

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



OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION



MEMORANDUM


Date: 30-November-2017

Subject: **Glyphosate.** Dietary Exposure Analysis in Support of Registration Review.

PC Codes: 417300; 103601; 103603; 103604; 103605; 103607; 103608; 103613	DP Barcode: D429229
Decision No.: 487242	Registration Nos.: numerous
Petition No.: not applicable	Regulatory Action: registration review
Risk Assessment Type: dietary	Case No.: 178
TXR No.: not applicable	CAS No.: 1071-83-6; 38641-94-0; 70393-85-0; 114370- 14-8; 40465-76-7; 69254-40-6; 34494-04-7; 70901-12-1
MRID No.: not applicable	40 CFR: 180.364

From/To: Tom Bloem, Chemist 
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Through: Thurston Morton, Acting Branch Chief, HED/RAB1 
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Dietary Exposure Science Advisory Council (DESAC)

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Executive Summary

In support of registration review, a chronic dietary exposure and risk assessment was conducted. The analysis was conducted using the Dietary Exposure Evaluation Model - Food Consumption Intake Database (DEEM-FCID™, ver. 3.16) which incorporates consumption data from United States Department of Agriculture (USDA) National Health and Nutrition Examination Survey, What We Eat in America, (NHANES/WWEIA; 2003-2008). Acute and cancer dietary risk assessments were not conducted since an appropriate endpoint attributable to a single dose was not identified for the general U.S. population or any population subgroup and glyphosate is classified as not likely to be a human carcinogen, respectively. The chronic analysis assumed tolerance-level residues, 100% crop treated, DEEM (ver 7.81) default processing factors, and modeled drinking water estimates (direct application to water scenario). The resulting chronic risk estimates (food and water) were $\leq 23\%$ cPAD and are not of concern to HED (children (1-2 years old) were the most highly exposed population).

I. Introduction

Dietary risk assessment incorporates both exposure and toxicity of a given pesticide. For chronic assessments, the risk is expressed as a percentage of a maximum acceptable dose (i.e., the dose that HED has concluded will result in no unreasonable adverse health effects). This dose is referred to as the PAD. The PAD is equivalent to the point of departure (POD, NOAEL, LOAEL, e.g.) divided by the required uncertainty or safety factors. For non-cancer chronic exposures, HED is concerned when estimated dietary risk exceeds 100% of the PAD. References that discuss the chronic risk assessments in more detail are available on the EPA/pesticides web site: “Available Information on Assessing Exposure from Pesticides, A User’s Guide,” 21-JUN-2000, web link: <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPP-2007-0780-0001>; or see SOP 99.6 (20-Aug-1999). The most recent dietary risk assessment for glyphosate can be found in D398863 (T. Bloem, 14-Nov-2012).

II. Residue Information

Table 1 is a summary of the conclusion made by HED concerning the residues of concern in primary crops, livestock, rotational crops, and drinking water (D394964, T. Bloem, 15-Nov-2011).

Matrix	Residues Included in Risk Assessment	Residues Included in Tolerance Expression
primary crops (excluding canola, soybean and field corn)	glyphosate	glyphosate
canola, soybean and field corn	glyphosate and <i>N</i> -acetyl-glyphosate	glyphosate and <i>N</i> -acetyl-glyphosate
livestock	glyphosate and <i>N</i> -acetyl-glyphosate	glyphosate and <i>N</i> -acetyl-glyphosate
rotational crops	glyphosate	glyphosate
drinking water	glyphosate	glyphosate

Residues used in the Chronic Analysis: The chronic analysis assumed tolerance-level residues, 100% crop treated, and DEEM (ver 7.81) default processing factors.

As part of registration review, HED evaluated the glyphosate residue chemistry database to determine if the established tolerances conform to the current practices and to determine if the crop group/subgroup tolerances could be updated to the current crop group/subgroup definitions. Based on this analysis, HED is recommending for establishment of the tolerances listed in Table 2. With the establishment of these tolerances, the following tolerances should be deleted: acerola; aloe vera; ambarella; asparagus; atemoya; avocado; bamboo, shoots; banana; biriba; breadfruit; cactus, fruit; cactus, pads; canistel; cherimoya; custard apple; date, dried fruit; durian; feijoa; fig; fruit, stone, group 12; guava; ilama; imbe; imbu; jaboticaba; jackfruit; longan; lychee; mamey apple; mango; mangosteen; marmaladebox; noni; nut, tree, group 14; olive; palm heart; papaya; papaya, mountain; passionfruit; pawpaw; persimmon; pineapple; pistachio; pomegranate; pulasan; rambutan; rose apple; sapodilla; sapote, black; sapote, mamey; sapote, white; soursop; Spanish lime; star apple; starfruit; sugar apple; Surinam cherry; tamarind; vegetable, leafy, brassica, group 5; vegetable, leafy, except brassica, group 4; watercress, upland; and wax jambu.

Commodity	Tolerance (ppm)	Comment
Fruit, stone, group 12-12	0.20	update to the current crop group definitions; coconut was excluded as the residues were not within 5x (coconut tolerance at 0.1 ppm)
Nut, tree, group 14-12 (except coconut)	1.0	
Vegetable, leafy, group 4-16	0.20	update to current commodity definitions
Vegetable, <i>Brassica</i> , head and stem, group 5-16	0.20	
Vegetable, stalk and stem, subgroup 22A	0.50	
Vegetable, leaf petiole, subgroup 22B	0.20	
Fruit, tropical and subtropical, edible peel, group 23	0.20	
Fruit, tropical and subtropical, small fruit, inedible peel, group 24A	0.20	
Fruit, tropical and subtropical, medium to large fruit, smooth, inedible peel, group 24B	0.20	
Fruit, tropical and subtropical, large fruit, rough or hairy, inedible peel, group 24C	0.20	
Fruit, tropical and subtropical, vine, inedible peel, group 24E	0.20	

III. Percent Crop Treated Information

The chronic dietary exposure assessment assumed 100% crop treated for all commodities.

IV. Drinking Water Data

D440486, J. Hetrick, 15-Jun-2017

Table 5.4 is a summary of the worst-case EDWCs when considering all registered uses. Based on these estimates, the chronic dietary assessment assumed a concentration in water of 75 ppb. The monitoring data provided in Table 5.4 were derived from the United States Geological Survey (USGS) National Water-Quality Assessment Program (NAWQA). The groundwater monitoring data with high glyphosate concentrations and provided in Table 5.4 are associated with subsurface drains and, therefore, they are not representative of groundwater sourced drinking water. Typically, tile drain fields form preferential flow pathways into tile drains, which allows for a less torturous flow pathway when compared to advection-dispersion flow, as assumed in the groundwater model.

Drinking Water Source	Crop Scenario/Model	1-in-10 year average daily (µg/L)	1-in-10 year annual average (µg/L)
Surface Water	direct application to surface water/Pesticide Water Calculator (ver. 1.52) and Variable Volume Water Model (ver. 1.02).	700	75
	monitoring ²	35	2.8
Ground Water	Crop Scenario/Model	Peak (µg/L)	Post-Breakthrough Average (µg/L)
	turf - 40 lbs ae/acre/PRZM-GW (ver. 1.52) ¹ monitoring ³	285	no breakthrough 20.6

¹ PRZM-GW = pesticide root zone mode- groundwater

² Monitoring sites with dissolved glyphosate data and watershed areas greater or equal to 0.04 km² are assumed to be capable of supporting a CWS. A watershed area of 0.04 km² represents a lower bound watershed area for a surface source drinking water.

