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

**OFFICE OF CHEMICAL SAFETY AND
POLLUTION PREVENTION**

MEMORANDUM

Date: 26 September 2012

SUBJECT: Clothianidin – Acute and Chronic Dietary Exposure and Risk Estimates for
Requested Amended Registration on Peppers and New Uses on Strawberry,
Citrus, Pistachio, and Tea.

PC Code: 044309	DP Barcode: D397690
Decision No.: 455249	Registration Nos.: 59639-150, 59639-152
Petition No.: 1E7923, 2F8008	Regulatory Action: Amended Registration and New Section 3 Registrations
Risk Assessment Type: Dietary	Case No.: 7620
TXR No.: NA	CAS No.: 210880-92-5
MRID No.: NA	40 CFR: §180.586

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Executive Summary

Acute and chronic aggregate dietary (food + drinking water) exposure and risk assessments were conducted using the Dietary Exposure Evaluation Model software with the Food Commodity Intake Database (DEEM-FCID) Version 3.16, which uses food consumption data from the U.S. Department of Agriculture's National Health and Nutrition Examination Survey, What We Eat in America, (NHANES/WWEIA). This dietary survey was conducted from 2003 to 2008. The analyses were conducted in support of a human health risk assessment of the proposed new Section 3 registrations on strawberry, citrus (Crop Group 10-10), pistachio, and tea as well as proposed a requested increase in the tolerance for residues in/on Crop Subgroup 8-10B due to a label amendment to shorten the pre-harvest interval.

The acute and chronic assessments are based on the screening-level input assumptions, including tolerance-level residues, 100% crop treated, and high-end estimates of residues in drinking water based on estimated concentrations of clothianidin in rice paddy water. These inputs resulted in risk estimates that are, at most, 28% of the population-adjusted dose for all population subgroups for both the acute and chronic assessments; the maximum risk estimate is for children 1-2 years of age. All dietary risk estimates are below HED's level of concern.

I. Introduction

Dietary risk assessment incorporates both exposure and toxicity of a given pesticide. For acute and 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 population adjusted dose (PAD). The PAD is equivalent to the point of departure (POD, NOAEL, LOAEL, e.g.) divided by the required uncertainty or safety factors.

For acute and non-cancer chronic exposures, HED is concerned when estimated dietary risk exceeds 100% of the PAD. HED is generally concerned when estimated cancer risk exceeds one in one million. References that discuss the acute and 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.epa.gov/fedrgstr/EPA-PEST/2000/July/Day-12/6061.pdf; or see SOP 99.6 (20-AUG-1999).

The most recent dietary risk assessment for clothianidin was conducted by M. Doherty (1 Feb 2012, D395798). This is the first assessment conducted using the NHANES/WWEIA consumption database.

II. Residue Information

The acute and chronic assessments rely on tolerance-level residues (40 CFR 180.586) for all crops with registered and/or requested clothianidin uses (Table 1). For crops except leafy vegetables, the residue of concern for risk assessment purposes is the parent compound. For root crops and leafy vegetables, the residues of concern are the parent compound and the TMG metabolite. Field trial data show no detectable residues of TMG in root crops and that TMG does not exceed 10% of the parent compound residue level in leafy vegetables. A factor of 1.1

(entered into the model as Adjustment Factor 1) has been incorporated into the assessment for leafy vegetables to account for the presence of TMG. For livestock commodities, the residues of concern are the parent compound as well as the metabolites TZU, TZG, TZNG, ATMG-pyruvate, and ATG-acetate. Milk is currently the only livestock-derived commodity with a tolerance for clothianidin. A factor of 1.5, which is based on metabolism data, has been incorporated into the assessment to account for the residues of concern in milk.

There are a number of crops for which uses of both clothianidin and thiamethoxam have been registered. The labels for the various end-use products containing these active ingredients prohibit the application of both active ingredients to the same crop during a growing cycle. Due to that restriction and the assumption of 100% crop treated, a single value reflecting the greatest clothianidin residue from either active ingredient has been used for crops listed for use with both active ingredients (versus combined estimates from clothianidin and from thiamethoxam). Generally, this assessment uses the established or recommended clothianidin tolerance for crops having tolerances for both compounds. For foods with thiamethoxam tolerances but without clothianidin tolerances, maximum residues of clothianidin observed in thiamethoxam residue trials have been used in these assessments. These include meats, meat by-products, artichoke, tropical fruits, coffee, hop, and mint.

Orange processing study data show that clothianidin does not concentrate in citrus oil or juice. Relative to the whole fruit, there is a modest increase in residues in pulp (1.8X). These empirical processing factors, as well as those derived previously, have been included in these analyses. Complete listings of the residue estimates, metabolite factors, and processing factors used in these analyses may be found in Attachment 1.

The USDA's Pesticide Data Program included clothianidin as a target analyte in its 2008-2010 survey of pesticide residues in catfish. Over the course of those three years, there were no detectable residues of clothianidin in any of the 1479 samples of catfish. While there is no specific expectation of clothianidin residues in fish as a result of the compound's agricultural uses, there is a use in food handling establishments; therefore, fish have been included as a source of clothianidin exposure in these analyses.

Table 1. Summary of Recommended Tolerance Levels for the Proposed New Uses and Label Amendments for Clothianidin.		
Commodity	Recommended Tolerance, ppm	Comments
Pistachio	0.01	Translated from existing tree nut listing
Strawberry	1.50	From acceptable field trial data
Fruit, citrus, group 10-10	0.60	From acceptable field trial data
Tea, fresh	70	From acceptable field trial data
Vegetables, fruiting, group 8-10, except pepper/eggplant subgroup 8-10B	0.20	From existing Group 8 listing
Vegetables, fruiting, pepper/eggplant subgroup 8-10B	0.80	From acceptable field trial data

III. Percent Crop Treated Information

HED has assumed 100% crop treated for these analyses.

IV. Drinking Water Data

The Environmental Fate and Effects Division (EFED) has supplied HED with Tier I estimated drinking water concentrations (EDWC) for clothianidin in surface water resulting from foliar application to rice (R. Baris, 15 September 2011, D393235).

EFED used the Tier I Rice Model (v 1.0) as a screening model to calculate the surface water EDWC resulting from a single foliar application of clothianidin to a flooded field (as proposed on the label). This concentration represents the estimated concentration that would be expected in the release water downstream of the treated rice paddy. FIRST (FQPA Index Reservoir Screening Tool, version 1.1, 01/01/07) was used to calculate the surface water EDWC resulting from a single foliar application to leafy vegetables. These concentrations are presented in Table 2.

Table 2. Tier I EDWCs for drinking water risk assessment based on the proposed clothianidin use on rice and leafy vegetables			
Use (application rate, lbs a.i./A)	Model	Acute	Chronic
Surface water drinking water sources, downstream of rice paddy (0.084 lb a.i./A)	Tier I Rice Model (v1.0)	72 ppb	<72 ppb

The EDWC of 72 ppb has been used to account for residues of clothianidin in both the acute and chronic dietary risk assessments. This is the same EDWC that was used in the most recent dietary assessment. EFED has confirmed that it is the appropriate value to use in this assessment (e-mail from R. Baris; 16 July 2012, 3:12:46 pm).

V. DEEM-FCID Program and Consumption Information

Clothianidin acute and chronic dietary exposure assessments were conducted using the Dietary Exposure Evaluation Model software with the Food Commodity Intake Database DEEM-FCID, Version 3.16, which incorporates consumption data from USDA's NHANES/WWEIA. This dietary survey was conducted from 2003 to 2008. 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 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+ 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.

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. The resulting distribution of exposures is expressed as a percentage of the aPAD on both a user (i.e., only those who reported eating relevant commodities/food forms) and a per-capita (i.e., those who reported eating the relevant commodities as well as those who did not) basis. In accordance with HED policy, per capita exposure and risk are reported for analyses performed at all levels of refinement. However, for deterministic assessments, any significant differences in user vs. per capita exposure and risk are specifically identified and noted in the risk assessment.

VI. Toxicological Information

The doses and endpoints for human health dietary risk assessments are summarized in Table 3.

