs were based on their respective PDP data.

There are also PDP data for pears [fresh (2009-2010), canned (1999-2000), and baby food (2010-2011)]. The data were used to create RDFs for their respective food forms. In the case of pear juice, the fresh pear data were used, with a juicing factor. There are PDP data for pear juice but there was an insufficient number of samples. Fresh pear data were also used for dried along with a drying factor. A peeling factor was used for fresh pears eaten peeled.

Stone Fruit (CG12)

PDP data are available for fresh cherries (2007) with no detects and were used to create RDFs for cherry food commodities including cherry juice and cherry baby food, along with the appropriate juicing, canning and cooking factors.

PDP data for nectarines (2007-2008), with detectable residues, were used for RDFs for nectarine commodities.

PDP peach data [fresh (2006-2008), canned (2003-2004), and baby food (2012)] were used to create RDFs for the respective peach food forms. Detectable residues were found in fresh peaches and, to a lesser extent, peach baby food. Fresh peach data were used for a blended dried peach point estimate residue, which incorporated a drying factor. Cooked fresh peaches included a canning or cooking factor. Canned peach data were translated to peach juice.

There are PDP data for plums (2011-2012) with detectable residues and prunes (2005-2006) with no detectable residues. These data were used to create RDFs for their respective food forms. The prune data were used for prune juice with a factor applied.

Berries (CG13)

PDP data for fresh cranberries (2006) with detectable residues were used for RDFs for cranberry foods, dried cranberry and cranberry juice. A juicing factor was applied.

There are PDP data for grape [fresh (2009-2010), juice (2008) and raisin (2006-2007)] with detectable residues in grape and raisin. The data were used to create RDFs for their respective food forms. In addition, grape juice data were translated to wine and sherry.
For kiwifruit the tolerance level was used to create an RDF incorporating %CT. A peeling factor was also applied.

There are PDP data for fresh strawberries (2008-2009) and frozen strawberries (1998-2000), with detectable residues in fresh strawberries. RDFs were generated from the PDP data for the respective food forms. Fresh strawberry data were also used for juice, with a juicing factor applied.

Tree Nuts (CG14)

There are PDP data for almonds (2007-2008) with detectable residues. The data were used to create RDFs for almond, hazelnut, pecan and walnut. The data were also used to calculate a point estimate residue for the blended commodity almond oil which included a processing factor.

Cereal Grains (CG15)

PDP data for corn grain (2007-2008), with detectable residues, were used to create point estimate residues for field corn blended commodities such as meal, bran, flour and starch. A processing (endosperm washing) factor was applied. The corn grain data were also used for popcorn. A point estimate for corn syrup was also calculated based on PDP data for corn syrup (1998-1999) with no detects.

There are also PDP data on sweet corn [fresh (2008-2010) and canned (2001-2002)] with no detects. These data were used to create RDFs for the respective food forms.

The PDP data (2005-2006) for wheat grain, with detectable residues, were used to create RDFs for wheat grain commodities. Processing factors were used for wheat germ and wheat bran. The

wheat grain data were used to calculate a point estimate residue for the blended commodity wheat flour, along with a processing factor. Although PDP analyzed wheat flour samples during the years 2003-2004, none contained detectable residue levels. The use of high LODs from datasets would lead to an overestimate in actual exposure. The wheat grain data provides a more realistic estimate of residues on wheat flour.

Wheat grain PDP data were also translated to sorghum syrup along with a processing factor.

Oilseeds

A point estimate residue for cottonseed oil was calculated based on field trail data for cotton with a processing factor applied. Sunflower field trial residues were used to calculate point estimate residues for sunflower seeds and sunflower oil. A processing factor was applied for oil.

Miscellaneous

PDP data are available for asparagus [fresh (2008-2010) and canned (2003)] with detectable residues and were used to generate RDFs for the respective food forms. A cooking factor was applied to cooked asparagus.

PDP data are available for banana (2012) with one detectable residue. The data were used to create RDFs for banana food forms including baby food. The data were also used to calculate a point estimate residue for blended dried bananas along with a drying factor.

For figs, the point estimate residue was based on the tolerance level for chlorpyrifos on figs.

For peanuts and peanut oil, the residues from the peanut field trials were used to generate point estimate residue values. A processing factor was used for peanut oil. PDP data on peanut butter (2006; no detectable residue) was used to generate point estimate value.

Tolerance level residues were assumed for peppermint and peppermint oil.

Meat, Milk, Eggs

PDP data (2009; no detects) for beef meat were used to calculate a point estimate for beef meat and dried beef. PDP data for beef liver (2001-2002; no detects) were used to calculate point estimates for beef meat byproducts, liver and kidney. The residue values for beef commodities were also applied to goat, sheep, game, and rabbit commodities.

PDP data for pork meat (2005; no detects) were used to calculate a point estimate for pork meat and was also translated to pork meat byproducts, liver and kidney. PDP data for pork fat (2005; one detect) were used to generate an RDF for pork fat.

PDP data for chicken meat (2006; no detects) were used to calculate a point estimate residue for poultry meat and was translated to poultry meat byproducts, liver and kidney. PDP data for chicken fat (2000-2001; no detects) were used to generate an RDF for poultry fat.

A cooking factor was applied to all cooked meat-based food forms in DEEM/Calendex.

The PDP data for eggs (2010-2011; no detects) were used to calculate a point estimate residue.

The PDP data for butter, cream (2012; three detects) were used to create an RDF for all milkfat food forms.

For non-fat milk (non-fat solids, water, sugar) products residues were assumed to be all zero, based upon no chlorpyrifos detections in thousands of samples in three sampling programs: a market basket study performed by DAS, USDA PDP pesticide monitoring samples and in FDA monitoring. In 2004-5 PDP tested 1485 milk samples and had no detects. In 2011 PDP tested 743 milk samples with no detects (LOD of 0.0012 ppm). In 2005 and 2007 PDP tested a total of 1011 samples of heavy cream (about 37% fat) with no detects at an LOD of 1 ppb. In 2003 PDP tested 732 samples of butter (81% fat) with an LOD of 1.6 ppb and had one trace detect at 2.7 ppb. In 2012 there were three detects out of 792 butter/cream samples (LOD of 1.2 ppb). We note that chlorpyrifos is hydrophobic (log Ko/w = 4.7) and so is expected to concentrate in the fatty (butter, heavy cream) portions of milk. Thus there is strong evidence that no residues (or virtually none) occur in lower fat milk products.

Attachment 2. PDP Findings of Residues (2009-2012*) on Crops for Which Chlorpyrifos is Not Registered.

Table A2.

YEAR	COMMODITY NAME[1]	Number of Samples Tested	Number of Samples with Measurable Residues	% Detects	Minimum Concentration Determined (ppm)	Maximum Concentration Determined (ppm)	Average Concentration for Detects (ppm)	Ave half LOD
2010-2012	Cantaloupe	1482	3	0.2	0.005	0.014	0.008	0.004
2008-2010	Catfish	1479	105	7	0.0034	0.04	0.004	0.0005
2009-2010	Cilantro	739	218	29	0.022	0.67	0.017	0.0006
2009	Green onions	558	7	1.3	0.002	0.067	0.02	0.0006
2010-2011	Lettuce	1487	2	0.1	0.002	0.078	0.074	0.0012
2010	Mango	372	1	0.3	0.005	0.005	0.005	0.0015
2009	Spinach	744	15	2	0.0035	0.061	0.01	0.0016
2010-2011	Spinach, frozen	389	4	1	0.024	0.031	0.026	0.01
2012	Summer squash	186	1	0.5	0.02	0.02	0.02	0.02
2011-2012	Tomato, cherry	1466	13	0.9	0.005	0.047	0.011	0.0015

*2008-2012 for catfish
[1]there are no tolerances for residues of chlorpyrifos on these commodities

Attachment 3

Date: May 1, 2014
Screening Level Estimates of Agricultural Uses of Chlorpyrifos (059101)
Sorted Alphabetically
Reporting Years: 2004-2012

	Crop	Average Lbs. A.I.	Percent Crop Treated	
			Average	Maximum
1	Alfalfa	500,000	5	10
2	Almonds	400,000	25	40
3	Apples	300,000	55	65
4	Asparagus	20,000	40	60
5	Beans, Green	3,000	<2.5	5
6	Broccoli	90,000	45	60
7	Brussels Sprouts*	4,000	NC	NC
8	Cabbage	10,000	15	25
9	Canola	40,000	10	10
10	Cantaloupes+	2,000	<2.5	5
11	Cauliflower	20,000	40	60
12	Cherries	70,000	30	45
13	Corn	1,400,000	<2.5	5
14	Corn (Seed Treatment)	<500	<1	<2.5
15	Cotton	90,000	<2.5	<2.5
16	Cotton (Seed Treatment)	1,000	<2.5	5
17	Cucumbers	3,000	<2.5	5
18	Dry Beans/Peas	9,000	<2.5	5
19	Grapefruit	50,000	20	35
20	Grapes	200,000	10	20
21	Hazelnuts	7,000	15	25
22	Lemons	80,000	35	60
23	Lettuce+	4,000	<2.5	<2.5
24	Nectarines	8,000	10	20
25	Onions	60,000	40	50
26	Oranges	500,000	20	35
27	Peaches	60,000	25	40
28	Peanuts	200,000	5	15
29	Pears	20,000	15	30
30	Peas, Green	2,000	<2.5	<2.5
31	Pecans	300,000	30	40
32	Peppers	2,000	<2.5	5
33	Pistachios+	2,000	<2.5	<2.5
34	Plums/Prunes	20,000	10	15