³ The indicated highest glyphosate concentration in groundwater is from a subsurface drain in Hamilton County, IA (USGS 423232093351801), which is not representative of a drinking water intake location.

V. DEEM-FCID™ Program and Consumption Information

The glyphosate chronic dietary exposure assessment 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. 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 report risk for 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 a chronic dietary exposure assessment, an estimate of the residue level in each food or food-form (e.g., orange or orange juice) on the food commodity residue list is multiplied by the average daily consumption estimate for that food/food form to produce a residue intake estimate. The resulting residue intake estimate for each food/food form is summed with the residue intake estimates for all other food/food forms on the commodity residue list to arrive at the total average estimated exposure. Exposure is expressed in mg/kg body weight/day and as a percent of the cPAD. This procedure is performed for each population subgroup.

VI. Toxicological Information

Table 3 below summarizes the endpoints selected for dietary exposure analyses; for more detailed discussion on these endpoints see the HED risk assessment document submitted in support of registration review.

Table 3: Summary of Toxicological Doses and Endpoints.				
Exposure/Scenario	Point of Departure	Uncertainty/FQPA Safety Factors	RfD, PAD, Level of Concern	Study and Toxicological Effects
Acute Dietary	An appropriate endpoint attributable to a single dose was not identified.			
Chronic Dietary (All Populations)	NOAEL= 100 mg/kg/day	UF = 100 FQPA SF= 1x	cRfD = 1.00 mg/kg/day cPAD = 1.00 mg/kg/day	Developmental toxicity study - rabbit; LOAEL = 350 mg/kg/day based on diarrhea, nasal discharge and death in maternal animals.
Cancer	Classification: Not Likely to be Carcinogenic to Humans.			

Point of Departure (POD) = A data point or an estimated point that is derived from observed dose-response data and used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures. NOAEL = no-observed adverse-effect level. LOAEL = lowest-observed adverse-effect level. UF = uncertainty factor. FQPA SF = FQPA Safety Factor. RfD = reference dose.

VII. Results/Discussion

The resulting chronic risk estimates (food and water) were $\leq 23\%$ cPAD and are not of concern to HED (children (1-2 years old) were the most highly exposed population). Table 4 is a summary of the chronic dietary exposure estimates.

Population Subgroup	cPAD (mg/kg/day)	Exposure (mg/kg/day)	%cPAD ¹
General U.S. Population	1.00	0.089771	9.0
All Infants (< 1 year old)		0.138338	14
Children 1-2 years old		0.228379	23
Children 3-5 years old		0.212036	21
Children 6-12 years old		0.147749	15
Youth 13-19 years old		0.088362	8.8
Adults 20-49 years old		0.074650	7.5
Adults 50-99 years old		0.061258	6.1
Females 13-49 years old		0.069318	6.9

¹ The bolded %cPAD represents the population with highest risk.

VIII. Characterization of Inputs/Outputs

The chronic analysis is conservative in that it assumed tolerance-level residues, 100% crop treated, and DEEM (ver 7.81) default processing factors.

IX. Conclusions

In support of registration review, a chronic dietary risk assessment was conducted. The chronic analysis assumed tolerance-level residues, 100% crop treated, DEEM (ver 7.81) default processing factors, and modeled drinking water estimates (direct application to water scenario). The resulting chronic risk estimates (food and water) were $\leq 23\%$ cPAD and are not of concern to HED (children (1-2 years old) were the most highly exposed population).

X. List of Attachments

Attachment 1: DEEM-FCID™ Chronic Residue File.

Attachment 2: DEEM-FCID™ Chronic Exposure Estimates.

Attachment 1: DEEM-FCID™ Chronic Residue File.

Filename: C:\Users\tbloem\Documents\work\glyphosate\registration review\417300C.R08
 Chemical: Glyphosate
 RfD(Chronic): 1 mg/kg bw/day NOEL(Chronic): 100 mg/kg bw/day
 RfD(Acute): 0 mg/kg bw/day NOEL(Acute): 0 mg/kg bw/day
 Date created/last modified: 06-20-2017/13:09:31 Program ver. 3.16, 03-08-d
 Comment: THIS R98 FILE WAS GENERATED USING THE CONVERT TO R98 UTILITY VERSION 1.1.2.

EPA Code	Crop Grp	Commodity Name	Def Res (ppm)	Adj.Factors #1	Adj.Factors #2	Comment
0101050000	1AB	Beet, garden, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101050001	1AB	Beet, garden, roots-babyfood Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101052000	1A	Beet, sugar Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101052001	1A	Beet, sugar-babyfood Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101053000	1A	Beet, sugar, molasses Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101053001	1A	Beet, sugar, molasses-babyfood Full comment: P 7F04886	10.000000	1.000	1.000	P 7F04
0101067000	1AB	Burdock	0.200000	1.000	1.000	
0101078000	1AB	Carrot Full comment: P 8E3676 7F2016	5.000000	1.000	1.000	P 8E36
0101078001	1AB	Carrot-babyfood Full comment: P 8E3676 7F2016	5.000000	1.000	1.000	P 8E36
0101079000	1AB	Carrot, juice Full comment: P 8E3676 7F2016	5.000000	1.000	1.000	P 8E36
0101084000	1AB	Celeriac	0.200000	1.000	1.000	
0101100000	1AB	Chicory, roots	0.200000	1.000	1.000	
0101168000	1AB	Ginseng, dried Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101190000	1AB	Horseradish Full comment: P 8E3676	0.200000	1.000	1.000	P 8E36
0101250000	1AB	Parsley, turnip rooted	0.200000	1.000	1.000	
0101251000	1AB	Parsnip Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101251001	1AB	Parsnip-babyfood Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101314000	1AB	Radish, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101316000	1AB	Radish, Oriental, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0101327000	1AB	Rutabaga	0.200000	1.000	1.000	
0101331000	1AB	Salsify, roots	0.200000	1.000	1.000	
0101388000	1AB	Turnip, roots Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103015000	1CD	Arrowroot, flour	0.200000	1.000	1.000	
0103015001	1CD	Arrowroot, flour-babyfood	0.200000	1.000	1.000	
0103017000	1CD	Artichoke, Jerusalem Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103082000	1CD	Cassava Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103082001	1CD	Cassava-babyfood Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103139000	1CD	Dasheen, corm Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103166000	1CD	Ginger Full comment: P 7F2016	0.200000	1.000	1.000	P 7F20
0103166001	1CD	Ginger-babyfood	0.200000	1.000	1.000	
0103167000	1CD	Ginger, dried	0.200000	1.000	1.000	P 7F20

