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OFFICE OF
REGISTRATION
AND CHEMICAL SAFETY
SAFETY AND HEALTH
CONSIDERATIONS

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MEMORANDUM

DATE: September 13, 2006

SUBJECT: **Clothianidin: Acute and Chronic Dietary Exposure Assessments for the Section 3 Registration on Grapes, Potatoes, Sorghum, and Cotton, and the Section 18 Treatment of Sugar Beet Seeds.**

PC Code: 044309

DP Number: 326758

PP Nos.: 4F6869 (Grape & Potato)

3F6792 (Sorghum)

5F6908 (Cotton)

06OR04, 06WY01, 06CO03, 06ND01 (Sugar Beet Seed)

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Executive Summary

Acute and chronic dietary exposure and risk assessments were conducted using the Dietary Exposure Evaluation Model (DEEM-FCID™, Version 2.03). Clothianidin has been classified as "not likely" carcinogenic; therefore, a cancer dietary assessment is not needed. Clothianidin is a

major metabolite of the active ingredient thiamethoxam and residues of clothianidin coming from thiamethoxam were accounted for in these assessments. All registered, pending, and proposed uses of thiamethoxam, as of the date of this memorandum, are included in these assessments. The acute assessment is based on maximum residues of clothianidin observed in clothianidin and thiamethoxam field trials, and assumes 100% crop treated (%CT). The chronic assessment is based on average residues from clothianidin and thiamethoxam field trials and also assumes 100% crop treated. Assuming 100% crop treated in these analyses results in a potential "double counting" of clothianidin coming from thiamethoxam for crops that have registered uses of both compounds. Therefore, this method of accounting for thiamethoxam's involvement in clothianidin exposure probably overestimates that particular contribution to total exposure. The empirical processing factor for apple juice is used for apple and pear juice, and empirical factors are used for grape juice and raisins; otherwise, DEEM default processing factors are used. The analyses include direct incorporation of estimated clothianidin residues in drinking water. For water, the highest acute estimate from conservative models was used for both the acute and the chronic dietary exposure analyses.

Based on these highly conservative assumptions, acute dietary risk estimates at the 95th percentile of exposure are less than or equal to 45% of the acute population-adjusted dose (aPAD) for all population subgroups. Chronic dietary risk estimates are less than or equal to 16% of the chronic population-adjusted dose (cPAD) for all population subgroups. Generally HED is concerned when risk estimates exceed 100% of the PAD; therefore, all acute and chronic 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 which 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 Reference Dose (RfD) divided by the special FQPA Safety Factor.

For acute and non-cancer chronic exposures, HED is concerned when estimated dietary risk exceeds 100% of the PAD. References which 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," 6/21/2000, web link: <http://www.epa.gov/fedrgstr/EPA-PEST/2000/July/Day-12/6061.pdf>; or see SOP 99.6 (8/20/99).

The most recent dietary risk assessment for clothianidin was conducted by W. Cutchin (D304498, 7/12/04).

II. Residue Information

Tolerances have been established for both clothianidin (40 CFR 180.586) and thiamethoxam (40 CFR 180.565) on a variety of commodities. This assessment appends the previous assessment to include residue estimates for the requested uses on grape, potato, sorghum, cotton (seed

treatment) and sugar beet (seed treatment; Section 18). The residue of concern for both tolerance enforcement and risk assessment is the parent compound, clothianidin. These assessments include residues of clothianidin coming from clothianidin uses as well as those that may result from use of thiamethoxam. Both the acute and chronic assessments assume 100% crop treated for both compounds. For crops with registered uses of both clothianidin and thiamethoxam, the assumption of 100% crop treated results in a "double counting" of clothianidin coming from thiamethoxam since a given crop would not be treated with both compounds. Default processing factors from DEEM 7.78 are used in the analysis, with the exception of apple and pear juices, for which an empirical factor of 0.14 (versus the default factor of 1.3) is used, and grape juice and raisins, for which factors of 2.1 and 2.5, respectively, are used. The factor of 2.1 is greater than the theoretical processing factor (1.2) and is retained in these assessments as an added conservatism. A complete listing of the residues and processing factors used in the analyses is included in Attachment 1. The HED's SOP for translating residue data from representative commodities to other members of crop groups was used as needed (SOP 2000.1). Residues of clothianidin in livestock commodities (i.e., meat and milk) are not likely to be affected by these newly requested uses. Residue estimates for meat and milk are from the most recent dietary exposure analyses for clothianidin and thiamethoxam. Residue estimates for drinking water were provided by EFED (M. Barrett, D313414/313415, 8/23/05). The estimated drinking water concentrations (EDWCs) for surface water are 0.00729 ppm for acute and 0.00135 ppm for chronic scenarios, respectively. The EDWC for groundwater is 0.00588 ppm for all durations. Typically, HED uses the higher of the surface or groundwater estimates for each duration when assessing dietary risk (e.g., 0.00729 ppm from surface water for acute exposures and 0.00588 ppm from groundwater for chronic exposures). As an added conservatism in this chronic assessment, the acute 0.00729-ppm EDWC from surface water was used for both the acute and chronic analyses. Residue of clothianidin in livestock commodities (e.g., meat and milk) are not likely to be significantly affected by the requested new uses of clothianidin; therefore, anticipated residues in meat and milk were taken from the July 2004 clothianidin dietary assessment.

The acute assessment is highly conservative and assumes that all crops with existing or currently requested uses of either clothianidin or thiamethoxam bear residues of clothianidin (i.e., 100% crop treated). Clothianidin residues resulting from use of clothianidin are assumed to be at the maximum level observed in crop field trials. For commodities with thiamethoxam uses, the thiamethoxam contribution to clothianidin exposure has been estimated by adding the maximum clothianidin residue observed in thiamethoxam field trials to the clothianidin tolerance. In both cases, values reported as <LOQ (0.01 ppm) were assumed to be ½ the LOQ (0.005 ppm). The residue estimates used for crop commodities in the acute assessment are summarized in Table 1.

The chronic assessment is moderately refined and makes use of average residue values from the clothianidin and thiamethoxam field trials. The chronic assessment assumes 100% crop treated. Due to the linear nature of chronic assessment results (i.e., the exposure estimates are additive), separate analyses were conducted for residues of clothianidin resulting from clothianidin application and residues of clothianidin resulting from thiamethoxam application. The residue estimates were then added to obtain aggregate chronic dietary exposure estimates. As with the acute assessment, values reported as <LOQ were assumed to be at 0.005 ppm (½ LOQ). The

residue estimates used for crop commodities in the chronic analyses are summarized in Table 1.

Table 1. Summary of Clothianidin Residues Used in the Acute and Chronic Dietary Exposure Assessments. Values are reported in ppm. Blank entries indicate that there is not a use for the insecticide on that crop.						
Crop	Residue Source					
	Thiamethoxam Trials		Clothianidin Trials		Combined	
	Max.	Avg.	Max.	Avg.	Max.	Avg.
Artichoke, globe	0.029	0.022			0.029	0.022
Barley	0.020	0.008			0.020	0.008
Barley, grain	0.005	0.005			0.005	0.005
Bean, dried	0.005	0.005			0.005	0.005
Bean, succulent	0.005	0.005			0.005	0.005
Beet, sugar (maximum used for acute and chronic)			0.02	--	0.02	--
Borage, seed	0.005	0.005			0.005	0.005
Bushberry, Subgroup 13B	0.050	0.006			0.050	0.006
Caneberry	0.040	0.020			0.040	0.020
Canola, seed	0.005	0.005	0.005	0.005	0.010	0.010
Coffee	0.010	0.010			0.010	0.010
Corn, field, grain	0.005	0.005	0.005	0.005	0.010	0.010
Corn, pop, grain	0.005	0.005	0.005	0.005	0.010	0.010
Corn, sweet, KPCwHR	0.005	0.005	0.005	0.005	0.010	0.010
Cotton, gin byproducts			0.005	0.005	0.005	0.005
Cotton, undelinted seed	0.005	0.005	0.005	0.005	0.010	0.010
Crambe, seed	0.005	0.005			0.005	0.005
Cranberry	0.005	0.005			0.005	0.005
Flax, seed	0.005	0.005			0.005	0.005
Fruit, pome, Group 11	0.005	0.005	0.199	0.079	0.204	0.084
Fruit, stone, Group 12 - Cherry	0.030	0.009			0.030	0.009
Fruit, stone, Group 12 - Peach	0.120	0.033			0.120	0.033
Fruit, stone, Group 12 - Plum	0.020	0.006			0.020	0.006
Grapes	0.020	0.005	0.278	0.139	0.298	0.144
Hops	0.028	0.026			0.028	0.026
Juneberry	0.050	0.006			0.050	0.006
Lingonberry	0.050	0.006			0.050	0.006
Mustard, seed	0.005	0.005			0.005	0.005
Pecans	0.005	0.005			0.005	0.005
Peppermint	0.128	0.094			0.128	0.094
Potato	0.060	0.005	0.033	0.014	0.093	0.019
Rapeseed, seed	0.005	0.005			0.005	0.005
Safflower, seed	0.005	0.005			0.005	0.005
Salal	0.050	0.006			0.050	0.006
Sorghum, grain, grain	0.005	0.005	0.005	0.005	0.010	0.010
Spearmint	0.128	0.094			0.128	0.094
Strawberry	0.005	0.005			0.005	0.005
Sunflower	0.005	0.005			0.005	0.005
Vegetable, cucurbit, Group 9	0.005	0.005			0.005	0.005