35	Potatoes	3,000	<1	<2.5
36	Pumpkins	2,000	<2.5	5
37	Sorghum	10,000	<1	<2.5
38	Sorghum (Seed Treatment)	<500	<1	<2.5
39	Soybeans	1,500,000	5	10
40	Soybeans (Seed Treatment)	<500	<1	<2.5
41	Squash+	1,000	<2.5	5
42	Strawberries	10,000	20	35
43	Sugar Beets	100,000	10	20
44	Sunflowers	50,000	5	10
45	Sweet Corn	100,000	10	20
46	Tangelos	2,000	10	15
47	Tangerines	7,000	10	20
48	Tobacco	80,000	15	20
49	Tomatoes+	3,000	<2.5	<2.5
50	Walnuts	400,000	45	55
51	Watermelons+	1,000	<2.5	<2.5
52	Wheat	400,000	5	10
53	Wheat (Seed Treatment)	<500	<1	<2.5

All numbers are rounded.
    <500: less than 500 pounds of active ingredients.
        <2.5: less than 2.5 percent of crop is treated.
       <1: less than 1 percent of crop is treated.

* Based on CA DPR data only (80% or more of U.S. acres grown are in California)
NC: not calculated, only pounds a.i. available.

 +: Crops not known to be listed on active end use product registrations or as Section 18 emergency exemptions when this report was run.

SLUA data sources include:
    USDA-NASS (United States Department of Agriculture's National Agricultural Statistics Service)
    Private Pesticide Market Research
    California DPR (Department of Pesticide Regulation)
These results reflect amalgamated data developed by the Agency and are releasable to the public.