		Full comment: P 7F2016					
0103296000	1C	Potato, chips	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016					
0103297000	1C	Potato, dry (granules/ flakes)	0.200000	6.500	1.000		
0103297001	1C	Potato, dry (granules/ flakes)-b	0.200000	6.500	1.000		
0103298000	1C	Potato, flour	0.200000	6.500	1.000	P 7F20	
		Full comment: P 7F2016					
0103298001	1C	Potato, flour-babyfood	0.200000	6.500	1.000	P 7F20	
		Full comment: P 7F2016					
0103299000	1C	Potato, tuber, w/peel	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016					
0103299001	1C	Potato, tuber, w/peel-babyfood	0.200000	1.000	1.000		
0103300000	1C	Potato, tuber, w/o peel	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016					
0103300001	1C	Potato, tuber, w/o peel-babyfood	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016					
0103366000	1CD	Sweet potato	3.000000	1.000	1.000	P 7F20	
		Full comment: P 7F2016					
0103366001	1CD	Sweet potato-babyfood	3.000000	1.000	1.000	P 7F20	
		Full comment: P 7F2016					
0103371000	1CD	Tanier, corm	0.200000	1.000	1.000		
0103387000	1CD	Turmeric	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016					
0103406000	1CD	Yam, true	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016					
0103407000	1CD	Yam bean	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016					
0200051000	2	Beet, garden, tops	0.200000	1.000	1.000	P 8E21	
		Full comment: P 8E2122					
0200101000	2	Chicory, tops	0.200000	1.000	1.000	P 7F20	
		Full comment: P 7F2016 & 8E2122					
0200140000	2	Dasheen, leaves	0.200000	1.000	1.000	P 8E21	
		Full comment: P 8E2122					
0200315000	2	Radish, tops	0.200000	1.000	1.000		
0200317000	2	Radish, Oriental, tops	0.200000	1.000	1.000		
0200332000	2	Salsify, tops	0.200000	1.000	1.000		
0301165000	3A	Garlic, bulb	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676					
0301165001	3A	Garlic, bulb-babyfood	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676					
0301237000	3A	Onion, bulb	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676					
0301237001	3A	Onion, bulb-babyfood	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676					
0301238000	3A	Onion, bulb, dried	0.200000	9.000	1.000	P 8E36	
		Full comment: P 8E3676					
0301238001	3A	Onion, bulb, dried-babyfood	0.200000	9.000	1.000	P 8E36	
		Full comment: P 8E3676					
0301338000	3A	Shallot, bulb	0.200000	1.000	1.000		
0302103000	3B	Chive, fresh leaves	0.200000	1.000	1.000	P 9E60	
		Full comment: P 9E6003					
0302198000	3B	Leek	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676					
0302239000	3B	Onion, green	0.200000	1.000	1.000	P 8E36	
		Full comment: P 8E3676					
0302338500	3B	Shallot, fresh leaves	0.200000	1.000	1.000		
0401005000	4A	Amaranth, leafy	0.200000	1.000	1.000		
0401018000	4A	Arugula	0.200000	1.000	1.000	P 8E21	
		Full comment: P 8E2122					
0401104000	4A	Chrysanthemum, garland	0.200000	1.000	1.000		
0401133000	4A	Cress, garden	0.200000	1.000	1.000		
0401134000	4A	Cress, upland	0.200000	1.000	1.000		
0401138000	4A	Dandelion, leaves	0.200000	1.000	1.000	P 8E21	
		Full comment: P 8E2122					
0401150000	4A	Endive	0.200000	1.000	1.000	P 7F20	

		Full comment: P 7F2016 & 8E2122				
0401204000	4A	Lettuce, head	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0401205000	4A	Lettuce, leaf	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0401248000	4A	Parsley, leaves	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0401313000	4A	Radicchio	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0401355000	4A	Spinach	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0401355001	4A	Spinach-babyfood	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0402076000	4B	Cardoon	0.200000	1.000	1.000	
0402085000	4B	Celery	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0402085001	4B	Celery-babyfood	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0402086000	4B	Celery, juice	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0402087000	4B	Celtuce	0.500000	1.000	1.000	
0402152000	4B	Fennel, Florence	0.500000	1.000	1.000	
0402322000	4B	Rhubarb	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0402367000	4B	Swiss chard	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0501061000	5A	Broccoli	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0501061001	5A	Broccoli-babyfood	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0501062000	5A	Broccoli, Chinese	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0501064000	5A	Brussels sprouts	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0501069000	5A	Cabbage	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0501071000	5A	Cabbage, Chinese, napa	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0501072000	5A	Cabbage, Chinese, mustard	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0501083000	5A	Cauliflower	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0501196000	5A	Kohlrabi	0.500000	1.000	1.000	
0502063000	5B	Broccoli raab	0.200000	1.000	1.000	
0502070000	5B	Cabbage, Chinese, bok choy	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0502117000	5B	Collards	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0502194000	5B	Kale	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0502229000	5B	Mustard greens	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0502318000	5B	Rape greens	0.200000	1.000	1.000	
0502389000	5B	Turnip, greens	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
0600347000	6	Soybean, seed	20.000000	1.000	1.000	P 5F15
		Full comment: P 5F1536				
0600349000	6	Soybean, soy milk	20.000000	1.000	1.000	P 5F15
		Full comment: P 5F1536				
0600349001	6	Soybean, soy milk-babyfood or in	20.000000	1.000	1.000	
0600350000	6	Soybean, oil	20.000000	1.000	1.000	P 5F15
		Full comment: P 5F1536				
0600350001	6	Soybean, oil-babyfood	20.000000	1.000	1.000	P 5F15
		Full comment: P 5F1536				
0601043000	6A	Bean, snap, succulent	5.000000	1.000	1.000	P 2E41

		Full comment: P 2E4118				
0601043001	6A	Bean, snap, succulent-babyfood	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0601257000	6A	Pea, edible podded, succulent	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0601349500	6AB	Soybean, vegetable	5.000000	1.000	1.000	
0602031000	6B	Bean, broad, succulent	5.000000	1.000	1.000	
0602033000	6B	Bean, cowpea, succulent	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0602037000	6B	Bean, lima, succulent	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0602255000	6B	Pea, succulent	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0602255001	6B	Pea, succulent-babyfood	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0602259000	6B	Pea, pigeon, succulent	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603030000	6C	Bean, black, seed	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603032000	6C	Bean, broad, seed	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603034000	6C	Bean, cowpea, seed	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603035000	6C	Bean, great northern, seed	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603036000	6C	Bean, kidney, seed	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603038000	6C	Bean, lima, seed	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603039000	6C	Bean, mung, seed	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603040000	6C	Bean, navy, seed	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603041000	6C	Bean, pink, seed	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603042000	6C	Bean, pinto, seed	5.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603098000	6C	Chickpea, seed	8.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603098001	6C	Chickpea, seed-babyfood	8.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603099000	6C	Chickpea, flour	8.000000	1.000	1.000	
0603182000	6C	Guar, seed	8.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603182001	6C	Guar, seed-babyfood	8.000000	1.000	1.000	
0603203000	6C	Lentil, seed	8.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603256000	6C	Pea, dry	8.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603256001	6C	Pea, dry-babyfood	8.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
0603258000	6C	Pea, pigeon, seed	8.000000	1.000	1.000	
0603348000	6C	Soybean, flour	20.000000	1.000	1.000	P 5F15
		Full comment: P 5F1536				
0603348001	6C	Soybean, flour-babyfood	20.000000	1.000	1.000	P 5F15
		Full comment: P 5F1536				
0801374000	8A	Tomatillo	0.100000	1.000	1.000	
0801375000	8A	Tomato	0.100000	1.000	1.000	
0801375001	8A	Tomato-babyfood	0.100000	1.000	1.000	
0801376000	8A	Tomato, paste	0.100000	5.400	1.000	
0801376001	8A	Tomato, paste-babyfood	0.100000	5.400	1.000	
0801377000	8A	Tomato, puree	0.100000	3.300	1.000	
0801377001	8A	Tomato, puree-babyfood	0.100000	3.300	1.000	
0801378000	8A	Tomato, dried	0.100000	14.300	1.000	
0801378001	8A	Tomato, dried-babyfood	0.100000	14.300	1.000	