Table 1. Summary of Clothianidin Residues Used in the Acute and Chronic Dietary Exposure Assessments. Values are reported in ppm. Blank entries indicate that there is not a use for the insecticide on that crop.

Crop	Residue Source					
	Thiamethoxam Trials		Clothianidin Trials		Combined	
	Max.	Avg.	Max.	Avg.	Max.	Avg.
Vegetable, fruiting, Group 8	0.010	0.005			0.010	0.005
Vegetable, legume, Group 6	0.005	0.005			0.005	0.005
Vegetable, root, except sugar beet, Subgroup 1B	0.005	0.005			0.005	0.005
Vegetable, tuberous and corm, Subgroup 1C (except potato)	0.150	0.046			0.150	0.046
Vegetables, head/stem brassica, Subgroup 5A	0.040	0.009			0.040	0.009
Vegetables, leafy brassica, Subgroup 5B - Cabbage	0.020	0.006			0.020	0.006
Vegetables, leafy brassica, Subgroup 5B - Mustard Greens	0.360	0.116			0.360	0.116
Vegetables, leafy, Group 4 - Celery	0.020	0.007			0.020	0.007
Vegetables, leafy, Group 4 - Head Lettuce	0.005	0.005			0.005	0.005
Vegetables, leafy, Group 4 - Leaf Lettuce	0.040	0.015			0.040	0.015
Vegetables, leafy, Group 4 - Spinach	0.800	0.077			0.800	0.077
Wheat, grain	0.005	0.005			0.005	0.005

III. 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 2.03), which incorporates consumption data from USDA's Continuing Surveys of Food Intakes by Individuals (CSFII), 1994-1996 and 1998. The 1994-96, 98 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, but for acute exposure assessment are retained as individual consumption events. Based on analysis of the 1994-96, 98 CSFII 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 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. The resulting residue consumption estimate for each food/food form is summed with the residue consumption 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 acute exposure assessments, 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., 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 all tiers of analysis. However, for Tiers 1 and 2, significant differences in user vs. per capita exposure and risk are identified and noted in the risk assessment.

IV. Toxicological Information

The toxicology of clothianidin was evaluated by HED's HIARC, which met on 11/14/2002. The findings and recommendations of the Committee can be found in the Committee's report dated 1/6/2003. The doses and endpoints are still considered appropriate to assess the present uses and are summarized in Table 2, below.

Exposure Scenario	Dose Used in Risk Assessment, UF	FQPA SF and Level of Concern for Risk Assessment	Study and Toxicological Effects
Acute Dietary (Females 13-50 years of age)	Developmental NOAEL = 25 UF = 1000 ^a Acute RfD = 0.025 mg/kg	FQPA SF = 1 <u>aPAD = acute RfD</u> FQPA SF = 0.025 mg/kg	Developmental rabbit study Developmental LOAEL = 75 mg/kg/day based on an increased litter incidence of a missing lobe of the lung.
Acute Dietary (General population)	NOAEL = 25 UF = 1000 ^a Acute RfD = 0.025 mg/kg	FQPA SF = 1 <u>aPAD = acute RfD</u> FQPA SF = 0.025 mg/kg	Special Neurotoxicity/Pharmacology Study in Mice and Rats LOAEL = 50 mg/kg based on transient signs of decreased spontaneous motor activity, tremors and deep respirations.
Chronic Dietary (All populations)	Offspring NOAEL = 9.8 UF = 1000 ^a Chronic RfD = 0.0098 mg/kg/day	FQPA SF = 1 <u>cPAD = chronic RfD</u> FQPA SF = 0.0098 mg/kg/day	2-Generation Reproduction Study Offspring LOAEL = 31.2 mg/kg/day based on decreased mean body weight gain and delayed sexual maturation, decreased absolute thymus weights in F ₁ pups and an increase in stillbirths in both generations.
Cancer (oral, dermal, inhalation)	Classification: Not Likely		

UF = uncertainty factor, FQPA SF = FQPA safety factor, NOAEL = no observed adverse effect level, LOAEL = lowest observed adverse effect level, PAD = population adjusted dose (a = acute, c = chronic) RfD = reference dose

^a Additional 10x database uncertainty factor for lack of a developmental immunotoxicity study.

V. Results/Discussion

As stated above, 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 of the acute analyses are summarized in Table 3 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+ years. As shown in Table 3, the risk estimates associated with acute dietary exposure to clothianidin are below HED's level of concern.

The acute assessment is based on the maximum clothianidin residues observed in clothianidin and thiamethoxam field trials. Typically, HED uses tolerance-level residues in its most conservative assessments. In this case, the combination of clothianidin tolerances with maximum clothianidin from thiamethoxam results in risk estimates that exceed HED's level of concern for infants, children 1-2 years of age, and children 3-5 years of age (Appendix 7). These risk exceedances are due, primarily, to residues associated with pome fruit. The clothianidin tolerance for pome fruit is 1.0 ppm; whereas the highest value reported in the clothianidin field trials for pome fruits is 0.199 ppm (W. Cutchin, D265079, 5/8/00). The difference between the maximum residue and the tolerance is sufficient to significantly impact the results of the modeled dietary exposure and risk estimates. Field trials are designed to produce high-level residues. The use of maximum residues in this assessment results in highly conservative exposure and risk estimates that are likely to overestimate actual exposure and risk, especially when coupled with the assumption of 100% crop treated and the "double counting" of clothianidin coming from thiamethoxam that was discussed previously.

Population Subgroup	Acute PAD (mg/kg/day)	Acute Estimates (95 th Percentile)	
		Dietary Exposure (mg/kg/day)	% aPAD
General U.S. Population	0.025	0.002813	11
All Infants (< 1 year old)	0.025	0.007807	31
Children 1-2 years old	0.025	0.011229	45
Children 3-5 years old	0.025	0.007232	29
Children 6-12 years old	0.025	0.003083	12
Youth 13-19 years old	0.025	0.001409	6
Adults 20-49 years old	0.025	0.001902	8
Adults 50+ years old	0.025	0.002102	8
Females 13-49 years old	0.025	0.001976	8

The results of the two chronic analyses are summarized in Table 4. The total exposure estimate in Table 4 is the sum of the clothianidin exposure estimates coming from the clothianidin and thiamethoxam sources. Although these exposure estimates are somewhat refined due to use of average residue levels, they should still be considered conservative estimates due to the use of field trials as the source for the residues, the assumption of 100% crop treated, and the "double counting" of residues for crops with registered (or pending/proposed) uses of both clothianidin and thiamethoxam. As indicated in Table 4, the chronic risk estimates are below HED's level of

concern for all population subgroups.