Attachment 4. Acute (and Steady State) Residue Input file

```
Filename: C:\Users\ddrew\Documents\DEEM_Version_3_16\ResidueFiles\Scenario1\Chlorpyrifos_FoodOnly
noFHE.R08
Chemical: Chlorpyrifos (Parent Only)
```

```
RfD(Chronic): .00003 mg/kg bw/day  NOEL(Chronic): .03 mg/kg bw/day [Note: placeholder only, not
used]
RfD(Acute): .00036 mg/kg bw/day  NOEL(Acute):  .36 mg/kg bw/day [Note: placeholder only, not
used]
Date created/last modified: 08-18-2014/10:54:45     Program ver. 3.16, 03-08-d
Comment: chlorpyrifos (parent only); food only (no FHE)
-------------------------------------------------------------------------------
RDL indices and parameters for Monte Carlo Analysis:
Index Dist Parameter #1       Param #2  Param #3  Comment
  #   Code
----- ---- ------------       --------  --------  -------
  1    6   Potato_Sweet.rdf
  2    6   Potato_Sweet_BF.rdf
  3    6   Onion_Bulb.rdf
  4    6   Broccolito_chinese.rdf
  5    6   Cabbageto_sprouts_napa_kohlrabi.rdf
  6    6   Broccoli.rdf
  7    6   Cabbage.rdf
  8    6   Cauliflower.rdf
  9    6   Collards.rdf
 10    6   Kale.rdf
 11    6   Soybean_Grain.rdf
 12    6   Bean_Green_Fresh.rdf
 13    6   Bean_Green_Frozen.rdf
 14    6   Bean_Green_Canned.rdf
 15    6   Bean_Green_BF.rdf
 16    6   Pea_Snap.rdf
 17    6   Pea_Sweet_Frozen.rdf
 18    6   Pea_Sweet_Canned.rdf
 19    6   Pea_BF.rdf
 20    6   Bean_Garbanzo.rdf
 21    6   Pepper_Bell.rdf
 22    6   Pepper_Nonbell.rdf
 23    6   Cucumber.rdf
 24    6   Squash_Winter_Fresh.rdf
 25    6   Orangeto_othercitrus.rdf
 26    6   Orangeto_lemon.rdf
 27    6   Orange_Juiceto_tangerine.rdf
 28    6   Orange_Juiceto_lemon.rdf
 29    6   Orange_Juiceto_lime.rdf
 30    6   Grapefruit.rdf
 31    6   Orange.rdf
 32    6   Orange_Juice.rdf
 33    6   Tangerine.rdf
 34    6   Apple_Fresh.rdf
 35    6   Apple_Juice.rdf
 36    6   Apple_Sauce.rdf
 37    6   Pear.rdf
 38    6   Pear_Canned.rdf
 39    6   Pear_BF.rdf
 40    6   Pear_Juice.rdf
 41    6   Cherry.rdf
 42    6   Nectarine.rdf
 43    6   Peach_Fresh.rdf
 44    6   Peach_Canned.rdf
 45    6   Plum.rdf
 46    6   Plum_Prune.rdf
 47    6   Apple_Sauce_BF.rdf
 48    6   Almond.rdf
 49    6   Almondto_walnut.rdf
 50    6   Peach_BF.rdf
 51    6   Corn_Sweet_Fresh.rdf
 52    6   Corn_Sweet_Frozen_Cooked.rdf
 53    6   Corn_Sweet_Canned.rdf
 54    6   Wheat_Grain.rdf
 55    6   Wheat_Flour.rdf
 56    6   Pork_Fat.rdf
 57    6   Milk.rdf
 58    6   Chicken_Meat.rdf
 59    6   Asparagus.rdf
 60    6   Asparagus_Canned.rdf
```

```
61   6    Banana.rdf
62   6    Cranberry.rdf
63   6    Grape_Fresh.rdf
64   6    Grape_Juice.rdf
65   6    Grape_Raisin.rdf
66   6    PeanutButter.rdf
67   6    Strawberry_Fresh.rdf
68   6    Strawberry_Frozen.rdf
69   6    Milk_CreamButter.rdf
70   6    kiwi.rdf
```

```
  EPA        Crop Commodity Name                   Def Res    Adj.Factors  RDLComment
  Code       Grp                                   (ppm)       #1     #2   Pntr
---------- ---- ------------------------------     ---------- ------ ------ --- -------
0101052000 1A   Beet, sugar                        0.004000   1.000  1.000
0101052001 1A   Beet, sugar-babyfood              0.004000   1.000  1.000
0101053000 1A   Beet, sugar, molasses             0.004000   1.000  1.000
0101053001 1A   Beet, sugar, molasses-babyfood    0.004000   1.000  1.000
0101314000 1AB  Radish, roots                     1.000000   1.000  1.000   1  Potato
    Full comment: Potato_Sweet.rdf
0101327000 1AB  Rutabaga                          1.000000   1.000  1.000   1  Potato
    Full comment: Potato_Sweet.rdf
0101388000 1AB  Turnip, roots                     1.000000   1.000  1.000   1  Potato
    Full comment: Potato_Sweet.rdf
0103366000 1CD  Sweet potato
                  210-Cooked; Fresh or N/S; Cook Meth N/S
                                                  1.000000   0.150  1.000   1  Potato
           Full comment: Potato_Sweet.rdf
                  211-Cooked; Fresh or N/S; Baked
                                                  1.000000   0.150  1.000   1  Potato
           Full comment: Potato_Sweet.rdf
                  212-Cooked; Fresh or N/S; Boiled
                                                  1.000000   0.150  1.000   1  Potato
           Full comment: Potato_Sweet.rdf
                  213-Cooked; Fresh or N/S; Fried
                                                  1.000000   0.150  1.000   1  Potato
           Full comment: Potato_Sweet.rdf
                  215-Cooked; Fresh or N/S; Boiled/baked
                                                  1.000000   0.150  1.000   1  Potato
           Full comment: Potato_Sweet.rdf
                  240-Cooked; Canned; Cook Meth N/S
                                                  1.000000   0.150  1.000   1  Potato
           Full comment: Potato_Sweet.rdf
                  242-Cooked; Canned; Boiled   1.000000   0.150  1.000   1  Potato
           Full comment: Potato_Sweet.rdf
0103366001 1CD  Sweet potato-babyfood
                  211-Cooked; Fresh or N/S; Baked
                                                  1.000000   1.000  1.000   2  Potato
           Full comment: Potato_Sweet_BF.rdf
                  240-Cooked; Canned; Cook Meth N/S
                                                  1.000000   1.000  1.000   2  Potato
           Full comment: Potato_Sweet_BF.rdf
0103406000 1CD  Yam, true                         1.000000   0.150  1.000   1  Potato
    Full comment: Potato_Sweet.rdf
0200315000 2    Radish, tops                      1.000000   1.000  1.000  10  Kale.r
    Full comment: Kale.rdf
0301165000 3A   Garlic, bulb                      1.000000   1.000  1.000   3  Onion_
    Full comment: Onion_Bulb.rdf
0301165001 3A   Garlic, bulb-babyfood             1.000000   1.000  1.000   3  Onion_
    Full comment: Onion_Bulb.rdf
0301237000 3A   Onion, bulb                       1.000000   1.000  1.000   3  Onion_
    Full comment: Onion_Bulb.rdf
0301237001 3A   Onion, bulb-babyfood              1.000000   1.000  1.000   3  Onion_
    Full comment: Onion_Bulb.rdf
0301238000 3A   Onion, bulb, dried                0.003900   9.000  1.000
0301238001 3A   Onion, bulb, dried-babyfood       0.003900   9.000  1.000
0301338000 3A   Shallot, bulb                     1.000000   1.000  1.000   3  Onion_
    Full comment: Onion_Bulb.rdf
0501061000 5A   Broccoli
                  110-Uncooked; Fresh or N/S; Cook Meth N/S
                                                  1.000000   1.000  1.000   6  Brocco
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                    Full comment: Broccoli.rdf
                        210-Cooked; Fresh or N/S; Cook Meth N/S
                                              1.000000  0.940  1.000   6  Brocco
                    Full comment: Broccoli.rdf
                        211-Cooked; Fresh or N/S; Baked
                                              1.000000  0.940  1.000   6  Brocco
                    Full comment: Broccoli.rdf
                        212-Cooked; Fresh or N/S; Boiled
                                              1.000000  0.940  1.000   6  Brocco
                    Full comment: Broccoli.rdf
                        213-Cooked; Fresh or N/S; Fried
                                              1.000000  0.940  1.000   6  Brocco
                    Full comment: Broccoli.rdf
                        220-Cooked; Frozen; Cook Meth N/S
                                              1.000000  0.940  1.000   6  Brocco
                    Full comment: Broccoli.rdf
                        221-Cooked; Frozen; Baked    1.000000  0.940  1.000   6  Brocco
                    Full comment: Broccoli.rdf
                        222-Cooked; Frozen; Boiled   1.000000  0.940  1.000   6  Brocco
                    Full comment: Broccoli.rdf
                        232-Cooked; Dried; Boiled    1.000000  0.940  1.000   6  Brocco
                    Full comment: Broccoli.rdf
                        242-Cooked; Canned; Boiled   1.000000  0.940  1.000   6  Brocco
                    Full comment: Broccoli.rdf
0501061001 5A   Broccoli-babyfood            1.000000  0.940  1.000   6  Brocco
      Full comment: Broccoli.rdf
0501062000 5A   Broccoli, Chinese            1.000000  0.940  1.000   4  Brocco
      Full comment: Broccolito_chinese.rdf
0501064000 5A   Brussels sprouts
                        110-Uncooked; Fresh or N/S; Cook Meth N/S
                                              1.000000  1.000  1.000   5
                        212-Cooked; Fresh or N/S; Boiled
                                              1.000000  0.830  1.000   5
                        222-Cooked; Frozen; Boiled   1.000000  0.830  1.000   5
0501069000 5A   Cabbage
                        110-Uncooked; Fresh or N/S; Cook Meth N/S
                                              1.000000  1.000  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        150-Uncooked; Cured etc; Cook Meth N/S
                                              1.000000  1.000  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        210-Cooked; Fresh or N/S; Cook Meth N/S
                                              1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        211-Cooked; Fresh or N/S; Baked
                                              1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        212-Cooked; Fresh or N/S; Boiled
                                              1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        213-Cooked; Fresh or N/S; Fried
                                              1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        221-Cooked; Frozen; Baked    1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        230-Cooked; Dried; Cook Meth N/S
                                              1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        232-Cooked; Dried; Boiled    1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        240-Cooked; Canned; Cook Meth N/S
                                              1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        242-Cooked; Canned; Boiled   1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        245-Cooked; Canned; Boiled/baked
                                              1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
                        250-Cooked; Cured etc; Cook Meth N/S
                                              1.000000  0.830  1.000   7  Cabbag
                    Full comment: Cabbage.rdf
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                  255-Cooked; Cured etc; Boiled/baked
                                                1.000000  0.830  1.000   7  Cabbag
               Full comment: Cabbage.rdf
0501071000 5A   Cabbage, Chinese, napa
                  110-Uncooked; Fresh or N/S; Cook Meth N/S
                                                1.000000  1.000  1.000   5  Cabbag
               Full comment: Cabbageto_sprouts_napa_kohlrabi.rdf
                  150-Uncooked; Cured etc; Cook Meth N/S
                                                1.000000  1.000  1.000   5  Cabbag
               Full comment: Cabbageto_sprouts_napa_kohlrabi.rdf
                  210-Cooked; Fresh or N/S; Cook Meth N/S
                                                1.000000  0.830  1.000   5  Cabbag
               Full comment: Cabbageto_sprouts_napa_kohlrabi.rdf
                  213-Cooked; Fresh or N/S; Fried
                                                1.000000  0.830  1.000   5  Cabbag
               Full comment: Cabbageto_sprouts_napa_kohlrabi.rdf
                  221-Cooked; Frozen; Baked     1.000000  0.830  1.000   5  Cabbag
               Full comment: Cabbageto_sprouts_napa_kohlrabi.rdf
0501072000 5A   Cabbage, Chinese, mustard
                  110-Uncooked; Fresh or N/S; Cook Meth N/S
                                                1.000000  1.000  1.000   4  Brocco
               Full comment: Broccolito_chinese.rdf
                  150-Uncooked; Cured etc; Cook Meth N/S
                                                1.000000  1.000  1.000   4  Brocco
               Full comment: Broccolito_chinese.rdf
                  210-Cooked; Fresh or N/S; Cook Meth N/S
                                                1.000000  0.940  1.000   4  Brocco
               Full comment: Broccolito_chinese.rdf
                  213-Cooked; Fresh or N/S; Fried
                                                1.000000  0.940  1.000   4  Brocco
               Full comment: Broccolito_chinese.rdf
                  221-Cooked; Frozen; Baked     1.000000  0.940  1.000   4  Brocco
               Full comment: Broccolito_chinese.rdf
0501083000 5A   Cauliflower
                  110-Uncooked; Fresh or N/S; Cook Meth N/S
                                                1.000000  1.000  1.000   8  Caulif
               Full comment: Cauliflower.rdf
                  150-Uncooked; Cured etc; Cook Meth N/S
                                                1.000000  1.000  1.000   8  Caulif
               Full comment: Cauliflower.rdf
                  210-Cooked; Fresh or N/S; Cook Meth N/S
                                                1.000000  0.940  1.000   8  Caulif
               Full comment: Cauliflower.rdf
                  211-Cooked; Fresh or N/S; Baked
                                                1.000000  0.940  1.000   8  Caulif
               Full comment: Cauliflower.rdf
                  212-Cooked; Fresh or N/S; Boiled
                                                1.000000  0.940  1.000   8  Caulif
               Full comment: Cauliflower.rdf
                  213-Cooked; Fresh or N/S; Fried
                                                1.000000  0.940  1.000   8  Caulif
               Full comment: Cauliflower.rdf
                  221-Cooked; Frozen; Baked     1.000000  0.940  1.000   8  Caulif
               Full comment: Cauliflower.rdf
                  222-Cooked; Frozen; Boiled    1.000000  0.940  1.000   8  Caulif
               Full comment: Cauliflower.rdf
                  242-Cooked; Canned; Boiled    1.000000  0.940  1.000   8  Caulif
               Full comment: Cauliflower.rdf
                  250-Cooked; Cured etc; Cook Meth N/S
                                                1.000000  0.940  1.000   8  Caulif
               Full comment: Cauliflower.rdf
0501196000 5A   Kohlrabi                        1.000000  0.830  1.000   5  Cabbag
       Full comment: Cabbageto_sprouts_napa_kohlrabi.rfd
0502063000 5B   Broccoli raab                   1.000000  0.830  1.000  10  Kale.r
       Full comment: Kale.rdf
0502070000 5B   Cabbage, Chinese, bok choy
                  110-Uncooked; Fresh or N/S; Cook Meth N/S
                                                1.000000  1.000  1.000  10  Kale.r
               Full comment: Kale.rdf
                  150-Uncooked; Cured etc; Cook Meth N/S
                                                1.000000  1.000  1.000  10  Kale.r
```

```
                    Full comment: Kale.rdf
                          210-Cooked; Fresh or N/S; Cook Meth N/S
                                            1.000000  0.830  1.000  10  Kale.r
                    Full comment: Kale.rdf
                          213-Cooked; Fresh or N/S; Fried
                                            1.000000  0.830  1.000  10  Kale.r
                    Full comment: Kale.rdf
                          221-Cooked; Frozen; Baked     1.000000  0.830  1.000  10  Kale.r
                    Full comment: Kale.rdf
0502117000 5B   Collards
                          110-Uncooked; Fresh or N/S; Cook Meth N/S
                                            1.000000  1.000  1.000   9  Collar
                  Full comment: Collards.rdf
                          212-Cooked; Fresh or N/S; Boiled
                                            1.000000  0.830  1.000   9  Collar
                  Full comment: Collards.rdf
                          222-Cooked; Frozen; Boiled    1.000000  0.830  1.000   9  Collar
                  Full comment: Collards.rdf
                          242-Cooked; Canned; Boiled    1.000000  0.830  1.000   9  Collar
                  Full comment: Collards.rdf
0502194000 5B   Kale
                          212-Cooked; Fresh or N/S; Boiled
                                            1.000000  0.830  1.000  10  Kale.r
                  Full comment: Kale.rdf
                          222-Cooked; Frozen; Boiled    1.000000  0.830  1.000  10  Kale.r
                  Full comment: Kale.rdf
                          242-Cooked; Canned; Boiled    1.000000  0.830  1.000  10  Kale.r
                  Full comment: Kale.rdf
0502229000 5B   Mustard greens
                          110-Uncooked; Fresh or N/S; Cook Meth N/S
                                            1.000000  1.000  1.000  10  Kale.r
                  Full comment: Kale.rdf
                          212-Cooked; Fresh or N/S; Boiled
                                            1.000000  0.830  1.000  10  Kale.r
                  Full comment: Kale.rdf
                          222-Cooked; Frozen; Boiled    1.000000  0.830  1.000  10  Kale.r
                  Full comment: Kale.rdf
                          242-Cooked; Canned; Boiled    1.000000  0.830  1.000  10  Kale.r
                  Full comment: Kale.rdf
0502318000 5B   Rape greens                 1.000000  0.830  1.000  10  Kale.r
     Full comment: Kale.rdf
0502389000 5B   Turnip, greens              1.000000  1.000  1.000  10  Kale.r
     Full comment: Kale.rdf
0600347000 6    Soybean, seed               1.000000  1.000  1.000  11  Soybea
     Full comment: Soybean_Grain.rdf
0600349000 6    Soybean, soy milk           1.000000  1.000  1.000  11  Soybea
     Full comment: Soybean_Grain.rdf
0600349001 6    Soybean, soy milk-babyfood or in  1.000000  1.000  1.000  11  Soybea
     Full comment: Soybean_Grain.rdf
0600350000 6    Soybean, oil                1.000000  0.140  1.000  11  Soybea
     Full comment: Soybean_Grain.rdf
0600350001 6    Soybean, oil-babyfood       1.000000  0.140  1.000  11  Soybea
     Full comment: Soybean_Grain.rdf
0601043000 6A   Bean, snap, succulent
                          110-Uncooked; Fresh or N/S; Cook Meth N/S
                                            1.000000  1.000  1.000  12  Bean_G
                    Full comment: Bean_Green_Fresh.rdf
                          210-Cooked; Fresh or N/S; Cook Meth N/S
                                            1.000000  1.000  1.000  12  Bean_G
                    Full comment: Bean_Green_Fresh.rdf
                          211-Cooked; Fresh or N/S; Baked
                                            1.000000  1.000  1.000  12  Bean_G
                    Full comment: Bean_Green_Fresh.rdf
                          212-Cooked; Fresh or N/S; Boiled
                                            1.000000  1.000  1.000  12  Bean_G
                    Full comment: Bean_Green_Fresh.rdf
                          213-Cooked; Fresh or N/S; Fried
                                            1.000000  1.000  1.000  12  Bean_G
                    Full comment: Bean_Green_Fresh.rdf
                          215-Cooked; Fresh or N/S; Boiled/baked
                                            1.000000  1.000  1.000  12  Bean_G
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                Full comment: Bean_Green_Fresh.rdf
                    220-Cooked; Frozen; Cook Meth N/S
                                            1.000000  1.000  1.000  12  Bean_G
                Full comment: Bean_Green_Fresh.rdf
                    221-Cooked; Frozen; Baked    1.000000  1.000  1.000  13  Bean_G
                Full comment: Bean_Green_Frozen.rdf
                    222-Cooked; Frozen; Boiled   1.000000  1.000  1.000  13  Bean_G
                Full comment: Bean_Green_Frozen.rdf
                    232-Cooked; Dried; Boiled    1.000000  1.000  1.000  12  Bean_G
                Full comment: Bean_Green_Fresh.rdf
                    240-Cooked; Canned; Cook Meth N/S
                                            1.000000  1.000  1.000  14  Bean_G
                Full comment: Bean_Green_Canned.rdf
                    242-Cooked; Canned; Boiled   1.000000  1.000  1.000  14  Bean_G
                Full comment: Bean_Green_Canned.rdf
0601043001 6A   Bean, snap, succulent-babyfood  1.000000  1.000  1.000  15  Bean_G
    Full comment: Bean_Green_BF.rdf
0601257000 6A   Pea, edible podded, succulent   1.000000  1.000  1.000  17  Pea_Sw
    Full comment: Pea_Sweet_Frozen.rdf
0601349500 6AB  Soybean, vegetable              1.000000  1.000  1.000  11  Soybea
    Full comment: Soybean_Grain.rdf
0602031000 6B   Bean, broad, succulent          1.000000  1.000  1.000  12  Bean_G
    Full comment: Bean_Green_Fresh.rdf
0602033000 6B   Bean, cowpea, succulent         1.000000  1.000  1.000  20  Bean_G
    Full comment: Bean_Garbanzo.rdf
0602037000 6B   Bean, lima, succulent
                    210-Cooked; Fresh or N/S; Cook Meth N/S
                                            1.000000  1.000  1.000  12  Bean_G
                Full comment: Bean_Green_Fresh.rdf
                    212-Cooked; Fresh or N/S; Boiled
                                            1.000000  1.000  1.000  12  Bean_G
                Full comment: Bean_Green_Fresh.rdf
                    213-Cooked; Fresh or N/S; Fried
                                            1.000000  1.000  1.000  12  Bean_G
                Full comment: Bean_Green_Fresh.rdf
                    220-Cooked; Frozen; Cook Meth N/S
                                            1.000000  1.000  1.000  12  Bean_G
                Full comment: Bean_Green_Fresh.rdf
                    221-Cooked; Frozen; Baked    1.000000  1.000  1.000  13  Bean_G
                Full comment: Bean_Green_Frozen.rdf
                    222-Cooked; Frozen; Boiled   1.000000  1.000  1.000  13  Bean_G
                Full comment: Bean_Green_Frozen.rdf
                    240-Cooked; Canned; Cook Meth N/S
                                            1.000000  1.000  1.000  14  Bean_G
                Full comment: Bean_Green_Canned.rdf
                    242-Cooked; Canned; Boiled   1.000000  1.000  1.000  14  Bean_G
                Full comment: Bean_Green_Canned.rdf
0602255000 6B   Pea, succulent
                    110-Uncooked; Fresh or N/S; Cook Meth N/S
                                            1.000000  1.000  1.000  17  Pea_Sw
                Full comment: Pea_Sweet_Frozen.rdf
                    210-Cooked; Fresh or N/S; Cook Meth N/S
                                            1.000000  1.000  1.000  17  Pea_Sw
                Full comment: Pea_Sweet_Frozen.rdf
                    211-Cooked; Fresh or N/S; Baked
                                            1.000000  1.000  1.000  17  Pea_Sw
                Full comment: Pea_Sweet_Frozen.rdf
                    212-Cooked; Fresh or N/S; Boiled
                                            1.000000  1.000  1.000  17  Pea_Sw
                Full comment: Pea_Sweet_Frozen.rdf
                    213-Cooked; Fresh or N/S; Fried
                                            1.000000  1.000  1.000  17  Pea_Sw
                Full comment: Pea_Sweet_Frozen.rdf
                    221-Cooked; Frozen; Baked    1.000000  1.000  1.000  17  Pea_Sw
                Full comment: Pea_Sweet_Frozen.rdf
                    222-Cooked; Frozen; Boiled   1.000000  1.000  1.000  17  Pea_Sw
                Full comment: Pea_Sweet_Frozen.rdf
                    232-Cooked; Dried; Boiled    1.000000  1.000  1.000  17  Pea_Sw
                Full comment: Pea_Sweet_Frozen.rdf
                    240-Cooked; Canned; Cook Meth N/S
                                            1.000000  1.000  1.000  18  Pea_Sw
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                 Full comment: Pea_Sweet_Canned.rdf
                      242-Cooked; Canned; Boiled     1.000000   1.000  1.000  18  Pea_Sw
                 Full comment: Pea_Sweet_Canned.rdf
0602255001 6B    Pea, succulent-babyfood            1.000000   1.000  1.000  18  Pea_Sw
      Full comment: Pea_Sweet_canned.rdf
0602259000 6B    Pea, pigeon, succulent
                      212-Cooked; Fresh or N/S; Boiled
                                                     1.000000   1.000  1.000  18  Pea_Sw
                 Full comment: Pea_Sweet_Canned.rdf
                      242-Cooked; Canned; Boiled     1.000000   1.000  1.000  18  Pea_Sw
                 Full comment: Pea_Sweet_Canned.rdf
0603030000 6C    Bean, black, seed                  0.001250   1.000  1.000
0603032000 6C    Bean, broad, seed                  0.001250   1.000  1.000
0603034000 6C    Bean, cowpea, seed                 0.001250   1.000  1.000
0603035000 6C    Bean,  great northern, seed        0.001250   1.000  1.000
0603036000 6C    Bean, kidney, seed                 0.001250   1.000  1.000
0603038000 6C    Bean, lima, seed                   0.001250   1.000  1.000
0603039000 6C    Bean, mung, seed                   0.001250   1.000  1.000
0603040000 6C    Bean, navy, seed                   0.001250   1.000  1.000
0603041000 6C    Bean, pink, seed                   0.001250   1.000  1.000
0603042000 6C    Bean, pinto, seed                  0.001250   1.000  1.000
0603098000 6C    Chickpea, seed                     0.001250   1.000  1.000
0603098001 6C    Chickpea, seed-babyfood            0.001250   1.000  1.000
0603099000 6C    Chickpea, flour                    0.001250   1.000  1.000
0603182000 6C    Guar, seed                         0.001250   1.000  1.000
0603182001 6C    Guar, seed-babyfood                0.001250   1.000  1.000
0603203000 6C    Lentil, seed                       0.001250   1.000  1.000
0603256000 6C    Pea, dry                           0.001250   1.000  1.000