0801379000	8A	Tomato, juice	0.100000	1.500	1.000	
0801380000	8A	Tomato, Tree	0.100000	1.000	1.000	
0802148000	8BC	Eggplant	0.100000	1.000	1.000	
0802234000	8BC	Okra	0.500000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
0802270000	8B	Pepper, bell	0.100000	1.000	1.000	
0802270001	8B	Pepper, bell-babyfood	0.100000	1.000	1.000	
0802271000	8B	Pepper, bell, dried	0.100000	1.000	1.000	
0802271001	8B	Pepper, bell, dried-babyfood	0.100000	1.000	1.000	
0802272000	8BC	Pepper, nonbell	0.100000	1.000	1.000	
0802272001	8BC	Pepper, nonbell-babyfood	0.100000	1.000	1.000	
0802273000	8BC	Pepper, nonbell, dried	0.100000	1.000	1.000	
0901075000	9A	Cantaloupe	0.500000	1.000	1.000	P 3E28
		Full comment: P 3E2845				
0901187000	9A	Honeydew melon	0.500000	1.000	1.000	P 3E28
		Full comment: P 3E2845				
0901399000	9A	Watermelon	0.500000	1.000	1.000	P 3E28
		Full comment: P 3E2845				
0901400000	9A	Watermelon, juice	0.500000	1.000	1.000	
0902021000	9B	Balsam pear	0.500000	1.000	1.000	
0902088000	9B	Chayote, fruit	0.500000	1.000	1.000	
0902102000	9B	Chinese waxgourd	0.500000	1.000	1.000	
0902135000	9B	Cucumber	0.500000	1.000	1.000	P 3E28
		Full comment: P 3E2845				
0902308000	9B	Pumpkin	0.500000	1.000	1.000	P 3E28
		Full comment: P 3E2845				
0902309000	9B	Pumpkin, seed	0.500000	1.000	1.000	
0902356000	9B	Squash, summer	0.500000	1.000	1.000	P 3E28
		Full comment: P 3E2845				
0902356001	9B	Squash, summer-babyfood	0.500000	1.000	1.000	P 3E28
		Full comment: P 3E2845				
0902357000	9B	Squash, winter	0.500000	1.000	1.000	P 3E28
		Full comment: P 3E2845				
0902357001	9B	Squash, winter-babyfood	0.500000	1.000	1.000	P 3E28
		Full comment: P 3E2845				
1001106000	10A	Citron	0.500000	1.000	1.000	P 4F43
		Full comment: P 4F4338				
1001107000	10A	Citrus hybrids	0.500000	1.000	1.000	
1001108000	10A	Citrus, oil	0.500000	1.000	1.000	
1001240000	10A	Orange	0.500000	1.000	1.000	P 4F43
		Full comment: P 4F4338				
1001241000	10A	Orange, juice	0.500000	1.800	1.000	P 4F43
		Full comment: P 4F4338				
1001241001	10A	Orange, juice-babyfood	0.500000	1.800	1.000	P 4F43
		Full comment: P 4F4338				
1001242000	10A	Orange, peel	0.500000	1.000	1.000	P 4F43
		Full comment: P 4F4338				
1001369000	10A	Tangerine	0.500000	1.000	1.000	P 4F43
		Full comment: P 4F4338				
1001370000	10A	Tangerine, juice	0.500000	2.300	1.000	P 4F43
		Full comment: P 4F4338				
1002197000	10B	Kumquat	0.500000	1.000	1.000	
1002199000	10B	Lemon	0.500000	1.000	1.000	P 4F43
		Full comment: P 4F4338				
1002200000	10B	Lemon, juice	0.500000	2.000	1.000	P 4F43
		Full comment: P 4F4338				
1002200001	10B	Lemon, juice-babyfood	0.500000	2.000	1.000	P 4F43
		Full comment: P 4F4338				
1002201000	10B	Lemon, peel	0.500000	1.000	1.000	P 4F43
		Full comment: P 4F4338				
1002206000	10B	Lime	0.500000	1.000	1.000	P 4F43
		Full comment: P 4F4338				
1002207000	10B	Lime, juice	0.500000	2.000	1.000	P 4F43
		Full comment: P 4F4338				
1002207001	10B	Lime, juice-babyfood	0.500000	2.000	1.000	P 4F43

		Full comment: P 4F4338				
1003180000	10C	Grapefruit	0.500000	1.000	1.000	P 4F43
		Full comment: P 4F4338				
1003181000	10C	Grapefruit, juice	0.500000	2.100	1.000	P 4F43
		Full comment: P 4F4338				
1003307000	10C	Pummelo	0.500000	1.000	1.000	
1100007000	11	Apple, fruit with peel	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100008000	11	Apple, peeled fruit	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100008001	11	Apple, peeled fruit-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100009000	11	Apple, dried	0.200000	8.000	1.000	P 6F18
		Full comment: P 6F1861				
1100009001	11	Apple, dried-babyfood	0.200000	8.000	1.000	P 6F18
		Full comment: P 6F1861				
1100010000	11	Apple, juice	0.200000	1.300	1.000	P 6F18
		Full comment: P 6F1861				
1100010001	11	Apple, juice-babyfood	0.200000	1.300	1.000	P 6F18
		Full comment: P 6F1861				
1100011000	11	Apple, sauce	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100011001	11	Apple, sauce-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100129000	11	Crabapple	0.200000	1.000	1.000	
1100173500	11	Goji berry	0.100000	1.000	1.000	
1100210000	11	Loquat	0.200000	1.000	1.000	
1100266000	11	Pear	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100266001	11	Pear-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100267000	11	Pear, dried	0.200000	6.250	1.000	P 6F18
		Full comment: P 6F1861				
1100268000	11	Pear, juice	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100268001	11	Pear, juice-babyfood	0.200000	1.000	1.000	P 6F18
		Full comment: P 6F1861				
1100310000	11	Quince	0.200000	1.000	1.000	
1201090000	12A	Cherry	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1201090001	12A	Cherry-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1201091000	12A	Cherry, juice	0.200000	1.500	1.000	P 2600
		Full comment: P 260044				
1201091001	12A	Cherry, juice-babyfood	0.200000	1.500	1.000	P 2600
		Full comment: P 260044				
1202012000	12B	Apricot	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202012001	12B	Apricot-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202013000	12B	Apricot, dried	0.200000	6.000	1.000	P 2600
		Full comment: P 260044				
1202014000	12B	Apricot, juice	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202014001	12B	Apricot, juice-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202230000	12B	Nectarine	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202260000	12B	Peach	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202260001	12B	Peach-babyfood	0.200000	1.000	1.000	P 2600
		Full comment: P 260044				
1202261000	12B	Peach, dried	0.200000	7.000	1.000	P 2600
		Full comment: P 260044				
1202261001	12B	Peach, dried-babyfood	0.200000	7.000	1.000	