Table 3. Clothianidin Toxicological Doses and Endpoints for Use in Human Health Dietary Risk Assessments				
Exposure/ Scenario	Point of Departure	Uncertainty/ FQPA Safety Factors	Level of Concern for Risk Assessment	Study and Toxicological Effects
Acute Dietary <u>Females age 13-49</u>	NOAEL = 25 mg/kg/day	UF_A = 10x UF_H = 10x SF_{FQPA} =1	aRfD = 0.25 mg/kg/day aPAD = 0.25 mg/kg/day	**Rabbit developmental study** LOAEL = 75 mg/kg/day based on increased litter incidence of a missing lobe of the lung
Acute Dietary <u>General population</u>	NOAEL = 25 mg/kg/day	UF_A = 10x UF_H = 10x SF_{FQPA} = 1	aRfD = 0.25 mg/kg/day aPAD = 0.25 mg/kg/day	**Special neurotoxicity/pharmacol study in mice** LOAEL = 50 mg/kg/day based on transient signs of decreased spontaneous motor activity, tremors and deep respirations
Chronic Dietary <u>All populations</u> including infants and children	NOAEL= 9.8 mg/kg/day	UF_A = 10x UF_H = 10x SF_{FQPA} =1	cRfD=0.098 mg/kg/day cPAD=0.098 mg/kg/day	**2-Generation reproduction study** LOAEL = 31.2 mg/kg/day based on decreased body weight gains and delayed sexual maturation, decreased absolute thymus weights in F1 pups and increased stillbirths in both generations
Cancer	**"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. UF_A = extrapolation from animal to human (interspecies). UF_H = potential variation in sensitivity among members of the human population (intraspecies). FQPA SF = FQPA Safety Factor. PAD = population-adjusted dose (a = acute, c = chronic). RfD = reference dose.

VII. Results/Discussion

For acute and chronic assessments, HED is concerned when dietary risk exceeds 100% of the PAD. The DEEM-FCID analyses estimate the dietary exposure of the U.S. population and various population subgroups. The results reported in Table 4 are for the general U.S. Population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, females 13-49, adults 20-49, and adults 50-99 years. All estimates are below HED's level of concern.

Table 4. Summary of Acute and Chronic Dietary Exposure and Risk Estimates for Clothianidin.				
Population Subgroup	Acute (95th Percentile)		Chronic	
	Exposure, mg/kg/day	% aPAD	Exposure, mg/kg/day	% cPAD
Total US Population	0.020913	8	0.007458	8
All Infants	0.051461	21	0.016683	17
Children 1-2 years old	**0.069586**	**28**	**0.027256**	**28**
Children 3-5 years old	0.048260	19	0.018444	19
Children 6-12 years old	0.024264	10	0.009165	9
Youth 13-19 years old	0.014341	6	0.005346	6
Adults 20-49 years old	0.015090	6	0.005822	6
Adults 50-99 years old	0.014403	6	0.006109	6
Female 13-49 years old	0.015390	6	0.005974	6

 The population subgroup(s) with the highest exposure/risk estimates are shown in **bold**.

VIII. Characterization of Inputs/Outputs

The acute and chronic assessments are based on highly conservative, health-protective assumptions regarding residue levels in food and percentage of crops treated. Likewise, the estimated concentration in drinking water is highly conservative, especially given that it represents residues in rice paddy tail water and no adjustment was made to take into account the portion of the watershed that would be cropped to rice. The analyses resulting from these assumptions should be considered screening-level analyses that likely overestimate actual dietary exposure to clothianidin.

IX. Conclusions

There are no dietary exposure or risk considerations that would preclude making the label amendment shortening the PHI for Crop Subgroup 8-10B, registering the clothianidin end-use products as requested, and establishing tolerances commensurate with those registration actions.

X. List of Attachments

1. Inputs for the Acute and Chronic Dietary Exposure Assessment of Clothianidin.
2. Summary of the Results of the Acute Dietary Exposure Assessment of Clothianidin.
3. Summary of the Results of the Chronic Dietary Exposure Assessment of Clothianidin.

Attachment 1. Inputs for the Acute and Chronic Dietary Exposure Assessment of Clothianidin.