0603256001 6C    Pea, dry-babyfood                  0.001250   1.000  1.000
0603258000 6C    Pea, pigeon, seed                  0.001250   1.000  1.000
0603348000 6C    Soybean, flour                     1.000000   1.000  1.000  11  Soybea
      Full comment: Soybean_Grain.rdf
0603348001 6C    Soybean, flour-babyfood            1.000000   1.000  1.000  11  Soybea
      Full comment: Soybean_Grain.rdf
0802270000 8B    Pepper, bell                       1.000000   1.000  1.000  21  Pepper
      Full comment: Pepper_Bell.rdf
0802270001 8B    Pepper, bell-babyfood              1.000000   1.000  1.000  21  Pepper
      Full comment: Pepper_Bell.rdf
0802271000 8B    Pepper, bell, dried                1.000000   1.000  1.000  21  Pepper
      Full comment: Pepper_Bell.rdf
0802271001 8B    Pepper, bell, dried-babyfood       1.000000   1.000  1.000  21  Pepper
      Full comment: Pepper_Bell.rdf
0802272000 8BC   Pepper, nonbell                    1.000000   1.000  1.000  22  Pepper
      Full comment: Pepper_Nonbell.rdf
0802272001 8BC   Pepper, nonbell-babyfood           1.000000   1.000  1.000  22  Pepper
      Full comment: Pepper_Nonbell.rdf
0802273000 8BC   Pepper, nonbell, dried             1.000000   1.000  1.000  22  Pepper
      Full comment: Pepper_Nonbell.rdf
0902135000 9B    Cucumber                           1.000000   1.000  1.000  23  Cucumb
      Full comment: Cucumber.rdf
0902308000 9B    Pumpkin                            1.000000   0.320  1.000  24  Squash
      Full comment: Squash_Winter_Fresh.rdf
0902309000 9B    Pumpkin, seed                      0.000200   1.000  1.000
1001106000 10A   Citron                             1.000000   1.000  1.000  25  Orange
      Full comment: Orangeto_othercitrus.rdf
1001107000 10A   Citrus hybrids                     1.000000   1.000  1.000  25  Orange
      Full comment: Orangeto_othercitrus.rdf
1001240000 10A   Orange                             1.000000   1.000  1.000  31  Orange
      Full comment: Orange.rdf
1001241000 10A   Orange, juice                      1.000000   1.000  1.000  32  Orange
      Full comment: Orange_Juice.rdf
1001241001 10A   Orange, juice-babyfood             1.000000   1.000  1.000  32  Orange
      Full comment: Orange_Juice.rdf
1001242000 10A   Orange, peel                       1.000000  15.000  1.000  31  Orange
      Full comment: Orange.rdf
1001369000 10A   Tangerine                          1.000000   1.000  1.000  33  Tanger
      Full comment: Tangerine.rdf
1001370000 10A   Tangerine, juice                   1.000000   1.280  1.000  27  Orange
      Full comment: Orange_Juiceto_Tangerine.rfd
1002197000 10B   Kumquat                            1.000000   1.000  1.000  25  Orange
      Full comment: Orangeto_othercitrus.rdf
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1002199000 10B  Lemon                          1.000000   1.000  1.000  26 Orange
      Full comment: Orangeto_lemon.rdf
1002200000 10B  Lemon, juice                   1.000000   1.110  1.000  28 Orange
      Full comment: Orange_Juiceto_lemon.rdf
1002200001 10B  Lemon, juice-babyfood          1.000000   1.110  1.000  28 Orange
      Full comment: Orange_Juiceto_lemon.rdf
1002201000 10B  Lemon, peel                    1.000000  15.000  1.000  26 Orange
      Full comment: Orangeto_lemon.rdf
1002206000 10B  Lime                           1.000000   1.000  1.000  25 Orange
      Full comment: Orangeto_othercitrus.rdf
1002207000 10B  Lime, juice                    1.000000   1.110  1.000  29 Orange
      Full comment: Orange_Juiceto_lime.rdf
1002207001 10B  Lime, juice-babyfood           1.000000   1.110  1.000  29 Orange
      Full comment: Orange_Juiceto_lime.rdf
1003180000 10C  Grapefruit                     1.000000   1.000  1.000  30 Grapef
      Full comment: Grapefruit.rdf
1003181000 10C  Grapefruit, juice              1.000000   1.170  1.000  32 Orange
      Full comment: Orange_Juice.rdf
1003307000 10C  Pummelo                        1.000000   1.000  1.000  25 Orange
      Full comment: Orangeto_othercitrus.rdf
1100007000 11   Apple, fruit with peel         1.000000   1.000  1.000  34 Apple_
      Full comment: Apple_Fresh.rdf
1100008000 11   Apple, peeled fruit            1.000000   0.150  1.000  34 Apple_
      Full comment: Apple_Fresh.rdf
1100008001 11   Apple, peeled fruit-babyfood   1.000000   0.150  1.000  34 Apple_
      Full comment: Apple_Fresh.rdf
1100009000 11   Apple, dried                   0.000600   1.200  1.000
1100009001 11   Apple, dried-babyfood          0.000600   1.200  1.000
1100010000 11   Apple, juice                   1.000000   0.150  1.000  34 Apple_
      Full comment: Apple_Fresh.rdf
1100010001 11   Apple, juice-babyfood          1.000000   0.150  1.000  34 Apple_
      Full comment: Apple_Fresh.rdf
1100011000 11   Apple, sauce                   1.000000   1.000  1.000  36 Apple_
      Full comment: Apple_Sauce.rdf
1100011001 11   Apple, sauce-babyfood          1.000000   1.000  1.000  47 Apple_
      Full comment: Apple_Sauce_BF.rdf
1100266000 11   Pear
                110-Uncooked; Fresh or N/S; Cook Meth N/S
                                               1.000000   1.000  1.000  37 Pear.r
          Full comment: Pear.rdf
                210-Cooked; Fresh or N/S; Cook Meth N/S
                                               1.000000   0.150  1.000  37 Pear.r
          Full comment: Pear.rdf
                211-Cooked; Fresh or N/S; Baked
                                               1.000000   0.150  1.000  37 Pear.r
          Full comment: Pear.rdf
                240-Cooked; Canned; Cook Meth N/S
                                               1.000000   1.000  1.000  38 Pear_C
          Full comment: Pear_Canned.rdf
1100266001 11   Pear-babyfood                  1.000000   1.000  1.000  39 Pear_B
      Full comment: Pear_BF.rdf
1100267000 11   Pear, dried                    0.000500   0.930  1.000
1100268000 11   Pear, juice                    1.000000   0.150  1.000  37 Pear.r
      Full comment: Pear.rdf
1100268001 11   Pear, juice-babyfood           1.000000   0.150  1.000  37 Pear.r
      Full comment: Pear.rdf
1201090000 12A  Cherry
                110-Uncooked; Fresh or N/S; Cook Meth N/S
                                               1.000000   1.000  1.000  41 Cherry
          Full comment: Cherry.rdf
                120-Uncooked; Frozen; Cook Meth N/S
                                               1.000000   1.000  1.000  41 Cherry
          Full comment: Cherry.rdf
                210-Cooked; Fresh or N/S; Cook Meth N/S
                                               1.000000   1.160  1.000  41 Cherry
          Full comment: Cherry.rdf
                211-Cooked; Fresh or N/S; Baked
                                               1.000000   1.160  1.000  41 Cherry
          Full comment: Cherry.rdf
                213-Cooked; Fresh or N/S; Fried
                                               1.000000   1.160  1.000  41 Cherry
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                    Full comment: Cherry.rdf
                        223-Cooked; Frozen; Fried     1.000000  1.160  1.000  41  Cherry
                    Full comment: Cherry.rdf
                        240-Cooked; Canned; Cook Meth N/S
                                                      1.000000  0.590  1.000  41  Cherry
                    Full comment: Cherry.rdf
                        241-Cooked; Canned; Baked     1.000000  0.590  1.000  41  Cherry
                    Full comment: Cherry.rdf
1201090001 12A  Cherry-babyfood                       1.000000  0.590  1.000  41  Cherry
    Full comment: Cherry.rdf
1201091000 12A  Cherry, juice                         1.000000  0.300  1.000  41  Cherry
    Full comment: Cherry.rdf
1201091001 12A  Cherry, juice-babyfood                1.000000  0.300  1.000  41  Cherry
    Full comment: Cherry.rdf
1202230000 12B  Nectarine                             1.000000  1.000  1.000  42  Nectar
    Full comment: Nectarine.rdf
1202260000 12B  Peach
                        110-Uncooked; Fresh or N/S; Cook Meth N/S
                                                      1.000000  1.000  1.000  43  Peach_
                    Full comment: Peach_Fresh.rdf
                        120-Uncooked; Frozen; Cook Meth N/S
                                                      1.000000  1.000  1.000  43  Peach_
                    Full comment: Peach_Fresh.rdf
                        130-Uncooked; Dried; Cook Meth N/S
                                                      1.000000  1.000  1.000  43  Peach_
                    Full comment: Peach_Fresh.rdf
                        210-Cooked; Fresh or N/S; Cook Meth N/S
                                                      1.000000  0.500  1.000  43  Peach_
                    Full comment: Peach_Fresh.rdf
                        211-Cooked; Fresh or N/S; Baked
                                                      1.000000  0.500  1.000  43  Peach_
                    Full comment: Peach_Fresh.rdf
                        213-Cooked; Fresh or N/S; Fried
                                                      1.000000  0.500  1.000  43  Peach_
                    Full comment: Peach_Fresh.rdf
                        223-Cooked; Frozen; Fried     1.000000  0.500  1.000  43  Peach_
                    Full comment: Peach_Fresh.rdf
                        230-Cooked; Dried; Cook Meth N/S
                                                      1.000000  0.500  1.000  43  Peach_
                    Full comment: Peach_Fresh.rdf
                        240-Cooked; Canned; Cook Meth N/S
                                                      1.000000  0.520  1.000  44  Peach_
                    Full comment: Peach_Canned.rdf
1202260001 12B  Peach-babyfood                        1.000000  0.520  1.000  50  Peach_
    Full comment: Peach_BF.rdf
1202261000 12B  Peach, dried                          0.003800  7.000  1.000
1202261001 12B  Peach, dried-babyfood                 0.003800  7.000  1.000
1202262000 12B  Peach, juice                          1.000000  1.000  1.000  44  Peach_
    Full comment: Peach_Canned.rdf
1202262001 12B  Peach, juice-babyfood                 1.000000  1.000  1.000  44  Peach_
    Full comment: Peach_Canned.rdf
1203285000 12C  Plum                                  1.000000  1.000  1.000  45  Plum.r
    Full comment: Plum.rdf
1203285001 12C  Plum-babyfood                         1.000000  1.000  1.000  45  Plum.r
    Full comment: Plum.rdf
1203286000 12C  Plum, prune, fresh                    1.000000  1.000  1.000  45  Plum.r
    Full comment: Plum.rdf
1203286001 12C  Plum, prune, fresh-babyfood           1.000000  1.000  1.000  45  Plum.r
    Full comment: Plum.rdf
1203287000 12C  Plum, prune, dried                    1.000000  1.000  1.000  46  Plum_P
    Full comment: Plum_Prune.rdf
1203287001 12C  Plum, prune, dried-babyfood           1.000000  1.000  1.000  46  Plum_P
    Full comment: Plum_Prune.rdf
1203288000 12C  Plum, prune, juice                    1.000000  0.280  1.000  46  Plum_P
    Full comment: Plum_Prune.rdf
1203288001 12C  Plum, prune, juice-babyfood           1.000000  0.280  1.000  46  Plum_P
    Full comment: Plum_Prune.rdf
1304175000 13D  Grape                                 1.000000  1.000  1.000  63  Grape_
    Full comment: Grape_Fresh.rdf
1304176000 13D  Grape, juice                          1.000000  1.000  1.000  64  Grape_
    Full comment: Grape_Juice.rdf
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1304176001 13D  Grape, juice-babyfood           1.000000  1.000  1.000  64  Grape_
     Full comment: Grape_Juice.rdf
1304179000 13D  Grape, wine and sherry          1.000000  1.000  1.000  64  Grape_
     Full comment: Grape_Juice.rdf
1304195000 13D  Kiwifruit, fuzzy                2.000000  0.150  1.000  70  kiwi.r
     Full comment: kiwi.rdf
1307130000 13G  Cranberry                       1.000000  1.000  1.000  62  Cranbe
     Full comment: Cranberry.rdf
1307130001 13G  Cranberry-babyfood              1.000000  1.000  1.000  62  Cranbe
     Full comment: Cranberry.rdf
1307131000 13G  Cranberry, dried                1.000000  1.000  1.000  62  Cranbe
     Full comment: Cranberry.rdf
1307132000 13G  Cranberry, juice                1.000000  0.300  1.000  62  Cranbe
     Full comment: Cranberry.rdf
1307132001 13G  Cranberry, juice-babyfood       1.000000  0.300  1.000  62  Cranbe
     Full comment: Cranberry.rdf
1307359000 13G  Strawberry
                110-Uncooked; Fresh or N/S; Cook Meth N/S
                                                1.000000  1.000  1.000  67  Strawb
           Full comment: Strawberry_Fresh.rdf
                120-Uncooked; Frozen; Cook Meth N/S
                                                1.000000  1.000  1.000  67  Strawb
           Full comment: Strawberry_Fresh.rdf
                211-Cooked; Fresh or N/S; Baked
                                                1.000000  1.000  1.000  67  Strawb
           Full comment: Strawberry_Fresh.rdf
                223-Cooked; Frozen; Fried       1.000000  1.000  1.000  68  Strawb
           Full comment: Strawberry_Frozen.rdf
                230-Cooked; Dried; Cook Meth N/S
                                                1.000000  1.000  1.000  67  Strawb
           Full comment: Strawberry_Fresh.rdf
                240-Cooked; Canned; Cook Meth N/S
                                                1.000000  1.000  1.000  67  Strawb
           Full comment: Strawberry_Fresh.rdf
1307359001 13G  Strawberry-babyfood             1.000000  1.000  1.000  67  Strawb
     Full comment: Strawberry_Fresh.rfd
1307360000 13G  Strawberry, juice               1.000000  0.300  1.000  67  Strawb
     Full comment: Strawberry_Fresh.rdf
1307360001 13G  Strawberry, juice-babyfood      1.000000  0.300  1.000  67  Strawb
     Full comment: Strawberry_Fresh.rdf
1400003000 14   Almond                          1.000000  1.000  1.000  48  Almond
     Full comment: Almond.rdf
1400004000 14   Almond, oil                     0.001800  2.000  1.000
1400155000 14   Hazelnut                        1.000000  1.000  1.000  48  Almond
     Full comment: Almond.rdf
1400269000 14   Pecan                           1.000000  1.000  1.000  48  Almond
     Full comment: Almond.rdf
1400391000 14   Walnut                          1.000000  1.000  1.000  49  Almond
     Full comment: Almondto_walnut.rdf
1500120000 15   Corn, field, flour              0.000700  0.220  1.000
1500120001 15   Corn, field, flour-babyfood     0.000700  0.220  1.000
1500121000 15   Corn, field, meal               0.000700  0.220  1.000
1500121001 15   Corn, field, meal-babyfood      0.000700  0.220  1.000
1500122000 15   Corn, field, bran               0.000700  0.220  1.000
1500123000 15   Corn, field, starch             0.000700  0.220  1.000
1500123001 15   Corn, field, starch-babyfood    0.000700  0.220  1.000
1500124000 15   Corn, field, syrup              0.000500  1.000  1.000
1500124001 15   Corn, field, syrup-babyfood     0.000500  1.000  1.000
1500125000 15   Corn, field, oil                0.000700  4.500  1.000
1500125001 15   Corn, field, oil-babyfood       1.000000  4.500  1.000
1500126000 15   Corn, pop                       0.000700  1.000  1.000
1500127000 15   Corn, sweet
                110-Uncooked; Fresh or N/S; Cook Meth N/S
                                                1.000000  1.000  1.000  51  Corn_S
           Full comment: Corn_Sweet_Fresh.rdf
                140-Uncooked; Canned; Cook Meth N/S
                                                1.000000  1.000  1.000  51  Corn_S
           Full comment: Corn_Sweet_Fresh.rdf
                210-Cooked; Fresh or N/S; Cook Meth N/S
                                                1.000000  1.000  1.000  52  Corn_S
           Full comment: Corn_Sweet_Frozen_Cooked.rdf
```

```
                          211-Cooked; Fresh or N/S; Baked
                                            1.000000  1.000  1.000  52  Corn_S
                  Full comment: Corn_Sweet_Frozen_Cooked.rdf
                          212-Cooked; Fresh or N/S; Boiled
                                            1.000000  1.000  1.000  52  Corn_S
                  Full comment: Corn_Sweet_Frozen_Cooked.rdf
                          213-Cooked; Fresh or N/S; Fried
                                            1.000000  1.000  1.000  52  Corn_S
                  Full comment: Corn_Sweet_Frozen_Cooked.rdf
                          220-Cooked; Frozen; Cook Meth N/S
                                            1.000000  1.000  1.000  52  Corn_S
                  Full comment: Corn_Sweet_Frozen_Cooked.rdf
                          221-Cooked; Frozen; Baked    1.000000  1.000  1.000  52  Corn_S
                  Full comment: Corn_Sweet_Frozen_Cooked.rdf
                          222-Cooked; Frozen; Boiled   1.000000  1.000  1.000  52  Corn_S
                  Full comment: Corn_Sweet_Frozen_Cooked.rdf
                          232-Cooked; Dried; Boiled    1.000000  1.000  1.000  52  Corn_S
                  Full comment: Corn_Sweet_Frozen_Cooked.rdf
                          240-Cooked; Canned; Cook Meth N/S
                                            1.000000  1.000  1.000  53  Corn_S
                  Full comment: Corn_Sweet_Canned.rdf
                          242-Cooked; Canned; Boiled   1.000000  1.000  1.000  53  Corn_S
                  Full comment: Corn_Sweet_Canned.rdf
                          243-Cooked; Canned; Fried    1.000000  1.000  1.000  53  Corn_S
                  Full comment: Corn_Sweet_Canned.rdf
1500127001 15   Corn, sweet-babyfood          1.000000  1.000  1.000  53  Corn_S
        Full comment: Corn_Sweet_Canned.rdf
1500345000 15   Sorghum, syrup                0.000400  0.050  1.000
1500381000 15   Triticale, flour              0.003100  0.140  1.000
1500381001 15   Triticale, flour-babyfood     0.003100  0.140  1.000
1500401000 15   Wheat, grain                  1.000000  1.000  1.000  54  Wheat_
        Full comment: Wheat_Grain.rdf
1500401001 15   Wheat, grain-babyfood         1.000000  1.000  1.000  54  Wheat_
        Full comment: Wheat_Grain.rdf
1500402000 15   Wheat, flour                  0.003100  0.140  1.000
1500402001 15   Wheat, flour-babyfood         0.003100  0.140  1.000
1500403000 15   Wheat, germ                   1.000000  2.700  1.000  54  Wheat_
        Full comment: Wheat_Grain.rdf
1500404000 15   Wheat, bran                   1.000000  3.000  1.000  54  Wheat_
        Full comment: Wheat_Grain.rdf
2002364000 20B  Sunflower, seed               0.001200  1.000  1.000
2002365000 20B  Sunflower, oil                0.001200  2.500  1.000
2002365001 20B  Sunflower, oil-babyfood       0.001200  2.500  1.000
2003128000 20C  Cottonseed, oil               0.003000  0.375  1.000
2003128001 20C  Cottonseed, oil-babyfood      0.003000  0.375  1.000
3100044000 31   Beef, meat                    0.000500  0.500  1.000
3100044001 31   Beef, meat-babyfood           0.000500  0.500  1.000
3100045000 31   Beef, meat, dried             0.000500  1.920  1.000
3100046000 31   Beef, meat byproducts         0.001400  0.500  1.000
3100046001 31   Beef, meat byproducts-babyfood 0.001400  0.500  1.000
3100047000 31   Beef, fat                     0.000500  0.500  1.000
3100047001 31   Beef, fat-babyfood            0.000500  0.500  1.000
3100048000 31   Beef, kidney                  0.001400  0.500  1.000
3100049000 31   Beef, liver                   0.001400  0.500  1.000
3100049001 31   Beef, liver-babyfood          0.001400  0.500  1.000
3200169000 32   Goat, meat                    0.000500  0.500  1.000
3200170000 32   Goat, meat byproducts         0.001400  0.500  1.000
3200171000 32   Goat, fat                     0.000500  0.500  1.000
3200172000 32   Goat, kidney                  0.001400  0.500  1.000
3200173000 32   Goat, liver                   0.001400  0.500  1.000
3400290000 34   Pork, meat                    0.000380  0.500  1.000
3400290001 34   Pork, meat-babyfood           0.000380  0.500  1.000
3400291000 34   Pork, skin                    0.000380  0.500  1.000
3400292000 34   Pork, meat byproducts         0.000380  0.500  1.000
3400292001 34   Pork, meat byproducts-babyfood 0.000380  0.500  1.000
3400293000 34   Pork, fat                     1.000000  0.500  1.000  56  Pork_F
        Full comment: Pork_Fat.rdf
3400293001 34   Pork, fat-babyfood            1.000000  0.500  1.000  56  Pork_F
        Full comment: Pork_Fat.rdf
3400294000 34   Pork, kidney                  0.000380  0.500  1.000
3400295000 34   Pork, liver                   0.000380  0.500  1.000
```

```
3500339000 35   Sheep, meat                    0.000500  0.500  1.000
3500339001 35   Sheep, meat-babyfood           0.001400  0.500  1.000
3500340000 35   Sheep, meat byproducts         0.001400  0.500  1.000
3500341000 35   Sheep, fat                     0.000500  0.500  1.000
3500341001 35   Sheep, fat-babyfood            0.000500  0.500  1.000
3500342000 35   Sheep, kidney                  0.001400  0.500  1.000
3500343000 35   Sheep, liver                   0.001400  0.500  1.000
3600222000 36   Milk, fat                      1.000000  1.000  1.000  69  Milk_C
        Full comment: Milk_Creambutter.rdf
3600222001 36   Milk, fat-baby food/infant formu  1.000000  1.000  1.000  69  Milk_C
        Full comment: Milk_Creambutter.rdf
3800221000 38   Meat, game                     0.000500  0.500  1.000
3900312000 39   Rabbit, meat                   0.000500  0.500  1.000
4000093000 40   Chicken, meat                  0.000750  0.500  1.000
4000093001 40   Chicken, meat-babyfood         0.000750  0.500  1.000
4000094000 40   Chicken, liver                 0.000750  0.500  1.000
4000095000 40   Chicken, meat byproducts       0.000750  0.500  1.000
4000095001 40   Chicken, meat byproducts-babyfoo  0.000750  0.500  1.000
4000096000 40   Chicken, fat                   0.004900  0.500  1.000
4000096001 40   Chicken, fat-babyfood          0.004900  0.500  1.000
4000097000 40   Chicken, skin                  0.004900  0.500  1.000
4000097001 40   Chicken, skin-babyfood         0.004900  0.500  1.000
5000382000 50   Turkey, meat                   0.000750  0.500  1.000
5000382001 50   Turkey, meat-babyfood          0.000750  0.500  1.000
5000383000 50   Turkey, liver                  0.000750  0.500  1.000
5000383001 50   Turkey, liver-babyfood         0.000750  0.500  1.000
5000384000 50   Turkey, meat byproducts        0.000750  0.500  1.000
5000384001 50   Turkey, meat byproducts-babyfood  0.000750  0.500  1.000
5000385000 50   Turkey, fat                    0.004900  0.500  1.000
5000385001 50   Turkey, fat-babyfood           0.004900  0.500  1.000
5000386000 50   Turkey, skin                   0.004900  0.500  1.000
5000386001 50   Turkey, skin-babyfood          0.004900  0.500  1.000
6000301000 60   Poultry, other, meat           0.000750  0.500  1.000
6000302000 60   Poultry, other, liver          0.000750  0.500  1.000
6000303000 60   Poultry, other, meat byproducts  0.000750  0.500  1.000
6000304000 60   Poultry, other, fat            0.004900  0.500  1.000
6000305000 60   Poultry, other, skin           0.004900  0.500  1.000
7000145000 70   Egg, whole                     0.001500  0.500  1.000
7000145001 70   Egg, whole-babyfood            0.001500  0.500  1.000
7000146000 70   Egg, white                     0.001500  0.500  1.000
7000146001 70   Egg, white (solids)-babyfood   0.001500  0.500  1.000
7000147000 70   Egg, yolk                      0.001500  0.500  1.000
7000147001 70   Egg, yolk-babyfood             0.001500  0.500  1.000
9500019000 O    Asparagus
                110-Uncooked; Fresh or N/S; Cook Meth N/S
                                               1.000000  1.000  1.000  59  Aspara
              Full comment: Asparagus.rdf
                212-Cooked; Fresh or N/S; Boiled
                                               1.000000  0.940  1.000  59  Aspara
              Full comment: Asparagus.rdf
                213-Cooked; Fresh or N/S; Fried
                                               1.000000  0.940  1.000  59  Aspara
              Full comment: Asparagus.rdf
                222-Cooked; Frozen; Boiled     1.000000  0.940  1.000  59  Aspara
              Full comment: Asparagus.rdf
                242-Cooked; Canned; Boiled     1.000000  1.000  1.000  60  Aspara
              Full comment: Asparagus_Canned.rdf
9500023000 O    Banana                         1.000000  1.000  1.000  61  Banana
        Full comment: Banana.rdf
9500023001 O    Banana-babyfood                1.000000  1.000  1.000  61  Banana
        Full comment: Banana.rdf
9500024000 O    Banana, dried                  0.002500  3.900  1.000
9500024001 O    Banana, dried-babyfood         0.002500  3.900  1.000
9500153000 O    Fig                            0.010000  1.000  1.000
9500154000 O    Fig, dried                     0.010000  1.000  1.000
9500177000 O    Grape, leaves                  1.000000  1.000  1.000  63  Grape_
        Full comment: Grape_Fresh.rdf
9500178000 O    Grape, raisin                  1.000000  1.000  1.000  65  Grape_
        Full comment: Grape_Raisin.rdf
9500263000 O    Peanut                         0.001100  1.000  1.000
9500264000 O    Peanut, butter                 0.014000  1.000  1.000
```

```
9500265000 O    Peanut, oil                    0.001100  2.000  1.000
9500275000 O    Peppermint                     0.800000  1.000  1.000
9500276000 O    Peppermint, oil                8.000000  1.000  1.000
9500283000 O    Plantain                       1.000000  1.000  1.000  61  Banana
   Full comment: Banana.rdf
9500284000 O    Plantain, dried                0.002500  3.900  1.000
9500352000 O    Spearmint                      0.800000  1.000  1.000
9500353000 O    Spearmint, oil                 8.000000  1.000  1.000
```