1202262000	12B Peach, juice	0.200000	1.000	1.000	P 2600
	Full comment: P 260044				
1202262001	12B Peach, juice-babyfood	0.200000	1.000	1.000	P 2600
	Full comment: P 260044				
1203285000	12C Plum	0.200000	1.000	1.000	P 2600
	Full comment: P 260044				
1203285001	12C Plum-babyfood	0.200000	1.000	1.000	P 2600
	Full comment: P 260044				
1203286000	12C Plum, prune, fresh	0.200000	1.000	1.000	P 2600
	Full comment: P 260044				
1203286001	12C Plum, prune, fresh-babyfood	0.200000	1.000	1.000	P 2600
	Full comment: P 260044				
1203287000	12C Plum, prune, dried	0.200000	5.000	1.000	P 2600
	Full comment: P 260044				
1203287001	12C Plum, prune, dried-babyfood	0.200000	5.000	1.000	
1203288000	12C Plum, prune, juice	0.200000	1.400	1.000	P 2600
	Full comment: P 260044				
1203288001	12C Plum, prune, juice-babyfood	0.200000	1.400	1.000	P 2600
	Full comment: P 260044				
1301055000	13A Blackberry	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1301056000	13A Blackberry, juice	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1301056001	13A Blackberry, juice-babyfood	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1301058000	13A Boysenberry	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1301208000	13A Loganberry	0.200000	1.000	1.000	
1301320000	13A Raspberry	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1301320001	13A Raspberry-babyfood	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1301321000	13A Raspberry, juice	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1301321001	13A Raspberry, juice-babyfood	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1302057000	13B Blueberry	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1302057001	13B Blueberry-babyfood	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1302136000	13B Currant	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1302137000	13B Currant, dried	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1302149000	13B Elderberry	0.200000	1.000	1.000	
1302174000	13B Gooseberry	0.200000	1.000	1.000	
1302191000	13B Huckleberry	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1303227000	13C Mulberry	0.200000	1.000	1.000	
1304175000	13D Grape	0.200000	1.000	1.000	P 5F15
	Full comment: P 5F1560				
1304176000	13D Grape, juice	0.200000	1.200	1.000	P 5F15
	Full comment: P 5F1560				
1304176001	13D Grape, juice-babyfood	0.200000	1.200	1.000	P 5F15
	Full comment: P 5F1560				
1304179000	13D Grape, wine and sherry	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1304195000	13D Kiwifruit, fuzzy	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2929				
1307130000	13G Cranberry	0.200000	1.000	1.000	P 0E24
	Full comment: P 0E2421				
1307130001	13G Cranberry-babyfood	0.200000	1.000	1.000	P 0E24
	Full comment: P 0E2421				
1307131000	13G Cranberry, dried	0.200000	1.000	1.000	P 0E24
	Full comment: P 0E2421				

1307132000	13G Cranberry, juice	0.200000	1.100	1.000	P 0E24
	Full comment: P 0E2421				
1307132001	13G Cranberry, juice-babyfood	0.200000	1.100	1.000	P 0E24
	Full comment: P 0E2421				
1307359000	13G Strawberry	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1307359001	13G Strawberry-babyfood	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1307360000	13G Strawberry, juice	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1307360001	13G Strawberry, juice-babyfood	0.200000	1.000	1.000	P 3E29
	Full comment: P 3E2930				
1400003000	14 Almond	1.000000	1.000	1.000	P 7F18
	Full comment: P 7F1893				
1400003001	14 Almond-babyfood	1.000000	1.000	1.000	
1400004000	14 Almond, oil	1.000000	1.000	1.000	P 7F18
	Full comment: P 7F1893				
1400004001	14 Almond, oil-babyfood	1.000000	1.000	1.000	
1400059000	14 Brazil nut	1.000000	1.000	1.000	P 7F18
	Full comment: P 7F1893				
1400068000	14 Butternut	1.000000	1.000	1.000	
1400081000	14 Cashew	1.000000	1.000	1.000	P 7F18
	Full comment: P 7F1893				
1400092000	14 Chestnut	1.000000	1.000	1.000	P 7F18
	Full comment: P 7F1893				
1400155000	14 Hazelnut	1.000000	1.000	1.000	P 7F18
	Full comment: P 7F1893				
1400156000	14 Hazelnut, oil	1.000000	1.000	1.000	
1400185000	14 Hickory nut	1.000000	1.000	1.000	
1400213000	14 Macadamia nut	1.000000	1.000	1.000	P 7F18
	Full comment: P 7F1893				
1400269000	14 Pecan	1.000000	1.000	1.000	P 7F18
	Full comment: P 7F1893				
1400278000	14 Pine nut	1.000000	1.000	1.000	P 9E60
	Full comment: P 9E6003				
1400282000	14 Pistachio	1.000000	1.000	1.000	P 9E60
	Full comment: P 9E6003				
1400391000	14 Walnut	1.000000	1.000	1.000	P 7F18
	Full comment: P 7F1893				
1500025000	15 Barley, pearled barley	30.000000	1.000	1.000	P 2E41
	Full comment: P 2E4118				
1500025001	15 Barley, pearled barley-babyfood	30.000000	1.000	1.000	P 2E41
	Full comment: P 2E4118				
1500026000	15 Barley, flour	30.000000	1.000	1.000	P 2E41
	Full comment: P 2E4118				
1500026001	15 Barley, flour-babyfood	30.000000	1.000	1.000	P 2E41
	Full comment: P 2E4118				
1500027000	15 Barley, bran	30.000000	1.000	1.000	P 2E41
	Full comment: P 2E4118				
1500065000	15 Buckwheat	30.000000	1.000	1.000	P 8E21
	Full comment: P 8E2122				
1500066000	15 Buckwheat, flour	30.000000	1.000	1.000	
1500120000	15 Corn, field, flour	5.000000	1.000	1.000	P 8F36
	Full comment: P 8F3673				
1500120001	15 Corn, field, flour-babyfood	5.000000	1.000	1.000	P 8F36
	Full comment: P 8F3673				
1500121000	15 Corn, field, meal	5.000000	1.000	1.000	P 8F36
	Full comment: P 8F3673				
1500121001	15 Corn, field, meal-babyfood	5.000000	1.000	1.000	
1500122000	15 Corn, field, bran	5.000000	1.000	1.000	P 8F36
	Full comment: P 8F3673				
1500123000	15 Corn, field, starch	5.000000	1.000	1.000	P 8F36
	Full comment: P 8F3673				
1500123001	15 Corn, field, starch-babyfood	5.000000	1.000	1.000	P 8F36
	Full comment: P 8F3673				