Table 4. Summary of the Chronic Dietary Exposure and Risk Estimates for Clothianidin							
Population Subgroup	Chronic PAD (mg/kg/day)	Source of Clothianidin					
		Clothianidin		Thiamethoxam		Total	
		Dietary Exposure (mg/kg/day)	% cPAD	Dietary Exposure (mg/kg/day)	% cPAD	Dietary Exposure (mg/kg/day)	% cPAD
General U.S. Population	0.0098	0.000370	4	0.000105	1	0.000475	5
All Infants (< 1 year old)	0.0098	0.001085	11	0.000179	2	0.001264	13
Children 1-2 years old	0.0098	0.001321	14	0.000263	3	0.001584	16
Children 3-5 years old	0.0098	0.000928	10	0.000223	2	0.001151	12
Children 6-12 years old	0.0098	0.000453	5	0.000142	2	0.000595	6
Youth 13-19 years old	0.0098	0.000225	2	0.000095	1	0.000320	3
Adults 20-49 years old	0.0098	0.000274	3	0.000084	1	0.000358	4
Adults 50+ years old	0.0098	0.000302	3	0.000085	1	0.000387	4
Females 13-49 years old	0.0098	0.000281	3	0.000081	1	0.000362	4

VI. Characterization of Inputs/Outputs

This assessment is based on high-end estimates of residue levels and assumes that all crops with either clothianidin or thiamethoxam tolerances are treated. These assumptions result in highly conservative, health protective estimates of exposure and risk.

VII. Conclusions

There are no dietary exposure considerations that would preclude the establishment of tolerances for residues of clothianidin in/on grape, potato, sorghum, cotton, and sugar beet commodities. A complete aggregate human health risk assessment is forthcoming.

VIII. List of Attachments

- Attachment 1. Clothianidin Residues Used for Acute Dietary Exposure Estimates.
- Attachment 2. Clothianidin from Clothianidin Application: Residues for Chronic Dietary Exposure Estimates.
- Attachment 3. Clothianidin from Thiamethoxam Application: Residues for Chronic Dietary Exposure Estimates.
- Attachment 4. Summary of the Acute Dietary Exposure and Risk Estimates for Clothianidin.
- Attachment 5. Summary of the Chronic Dietary Exposure and Risk Estimates for Clothianidin from Clothianidin Application.
- Attachment 6. Summary of the Chronic Dietary Exposure and Risk Estimates for Clothianidin from Thiamethoxam Application.
- Attachment 7. Summary of Acute Exposure and Risk Estimates Based on Clothianidin Tolerances.

Attachment 1. Clothianidin Residues Used for Acute Dietary Exposure Estimates.

U.S. Environmental Protection Agency Ver. 2.02
DEEM-PCID Acute analysis for CLOTHIANIDIN
Residue file name: C:\Documents and Settings\mdoherty\My Documents\Chemistry Reviews\DEEM
Runs\Clothianidin and Thiamethoxam\Max C + Max C from T + Water.R98
Analysis Date 08-30-2006 Residue file dated: 08-30-2006/10:52:57/8
Reference dose (aRfD) = 0.025 mg/kg bw/day
Comment: Acute and Chronic RfDs include a 10X FQPA Safety Factor

EPA Code	Crop	Food Name	Def Res (ppm)	Adj. Factors		Comment
				#1	#2	
04010050	4A	Amaranth, leafy	0.040000	1.000	1.000	
11000070	1A	Apple, fruit with peel	0.204000	1.000	0.050	
11000080	1A	Apple, peeled fruit	0.204000	1.000	0.050	
11000081	1A	Apple, peeled fruit-babyfood	0.204000	1.000	0.050	
11000090	1A	Apple, dried	0.204000	8.000	0.050	
11000091	1A	Apple, dried-babyfood	0.204000	8.000	0.050	
11000100	1A	Apple, juice	0.204000	0.140	0.050	
11000101	1A	Apple, juice-babyfood	0.204000	0.140	0.050	
11000110	1A	Apple, sauce	0.204000	1.000	0.050	
11000111	1A	Apple, sauce-babyfood	0.204000	1.000	0.050	
12000120	1A	Apricot	0.120000	1.000	0.150	
12000121	1A	Apricot-babyfood	0.120000	1.000	0.150	
12000130	1A	Apricot, dried	0.120000	6.000	0.150	
12000140	1A	Apricot, juice	0.120000	1.000	0.150	
12000141	1A	Apricot, juice-babyfood	0.120000	1.000	0.150	
01030150	1A	Arrowroot, flour	0.150000	1.000	0.330	
01030151	1A	Arrowroot, flour-babyfood	0.150000	1.000	0.330	
95000160	0	Artichoke, globe	0.029000	1.000	1.000	
01030170	1A	Artichoke, Jerusalem	0.150000	1.000	0.330	
04010180	4A	Arugula	0.040000	1.000	1.000	
09020210	9A	Balsam pear	0.005000	1.000	0.440	
15000250	1A	Barley, pearled barley	0.020000	1.000	0.010	
15000251	1A	Barley, pearled barley-babyfood	0.020000	1.000	0.010	
15000260	1A	Barley, flour	0.020000	1.000	0.010	
15000261	1A	Barley, flour-babyfood	0.020000	1.000	0.010	
15000270	1A	Barley, bran	0.020000	1.000	0.010	
06030300	6A	Bean, black, seed	0.005000	1.000	0.380	
06020310	6A	Bean, broad, succulent	0.005000	1.000	0.380	
06030320	6A	Bean, broad, seed	0.005000	1.000	0.380	
06020330	6A	Bean, cowpea, succulent	0.005000	1.000	0.380	
06030340	6A	Bean, cowpea, seed	0.005000	1.000	0.380	
06030350	6A	Bean, great northern, seed	0.005000	1.000	0.380	
06030360	6A	Bean, kidney, seed	0.005000	1.000	0.380	
06020370	6A	Bean, lima, succulent	0.005000	1.000	0.380	
06030380	6A	Bean, lima, seed	0.005000	1.000	0.380	
06030390	6A	Bean, mung, seed	0.005000	1.000	0.380	
06030400	6A	Bean, navy, seed	0.005000	1.000	0.380	
06030410	6A	Bean, pink, seed	0.005000	1.000	0.380	
06030420	6A	Bean, pinto, seed	0.005000	1.000	0.380	
06010430	6A	Bean, snap, succulent	0.005000	1.000	0.380	
06010431	6A	Bean, snap, succulent-babyfood	0.005000	1.000	0.380	
21000440	M	Beef, meat	0.000043	1.000	1.000	
21000441	M	Beef, meat-babyfood	0.000043	1.000	1.000	
21000450	M	Beef, meat, dried	0.000043	1.920	1.000	
21000460	M	Beef, meat byproducts	0.000032	1.000	1.000	
21000461	M	Beef, meat byproducts-babyfood	0.000032	1.000	1.000	
21000480	M	Beef, kidney	0.000032	1.000	1.000	
21000490	M	Beef, liver	0.001800	1.000	1.000	
21000491	M	Beef, liver-babyfood	0.001800	1.000	1.000	
01010500	1A	Beet, garden, roots	0.010000	1.000	0.330	
01010501	1A	Beet, garden, roots-babyfood	0.010000	1.000	0.330	
01010520	1A	Beet, sugar	0.020000	1.000	1.000	
01010521	1A	Beet, sugar-babyfood	0.020000	1.000	1.000	
01010530	1A	Beet, sugar, molasses	0.020000	1.000	1.000	
01010531	1A	Beet, sugar, molasses-babyfood	0.020000	1.000	1.000	