Attachment 5. Acute (Food Only) Result File

```
US EPA                                             Ver. 3.18, 03-08-d
DEEM-FCID ACUTE Analysis for CHLORPYRIFOS (PARENT ONLY)  NHANES 2003-2008 2-Day
Residue file: Chlorpyrifos_FoodOnly noFHE.R08     Adjustment factor #2 NOT used.
Analysis Date: 09-11-2014/12:29:49    Residue file dated: 08-18-2014/10:54:45
NOEL (Acute) =   1.000000 mg/kg body-wt/day [NOTE: placeholder only, not used]
RAC/FF intake summed over 24 hours
MC iterations = 1000; MC list in residue file; MC seed = 10; RNG = MS VB
Run Comment: "chlorpyrifos (parent only); food only (no FHE)"
===============================================================================

Summary calculations--per capita:

                 95th Percentile    99th Percentile    99.9th Percentile
                 Exposure    MOE    Exposure    MOE    Exposure    MOE
                 ---------- -------- ---------- -------- ---------- --------
Total US Population:
                 0.000031    32594   0.000064    15715   0.000197    5078
All Infants:
                 0.000050    20178   0.000088    11315   0.000273    3665
Children 1-2:
                 0.000082    12189   0.000143     6999   0.000423    2362
Children 3-5:
                 0.000062    16151   0.000107     9333   0.000319    3133
Children 6-12:
                 0.000040    25104   0.000072    13834   0.000189    5288
Youth 13-19:
                 0.000024    42447   0.000042    23857   0.000126    7937
Adults 20-49:
                 0.000021    47188   0.000042    23575   0.000167    5999
Adults 50-99:
                 0.000022    46380   0.000044    22962   0.000186    5377
Female 13-49:
                 0.000021    48163   0.000041    24676   0.000150    6652
```