1500124000	15	Corn, field, syrup	5.000000	1.500	1.000	P 8F36
		Full comment: P 8F3673				
1500124001	15	Corn, field, syrup-babyfood	5.000000	1.500	1.000	P 8F36
		Full comment: P 8F3673				
1500125000	15	Corn, field, oil	5.000000	1.000	1.000	P 8F36
		Full comment: P 8F3673				
1500125001	15	Corn, field, oil-babyfood	5.000000	1.000	1.000	P 8F36
		Full comment: P 8F3673				
1500126000	15	Corn, pop	0.100000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1500127000	15	Corn, sweet	3.500000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1500127001	15	Corn, sweet-babyfood	3.500000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1500226000	15	Millet, grain	30.000000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1500231000	15	Oat, bran	30.000000	1.000	1.000	P 6E46
		Full comment: P 6E4645				
1500232000	15	Oat, flour	30.000000	1.000	1.000	P 6E46
		Full comment: P 6E4645				
1500232001	15	Oat, flour-babyfood	30.000000	1.000	1.000	P 6E46
		Full comment: P 6E4645				
1500233000	15	Oat, groats/rolled oats	30.000000	1.000	1.000	P 6E46
		Full comment: P 6E4645				
1500233001	15	Oat, groats/rolled oats-babyfood	30.000000	1.000	1.000	P 6E46
		Full comment: P 6E4645				
1500323000	15	Rice, white	0.100000	1.000	1.000	
1500323001	15	Rice, white-babyfood	0.100000	1.000	1.000	
1500324000	15	Rice, brown	0.100000	1.000	1.000	
1500324001	15	Rice, brown-babyfood	0.100000	1.000	1.000	
1500325000	15	Rice, flour	0.100000	1.000	1.000	
1500325001	15	Rice, flour-babyfood	0.100000	1.000	1.000	
1500326000	15	Rice, bran	0.100000	1.000	1.000	
1500326001	15	Rice, bran-babyfood	0.100000	1.000	1.000	
1500328000	15	Rye, grain	30.000000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1500329000	15	Rye, flour	30.000000	1.000	1.000	
1500344000	15	Sorghum, grain	30.000000	1.000	1.000	
1500345000	15	Sorghum, syrup	30.000000	1.000	1.000	
1500381000	15	Triticale, flour	30.000000	1.000	1.000	
1500381001	15	Triticale, flour-babyfood	30.000000	1.000	1.000	
1500401000	15	Wheat, grain	30.000000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1500401001	15	Wheat, grain-babyfood	30.000000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1500402000	15	Wheat, flour	30.000000	1.000	1.000	
1500402001	15	Wheat, flour-babyfood	30.000000	1.000	1.000	
1500403000	15	Wheat, germ	30.000000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1500404000	15	Wheat, bran	30.000000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1500405000	15	Wild rice	0.100000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1800002000	18	Alfalfa, seed	0.500000	1.000	1.000	
1901028000	19A	Basil, fresh leaves	0.200000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1901028001	19A	Basil, fresh leaves-babyfood	0.200000	1.000	1.000	
1901029000	19A	Basil, dried leaves	0.200000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1901029001	19A	Basil, dried leaves-babyfood	0.200000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1901102500	19A	Chive, dried leaves	0.200000	1.000	1.000	
1901118000	19A	Cilantro, leaves	0.200000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1901118001	19A	Cilantro, leaves-babyfood	0.200000	1.000	1.000	

1901144000	19A	Dillweed	0.200000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1901184000	19A	Herbs, other	0.200000	1.000	1.000	
1901184001	19A	Herbs, other-babyfood	0.200000	1.000	1.000	
1901202000	19A	Lemongrass	0.200000	1.000	1.000	
1901220000	19A	Marjoram	0.200000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1901220001	19A	Marjoram-babyfood	0.200000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1901249000	19A	Parsley, dried leaves	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1901249001	19A	Parsley, dried leaves-babyfood	0.200000	1.000	1.000	P 8E21
		Full comment: P 8E2122				
1901334000	19A	Savory	0.200000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1902105000	19B	Cinnamon	7.000000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1902105001	19B	Cinnamon-babyfood	7.000000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1902119000	19B	Coriander, seed	7.000000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1902119001	19B	Coriander, seed-babyfood	7.000000	1.000	1.000	
1902143000	19B	Dill, seed	7.000000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1902274000	19B	Pepper, black and white	7.000000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1902274001	19B	Pepper, black and white-babyfood	7.000000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
1902354000	19B	Spices, other	7.000000	1.000	1.000	
1902354001	19B	Spices, other-babyfood	7.000000	1.000	1.000	
2001163000	20A	Flax seed, oil	40.000000	1.000	1.000	00ND00
		Full comment: 00ND0025 (S18)				
2001319000	20A	Rapeseed, oil	20.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
2001319001	20A	Rapeseed, oil-babyfood	20.000000	1.000	1.000	P 2E41
		Full comment: P 2E4118				
2001336000	20A	Sesame, seed	40.000000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
2001336001	20A	Sesame, seed-babyfood	40.000000	1.000	1.000	
2001337000	20A	Sesame, oil	40.000000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
2001337001	20A	Sesame, oil-babyfood	40.000000	1.000	1.000	
2002330000	20B	Safflower, oil	40.000000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
2002330001	20B	Safflower, oil-babyfood	40.000000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
2002364000	20B	Sunflower, seed	40.000000	1.000	1.000	P 6F34
		Full comment: P 6F3408				
2002365000	20B	Sunflower, oil	40.000000	1.000	1.000	P 6F34
		Full comment: P 6F3408				
2002365001	20B	Sunflower, oil-babyfood	40.000000	1.000	1.000	P 6F34
		Full comment: P 6F3408				
2003114001	20C	Coconut, oil-babyfood	0.100000	1.000	1.000	P 2F26
		Full comment: P 2F2680				
2003128000	20C	Cottonseed, oil	40.000000	1.000	1.000	
2003128001	20C	Cottonseed, oil-babyfood	40.000000	1.000	1.000	
3100046000	31	Beef, meat byproducts	5.000000	1.000	1.000	
3100046001	31	Beef, meat byproducts-babyfood	5.000000	1.000	1.000	
3100048000	31	Beef, kidney	5.000000	1.000	1.000	P 4F43
		Full comment: P 4F4312				
3100049000	31	Beef, liver	5.000000	1.000	1.000	P OF23
		Full comment: P OF2329				
3100049001	31	Beef, liver-babyfood	5.000000	1.000	1.000	P OF23
		Full comment: P OF2329				
3200170000	32	Goat, meat byproducts	5.000000	1.000	1.000	