13010550	13A	Blackberry	0.040000	1.000	1.000
13010560	13A	Blackberry, juice	0.040000	1.000	1.000
13010561	13A	Blackberry, juice-babyfood	0.040000	1.000	1.000
13020570	13B	Blueberry	0.050000	1.000	0.550
13020571	13B	Blueberry-babyfood	0.050000	1.000	0.550
13010580	13A	Boysenberry	0.040000	1.000	1.000
05010610	5A	Broccoli	0.040000	1.000	1.000
05010611	5A	Broccoli-babyfood	0.040000	1.000	1.000
05010620	5A	Broccoli, Chinese	0.040000	1.000	1.000
05020630	5B	Broccoli raab	0.360000	1.000	1.000
05010640	5A	Brussels sprouts	0.040000	1.000	1.000
01010670	1AB	Burdock	0.005000	1.000	0.330
05010690	5A	Cabbage	0.040000	1.000	1.000
05020700	5B	Cabbage, Chinese, bok choy	0.020000	1.000	1.000
05010710	5A	Cabbage, Chinese, napa	0.040000	1.000	1.000
05010720	5A	Cabbage, Chinese, mustard	0.040000	1.000	1.000
09010750	9A	Cantaloupe	0.005000	1.000	0.130
04020760	4B	Cardoon	0.020000	1.000	1.000
01010780	1AB	Carrot	0.010000	1.000	0.330
01010781	1AB	Carrot-babyfood	0.010000	1.000	0.330
01010790	1AB	Carrot, juice	0.010000	1.000	0.330
09010800	9A	Casaba	0.005000	1.000	0.440
01030820	1CD	Cassava	0.150000	1.000	0.330
01030821	1CD	Cassava-babyfood	0.150000	1.000	0.330
05010830	5A	Cauliflower	0.040000	1.000	1.000
01010840	1AB	Celeriac	0.010000	1.000	0.330
04020850	4B	Celery	0.020000	1.000	1.000
04020851	4B	Celery-babyfood	0.020000	1.000	1.000
04020860	4B	Celery, juice	0.020000	1.000	1.000
04020870	4B	Celtuce	0.020000	1.000	1.000
09020880	9B	Chayote, fruit	0.005000	1.000	0.440
12000900	12	Cherry	0.030000	1.000	0.150
12000901	12	Cherry-babyfood	0.030000	1.000	0.150
12000910	12	Cherry, juice	0.030000	1.500	0.150
12000911	12	Cherry, juice-babyfood	0.030000	1.500	0.150
06030980	6C	Chickpea, seed	0.005000	1.000	0.380
06030981	6C	Chickpea, seed-babyfood	0.005000	1.000	0.380
06030990	6C	Chickpea, flour	0.005000	1.000	0.380
01011000	1AB	Chicory, roots	0.010000	1.000	0.330
09021020	9B	Chinese waxgourd	0.005000	1.000	0.440
04011040	4A	Chrysanthemum, garland	0.040000	1.000	1.000
95001150	0	Coffee, roasted bean	0.010000	1.000	1.000
95001160	0	Coffee, instant	0.010000	1.000	1.000
05021170	5B	Collards	0.360000	1.000	1.000
15001200	15	Corn, field, flour	0.010000	1.000	0.060
15001201	15	Corn, field, flour-babyfood	0.010000	1.000	0.060
15001210	15	Corn, field, meal	0.010000	1.000	0.060
15001211	15	Corn, field, meal-babyfood	0.010000	1.000	0.060
15001220	15	Corn, field, bran	0.010000	1.000	0.060
15001230	15	Corn, field, starch	0.010000	1.000	0.060
15001231	15	Corn, field, starch-babyfood	0.010000	1.000	0.060
15001240	15	Corn, field, syrup	0.010000	1.000	0.060
15001241	15	Corn, field, syrup-babyfood	0.010000	1.000	0.060
15001250	15	Corn, field, oil	0.010000	1.000	0.060
15001251	15	Corn, field, oil-babyfood	0.010000	1.000	0.060
15001260	15	Corn, pop	0.010000	1.000	1.000
15001270	15	Corn, sweet	0.010000	1.000	1.000
15001271	15	Corn, sweet-babyfood	0.010000	1.000	1.000
95001280	0	Cottonseed, oil	0.010000	1.000	0.200
95001281	0	Cottonseed, oil-babyfood	0.010000	1.000	0.200
11001290	11	Crabapple	0.204000	1.000	0.200
95001300	0	Cranberry	0.005000	1.000	0.290
95001301	0	Cranberry-babyfood	0.005000	1.000	0.290
95001310	0	Cranberry, dried	0.005000	1.000	0.290
95001320	0	Cranberry, juice	0.005000	1.100	0.290
95001321	0	Cranberry, juice-babyfood	0.005000	1.100	0.290
04011330	4A	Cress, garden	0.040000	1.000	1.000
04011340	4A	Cress, upland	0.040000	1.000	1.000
09021350	9B	Cucumber	0.005000	1.000	0.050

13021360	13B	Currant	0.050000	1.000	0.550
13021370	13B	Currant, dried	0.050000	1.000	0.550
04011380	4A	Dandelion, leaves	0.040000	1.000	1.000
01031390	10D	Dasheen, corm	0.150000	1.000	0.330
13011420	13A	Dawberry	0.040000	1.000	1.000
08001480	8	Eggplant	0.010000	1.000	0.150
13021490	13B	Elderberry	0.050000	1.000	0.550
04011500	4A	Endive	0.040000	1.000	1.000
04021520	4B	Fennel, Florence	0.020000	1.000	1.000
20001630	2I	Flaxseed, oil	0.005000	1.000	0.150
01031660	10D	Ginger	0.150000	1.000	0.330
01031661	10D	Ginger-babyfood	0.150000	1.000	0.330
01031670	10D	Ginger, dried	0.150000	1.000	0.330
01011680	1AB	Ginseng, dried	0.010000	1.000	0.330
23001690	M	Goat, meat	0.000043	1.000	1.000
23001700	M	Goat, meat byproducts	0.000032	1.000	1.000
23001720	M	Goat, kidney	0.000032	1.000	1.000
23001730	M	Goat, liver	0.001800	1.000	1.000
13021740	13B	Gooseberry	0.050000	1.000	0.550
95001750	O	Grape	0.298000	1.000	1.000
95001760	O	Grape, juice	0.298000	2.100	1.000
95001761	O	Grape, juice-babyfood	0.298000	2.100	1.000
95001770	O	Grape, leaves	0.298000	1.000	1.000
95001780	O	Grape, raisin	0.298000	2.500	1.000
95001790	O	Grape, wine and sherry	0.298000	2.100	1.000
06031820	6C	Guar, seed	0.005000	1.000	0.380
06031821	6C	Guar, seed-babyfood	0.005000	1.000	0.380
09011870	9A	Honeydew melon	0.005000	1.000	0.130
95001880	O	Hop	0.028000	1.000	1.000
24001890	M	Horse, meat	0.000043	1.000	1.000
01011900	1AB	Horseradish	0.010000	1.000	0.330
13021910	13B	Huckleberry	0.050000	1.000	0.550
05021940	5B	Kale	0.360000	1.000	1.000
05011960	5A	Kohlrabi	0.040000	1.000	1.000
06032030	6C	Lentil, seed	0.005000	1.000	0.380
04012040	4A	Lettuce, head	0.005000	1.000	1.000
04012050	4A	Lettuce, leaf	0.040000	1.000	1.000
13012080	13A	Loganberry	0.040000	1.000	1.000
11002100	I	Loquat	0.204000	1.000	0.530
28002210	M	Meat, game	0.000043	1.000	1.000
27002220	D	Milk, fat	0.000098	1.000	1.000
27002221	D	Milk, fat - baby food/infant for	0.000098	1.000	1.000
27012230	D	Milk, nonfat solids	0.000098	1.000	1.000
27012231	D	Milk, nonfat solids-baby food/in	0.000098	1.000	1.000
27022240	D	Milk, water	0.000098	1.000	1.000
27022241	D	Milk, water-babyfood/infant form	0.000098	1.000	1.000
27032251	D	Milk, sugar (lactose)-baby food/	0.000098	1.000	1.000
05022290	5B	Mustard greens	0.360000	1.000	1.000
12002300	12	Nectarine	0.120000	1.000	0.150
08002340	8	Okra	0.010000	1.000	0.150
04012480	4A	Parsley, leaves	0.040000	1.000	1.000
01012500	1AB	Parsley, turnip rooted	0.010000	1.000	0.330
01012510	1AB	Parsnip	0.010000	1.000	0.330
01012511	1AB	Parsnip-babyfood	0.010000	1.000	0.330
06022550	6B	Pea, succulent	0.005000	1.000	0.380
06022551	6B	Pea, succulent-babyfood	0.005000	1.000	0.380
06032560	6C	Pea, dry	0.005000	1.000	0.380
06032561	6C	Pea, dry-babyfood	0.005000	1.000	0.380
06012570	6B	Pea, edible podded, succulent	0.005000	1.000	0.380
06032580	6C	Pea, pigeon, seed	0.005000	1.000	0.380
06022590	6B	Pea, pigeon, succulent	0.005000	1.000	0.380
12002600	12	Peach	0.120000	1.000	0.150
12002601	12	Peach-babyfood	0.120000	1.000	0.150
12002610	12	Peach, dried	0.120000	7.000	0.150
12002611	12	Peach, dried-babyfood	0.120000	7.000	0.150
12002620	12	Peach, juice	0.120000	1.000	0.150
12002621	12	Peach, juice-babyfood	0.120000	1.000	0.150
11002660	1	Pear	0.204000	1.000	0.090
11002661	1	Pear-babyfood	0.204000	1.000	0.090