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Filename: C:\Documents and Settings\mdoherty\My Documents\Chemistry Reviews\!DEEM
Runs\Clothianidin\2012\044309 (2012).R08
Chemical: Clothianidin
RfD(Chronic): .098 mg/kg bw/day  NOEL(Chronic): 0 mg/kg bw/day
RfD(Acute): .25 mg/kg bw/day  NOEL(Acute):  0 mg/kg bw/day
Date created/last modified: 09-18-2012/10:16:01     Program ver. 3.16, 03-08-d
-----------------------------------------------------------------------------
   EPA    Crop                                 Def Res   Adj.Factors   Comment
   Code   Grp  Commodity Name                  (ppm)      #1     #2
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9500001000 O    Acerola                        0.005000   1.000  1.000  From FHE Thiamethoxam
9500006000 O    Amaranth, grain                0.005000   1.000  1.000  From FHE Thiamethoxam
9500016000 O    Artichoke, globe               0.029000   1.000  1.000  From thiamethoxam
9500019000 O    Asparagus                      0.005000   1.000  1.000  From FHE Thiamethoxam
9500020000 O    Avocado                        0.020000   1.000  1.000  From thiamethoxam
9500022000 O    Bamboo, shoots                 0.005000   1.000  1.000  From FHE Thiamethoxam
9500023000 O    Banana                         0.005000   1.000  1.000  From FHE Thiamethoxam
9500024000 O    Banana, dried                  0.005000   3.900  1.000  From FHE Thiamethoxam
9500024001 O    Banana, dried-babyfood         0.005000   3.900  1.000  From FHE Thiamethoxam
9500023001 O    Banana-babyfood                0.005000   1.000  1.000  From FHE Thiamethoxam
9500054000 O    Belgium endive                 0.005000   1.000  1.000  From FHE Thiamethoxam
9500060000 O    Breadfruit                     0.005000   1.000  1.000  From FHE Thiamethoxam
9500073000 O    Cactus                         0.005000   1.000  1.000  From FHE Thiamethoxam
9500074000 O    Canistel                       0.005000   1.000  1.000  From FHE Thiamethoxam
9500077000 O    Carob                          0.005000   1.000  1.000  From FHE Thiamethoxam
9500089000 O    Cherimoya                      0.005000   1.000  1.000  From FHE Thiamethoxam
9500109000 O    Cocoa bean, chocolate          0.005000   1.000  1.000  From FHE Thiamethoxam
9500110000 O    Cocoa bean, powder             0.005000   1.000  1.000  From FHE Thiamethoxam
9500112000 O    Coconut, dried                 0.005000   2.100  1.000  From FHE Thiamethoxam
9500111000 O    Coconut, meat                  0.005000   1.000  1.000  From FHE Thiamethoxam
9500111001 O    Coconut, meat-babyfood         0.005000   1.000  1.000  From FHE Thiamethoxam
9500113000 O    Coconut, milk                  0.005000   1.000  1.000  From FHE Thiamethoxam
9500114000 O    Coconut, oil                   0.005000   1.000  1.000  From FHE Thiamethoxam
9500116000 O    Coffee, instant                0.040000   1.000  1.000  From thiamethoxam
9500115000 O    Coffee, roasted bean           0.040000   1.000  1.000  From thiamethoxam
9500141000 O    Date                           0.005000   1.000  1.000  From FHE Thiamethoxam
9500151000 O    Feijoa                         0.005000   1.000  1.000  From FHE Thiamethoxam
9500153000 O    Fig                            0.050000   1.000  1.000
9500154000 O    Fig, dried                     0.050000   1.000  1.000
9500177000 O    Grape, leaves                  0.600000   1.000  1.000
9500178000 O    Grape, raisin                  0.600000   2.500  1.000
9500183000 O    Guava                          0.005000   1.000  1.000  From FHE Thiamethoxam
9500183001 O    Guava-babyfood                 0.005000   1.000  1.000  From FHE Thiamethoxam
9500186000 O    Honey                          0.005000   1.000  1.000  From FHE Thiamethoxam
9500186001 O    Honey-babyfood                 0.005000   1.000  1.000  From FHE Thiamethoxam
9500188000 O    Hop                            0.028000   1.000  1.000  From thiamethoxam
9500193000 O    Jackfruit                      0.005000   1.000  1.000  From FHE Thiamethoxam
9500209000 O    Longan                         0.005000   1.000  1.000  From FHE Thiamethoxam
9500211000 O    Lychee                         0.005000   1.000  1.000  From FHE Thiamethoxam
9500212000 O    Lychee, dried                  0.005000   1.850  1.000  From FHE Thiamethoxam
9500214000 O    Mamey apple                    0.005000   1.000  1.000  From FHE Thiamethoxam
9500215000 O    Mango                          0.020000   1.000  1.000  From thiamethoxam
9500216000 O    Mango, dried                   0.020000   1.000  1.000  From thiamethoxam
9500217000 O    Mango, juice                   0.020000   1.000  1.000  From thiamethoxam
9500217001 O    Mango, juice-babyfood          0.020000   1.000  1.000  From thiamethoxam
9500215001 O    Mango-babyfood                 0.020000   1.000  1.000  From thiamethoxam
9500219000 O    Maple syrup                    0.005000   1.000  1.000  From FHE Thiamethoxam
9500218000 O    Maple, sugar                   0.005000   1.000  1.000  From FHE Thiamethoxam
9500235000 O    Olive                          0.005000   1.000  1.000  From FHE Thiamethoxam
9500236000 O    Olive, oil                     0.005000   1.000  1.000  From FHE Thiamethoxam
9500243000 O    Palm heart, leaves             0.005000   1.000  1.000  From FHE Thiamethoxam
9500244000 O    Palm, oil                      0.005000   1.000  1.000  From FHE Thiamethoxam
9500244001 O    Palm, oil-babyfood             0.005000   1.000  1.000  From FHE Thiamethoxam
9500245000 O    Papaya                         0.020000   1.000  1.000  From thiamethoxam
9500246000 O    Papaya, dried                  0.020000   1.800  1.000  From thiamethoxam
9500247000 O    Papaya, juice                  0.020000   1.500  1.000  From thiamethoxam
9500245001 O    Papaya-babyfood                0.020000   1.000  1.000  From thiamethoxam
9500252000 O    Passionfruit                   0.005000   1.000  1.000  From FHE Thiamethoxam
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9500253000 O    Passionfruit, juice              0.005000  1.000  1.000  From FHE Thiamethoxam
9500253001 O    Passionfruit, juice-babyfood     0.005000  1.000  1.000  From FHE Thiamethoxam
9500252001 O    Passionfruit-babyfood            0.005000  1.000  1.000  From FHE Thiamethoxam
9500254000 O    Pawpaw                           0.005000  1.000  1.000  From FHE Thiamethoxam
9500263000 O    Peanut                           0.010000  1.000  1.000
9500264000 O    Peanut, butter                   0.010000  1.890  1.000
9500265000 O    Peanut, oil                      0.010000  0.310  1.000  PF for thiamethoxam
9500275000 O    Peppermint                       0.128000  1.000  1.000  From thiamethoxam
9500276000 O    Peppermint, oil                  0.128000  1.000  1.000  From thiamethoxam
9500277000 O    Persimmon                        0.005000  1.000  1.000  From FHE Thiamethoxam
9500279000 O    Pineapple                        0.005000  1.000  1.000  From FHE Thiamethoxam
9500280000 O    Pineapple, dried                 0.005000  5.000  1.000  From FHE Thiamethoxam
9500281000 O    Pineapple, juice                 0.005000  1.700  1.000  From FHE Thiamethoxam
9500281001 O    Pineapple, juice-babyfood        0.005000  1.700  1.000  From FHE Thiamethoxam
9500279001 O    Pineapple-babyfood               0.005000  1.000  1.000  From FHE Thiamethoxam
9500283000 O    Plantain                         0.005000  1.000  1.000  From FHE Thiamethoxam
9500284000 O    Plantain, dried                  0.005000  3.900  1.000  From FHE Thiamethoxam
9500289000 O    Pomegranate                      0.200000  1.000  1.000  From thiamethoxam
9500306000 O    Psyllium, seed                   0.005000  1.000  1.000  From FHE Thiamethoxam
9500311000 O    Quinoa, grain                    0.005000  1.000  1.000  From FHE Thiamethoxam
9500333000 O    Sapote, Mamey                    0.020000  1.000  1.000  From thiamethoxam
9500335000 O    Seaweed                          0.005000  1.000  1.000  From FHE Thiamethoxam
9500335001 O    Seaweed-babyfood                 0.005000  1.000  1.000  From FHE Thiamethoxam
9500346000 O    Soursop                          0.005000  1.000  1.000  From FHE Thiamethoxam
9500351000 O    Spanish lime                     0.005000  1.000  1.000  From FHE Thiamethoxam
9500352000 O    Spearmint                        0.128000  1.000  1.000  From thiamethoxam
9500353000 O    Spearmint, oil                   0.128000  1.000  1.000  From thiamethoxam
9500358000 O    Starfruit                        0.005000  1.000  1.000  From FHE Thiamethoxam
9500361000 O    Sugar apple                      0.005000  1.000  1.000  From FHE Thiamethoxam
9500363000 O    Sugarcane, molasses              0.005000  1.000  1.000  From FHE Thiamethoxam
9500363001 O    Sugarcane, molasses-babyfood     0.005000  1.000  1.000  From FHE Thiamethoxam
9500362000 O    Sugarcane, sugar                 0.005000  1.000  1.000  From FHE Thiamethoxam
9500362001 O    Sugarcane, sugar-babyfood        0.005000  1.000  1.000  From FHE Thiamethoxam
9500368000 O    Tamarind                         0.005000  1.000  1.000  From FHE Thiamethoxam
9500372000 O    Tea, dried                      70.000000  1.000  1.000   1E7923 (2012)
9500373000 O    Tea, instant                    70.000000  1.000  1.000   1E7923 (2012)
9500390000 O    Vinegar                          0.005000  1.000  1.000  From FHE Thiamethoxam
9500397000 O    Water chestnut                   0.005000  1.000  1.000  From FHE Thiamethoxam
9500398000 O    Watercress                       0.005000  1.000  1.000  From FHE Thiamethoxam
0103015000 1CD  Arrowroot, flour                 0.300000  1.000  1.000
0103015001 1CD  Arrowroot, flour-babyfood        0.300000  1.000  1.000