Attachment 6.   Examples of Steady State (Food Only) Result Files
(Showing Day of Highest Exposure)

INFANTS < 1 yr old

```
CALENDEX-FCID Analysis for CPFS SS INFANTS FOODONLY NOFHE
Analysis Date 08-19-2014/08:14:14/0
Exposure analysis for 3 combined weeks: starting on day 3
Exposure amounts adjusted for body weight
Dietary Residue file:
C:\Users\ddrew\Documents\DEEM_Version_3_16\ResidueFiles\Scenario1\Chlorpyrifo
s_FoodOnly noFHE.R08  Last saved: 8/18/2014 10:54:45 AM
Dietary Adjustment factor #2 NOT used.
Dietary Matching File not used.
No non-dietary (residential) analysis
No PRZM-EXAMS analysis
RfD Oral = 0.00003  mg/kg-BodyWt/day [NOTE: used as placeholder only]
Est'd max exposure: Oral = 0.01  mg/kg-BodyWt/day
MC iterations = 10   MC seed =  10   RNG = Microsoft VB
NHANES Stat Wghts used.
Analyst Comments:

-------------------------------------------------------------------------------
Population parameters: Infants (<1 yr)  All Seasons
All Regions  Sex: M F-all
All Races
Nursing Status: Nursing and Non-Nursing

Summary calculations (mg/kg-BodyWt/day, per capita):

    Mean          95th Percentile   99th Percentile   99.9th Percentile
  Exposure        Exposure          Exposure          Exposure
 ----------       ---------         ----------        ---------
Dietary Exposure
   0.000015         0.000044          0.000083          0.000186
```