3200172000	32	Goat, kidney	5.000000	1.000	1.000	
3200173000	32	Goat, liver	5.000000	1.000	1.000	
3400291000	34	Pork, skin	5.000000	1.000	1.000	
3400292000	34	Pork, meat byproducts	5.000000	1.000	1.000	
3400292001	34	Pork, meat byproducts-babyfood	5.000000	1.000	1.000	
3400294000	34	Pork, kidney	5.000000	1.000	1.000	
3400295000	34	Pork, liver	5.000000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
3500340000	35	Sheep, meat byproducts	5.000000	1.000	1.000	
3500342000	35	Sheep, kidney	5.000000	1.000	1.000	
3500343000	35	Sheep, liver	5.000000	1.000	1.000	
4000093000	40	Chicken, meat	0.100000	1.000	1.000	P 9F50
		Full comment: P 9F5096				
4000093001	40	Chicken, meat-babyfood	0.100000	1.000	1.000	P 9F50
		Full comment: P 9F5096				
4000094000	40	Chicken, liver	1.000000	1.000	1.000	P 9F50
		Full comment: P 9F5096				
4000095000	40	Chicken, meat byproducts	1.000000	1.000	1.000	P 9F50
		Full comment: P 9F5096				
4000095001	40	Chicken, meat byproducts-babyfo	1.000000	1.000	1.000	P 9F50
		Full comment: P 9F5096				
4000097000	40	Chicken, skin	1.000000	1.000	1.000	
4000097001	40	Chicken, skin-babyfood	1.000000	1.000	1.000	
5000382000	50	Turkey, meat	0.100000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
5000382001	50	Turkey, meat-babyfood	0.100000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
5000383000	50	Turkey, liver	1.000000	1.000	1.000	
5000383001	50	Turkey, liver-babyfood	1.000000	1.000	1.000	
5000384000	50	Turkey, meat byproducts	1.000000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
5000384001	50	Turkey, meat byproducts-babyfood	1.000000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
5000386000	50	Turkey, skin	1.000000	1.000	1.000	
5000386001	50	Turkey, skin-babyfood	1.000000	1.000	1.000	
6000301000	60	Poultry, other, meat	0.100000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
6000302000	60	Poultry, other, liver	1.000000	1.000	1.000	
6000303000	60	Poultry, other, meat byproducts	1.000000	1.000	1.000	
6000305000	60	Poultry, other, skin	1.000000	1.000	1.000	
7000145000	70	Egg, whole	0.050000	1.000	1.000	P 9F5
		Full comment: P 9F5096				
7000145001	70	Egg, whole-babyfood	0.050000	1.000	1.000	P 9F5
		Full comment: P 9F5096				
7000146000	70	Egg, white	0.050000	1.000	1.000	P 9F5
		Full comment: P 9F5096				
7000146001	70	Egg, white (solids)-babyfood	0.050000	1.000	1.000	
7000147000	70	Egg, yolk	0.050000	1.000	1.000	P 9F5
		Full comment: P 9F5096				
7000147001	70	Egg, yolk-babyfood	0.050000	1.000	1.000	P 9F5
		Full comment: P 9F5096				
8000157000	80	Fish-freshwater finfish	0.250000	1.000	1.000	P 9F21
		Full comment: P 9F2163				
8000158000	80	Fish-freshwater finfish, farm ra	0.250000	1.000	1.000	P 9F21
		Full comment: P 9F2163				
8000159000	80	Fish-saltwater finfish, tuna	0.250000	1.000	1.000	P 9F21
		Full comment: P 9F2163				
8000160000	80	Fish-saltwater finfish, other	0.250000	1.000	1.000	P 9F21
		Full comment: P 9F2163				
8000161000	80	Fish-shellfish, crustacean	3.000000	1.000	1.000	P 3F29
		Full comment: P 3F2956				
8000162000	80	Fish-shellfish, mollusc	3.000000	1.000	1.000	P 3F29
		Full comment: P 3F2956				
8601000000	86A	Water, direct, all sources	0.075000	1.000	1.000	
8602000000	86B	Water, indirect, all sources	0.075000	1.000	1.000	

9500000500	O	Acai berry	0.200000	1.000	1.000	
9500001000	O	Acerola	0.200000	1.000	1.000	
9500001500	O	Agave	0.500000	1.000	1.000	
9500016000	O	Artichoke, globe	0.200000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
9500019000	O	Asparagus	0.500000	1.000	1.000	P 8E36
		Full comment: P 8E3648				
9500019500	O	Atemoya	0.200000	1.000	1.000	
9500020000	O	Avocado	0.200000	1.000	1.000	P 8F20
		Full comment: P 8F2021				
9500022000	O	Bamboo, shoots	0.500000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
9500023000	O	Banana	0.200000	1.000	1.000	P 9F22
		Full comment: P 9F2223				
9500023001	O	Banana-babyfood	0.200000	1.000	1.000	P 9F22
		Full comment: P 9F2223				
9500024000	O	Banana, dried	0.200000	3.900	1.000	P 9F22
		Full comment: P 9F2223				
9500024001	O	Banana, dried-babyfood	0.200000	3.900	1.000	P 9F22
		Full comment: P 9F2223				
9500060000	O	Breadfruit	0.200000	1.000	1.000	P 9E37
		Full comment: P 9E3754				
9500073000	O	Cactus	0.500000	1.000	1.000	
9500074000	O	Canistel	0.200000	1.000	1.000	
9500077000	O	Carob	0.200000	1.000	1.000	
9500089000	O	Cherimoya	0.200000	1.000	1.000	
9500109000	O	Cocoa bean, chocolate	0.200000	1.000	1.000	P 0E38
		Full comment: P 0E3857				
9500110000	O	Cocoa bean, powder	0.200000	1.000	1.000	P 0E38
		Full comment: P 0E3857				
9500111000	O	Coconut, meat	0.100000	1.000	1.000	P 2F26
		Full comment: P 2F2680				
9500111001	O	Coconut, meat-babyfood	0.100000	1.000	1.000	P 2F26
		Full comment: P 2F2680				
9500112000	O	Coconut, dried	0.100000	2.100	1.000	P 2F26
		Full comment: P 2F2680				
9500113000	O	Coconut, milk	0.100000	1.000	1.000	P 2F26
		Full comment: P 2F2680				
9500114000	O	Coconut, oil	0.100000	1.000	1.000	P 2F26
		Full comment: P 2F2680				
9500115000	O	Coffee, roasted bean	1.000000	1.000	1.000	P 6E18
		Full comment: P 6E1809				
9500116000	O	Coffee, instant	1.000000	1.000	1.000	P 6E18
		Full comment: P 6E1809				
9500141000	O	Date	0.200000	1.000	1.000	P 9E37
		Full comment: P 9E3754				
9500151000	O	Feijoa	0.200000	1.000	1.000	
9500153000	O	Fig	0.200000	1.000	1.000	P 3E29
		Full comment: P 3E2929				
9500154000	O	Fig, dried	0.200000	1.000	1.000	P 3E29
		Full comment: P 3E2929				
9500177000	O	Grape, leaves	0.200000	1.000	1.000	
9500178000	O	Grape, raisin	0.200000	4.300	1.000	P 5F15
		Full comment: P 5F1560				
9500183000	O	Guava	0.200000	1.000	1.000	P 1E24
		Full comment: P 1E2443				
9500183001	O	Guava-babyfood	0.200000	1.000	1.000	
9500188000	O	Hop	7.000000	1.000	1.000	
9500193000	O	Jackfruit	0.200000	1.000	1.000	
9500209000	O	Longan	0.200000	1.000	1.000	
9500211000	O	Lychee	0.200000	1.000	1.000	
9500212000	O	Lychee, dried	0.200000	1.850	1.000	
9500214000	O	Mamey apple	0.200000	1.000	1.000	
9500215000	O	Mango	0.200000	1.000	1.000	P 1E24
		Full comment: P 1E2490				