0103017000 1CD  Artichoke, Jerusalem             0.300000  1.000  1.000
0101050000 1AB  Beet, garden, roots              0.800000  1.000  1.000
0101050001 1AB  Beet, garden, roots-babyfood     0.800000  1.000  1.000
0101052000 1A   Beet, sugar                      0.020000  1.000  1.000
0101053000 1A   Beet, sugar, molasses            0.050000  1.000  1.000
0101053001 1A   Beet, sugar, molasses-babyfood   0.050000  1.000  1.000
0101052001 1A   Beet, sugar-babyfood             0.020000  1.000  1.000
0101067000 1AB  Burdock                          0.800000  1.000  1.000
0101078000 1AB  Carrot                           0.800000  1.000  1.000
0101079000 1AB  Carrot, juice                    0.800000  1.000  1.000
0101078001 1AB  Carrot-babyfood                  0.800000  1.000  1.000
0103082000 1CD  Cassava                          0.300000  1.000  1.000
0103082001 1CD  Cassava-babyfood                 0.300000  1.000  1.000
0101084000 1AB  Celeriac                         0.800000  1.000  1.000
0101100000 1AB  Chicory, roots                   0.800000  1.000  1.000
0103139000 1CD  Dasheen, corm                    0.300000  1.000  1.000
0103166000 1CD  Ginger                           0.300000  1.000  1.000
0103167000 1CD  Ginger, dried                    0.300000  1.000  1.000
0103166001 1CD  Ginger-babyfood                  0.300000  1.000  1.000
0101168000 1AB  Ginseng, dried                   0.800000  1.000  1.000
0101190000 1AB  Horseradish                      0.800000  1.000  1.000
0101250000 1AB  Parsley, turnip rooted           0.800000  1.000  1.000
0101251000 1AB  Parsnip                          0.800000  1.000  1.000
0101251001 1AB  Parsnip-babyfood                 0.800000  1.000  1.000
0103296000 1C   Potato, chips                    0.600000  1.000  1.000
0103297000 1C   Potato, dry (granules/ flakes)   1.500000  6.500  1.000
0103297001 1C   Potato, dry (granules/ flakes)-b 1.500000  6.500  1.000
0103298000 1C   Potato, flour                    0.300000  1.000  1.000
0103298001 1C   Potato, flour-babyfood           0.300000  1.000  1.000
0103300000 1C   Potato, tuber, w/o peel          0.300000  1.000  1.000
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0103300001 1C   Potato, tuber, w/o peel-babyfood   0.300000   1.000   1.000
0103299000 1C   Potato, tuber, w/peel              0.300000   1.000   1.000
0103299001 1C   Potato, tuber, w/peel-babyfood     0.300000   1.000   1.000
0101316000 1AB  Radish, Oriental, roots            0.800000   1.000   1.000
0101314000 1AB  Radish, roots                      0.800000   1.000   1.000
0101327000 1AB  Rutabaga                           0.800000   1.000   1.000
0101331000 1AB  Salsify, roots                     0.800000   1.000   1.000
0103366000 1CD  Sweet potato                       0.300000   1.000   1.000
0103366001 1CD  Sweet potato-babyfood              0.300000   1.000   1.000
0103371000 1CD  Tanier, corm                       0.300000   1.000   1.000
0103387000 1CD  Turmeric                           0.300000   1.000   1.000
0101388000 1AB  Turnip, roots                      0.800000   1.000   1.000
0103407000 1CD  Yam bean                           0.300000   1.000   1.000
0103406000 1CD  Yam, true                          0.300000   1.000   1.000
0200051000 2    Beet, garden, tops                 0.600000   1.000   1.000
0200101000 2    Chicory, tops                      0.600000   1.000   1.000
0200140000 2    Dasheen, leaves                    0.600000   1.000   1.000
0200317000 2    Radish, Oriental, tops             0.600000   1.000   1.000
0200315000 2    Radish, tops                       0.600000   1.000   1.000
0200332000 2    Salsify, tops                      0.600000   1.000   1.000
0302103000 3B   Chive, fresh leaves                0.005000   1.000   1.000   From FHE Thiamethoxam
0301165000 3A   Garlic, bulb                       0.450000   1.000   1.000
0301165001 3A   Garlic, bulb-babyfood              0.450000   1.000   1.000
0302198000 3B   Leek                               0.450000   1.000   1.000
0301237000 3A   Onion, bulb                        0.450000   1.000   1.000
0301238000 3A   Onion, bulb, dried                 0.450000   9.000   1.000
0301238001 3A   Onion, bulb, dried-babyfood        0.450000   9.000   1.000
0301237001 3A   Onion, bulb-babyfood               0.450000   1.000   1.000
0302239000 3B   Onion, green                       0.450000   1.000   1.000
0302338500 3B   Shallot, fresh leaves              0.450000   1.000   1.000
0401005000 4A   Amaranth, leafy                    3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0401018000 4A   Arugula                            3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0402076000 4B   Cardoon                            0.400000   1.000   1.000   From Thiamethoxam
0402085000 4B   Celery                             0.400000   1.000   1.000   From Thiamethoxam
0402086000 4B   Celery, juice                      0.400000   1.000   1.000   From Thiamethoxam
0402085001 4B   Celery-babyfood                    0.400000   1.000   1.000   From Thiamethoxam
0402087000 4B   Celtuce                            0.400000   1.000   1.000   From Thiamethoxam
0401104000 4A   Chrysanthemum, garland             3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0401133000 4A   Cress, garden                      3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0401134000 4A   Cress, upland                      3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0401138000 4A   Dandelion, leaves                  3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0401150000 4A   Endive                             3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0402152000 4B   Fennel, Florence                   0.400000   1.000   1.000   From Thiamethoxam
0401204000 4A   Lettuce, head                      3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0401205000 4A   Lettuce, leaf                      3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0401248000 4A   Parsley, leaves                    3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0401313000 4A   Radicchio                          3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0402322000 4B   Rhubarb                            0.400000   1.000   1.000   From Thiamethoxam
0401355000 4A   Spinach                            3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0401355001 4A   Spinach-babyfood                   3.000000   1.100   1.000   1.1 factor to
account for TMG metabolite
0402367000 4B   Swiss chard                        0.400000   1.000   1.000   From Thiamethoxam
0501061000 5A   Broccoli                           1.900000   1.000   1.000
0502063000 5B   Broccoli raab                      1.900000   1.000   1.000
0501062000 5A   Broccoli, Chinese                  1.900000   1.000   1.000
0501061001 5A   Broccoli-babyfood                  1.900000   1.000   1.000
0501064000 5A   Brussels sprouts                   1.900000   1.000   1.000
0501069000 5A   Cabbage                            1.900000   1.000   1.000
0502070000 5B   Cabbage, Chinese, bok choy         1.900000   1.000   1.000
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0501072000 5A   Cabbage, Chinese, mustard       1.900000  1.000  1.000
0501071000 5A   Cabbage, Chinese, napa          1.900000  1.000  1.000
0501083000 5A   Cauliflower                     1.900000  1.000  1.000
0502117000 5B   Collards                        1.900000  1.000  1.000
0502194000 5B   Kale                            1.900000  1.000  1.000
0501196000 5A   Kohlrabi                        1.900000  1.000  1.000
0502229000 5B   Mustard greens                  1.900000  1.000  1.000
0502318000 5B   Rape greens                     1.900000  1.000  1.000
0502389000 5B   Turnip, greens                  1.900000  1.000  1.000
0603035000 6C   Bean,  great northern, seed     0.010000  1.000  1.000  From Thiamethoxam
0603030000 6C   Bean, black, seed               0.010000  1.000  1.000  From Thiamethoxam
0603032000 6C   Bean, broad, seed               0.010000  1.000  1.000  From Thiamethoxam
0602031000 6B   Bean, broad, succulent          0.010000  1.000  1.000  From Thiamethoxam
0603034000 6C   Bean, cowpea, seed              0.010000  1.000  1.000  From Thiamethoxam
0602033000 6B   Bean, cowpea, succulent         0.010000  1.000  1.000  From Thiamethoxam
0603036000 6C   Bean, kidney, seed              0.010000  1.000  1.000  From Thiamethoxam
0603038000 6C   Bean, lima, seed                0.010000  1.000  1.000  From Thiamethoxam
0602037000 6B   Bean, lima, succulent           0.010000  1.000  1.000  From Thiamethoxam
0603039000 6C   Bean, mung, seed                0.010000  1.000  1.000  From Thiamethoxam
0603040000 6C   Bean, navy, seed                0.010000  1.000  1.000  From Thiamethoxam
0603041000 6C   Bean, pink, seed                0.010000  1.000  1.000  From Thiamethoxam
0603042000 6C   Bean, pinto, seed               0.010000  1.000  1.000  From Thiamethoxam
0601043000 6A   Bean, snap, succulent           0.010000  1.000  1.000  From Thiamethoxam
0601043001 6A   Bean, snap, succulent-babyfood  0.010000  1.000  1.000  From Thiamethoxam
0603099000 6C   Chickpea, flour                 0.010000  1.000  1.000  From Thiamethoxam
0603098000 6C   Chickpea, seed                  0.010000  1.000  1.000  From Thiamethoxam
0603098001 6C   Chickpea, seed-babyfood         0.010000  1.000  1.000  From Thiamethoxam
0603182000 6C   Guar, seed                      0.010000  1.000  1.000  From Thiamethoxam
0603182001 6C   Guar, seed-babyfood             0.010000  1.000  1.000  From Thiamethoxam
0603203000 6C   Lentil, seed                    0.010000  1.000  1.000  From Thiamethoxam
0603256000 6C   Pea, dry                        0.010000  1.000  1.000  From Thiamethoxam