CHILDREN 1-2 yrs old

```
CALENDEX-FCID Analysis for CPFS SS FOODONLY NOFHE
Analysis Date 08-18-2014/12:31:23/0
Exposure analysis for 3 combined weeks: starting on day 82
Exposure amounts adjusted for body weight
Dietary Residue file:
C:\Users\ddrew\Documents\DEEM_Version_3_16\ResidueFiles\Scenario1\Chlorpyrifo
s_FoodOnly noFHE.R08  Last saved: 8/18/2014 10:54:45 AM
Dietary Adjustment factor #2 NOT used.
Dietary Matching File not used.
No non-dietary (residential) analysis
No PRZM-EXAMS analysis
RfD Oral = 0.00003  mg/kg-BodyWt/day[Note: used as placeholder only]
Est'd max exposure: Oral = 0.01  mg/kg-BodyWt/day
MC iterations = 10   MC seed =  10   RNG = Microsoft VB
NHANES Stat Wghts used.
Analyst Comments:
```

```
-----------------------------------------------------------------------------
Population parameters: Children 1-2  All Seasons
All Regions  Sex: M F-all
All Races
Nursing Status: Nursing and Non-Nursing

Summary calculations (mg/kg-BodyWt/day, per capita):


    Mean            95th Percentile   99th Percentile   99.9th Percentile
  Exposure          Exposure          Exposure          Exposure
 ----------         ---------         ----------        ---------
Dietary Exposure
0.000033            0.000070          0.000118          0.000242
```