11002670 11	Pear, dried	0.204000	6.250	0.090
11002680 11	Pear, juice	0.204000	0.140	0.090
11002681 11	Pear, juice-babyfood	0.204000	0.140	0.090
14002690 14	Pecan	0.005000	1.000	1.000
08002700 8	Pepper, bell	0.010000	1.000	0.150
08002701 8	Pepper, bell-babyfood	0.010000	1.000	0.150
08002710 8	Pepper, bell, dried	0.010000	1.000	0.150
08002711 8	Pepper, bell, dried-babyfood	0.010000	1.000	0.150
08002720 8	Pepper, nonbell	0.010000	1.000	0.150
08002721 8	Pepper, nonbell-babyfood	0.010000	1.000	0.150
08002730 8	Pepper, nonbell, dried	0.010000	1.000	0.150
95002750 0	Peppermint	0.128000	1.000	0.090
95002760 0	Peppermint, oil	0.128000	1.000	0.090
12002850 12	Plum	0.020000	1.000	0.150
12002851 12	Plum-babyfood	0.020000	1.000	0.150
12002860 12	Plum, prune, fresh	0.020000	1.000	0.150
12002861 12	Plum, prune, fresh-babyfood	0.020000	1.000	0.150
12002870 12	Plum, prune, dried	0.020000	5.000	0.150
12002871 12	Plum, prune, dried-babyfood	0.020000	5.000	0.150
12002880 12	Plum, prune, juice	0.020000	1.400	0.150
12002881 12	Plum, prune, juice-babyfood	0.020000	1.400	0.150
25002900 M	Pork, meat	0.000043	1.000	1.000
25002901 M	Pork, meat-babyfood	0.000043	1.000	1.000
25002920 M	Pork, meat byproducts	0.000032	1.000	1.000
25002921 M	Pork, meat byproducts-babyfood	0.000032	1.000	1.000
25002940 M	Pork, kidney	0.000032	1.000	1.000
25002950 M	Pork, liver	0.001800	1.000	1.000
01032960 1C	Potato, chips	0.093000	1.000	0.410
01032970 1C	Potato, dry (granules/ flakes)	0.093000	6.500	0.410
01032971 1C	Potato, dry (granules/ flakes)-b	0.093000	6.500	0.410
01032980 1C	Potato, flour	0.093000	1.000	0.410
01032981 1C	Potato, flour-babyfood	0.093000	1.000	0.410
01032990 1C	Potato, tuber, w/peel	0.093000	1.000	0.410
01032991 1C	Potato, tuber, w/peel-babyfood	0.093000	1.000	0.410
01033000 1C	Potato, tuber, w/o peel	0.093000	1.000	0.410
01033001 1C	Potato, tuber, w/o peel-babyfood	0.093000	1.000	0.410
09023080 9B	Pumpkin	0.005000	1.000	0.440
09023090 9B	Pumpkin, seed	0.005000	1.000	0.440
11003100 11	Quince	0.204000	1.000	0.530
29003120 M	Rabbit, meat	0.000043	1.000	1.000
04013130 4A	Radicchio	0.040000	1.000	1.000
01013140 1AB	Radish, roots	0.010000	1.000	0.330
01013160 1AB	Radish, Oriental, roots	0.010000	1.000	0.330
05023180 5B	Rape greens	0.360000	1.000	1.000
20003190 20	Rapeseed, oil	0.010000	1.000	0.550
20003191 20	Rapeseed, oil-babyfood	0.010000	1.000	0.550
13013200 13A	Raspberry	0.040000	1.000	1.000
13013201 13A	Raspberry-babyfood	0.040000	1.000	1.000
13013210 13A	Raspberry, juice	0.040000	1.000	1.000
13013211 13A	Raspberry, juice-babyfood	0.040000	1.000	1.000
04023220 4B	Rhubarb	0.020000	1.000	1.000
01013270 1AB	Rutabaga	0.010000	1.000	0.330
20003300 20	Safflower, oil	0.005000	1.000	0.150
20003301 20	Safflower, oil-babyfood	0.005000	1.000	0.150
01013310 1AB	Salsify, roots	0.010000	1.000	0.330
26003390 M	Sheep, meat	0.000043	1.000	1.000
26003391 M	Sheep, meat-babyfood	0.000043	1.000	1.000
26003400 M	Sheep, meat byproducts	0.000032	1.000	1.000
26003420 M	Sheep, kidney	0.000032	1.000	1.000
26003430 M	Sheep, liver	0.001800	1.000	1.000
15003440 15	Sorghum, grain	0.010000	1.000	0.090
15003450 15	Sorghum, syrup	0.010000	1.000	0.090
06003470 6	Soybean, seed	0.005000	1.000	0.110
06003480 6	Soybean, flour	0.005000	1.000	0.110
06003481 6	Soybean, flour-babyfood	0.005000	1.000	0.110
06003490 6	Soybean, soy milk	0.005000	1.000	0.110
06003491 6	Soybean, soy milk-babyfood or in	0.005000	1.000	0.110
06003500 6	Soybean, oil	0.005000	1.000	0.110
06003501 6	Soybean, oil-babyfood	0.005000	1.000	0.110

95003520	0	Spearmint	0.128000	1.000	0.090
95003530	0	Spearmint, oil	0.128000	1.000	0.090
04013550	4A	Spinach	0.800000	1.000	1.000
04013551	4A	Spinach-babyfood	0.800000	1.000	1.000
09023560	9B	Squash, summer	0.005000	1.000	0.440
09023561	9B	Squash, summer-babyfood	0.005000	1.000	0.440
09023570	9B	Squash, winter	0.005000	1.000	0.440
09023571	9B	Squash, winter-babyfood	0.005000	1.000	0.440
95003590	0	Strawberry	0.005000	1.000	0.460
95003591	0	Strawberry-babyfood	0.005000	1.000	0.460
95003600	0	Strawberry, juice	0.005000	1.000	0.460
95003601	0	Strawberry, juice-babyfood	0.005000	1.000	0.460
20003640	2B	Sunflower, seed	0.005000	1.000	0.250
20003650	2B	Sunflower, oil	0.005000	1.000	0.250
20003651	2B	Sunflower, oil-babyfood	0.005000	1.000	0.250
01033660	1CB	Sweet potato	0.150000	1.000	0.330
01033661	1CB	Sweet potato-babyfood	0.150000	1.000	0.330
04023670	4B	Swiss chard	0.020000	1.000	1.000
01033710	1CB	Tanier, corm	0.150000	1.000	0.330
08003740	8	Tomatillo	0.010000	1.000	0.150
08003750	8	Tomato	0.010000	1.000	0.150
08003751	8	Tomato-babyfood	0.010000	1.000	0.150
08003760	8	Tomato, paste	0.010000	5.400	0.150
08003761	8	Tomato, paste-babyfood	0.010000	5.400	0.150
08003770	8	Tomato, puree	0.010000	3.300	0.150
08003771	8	Tomato, puree-babyfood	0.010000	3.300	0.150
08003780	8	Tomato, dried	0.010000	14.300	0.150
08003781	8	Tomato, dried-babyfood	0.010000	14.300	0.150
08003790	8	Tomato, juice	0.010000	1.500	0.150
01033870	1CB	Turnip	0.150000	1.000	0.330
01013880	1AB	Turnip, roots	0.010000	1.000	0.330
05023890	5B	Turnip, greens	0.360000	1.000	1.000
86010000	0	Water, direct, all sources	0.007290	1.000	1.000
86020000	0	Water, indirect, all sources	0.007290	1.000	1.000
09013990	9A	Watermelon	0.005000	1.000	0.130
09014000	9A	Watermelon, juice	0.005000	1.000	0.130
15004010	1B	Wheat, grain	0.005000	1.000	0.020
15004011	1B	Wheat, grain-babyfood	0.005000	1.000	0.020
15004020	1B	Wheat, flour	0.005000	1.000	0.020
15004021	1B	Wheat, flour-babyfood	0.005000	1.000	0.020
15004030	1B	Wheat, germ	0.005000	1.000	0.020
15004040	1B	Wheat, bran	0.005000	1.000	0.020
01034060	1CB	Yam, true	0.150000	1.000	0.330
01034070	1CB	Yam bean	0.150000	1.000	0.330