9500215001	O	Mango-babyfood	0.200000	1.000	1.000	P 1E24
		Full comment: P 1E2490				
9500216000	O	Mango, dried	0.200000	1.000	1.000	P 1E24
		Full comment: P 1E2490				
9500217000	O	Mango, juice	0.200000	1.000	1.000	P 1E24
		Full comment: P 1E2490				
9500217001	O	Mango, juice-babyfood	0.200000	1.000	1.000	P 1E24
		Full comment: P 1E2490				
9500235000	O	Olive	0.200000	1.000	1.000	P 3E29
		Full comment: P 3E2929				
9500236000	O	Olive, oil	0.200000	1.000	1.000	P 3E29
		Full comment: P 3E2929				
9500243000	O	Palm heart, leaves	0.500000	1.000	1.000	P 9E60
		Full comment: P 9E6003				
9500244000	O	Palm, oil	0.100000	1.000	1.000	P 6H51
		Full comment: P 6H5115				
9500244001	O	Palm, oil-babyfood	0.100000	1.000	1.000	P 6H51
		Full comment: P 6H5115				
9500245000	O	Papaya	0.200000	1.000	1.000	P 1E24
		Full comment: P 1E2443				
9500245001	O	Papaya-babyfood	0.200000	1.000	1.000	
9500246000	O	Papaya, dried	0.200000	1.800	1.000	P 1E24
		Full comment: P 1E2443				
9500247000	O	Papaya, juice	0.200000	1.500	1.000	P 1E24
		Full comment: P 1E2443				
9500252000	O	Passionfruit	0.200000	1.000	1.000	P 9E37
		Full comment: P 9E3715				
9500252001	O	Passionfruit-babyfood	0.200000	1.000	1.000	
9500253000	O	Passionfruit, juice	0.200000	1.000	1.000	P 9E37
		Full comment: P 9E3715				
9500253001	O	Passionfruit, juice-babyfood	0.200000	1.000	1.000	
9500254000	O	Pawpaw	0.200000	1.000	1.000	
9500263000	O	Peanut	0.100000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
9500264000	O	Peanut, butter	0.100000	1.890	1.000	
9500265000	O	Peanut, oil	0.100000	1.000	1.000	P 0F23
		Full comment: P 0F2329				
9500275000	O	Peppermint	200.000000	1.000	1.000	
9500276000	O	Peppermint, oil	200.000000	1.000	1.000	
9500277000	O	Persimmon	0.200000	1.000	1.000	P 9E37
		Full comment: P 9E3754				
9500279000	O	Pineapple	0.200000	1.000	1.000	P 2F26
		Full comment: P 2F2634				
9500279001	O	Pineapple-babyfood	0.200000	1.000	1.000	P 2F26
		Full comment: P 2F2634				
9500280000	O	Pineapple, dried	0.200000	5.000	1.000	P 2F26
		Full comment: P 2F2634				
9500281000	O	Pineapple, juice	0.200000	1.700	1.000	P 2F26
		Full comment: P 2F2634				
9500281001	O	Pineapple, juice-babyfood	0.200000	1.700	1.000	P 2F26
		Full comment: P 2F2634				
9500283000	O	Plantain	0.200000	1.000	1.000	P 9F22
		Full comment: P 9F2223				
9500284000	O	Plantain, dried	0.200000	3.900	1.000	P 9F22
		Full comment: P 9F2223				
9500289000	O	Pomegranate	0.200000	1.000	1.000	P 1E39
		Full comment: P 1E3978				
9500311000	O	Quinoa, grain	5.000000	1.000	1.000	
9500333000	O	Sapote, Mamey	0.200000	1.000	1.000	
9500346000	O	Soursop	0.200000	1.000	1.000	
9500351000	O	Spanish lime	0.200000	1.000	1.000	
9500352000	O	Spearmint	200.000000	1.000	1.000	
9500353000	O	Spearmint, oil	200.000000	1.000	1.000	
9500358000	O	Starfruit	0.200000	1.000	1.000	P 6E34
		Full comment: P 6E3424				

9500361000	O	Sugar apple	0.200000	1.000	1.000	
9500362000	O	Sugarcane, sugar	2.000000	1.000	1.000	
9500362001	O	Sugarcane, sugar-babyfood	2.000000	1.000	1.000	
9500363000	O	Sugarcane, molasses	30.000000	1.000	1.000	P 9H51
		Full comment: P 9H5196				
9500363001	O	Sugarcane, molasses-babyfood	30.000000	1.000	1.000	P 9H51
		Full comment: P 9H5196				
9500368000	O	Tamarind	0.200000	1.000	1.000	
9500372000	O	Tea, dried	1.000000	1.000	1.000	P 1H53
		Full comment: P 1H5310 & 8H5568				
9500373000	O	Tea, instant	7.000000	1.000	1.000	P 1H53
		Full comment: P 1H5310 & 8H5568				
9500373500	O	Teff, flour	5.000000	1.000	1.000	
9500398000	O	Watercress	0.200000	1.000	1.000	P 9E60
		Full comment: P 9E6003				

Attachment 2: DEEM-FCID™ Chronic Exposure Estimates.

US EPA

Ver. 3.16, 03-08-d

DEEM-FCID Chronic analysis for GLYPHOSATE

NHANES 2003-2008 2-day

Residue file name: C:\Users\tbloem\Documents\work\glyphosate\registration

review\417300C.R08

Adjustment factor #2 NOT used.

Analysis Date 06-20-2017/13:09:59

Residue file dated: 06-20-2017/13:09:31

Reference dose (RfD, Chronic) = 1 mg/kg bw/day

COMMENT 1: THIS R98 FILE WAS GENERATED USING THE CONVERT TO R98 UTILITY VERSION 1.1.2.

 =====
 Total exposure by population subgroup

Population Subgroup	Total Exposure	
	mg/kg body wt/day	Percent of Rfd
Total US Population	0.089771	9.0%
Hispanic	0.093159	9.3%
Non-Hisp-White	0.089643	9.0%
Non-Hisp-Black	0.085154	8.5%
Non-Hisp-Other	0.093631	9.4%
Nursing Infants	0.070718	7.1%
Non-Nursing Infants	0.168538	16.9%
Female 13+ PREG	0.075060	7.5%
Children 1-6	0.216642	21.7%
Children 7-12	0.137951	13.8%
Male 13-19	0.096115	9.6%
Female 13-19/NP	0.080940	8.1%
Male 20+	0.075885	7.6%
Female 20+/NP	0.062555	6.3%
Seniors 55+	0.059593	6.0%
All Infants	0.138338	13.8%
Female 13-50	0.068978	6.9%
Children 1-2	0.228379	22.8%
Children 3-5	0.212036	21.2%
Children 6-12	0.147749	14.8%
Youth 13-19	0.088362	8.8%
Adults 20-49	0.074650	7.5%
Adults 50-99	0.061258	6.1%
Female 13-49	0.069318	6.9%