0603256001 6C   Pea, dry-babyfood               0.010000  1.000  1.000  From Thiamethoxam
0601257000 6A   Pea, edible podded, succulent   0.010000  1.000  1.000  From Thiamethoxam
0603258000 6C   Pea, pigeon, seed               0.010000  1.000  1.000  From Thiamethoxam
0602259000 6B   Pea, pigeon, succulent          0.010000  1.000  1.000  From Thiamethoxam
0602255000 6B   Pea, succulent                  0.010000  1.000  1.000  From Thiamethoxam
0602255001 6B   Pea, succulent-babyfood         0.010000  1.000  1.000  From Thiamethoxam
0603348000 6C   Soybean, flour                  0.020000  1.000  1.000  From Thiamethoxam
0603348001 6C   Soybean, flour-babyfood         0.020000  1.000  1.000  From Thiamethoxam
0600350000 6    Soybean, oil                    0.020000  1.000  1.000  From Thiamethoxam
0600350001 6    Soybean, oil-babyfood           0.020000  1.000  1.000  From Thiamethoxam
0600347000 6    Soybean, seed                   0.020000  1.000  1.000  From Thiamethoxam
0600349000 6    Soybean, soy milk               0.020000  1.000  1.000  From Thiamethoxam
0600349001 6    Soybean, soy milk-babyfood or in 0.020000  1.000  1.000  From Thiamethoxam
0802148000 8BC  Eggplant                        0.800000  1.000  1.000  Incr. tol. due to PHI
change
0802234000 8BC  Okra                            0.800000  1.000  1.000  Incr. tol. due to PHI
change
0802270000 8B   Pepper, bell                    0.800000  1.000  1.000  Incr. tol. due to PHI
change
0802271000 8B   Pepper, bell, dried             0.800000  1.000  1.000  Incr. tol. due to PHI
change
0802271001 8B   Pepper, bell, dried-babyfood    0.800000  1.000  1.000  Incr. tol. due to PHI
change
0802270001 8B   Pepper, bell-babyfood           0.800000  1.000  1.000  Incr. tol. due to PHI
change
0802272000 8BC  Pepper, nonbell                 0.800000  1.000  1.000  Incr. tol. due to PHI
change
0802273000 8BC  Pepper, nonbell, dried          0.800000  1.000  1.000  Incr. tol. due to PHI
change
0802272001 8BC  Pepper, nonbell-babyfood        0.800000  1.000  1.000  Incr. tol. due to PHI
change
0801374000 8A   Tomatillo                       0.200000  1.000  1.000
0801375000 8A   Tomato                          0.200000  1.000  1.000
0801380000 8A   Tomato, Tree                    0.005000  1.000  1.000  From FHE Thiamethoxam
0801378000 8A   Tomato, dried                   0.200000 14.300  1.000
0801378001 8A   Tomato, dried-babyfood          0.200000 14.300  1.000
0801379000 8A   Tomato, juice                   0.200000  1.500  1.000
0801376000 8A   Tomato, paste                   0.200000  5.400  1.000
0801376001 8A   Tomato, paste-babyfood          0.200000  5.400  1.000
0801377000 8A   Tomato, puree                   0.200000  3.300  1.000
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0801377001 8A   Tomato, puree-babyfood         0.200000  3.300  1.000
0801375001 8A   Tomato-babyfood                0.200000  1.000  1.000
0902021000 9B   Balsam pear                    0.060000  1.000  1.000
0901075000 9A   Cantaloupe                     0.060000  1.000  1.000
0902088000 9B   Chayote, fruit                 0.060000  1.000  1.000
0902102000 9B   Chinese waxgourd               0.060000  1.000  1.000
0902135000 9B   Cucumber                       0.060000  1.000  1.000
0901187000 9A   Honeydew melon                 0.060000  1.000  1.000
0902308000 9B   Pumpkin                        0.060000  1.000  1.000
0902309000 9B   Pumpkin, seed                  0.060000  1.000  1.000
0902356000 9B   Squash, summer                 0.060000  1.000  1.000
0902356001 9B   Squash, summer-babyfood        0.060000  1.000  1.000
0902357000 9B   Squash, winter                 0.060000  1.000  1.000
0902357001 9B   Squash, winter-babyfood        0.060000  1.000  1.000
0901399000 9A   Watermelon                     0.060000  1.000  1.000
0901400000 9A   Watermelon, juice              0.060000  1.000  1.000
1001106000 10A  Citron                         0.600000  1.000  1.000  1E7923 (2012)
1001107000 10A  Citrus hybrids                 0.600000  1.000  1.000  1E7923 (2012)
1001108000 10A  Citrus, oil                    0.600000  1.000  1.000  1E7923 (2012)
1003180000 10C  Grapefruit                     0.600000  1.000  1.000  1E7923 (2012)
1003181000 10C  Grapefruit, juice              0.600000  1.000  1.000  1E7923 (2012)
1002197000 10B  Kumquat                        0.600000  1.000  1.000  1E7923 (2012)
1002199000 10B  Lemon                          0.600000  1.000  1.000  1E7923 (2012)
1002200000 10B  Lemon, juice                   0.600000  1.000  1.000  1E7923 (2012)
1002200001 10B  Lemon, juice-babyfood          0.600000  1.000  1.000  1E7923 (2012)
1002201000 10B  Lemon, peel                    0.600000  1.000  1.000  1E7923 (2012)
1002206000 10B  Lime                           0.600000  1.000  1.000  1E7923 (2012)
1002207000 10B  Lime, juice                    0.600000  1.000  1.000  1E7923 (2012)
1002207001 10B  Lime, juice-babyfood           0.600000  1.000  1.000  1E7923 (2012)
1001240000 10A  Orange                         0.600000  1.000  1.000  1E7923 (2012)
1001241000 10A  Orange, juice                  0.600000  1.000  1.000  1E7923 (2012)
1001241001 10A  Orange, juice-babyfood         0.600000  1.000  1.000  1E7923 (2012)
1001242000 10A  Orange, peel                   0.600000  1.000  1.000  1E7923 (2012)
1003307000 10C  Pummelo                        0.600000  1.000  1.000  1E7923 (2012)
1001369000 10A  Tangerine                      0.600000  1.000  1.000  1E7923 (2012)
1001370000 10A  Tangerine, juice               0.600000  1.000  1.000  1E7923 (2012)
1100009000 11   Apple, dried                   1.000000  8.000  1.000
1100009001 11   Apple, dried-babyfood          1.000000  8.000  1.000
1100007000 11   Apple, fruit with peel         1.000000  1.000  1.000
1100010000 11   Apple, juice                   1.000000  1.300  1.000
1100010001 11   Apple, juice-babyfood          1.000000  1.300  1.000
1100008000 11   Apple, peeled fruit            1.000000  1.000  1.000
1100008001 11   Apple, peeled fruit-babyfood   1.000000  1.000  1.000
1100011000 11   Apple, sauce                   1.000000  1.000  1.000
1100011001 11   Apple, sauce-babyfood          1.000000  1.000  1.000
1100129000 11   Crabapple                      1.000000  1.000  1.000
1100210000 11   Loquat                         1.000000  1.000  1.000
1100266000 11   Pear                           1.000000  1.000  1.000
1100267000 11   Pear, dried                    1.000000  6.250  1.000
1100268000 11   Pear, juice                    1.000000  1.000  1.000
1100268001 11   Pear, juice-babyfood           1.000000  1.000  1.000
1100266001 11   Pear-babyfood                  1.000000  1.000  1.000
1100310000 11   Quince                         1.000000  1.000  1.000
1202012000 12B  Apricot                        0.800000  1.000  1.000  Expected use on whole
group
1202013000 12B  Apricot, dried                 0.800000  6.000  1.000  Expected use on whole
group
1202014000 12B  Apricot, juice                 0.800000  1.000  1.000  Expected use on whole
group
1202014001 12B  Apricot, juice-babyfood        0.800000  1.000  1.000  Expected use on whole
group
1202012001 12B  Apricot-babyfood               0.800000  1.000  1.000  Expected use on whole
group
1201090000 12A  Cherry                         0.800000  1.000  1.000  Expected use on whole
group
1201091000 12A  Cherry, juice                  0.800000  1.500  1.000  Expected use on whole
group
1201091001 12A  Cherry, juice-babyfood         0.800000  1.500  1.000  Expected use on whole
group
1201090001 12A  Cherry-babyfood                0.800000  1.000  1.000  Expected use on whole
group
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1202230000 12B  Nectarine                      0.800000  1.000  1.000  Expected use on whole
group
1202260000 12B  Peach                          0.800000  1.000  1.000
1202261000 12B  Peach, dried                   0.800000  7.000  1.000
1202261001 12B  Peach, dried-babyfood          0.800000  7.000  1.000
1202262000 12B  Peach, juice                   0.800000  1.000  1.000
1202262001 12B  Peach, juice-babyfood          0.800000  1.000  1.000
1202260001 12B  Peach-babyfood                 0.800000  1.000  1.000
1203285000 12C  Plum                           0.800000  1.000  1.000  Expected use on whole
group
1203287000 12C  Plum, prune, dried             0.800000  5.000  1.000  Expected use on whole
group
1203287001 12C  Plum, prune, dried-babyfood    0.800000  5.000  1.000  Expected use on whole
group
1203286000 12C  Plum, prune, fresh             0.800000  1.000  1.000  Expected use on whole
group
1203286001 12C  Plum, prune, fresh-babyfood    0.800000  1.000  1.000  Expected use on whole
group
1203288000 12C  Plum, prune, juice             0.800000  1.400  1.000  Expected use on whole
group
1203288001 12C  Plum, prune, juice-babyfood    0.800000  1.400  1.000  Expected use on whole
group
1203285001 12C  Plum-babyfood                  0.800000  1.000  1.000  Expected use on whole
group
1301055000 13A  Blackberry                     0.040000  1.000  1.000  From Thiamethoxam
1301056000 13A  Blackberry, juice              0.040000  1.000  1.000  From Thiamethoxam
1301056001 13A  Blackberry, juice-babyfood     0.040000  1.000  1.000  From Thiamethoxam
1302057000 13B  Blueberry                      0.050000  1.000  1.000  From Thiamethoxam
1302057001 13B  Blueberry-babyfood             0.050000  1.000  1.000  From Thiamethoxam
1301058000 13A  Boysenberry                    0.040000  1.000  1.000  From Thiamethoxam
1307130000 13G  Cranberry                      0.010000  1.000  1.000
1307131000 13G  Cranberry, dried               0.010000  1.000  1.000
1307132000 13G  Cranberry, juice               0.010000  1.100  1.000