Attachment 2. Clothianidin from Clothianidin Application: Residues for Chronic Dietary Exposure Estimates.

U.S. Environmental Protection Agency Ver. 2.00
DEEM-FCID Chronic analysis for CLOTHIANIDIN 1994-98 data
Residue file: C:\Documents and Settings\mdoherty\My Documents\Chemistry Reviews\DEEM
Runs\Clothianidin and Thiamethoxam\Average Clothianidin from Clothianidin + Water.R98
Adjust. #2 used
Analysis Date 08-30-2006 Residue file dated: 08-30-2006/10:51:52/8
Reference dose (RfD) = 0.0098 mg/kg bw/day
Comment: Acute and Chronic RfDs include a 10X FQPA Safety Factor

Food Crop EPA Code	Grp	Food Name	Residue (ppm)	Adj. Factors		Comment
				#1	#2	
11000070	11	Apple, fruit with peel	0.079000	1.000	1.000	
11000080	11	Apple, peeled fruit	0.079000	1.000	1.000	
11000081	11	Apple, peeled fruit-babyfood	0.079000	1.000	1.000	
11000090	11	Apple, dried	0.079000	8.000	1.000	
11000091	11	Apple, dried-babyfood	0.079000	8.000	1.000	
11000100	11	Apple, juice	0.079000	0.140	1.000	
11000101	11	Apple, juice-babyfood	0.079000	0.140	1.000	
11000110	11	Apple, sauce	0.079000	1.000	1.000	
11000111	11	Apple, sauce-babyfood	0.079000	1.000	1.000	
01010500	1AB	Beet, garden, roots	0.010000	1.000	1.000	
01010501	1AB	Beet, garden, roots-babyfood	0.010000	1.000	1.000	
01010520	1A	Beet, sugar	0.020000	1.000	1.000	
01010521	1A	Beet, sugar-babyfood	0.020000	1.000	1.000	
01010530	1A	Beet, sugar, molasses	0.020000	1.000	1.000	
01010531	1A	Beet, sugar, molasses-babyfood	0.020000	1.000	1.000	
01010670	1AB	Burdock	0.010000	1.000	1.000	
01010780	1AB	Carrot	0.010000	1.000	1.000	
01010781	1AB	Carrot-babyfood	0.010000	1.000	1.000	
01010790	1AB	Carrot, juice	0.010000	1.000	1.000	
01010840	1AB	Celeriac	0.010000	1.000	1.000	
01011000	1AB	Chicory, roots	0.010000	1.000	1.000	
15001200	15	Corn, field, flour	0.005000	1.000	1.000	
15001201	15	Corn, field, flour-babyfood	0.005000	1.000	1.000	
15001210	15	Corn, field, meal	0.005000	1.000	1.000	
15001211	15	Corn, field, meal-babyfood	0.005000	1.000	1.000	
15001220	15	Corn, field, bran	0.005000	1.000	1.000	
15001230	15	Corn, field, starch	0.005000	1.000	1.000	
15001231	15	Corn, field, starch-babyfood	0.005000	1.000	1.000	
15001240	15	Corn, field, syrup	0.005000	1.000	1.000	
15001241	15	Corn, field, syrup-babyfood	0.005000	1.000	1.000	
15001250	15	Corn, field, oil	0.005000	1.000	1.000	
15001251	15	Corn, field, oil-babyfood	0.005000	1.000	1.000	
15001260	15	Corn, pop	0.005000	1.000	1.000	
15001270	15	Corn, sweet	0.005000	1.000	1.000	
15001271	15	Corn, sweet-babyfood	0.005000	1.000	1.000	
95001280	0	Cottonseed, oil	0.005000	1.000	1.000	
95001281	0	Cottonseed, oil-babyfood	0.005000	1.000	1.000	
11001290	11	Crabapple	0.079000	1.000	1.000	
01011680	1AB	Ginseng, dried	0.010000	1.000	1.000	
95001750	0	Grape	0.139000	1.000	1.000	
95001760	0	Grape, juice	0.139000	2.100	1.000	
95001761	0	Grape, juice-babyfood	0.139000	2.100	1.000	
95001770	0	Grape, leaves	0.139000	1.000	1.000	
95001780	0	Grape, raisin	0.139000	2.500	1.000	
95001790	0	Grape, wine and sherry	0.139000	2.100	1.000	
01011900	1AB	Horseradish	0.010000	1.000	1.000	
11002100	11	Loquat	0.079000	1.000	1.000	
27002220	D	Milk, fat	0.000098	1.000	1.000	
27002221	D	Milk, fat - baby food/infant for	0.000098	1.000	1.000	
27012230	D	Milk, nonfat solids	0.000098	1.000	1.000	
27012231	D	Milk, nonfat solids-baby food/in	0.000098	1.000	1.000	

27022240	D	Milk, water	0.000098	1.000	1.000
27022241	D	Milk, water-babyfood/infant form	0.000098	1.000	1.000
27032251	D	Milk, sugar (lactose)-baby food/	0.000098	1.000	1.000
01012500	1AB	Parsley, turnip rooted	0.010000	1.000	1.000
01012510	1AB	Parsnip	0.010000	1.000	1.000
01012511	1AB	Parsnip-babyfood	0.010000	1.000	1.000
11002660	11	Pear	0.079000	1.000	1.000
11002661	11	Pear-babyfood	0.079000	1.000	1.000
11002670	11	Pear, dried	0.079000	6.250	1.000
11002680	11	Pear, juice	0.079000	0.140	1.000
11002681	11	Pear, juice-babyfood	0.079000	0.140	1.000
01032960	10	Potato, chips	0.014000	1.000	1.000
01032970	10	Potato, dry (granules/ flakes)	0.014000	6.500	1.000
01032971	10	Potato, dry (granules/ flakes)-b	0.014000	6.500	1.000
01032980	10	Potato, flour	0.014000	1.000	1.000
01032981	10	Potato, flour-babyfood	0.014000	1.000	1.000
01032990	10	Potato, tuber, w/peel	0.014000	1.000	1.000
01032991	10	Potato, tuber, w/peel-babyfood	0.014000	1.000	1.000
01033000	10	Potato, tuber, w/o peel	0.014000	1.000	1.000
01033001	10	Potato, tuber, w/o peel-babyfood	0.014000	1.000	1.000
11003100	11	Quince	0.079000	1.000	1.000
01013140	1AB	Radish, roots	0.010000	1.000	1.000
01013160	1AB	Radish, Oriental, roots	0.010000	1.000	1.000
20003190	20	Rapeseed, oil	0.005000	1.000	1.000
20003191	20	Rapeseed, oil-babyfood	0.005000	1.000	1.000
01013270	1AB	Rutabaga	0.010000	1.000	1.000
01013310	1AB	Salsify, roots	0.010000	1.000	1.000
15003440	15	Sorghum, grain	0.005000	1.000	1.000
15003450	15	Sorghum, syrup	0.005000	1.000	1.000
01033660	100	Sweet potato	0.014000	1.000	1.000
01033661	100	Sweet potato-babyfood	0.014000	1.000	1.000
01013880	1AB	Turnip, roots	0.010000	1.000	1.000
86010000	0	Water, direct, all sources	0.007290	1.000	1.000
86020000	0	Water, indirect, all sources	0.007290	1.000	1.000

Attachment 3. Clothianidin from Thiamethoxam Application: Residues for Chronic Dietary Exposure Estimates.