CHILDREN 6-12 yrs old

```
CALENDEX-FCID Analysis for CPFS SS Y6-12 FOODONLY
Analysis Date 10-30-2014/07:34:51/0
Exposure analysis for 3 combined weeks: starting on day 92
Exposure amounts adjusted for body weight
Dietary Residue file: E:\chlorpyrifos\working dietary
files\Chlorpyrifos_FoodOnly noFHE.R08  Last saved: 9/2/2014 11:39:36 AM
Dietary Adjustment factor #2 NOT used.
Dietary Matching File not used.
No non-dietary (residential) analysis
No PRZM-EXAMS analysis
NOEL Oral = 1  mg/kg-BodyWt/day
Est'd max exposure: Oral = 0.01  mg/kg-BodyWt/day
MC iterations = 10   MC seed =  10   RNG = Microsoft VB
NHANES Stat Wghts used.
Analyst Comments:food only -no FHE


-----------------------------------------------------------------------------
Population parameters: Children 6-12  All Seasons
All Regions  Sex: M F-all
All Races

Summary calculations (mg/kg-BodyWt/day, per capita):


    Mean            95th Percentile   99th Percentile   99.9th Percentile
  Exposure          Exposure          Exposure          Exposure
 ----------         ---------         ----------        ---------
Dietary Exposure
0.000017            0.000038          0.000059          0.000128
```

FEMALES 13-49 yrs old

```
CALENDEX-FCID Analysis for CPFS SS F13_49 FOODONLY NOFHE
```

```
Analysis Date 08-19-2014/10:14:05/0
Exposure analysis for 3 combined weeks: starting on day 32
Exposure amounts adjusted for body weight
Dietary Residue file:
C:\Users\ddrew\Documents\DEEM_Version_3_16\ResidueFiles\Scenario1\Chlorpyrifo
s_FoodOnly noFHE.R08  Last saved: 8/18/2014 10:54:45 AM
Dietary Adjustment factor #2 NOT used.
Dietary Matching File not used.
No non-dietary (residential) analysis
No PRZM-EXAMS analysis
RfD Oral = 0.00003  mg/kg-BodyWt/day [Note: used as placeholder only]
Est'd max exposure: Oral = 0.01  mg/kg-BodyWt/day
MC iterations = 10   MC seed =  10   RNG = Microsoft VB
NHANES Stat Wghts used.
Analyst Comments:

----------------------------------------------------------------------------
Population parameters: Females (13-49)  All Seasons
All Regions  Sex: F-all
All Races

Summary calculations (mg/kg-BodyWt/day, per capita):


    Mean            95th Percentile   99th Percentile   99.9th Percentile
  Exposure          Exposure          Exposure          Exposure
 ----------         ---------         ----------        ---------
Dietary Exposure
0.000008           0.000018          0.000029          0.000075
```

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