1307132001 13G  Cranberry, juice-babyfood      0.010000  1.100  1.000
1307130001 13G  Cranberry-babyfood             0.010000  1.000  1.000
1302136000 13B  Currant                        0.050000  1.000  1.000  From Thiamethoxam
1302137000 13B  Currant, dried                 0.050000  1.000  1.000  From Thiamethoxam
1302149000 13B  Elderberry                     0.050000  1.000  1.000  From Thiamethoxam
1302174000 13B  Gooseberry                     0.050000  1.000  1.000  From Thiamethoxam
1304175000 13D  Grape                          0.600000  1.000  1.000
1304176000 13D  Grape, juice                   0.600000  1.200  1.000
1304176001 13D  Grape, juice-babyfood          0.600000  1.200  1.000
1304179000 13D  Grape, wine and sherry         0.600000  1.200  1.000
1302191000 13B  Huckleberry                    0.050000  1.000  1.000  From Thiamethoxam
1304195000 13D  Kiwifruit, fuzzy               0.005000  1.000  1.000  From FHE Thiamethoxam
1301208000 13A  Loganberry                     0.040000  1.000  1.000  From Thiamethoxam
1303227000 13C  Mulberry                       0.005000  1.000  1.000  From FHE Thiamethoxam
1301320000 13A  Raspberry                      0.040000  1.000  1.000  From Thiamethoxam
1301321000 13A  Raspberry, juice               0.040000  1.000  1.000  From Thiamethoxam
1301321001 13A  Raspberry, juice-babyfood      0.040000  1.000  1.000  From Thiamethoxam
1301320001 13A  Raspberry-babyfood             0.040000  1.000  1.000  From Thiamethoxam
1307359000 13G  Strawberry                     1.500000  1.000  1.000   1E7923 (2012)
1307360000 13G  Strawberry, juice              1.500000  1.000  1.000   1E7923 (2012)
1307360001 13G  Strawberry, juice-babyfood     1.500000  1.000  1.000   1E7923 (2012)
1307359001 13G  Strawberry-babyfood            1.500000  1.000  1.000   1E7923 (2012)
1400003000 14   Almond                         0.010000  1.000  1.000
1400004000 14   Almond, oil                    0.010000  1.000  1.000
1400004001 14   Almond, oil-babyfood           0.010000  1.000  1.000
1400003001 14   Almond-babyfood                0.010000  1.000  1.000
1400059000 14   Brazil nut                     0.010000  1.000  1.000
1400068000 14   Butternut                      0.010000  1.000  1.000
1400081000 14   Cashew                         0.010000  1.000  1.000
1400092000 14   Chestnut                       0.010000  1.000  1.000
1400155000 14   Hazelnut                       0.010000  1.000  1.000
1400156000 14   Hazelnut, oil                  0.010000  1.000  1.000
1400185000 14   Hickory nut                    0.010000  1.000  1.000
1400213000 14   Macadamia nut                  0.010000  1.000  1.000
1400269000 14   Pecan                          0.010000  1.000  1.000
1400278000 14   Pine nut                       0.005000  1.000  1.000  From FHE Thiamethoxam
1400282000 14   Pistachio                      0.010000  1.000  1.000
1400391000 14   Walnut                         0.010000  1.000  1.000
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1500027000 15   Barley, bran                     0.020000  1.000  1.000  From thiamethoxam
1500026000 15   Barley, flour                    0.020000  1.000  1.000  From thiamethoxam
1500026001 15   Barley, flour-babyfood           0.020000  1.000  1.000  From thiamethoxam
1500025000 15   Barley, pearled barley           0.020000  1.000  1.000  From thiamethoxam
1500025001 15   Barley, pearled barley-babyfood  0.020000  1.000  1.000  From thiamethoxam
1500065000 15   Buckwheat                        0.010000  1.000  1.000  Grain seed treatment
1500066000 15   Buckwheat, flour                 0.010000  1.000  1.000  Grain seed treatment
1500122000 15   Corn, field, bran                0.010000  1.000  1.000
1500120000 15   Corn, field, flour               0.010000  1.000  1.000
1500120001 15   Corn, field, flour-babyfood      0.010000  1.000  1.000
1500121000 15   Corn, field, meal                0.010000  1.000  1.000
1500121001 15   Corn, field, meal-babyfood       0.010000  1.000  1.000
1500125000 15   Corn, field, oil                 0.010000  1.000  1.000
1500125001 15   Corn, field, oil-babyfood        0.010000  1.000  1.000
1500123000 15   Corn, field, starch              0.010000  1.000  1.000
1500123001 15   Corn, field, starch-babyfood     0.010000  1.000  1.000
1500124000 15   Corn, field, syrup               0.010000  1.500  1.000
1500124001 15   Corn, field, syrup-babyfood      0.010000  1.500  1.000
1500126000 15   Corn, pop                        0.010000  1.000  1.000
1500127000 15   Corn, sweet                      0.010000  1.000  1.000
1500127001 15   Corn, sweet-babyfood             0.010000  1.000  1.000
1500226000 15   Millet, grain                    0.010000  1.000  1.000  Grain seed treatment
1500231000 15   Oat, bran                        0.010000  1.000  1.000  Grain seed treatment
1500232000 15   Oat, flour                       0.010000  1.000  1.000  Grain seed treatment
1500232001 15   Oat, flour-babyfood              0.010000  1.000  1.000  Grain seed treatment
1500233000 15   Oat, groats/rolled oats          0.010000  1.000  1.000  Grain seed treatment
1500233001 15   Oat, groats/rolled oats-babyfood 0.010000  1.000  1.000  Grain seed treatment
1500326000 15   Rice, bran                       0.010000  1.000  1.000
1500326001 15   Rice, bran-babyfood              0.010000  1.000  1.000
1500324000 15   Rice, brown                      0.010000  1.000  1.000
1500324001 15   Rice, brown-babyfood             0.010000  1.000  1.000
1500325000 15   Rice, flour                      0.010000  1.000  1.000
1500325001 15   Rice, flour-babyfood             0.010000  1.000  1.000
1500323000 15   Rice, white                      0.010000  1.000  1.000
1500323001 15   Rice, white-babyfood             0.010000  1.000  1.000
1500329000 15   Rye, flour                       0.010000  1.000  1.000  Grain seed treatment
1500328000 15   Rye, grain                       0.010000  1.000  1.000  Grain seed treatment
1500344000 15   Sorghum, grain                   0.010000  1.000  1.000
1500345000 15   Sorghum, syrup                   0.010000  1.000  1.000
1500381000 15   Triticale, flour                 0.010000  1.000  1.000  Grain seed treatment
1500381001 15   Triticale, flour-babyfood        0.010000  1.000  1.000  Grain seed treatment
1500404000 15   Wheat, bran                      0.010000  1.000  1.000
1500402000 15   Wheat, flour                     0.010000  1.000  1.000
1500402001 15   Wheat, flour-babyfood            0.010000  1.000  1.000
1500403000 15   Wheat, germ                      0.010000  1.000  1.000
1500401000 15   Wheat, grain                     0.010000  1.000  1.000
1500401001 15   Wheat, grain-babyfood            0.010000  1.000  1.000
1500405000 15   Wild rice                        0.010000  1.000  1.000  Grain seed treatment
1800002000 18   Alfalfa, seed                    0.005000  1.000  1.000  From FHE Thiamethoxam
1901029000 19A  Basil, dried leaves              0.005000  1.000  1.000  From FHE Thiamethoxam
1901029001 19A  Basil, dried leaves-babyfood     0.005000  1.000  1.000  From FHE Thiamethoxam
1901028000 19A  Basil, fresh leaves              0.005000  1.000  1.000  From FHE Thiamethoxam
1901028001 19A  Basil, fresh leaves-babyfood     0.005000  1.000  1.000  From FHE Thiamethoxam
1901118000 19A  Cilantro, leaves                 0.005000  1.000  1.000  From FHE Thiamethoxam
1901118001 19A  Cilantro, leaves-babyfood        0.005000  1.000  1.000  From FHE Thiamethoxam
1902105000 19B  Cinnamon                         0.005000  1.000  1.000  From FHE Thiamethoxam
1902105001 19B  Cinnamon-babyfood                0.005000  1.000  1.000  From FHE Thiamethoxam
1902119000 19B  Coriander, seed                  0.005000  1.000  1.000  From FHE Thiamethoxam
1902119001 19B  Coriander, seed-babyfood         0.005000  1.000  1.000  From FHE Thiamethoxam
1902143000 19B  Dill, seed                       0.005000  1.000  1.000  From FHE Thiamethoxam
1901144000 19A  Dillweed                         0.005000  1.000  1.000  From FHE Thiamethoxam
1901184000 19A  Herbs, other                     0.005000  1.000  1.000  From FHE Thiamethoxam
1901184001 19A  Herbs, other-babyfood            0.005000  1.000  1.000  From FHE Thiamethoxam
1901202000 19A  Lemongrass                       0.005000  1.000  1.000  From FHE Thiamethoxam
1901220000 19A  Marjoram                         0.005000  1.000  1.000  From FHE Thiamethoxam
1901220001 19A  Marjoram-babyfood                0.005000  1.000  1.000  From FHE Thiamethoxam
1901249000 19A  Parsley, dried leaves            0.005000  1.000  1.000  From FHE Thiamethoxam
1901249001 19A  Parsley, dried leaves-babyfood   0.005000  1.000  1.000  From FHE Thiamethoxam
1902274000 19B  Pepper, black and white          0.005000  1.000  1.000  From FHE Thiamethoxam
1902274001 19B  Pepper, black and white-babyfood 0.005000  1.000  1.000  From FHE Thiamethoxam
1901334000 19A  Savory                           0.005000  1.000  1.000  From FHE Thiamethoxam
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1902354000 19B  Spices, other                  0.005000  1.000  1.000  From FHE Thiamethoxam
1902354001 19B  Spices, other-babyfood         0.005000  1.000  1.000  From FHE Thiamethoxam
2003114001 20C  Coconut, oil-babyfood          0.005000  1.000  1.000  From FHE Thiamethoxam
2003128000 20C  Cottonseed, oil                0.200000  1.000  1.000
2003128001 20C  Cottonseed, oil-babyfood       0.200000  1.000  1.000
2001163000 20A  Flax seed, oil                 0.010000  1.000  1.000
2001319000 20A  Rapeseed, oil                  0.010000  1.000  1.000
2001319001 20A  Rapeseed, oil-babyfood         0.010000  1.000  1.000
2002330000 20B  Safflower, oil                 0.010000  1.000  1.000