U.S. Environmental Protection Agency
DEEM-FCID Chronic analysis for CLOTHIANIDIN
Residue file: G:\Briefcase\Chemistry Reviews\DEEM Runs\Clothianidin and Thiamethoxam\Average
Clothianidin from Thiamethoxam.R98

Ver. 2.00
1994-98 data

Analysis Date 07-31-2006 Adjust. #2 NOT used
Residue file dated: 07-31-2006/16:15:28/8
Reference dose (RfD) = 0.0098 mg/kg bw/day
Comment: Acute and Chronic RfDs include a 10X FQPA Safety Factor

Food Crop			Residue (ppm)	Adj. Factors		Comment
EPA Code	Grp	Food Name		#1	#2	
04010050	4A	Amaranth, leafy	0.015000	1.000	1.000	
11000070	11	Apple, fruit with peel	0.005000	1.000	0.050	
11000080	11	Apple, peeled fruit	0.005000	1.000	0.050	
11000081	11	Apple, peeled fruit-babyfood	0.005000	1.000	0.050	
11000090	11	Apple, dried	0.005000	8.000	0.050	
11000091	11	Apple, dried-babyfood	0.005000	8.000	0.050	
11000100	11	Apple, juice	0.005000	0.014	0.050	
11000101	11	Apple, juice-babyfood	0.005000	0.014	0.050	
11000110	11	Apple, sauce	0.005000	1.000	0.050	
11000111	11	Apple, sauce-babyfood	0.005000	1.000	0.050	
12000120	12	Apricot	0.033000	1.000	0.150	
12000121	12	Apricot-babyfood	0.033000	1.000	0.150	
12000130	12	Apricot, dried	0.033000	6.000	0.150	
12000140	12	Apricot, juice	0.033000	1.000	0.150	
12000141	12	Apricot, juice-babyfood	0.033000	1.000	0.150	
01030150	1CD	Arrowroot, flour	0.046000	1.000	0.330	
01030151	1CD	Arrowroot, flour-babyfood	0.046000	1.000	0.330	
95000160	0	Artichoke, globe	0.022000	1.000	1.000	
01030170	1CD	Artichoke, Jerusalem	0.046000	1.000	0.330	
04010180	4A	Arugula	0.015000	1.000	1.000	
09020210	9B	Balsam pear	0.005000	1.000	0.440	
15000250	15	Barley, pearled barley	0.008000	1.000	0.010	
15000251	15	Barley, pearled barley-babyfood	0.008000	1.000	0.010	
15000260	15	Barley, flour	0.008000	1.000	0.010	
15000261	15	Barley, flour-babyfood	0.008000	1.000	0.010	
15000270	15	Barley, bran	0.008000	1.000	0.010	
06030300	6C	Bean, black, seed	0.005000	1.000	0.380	
06020310	6B	Bean, broad, succulent	0.005000	1.000	0.380	
06030320	6C	Bean, broad, seed	0.005000	1.000	0.380	
06020330	6B	Bean, cowpea, succulent	0.005000	1.000	0.380	
06030340	6C	Bean, cowpea, seed	0.005000	1.000	0.380	
06030350	6C	Bean, great northern, seed	0.005000	1.000	0.380	
06030360	6C	Bean, kidney, seed	0.005000	1.000	0.380	
06020370	6B	Bean, lima, succulent	0.005000	1.000	0.380	
06030380	6C	Bean, lima, seed	0.005000	1.000	0.380	
06030390	6C	Bean, mung, seed	0.005000	1.000	0.380	
06030400	6C	Bean, navy, seed	0.005000	1.000	0.380	
06030410	6C	Bean, pink, seed	0.005000	1.000	0.380	
06030420	6C	Bean, pinto, seed	0.005000	1.000	0.380	
06010430	6A	Bean, snap, succulent	0.005000	1.000	0.380	
06010431	6A	Bean, snap, succulent-babyfood	0.005000	1.000	0.380	
21000440	M	Beef, meat	0.000043	1.000	1.000	
21000441	M	Beef, meat-babyfood	0.000043	1.000	1.000	
21000450	M	Beef, meat, dried	0.000043	1.920	1.000	
21000460	M	Beef, meat byproducts	0.000032	1.000	1.000	
21000461	M	Beef, meat byproducts-babyfood	0.000032	1.000	1.000	
21000480	M	Beef, kidney	0.000032	1.000	1.000	
21000490	M	Beef, liver	0.001800	1.000	1.000	
21000491	M	Beef, liver-babyfood	0.001800	1.000	1.000	
01010500	1AB	Beet, garden, roots	0.005000	1.000	0.330	
01010501	1AB	Beet, garden, roots-babyfood	0.005000	1.000	0.330	

13010550	13A	Blackberry	0.020000	1.000	1.000
13010560	13A	Blackberry, juice	0.020000	1.000	1.000
13010561	13A	Blackberry, juice-babyfood	0.020000	1.000	1.000
13020570	13B	Blueberry	0.006000	1.000	0.550
13020571	13B	Blueberry-babyfood	0.006000	1.000	0.550
13010580	13A	Boysenberry	0.020000	1.000	1.000
05010610	5A	Broccoli	0.009000	1.000	1.000
05010611	5A	Broccoli-babyfood	0.009000	1.000	1.000
05010620	5A	Broccoli, Chinese	0.009000	1.000	1.000
05020630	5B	Broccoli raab	0.116000	1.000	1.000
05010640	5A	Brussels sprouts	0.009000	1.000	1.000
01010670	1AB	Burdock	0.005000	1.000	0.330
05010690	5A	Cabbage	0.006000	1.000	1.000
05020700	5B	Cabbage, Chinese, bok choy	0.006000	1.000	1.000
05010710	5A	Cabbage, Chinese, napa	0.006000	1.000	1.000
05010720	5A	Cabbage, Chinese, mustard	0.006000	1.000	1.000
09010750	9A	Cantaloupe	0.005000	1.000	0.130
04020760	4B	Cardoon	0.007000	1.000	1.000
01010780	1AB	Carrot	0.005000	1.000	0.330
01010781	1AB	Carrot-babyfood	0.005000	1.000	0.330
01010790	1AB	Carrot, juice	0.005000	1.000	0.330
09010800	9A	Casaba	0.005000	1.000	0.440
01030820	1AD	Cassava	0.046000	1.000	0.330
01030821	1AD	Cassava-babyfood	0.046000	1.000	0.330
05010830	5A	Cauliflower	0.009000	1.000	1.000
01010840	1AB	Celeriac	0.005000	1.000	0.330
04020850	4B	Celery	0.007000	1.000	1.000
04020851	4B	Celery-babyfood	0.007000	1.000	1.000
04020860	4B	Celery, juice	0.007000	1.000	1.000
04020870	4B	Celtuce	0.007000	1.000	1.000
09020880	9B	Chayote, fruit	0.005000	1.000	0.440
12000900	12	Cherry	0.009000	1.000	0.150
12000901	12	Cherry-babyfood	0.009000	1.000	0.150
12000910	12	Cherry, juice	0.009000	1.500	0.150
12000911	12	Cherry, juice-babyfood	0.009000	1.500	0.150
06030980	6C	Chickpea, seed	0.005000	1.000	0.380
06030981	6C	Chickpea, seed-babyfood	0.005000	1.000	0.380
06030990	6C	Chickpea, flour	0.005000	1.000	0.380
01011000	1AB	Chicory, roots	0.005000	1.000	0.330
09021020	9B	Chinese waxgourd	0.005000	1.000	0.440
04011040	4A	Chrysanthemum, garland	0.015000	1.000	1.000
95001150	0	Coffee, roasted bean	0.010000	1.000	1.000
95001160	0	Coffee, instant	0.010000	1.000	1.000
05021170	5B	Collards	0.116000	1.000	1.000
15001200	15	Corn, field, flour	0.005000	1.000	0.060
15001201	15	Corn, field, flour-babyfood	0.005000	1.000	0.060
15001210	15	Corn, field, meal	0.005000	1.000	0.060
15001211	15	Corn, field, meal-babyfood	0.005000	1.000	0.060
15001220	15	Corn, field, bran	0.005000	1.000	0.060
15001230	15	Corn, field, starch	0.005000	1.000	0.060
15001231	15	Corn, field, starch-babyfood	0.005000	1.000	0.060
15001240	15	Corn, field, syrup	0.005000	1.000	0.060
15001241	15	Corn, field, syrup-babyfood	0.005000	1.000	0.060
15001250	15	Corn, field, oil	0.005000	1.000	0.060
15001251	15	Corn, field, oil-babyfood	0.005000	1.000	0.060
15001260	15	Corn, pop	0.005000	1.000	1.000
15001270	15	Corn, sweet	0.005000	1.000	1.000
15001271	15	Corn, sweet-babyfood	0.005000	1.000	1.000
95001280	0	Cottonseed, oil	0.005000	1.000	0.200
95001281	0	Cottonseed, oil-babyfood	0.005000	1.000	0.200
11001290	11	Crabapple	0.005000	1.000	0.290
95001300	0	Cranberry	0.005000	1.000	0.290
95001301	0	Cranberry-babyfood	0.005000	1.000	0.290
95001310	0	Cranberry, dried	0.005000	1.000	0.290
95001320	0	Cranberry, juice	0.005000	1.100	0.290
95001321	0	Cranberry, juice-babyfood	0.005000	1.100	0.290
04011330	4A	Cress, garden	0.015000	1.000	1.000
04011340	4A	Cress, upland	0.015000	1.000	1.000
09021350	9B	Cucumber	0.005000	1.000	0.050