2002330001 20B  Safflower, oil-babyfood        0.010000  1.000  1.000
2001337000 20A  Sesame, oil                    0.005000  1.000  1.000  From FHE Thiamethoxam
2001337001 20A  Sesame, oil-babyfood           0.005000  1.000  1.000  From FHE Thiamethoxam
2001336000 20A  Sesame, seed                   0.005000  1.000  1.000  From FHE Thiamethoxam
2001336001 20A  Sesame, seed-babyfood          0.005000  1.000  1.000  From FHE Thiamethoxam
2002365000 20B  Sunflower, oil                 0.010000  1.000  1.000
2002365001 20B  Sunflower, oil-babyfood        0.010000  1.000  1.000
2002364000 20B  Sunflower, seed                0.010000  1.000  1.000
2100228000 21   Mushroom                       0.005000  1.000  1.000  From FHE Thiamethoxam
3100047000 31   Beef, fat                      0.005000  1.000  1.000  From FHE Thiamethoxam
3100047001 31   Beef, fat-babyfood             0.005000  1.000  1.000  From FHE Thiamethoxam
3100048000 31   Beef, kidney                   0.010000  1.000  1.000  From thiamethoxam
3100049000 31   Beef, liver                    0.010000  1.000  1.000  From thiamethoxam
3100049001 31   Beef, liver-babyfood           0.010000  1.000  1.000  From thiamethoxam
3100044000 31   Beef, meat                     0.010000  1.000  1.000  From thiamethoxam
3100046000 31   Beef, meat byproducts          0.010000  1.000  1.000  From thiamethoxam
3100046001 31   Beef, meat byproducts-babyfood 0.010000  1.000  1.000  From thiamethoxam
3100045000 31   Beef, meat, dried              0.010000  1.920  1.000  From thiamethoxam
3100044001 31   Beef, meat-babyfood            0.010000  1.000  1.000  From thiamethoxam
3200171000 32   Goat, fat                      0.005000  1.000  1.000  From FHE Thiamethoxam
3200172000 32   Goat, kidney                   0.010000  1.000  1.000  From thiamethoxam
3200173000 32   Goat, liver                    0.010000  1.000  1.000  From thiamethoxam
3200169000 32   Goat, meat                     0.010000  1.000  1.000  From thiamethoxam
3200170000 32   Goat, meat byproducts          0.010000  1.000  1.000  From thiamethoxam
3300189000 33   Horse, meat                    0.010000  1.000  1.000  From thiamethoxam
3400293000 34   Pork, fat                      0.005000  1.000  1.000  From FHE Thiamethoxam
3400293001 34   Pork, fat-babyfood             0.005000  1.000  1.000  From FHE Thiamethoxam
3400294000 34   Pork, kidney                   0.010000  1.000  1.000  From thiamethoxam
3400295000 34   Pork, liver                    0.010000  1.000  1.000  From thiamethoxam
3400290000 34   Pork, meat                     0.010000  1.000  1.000  From thiamethoxam
3400292000 34   Pork, meat byproducts          0.010000  1.000  1.000  From thiamethoxam
3400292001 34   Pork, meat byproducts-babyfood 0.010000  1.000  1.000  From thiamethoxam
3400290001 34   Pork, meat-babyfood            0.010000  1.000  1.000  From thiamethoxam
3400291000 34   Pork, skin                     0.005000  1.000  1.000  From FHE Thiamethoxam
3500341000 35   Sheep, fat                     0.005000  1.000  1.000  From FHE Thiamethoxam
3500341001 35   Sheep, fat-babyfood            0.005000  1.000  1.000  From FHE Thiamethoxam
3500342000 35   Sheep, kidney                  0.010000  1.000  1.000  From thiamethoxam
3500343000 35   Sheep, liver                   0.010000  1.000  1.000  From thiamethoxam
3500339000 35   Sheep, meat                    0.010000  1.000  1.000  From thiamethoxam
3500340000 35   Sheep, meat byproducts         0.010000  1.000  1.000  From thiamethoxam
3500339001 35   Sheep, meat-babyfood           0.010000  1.000  1.000  From thiamethoxam
3600222000 36   Milk, fat                      0.010000  1.500  1.000   1.5 factor to
account for metabolites
3600222001 36   Milk, fat-baby food/infant formu  0.010000  1.500  1.000   1.5 factor to
account for metabolites
3600223000 36   Milk, nonfat solids            0.010000  1.500  1.000   1.5 factor to
account for metabolites
3600223001 36   Milk, nonfat solids-baby food/in  0.010000  1.500  1.000   1.5 factor to
account for metabolites
3600225001 36   Milk, sugar (lactose)-baby food/  0.010000  1.500  1.000   1.5 factor to
account for metabolites
3600224000 36   Milk, water                    0.010000  1.500  1.000   1.5 factor to
account for metabolites
3600224001 36   Milk, water-babyfood/infant form  0.010000  1.500  1.000   1.5 factor to
account for metabolites
3800221000 38   Meat, game                     0.010000  1.000  1.000  From thiamethoxam
3900312000 39   Rabbit, meat                   0.010000  1.000  1.000  From thiamethoxam
4000096000 40   Chicken, fat                   0.005000  1.000  1.000  From FHE Thiamethoxam
4000096001 40   Chicken, fat-babyfood          0.005000  1.000  1.000  From FHE Thiamethoxam
4000094000 40   Chicken, liver                 0.005000  1.000  1.000  From FHE Thiamethoxam
4000093000 40   Chicken, meat                  0.005000  1.000  1.000  From FHE Thiamethoxam
4000095000 40   Chicken, meat byproducts       0.005000  1.000  1.000  From FHE Thiamethoxam
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4000095001 40  Chicken, meat byproducts-babyfoo  0.005000  1.000  1.000  From FHE Thiamethoxam
4000093001 40  Chicken, meat-babyfood            0.005000  1.000  1.000  From FHE Thiamethoxam
4000097000 40  Chicken, skin                     0.005000  1.000  1.000  From FHE Thiamethoxam
4000097001 40  Chicken, skin-babyfood            0.005000  1.000  1.000  From FHE Thiamethoxam
5000385000 50  Turkey, fat                       0.005000  1.000  1.000  From FHE Thiamethoxam
5000385001 50  Turkey, fat-babyfood              0.005000  1.000  1.000  From FHE Thiamethoxam
5000383000 50  Turkey, liver                     0.005000  1.000  1.000  From FHE Thiamethoxam
5000383001 50  Turkey, liver-babyfood            0.005000  1.000  1.000  From FHE Thiamethoxam
5000382000 50  Turkey, meat                      0.005000  1.000  1.000  From FHE Thiamethoxam
5000384000 50  Turkey, meat byproducts           0.005000  1.000  1.000  From FHE Thiamethoxam
5000384001 50  Turkey, meat byproducts-babyfood  0.005000  1.000  1.000  From FHE Thiamethoxam
5000382001 50  Turkey, meat-babyfood             0.005000  1.000  1.000  From FHE Thiamethoxam
5000386000 50  Turkey, skin                      0.005000  1.000  1.000  From FHE Thiamethoxam
5000386001 50  Turkey, skin-babyfood             0.005000  1.000  1.000  From FHE Thiamethoxam
6000304000 60  Poultry, other, fat               0.005000  1.000  1.000  From FHE Thiamethoxam
6000302000 60  Poultry, other, liver             0.005000  1.000  1.000  From FHE Thiamethoxam
6000301000 60  Poultry, other, meat              0.005000  1.000  1.000  From FHE Thiamethoxam
6000303000 60  Poultry, other, meat byproducts   0.005000  1.000  1.000  From FHE Thiamethoxam
6000305000 60  Poultry, other, skin              0.005000  1.000  1.000  From FHE Thiamethoxam
7000146000 70  Egg, white                        0.005000  1.000  1.000  From FHE Thiamethoxam
7000146001 70  Egg, white (solids)-babyfood      0.005000  1.000  1.000  From FHE Thiamethoxam
7000145000 70  Egg, whole                        0.005000  1.000  1.000  From FHE Thiamethoxam
7000145001 70  Egg, whole-babyfood               0.005000  1.000  1.000  From FHE Thiamethoxam
7000147000 70  Egg, yolk                         0.005000  1.000  1.000  From FHE Thiamethoxam
7000147001 70  Egg, yolk-babyfood                0.005000  1.000  1.000  From FHE Thiamethoxam
8000157000 80  Fish-freshwater finfish           0.005000  1.000  1.000  From FHE Thiamethoxam
8000158000 80  Fish-freshwater finfish, farm ra  0.005000  1.000  1.000  From FHE Thiamethoxam
8000160000 80  Fish-saltwater finfish, other     0.005000  1.000  1.000  From FHE Thiamethoxam
8000159000 80  Fish-saltwater finfish, tuna      0.005000  1.000  1.000  From FHE Thiamethoxam
8000161000 80  Fish-shellfish, crustacean        0.005000  1.000  1.000  From FHE Thiamethoxam
8000162000 80  Fish-shellfish, mollusc           0.005000  1.000  1.000  From FHE Thiamethoxam
8601000000 86A Water, direct, all sources        0.072000  1.000  1.000  Based on Rice Use
8602000000 86B Water, indirect, all sources      0.072000  1.000  1.000  Based on Rice Use
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Attachment 2. Summary of the Results of the Acute Dietary Exposure Assessment of Clothianidin.

```
Health Effects Division OPP EPA                       Ver. 3.16, 03-08-d
DEEM-FCID ACUTE Analysis for CLOTHIANIDIN          NHANES 2003-2008 2-Day
Residue file: 044309 (2012).R08               Adjustment factor #2 NOT used.
Analysis Date: 09-27-2012/10:31:30   Residue file dated: 09-27-2012/10:29:09
RAC/FF intake summed over 24 hours
Run Comment: ""
================================================================================

Summary calculations--per capita:

                95th Percentile    99th Percentile    99.9th Percentile
                Exposure  % aRfD   Exposure  % aRfD   Exposure  % aRfD
                ---------- --------  ---------- --------  ---------- --------
Total US Population:
                0.020913    8.37   0.042688   17.08   0.090403   36.16
All Infants:
                0.051461   20.58   0.083284   33.31   0.148482   59.39
Children 1-2:
                0.069586   27.83   0.112708   45.08   0.191457   76.58
Children 3-5:
                0.048260   19.30   0.071642   28.66   0.108357   43.34
Children 6-12:
                0.024264    9.71   0.039843   15.94   0.071398   28.56
Youth 13-19:
                0.014341    5.74   0.021983    8.79   0.038829   15.53
Adults 20-49:
                0.015090    6.04   0.022554    9.02   0.035057   14.02
Adults 50-99:
                0.014403    5.76   0.020962    8.38   0.029246   11.70
Female 13-49:
                0.015390    6.16   0.022581    9.03   0.035021   14.01
```

Attachment 3. Summary of the Results of the Chronic Dietary Exposure Assessment of Clothianidin.

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Health Effects Division OPP EPA                       Ver. 3.16, 03-08-d
DEEM-FCID Chronic analysis for CLOTHIANIDIN           NHANES 2003-2008 2-day
Residue file name: C:\Documents and Settings\mdoherty\My Documents\Chemistry Reviews\!DEEM
Runs\Clothianidin\2012\044309 (2012).R08
                                         Adjustment factor #2 NOT used.
Analysis Date 09-27-2012/10:30:23    Residue file dated: 09-27-2012/10:29:09
Reference dose (RfD, Chronic) = .098 mg/kg bw/day
===============================================================================
                    Total exposure by population subgroup
-------------------------------------------------------------------------------


                                            Total Exposure
                                    ----------------------------------
          Population                    mg/kg           Percent of
          Subgroup                   body wt/day           Rfd
------------------------------------  -------------     ----------------
Total US Population                     0.007458              7.6%
Hispanic                               0.008116              8.3%
Non-Hisp-White                         0.007316              7.5%
Non-Hisp-Black                         0.007063              7.2%
Non-Hisp-Other                         0.008579              8.8%
Nursing Infants                        0.009356              9.5%
Non-Nursing Infants                    0.019955             20.4%
Female 13+ PREG                        0.006687              6.8%
Children 1-6                           0.020830             21.3%
Children 7-12                          0.008313              8.5%
Male 13-19                             0.005242              5.3%
Female 13-19/NP                        0.005442              5.6%
Male 20+                               0.005572              5.7%
Female 20+/NP                          0.006255              6.4%
Seniors 55+                            0.006109              6.2%
All Infants                            0.016683             17.0%
Female 13-50                           0.005986              6.1%
Children 1-2                           0.027256             27.8%
Children 3-5                           0.018444             18.8%
Children 6-12                          0.009165              9.4%
Youth 13-19                            0.005346              5.5%
Adults 20-49                           0.005822              5.9%
Adults 50-99                           0.006109              6.2%
Female 13-49                           0.005974              6.1%


-------------------------------------------------------------------------------
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