13021360	13B	Currant	0.006000	1.000	0.550
13021370	13B	Currant, dried	0.006000	1.000	0.550
04011380	4A	Dandelion, leaves	0.015000	1.000	1.000
01031390	1CD	Dasheen, corm	0.046000	1.000	0.330
13011420	13A	Dewberry	0.020000	1.000	1.000
08001480	8	Eggplant	0.005000	1.000	0.150
13021490	13B	Elderberry	0.006000	1.000	0.550
04011500	4A	Endive	0.015000	1.000	1.000
04021520	4B	Fennel, Florence	0.007000	1.000	1.000
20001630	20	Flaxseed, oil	0.005000	1.000	0.150
01031660	1CD	Ginger	0.046000	1.000	0.330
01031661	1CD	Ginger-babyfood	0.046000	1.000	0.330
01031670	1CD	Ginger, dried	0.046000	1.000	0.330
01011680	1AB	Ginseng, dried	0.005000	1.000	0.330
23001690	M	Goat, meat	0.000043	1.000	1.000
23001700	M	Goat, meat byproducts	0.000032	1.000	1.000
23001720	M	Goat, kidney	0.000032	1.000	1.000
23001730	M	Goat, liver	0.001800	1.000	1.000
13021740	13B	Gooseberry	0.006000	1.000	0.550
95001750	O	Grape	0.005000	1.000	1.000
95001760	O	Grape, juice	0.005000	2.100	1.000
95001761	O	Grape, juice-babyfood	0.005000	2.100	1.000
95001770	O	Grape, leaves	0.005000	1.000	1.000
95001780	O	Grape, raisin	0.005000	2.500	1.000
95001790	O	Grape, wine and sherry	0.005000	2.100	1.000
06031820	6C	Guar, seed	0.005000	1.000	0.380
06031821	6C	Guar, seed-babyfood	0.005000	1.000	0.380
09011870	9A	Honeydew melon	0.005000	1.000	0.130
95001880	O	Hop	0.026000	1.000	1.000
24001890	M	Horse, meat	0.000043	1.000	1.000
01011900	1AB	Horseradish	0.005000	1.000	0.330
13021910	13B	Huckleberry	0.006000	1.000	0.550
05021940	5B	Kale	0.116000	1.000	1.000
05011960	5A	Kohlrabi	0.009000	1.000	1.000
06032030	6C	Lentil, seed	0.005000	1.000	0.380
04012040	4A	Lettuce, head	0.005000	1.000	1.000
04012050	4A	Lettuce, leaf	0.015000	1.000	1.000
13012080	13A	Loganberry	0.020000	1.000	1.000
11002100	11	Loquat	0.005000	1.000	0.530
28002210	M	Meat, game	0.000043	1.000	1.000
27002220	D	Milk, fat	0.000098	1.000	1.000
27002221	D	Milk, fat - baby food/infant for	0.000098	1.000	1.000
27012230	D	Milk, nonfat solids	0.000098	1.000	1.000
27012231	D	Milk, nonfat solids-baby food/in	0.000098	1.000	1.000
27022240	D	Milk, water	0.000098	1.000	1.000
27022241	D	Milk, water-babyfood/infant form	0.000098	1.000	1.000
27032251	D	Milk, sugar (lactose)-baby food/	0.000098	1.000	1.000
05022290	5B	Mustard greens	0.116000	1.000	1.000
12002300	12	Nectarine	0.033000	1.000	0.150
08002340	8	Okra	0.005000	1.000	0.150
04012480	4A	Parsley, leaves	0.015000	1.000	1.000
01012500	1AB	Parsley, turnip rooted	0.005000	1.000	0.330
01012510	1AB	Parsnip	0.005000	1.000	0.330
01012511	1AB	Parsnip-babyfood	0.005000	1.000	0.330
06022550	6B	Pea, succulent	0.005000	1.000	0.380
06022551	6B	Pea, succulent-babyfood	0.005000	1.000	0.380
06032560	6C	Pea, dry	0.005000	1.000	0.380
06032561	6C	Pea, dry-babyfood	0.005000	1.000	0.380
06012570	6A	Pea, edible podded, succulent	0.005000	1.000	0.380
06032580	6C	Pea, pigeon, seed	0.005000	1.000	0.380
06022590	6B	Pea, pigeon, succulent	0.005000	1.000	0.380
12002600	12	Peach	0.033000	1.000	0.150
12002601	12	Peach-babyfood	0.033000	7.000	0.150
12002610	12	Peach, dried	0.033000	7.000	0.150
12002611	12	Peach, dried-babyfood	0.033000	7.000	0.150
12002620	12	Peach, juice	0.033000	1.000	0.150
12002621	12	Peach, juice-babyfood	0.033000	1.000	0.150
11002660	11	Pear	0.005000	1.000	0.090
11002661	11	Pear-babyfood	0.005000	1.000	0.090

11002670	11	Pear, dried	0.005000	6.250	0.090
11002680	11	Pear, juice	0.005000	0.140	0.090
11002681	11	Pear, juice-babyfood	0.005000	0.140	0.090
14002690	14	Pecan	0.005000	1.000	1.000
08002700	8	Pepper, bell	0.005000	1.000	0.150
08002701	8	Pepper, bell-babyfood	0.005000	1.000	0.150
08002710	8	Pepper, bell, dried	0.005000	1.000	0.150
08002711	8	Pepper, bell, dried-babyfood	0.005000	1.000	0.150
08002720	8	Pepper, nonbell	0.005000	1.000	0.150
08002721	8	Pepper, nonbell-babyfood	0.005000	1.000	0.150
08002730	8	Pepper, nonbell, dried	0.005000	1.000	0.150
95002750	0	Peppermint	0.094000	1.000	0.090
95002760	0	Peppermint, oil	0.094000	1.000	0.090
12002850	12	Plum	0.006000	1.000	0.150
12002851	12	Plum-babyfood	0.006000	1.000	0.150
12002860	12	Plum, prune, fresh	0.006000	1.000	0.150
12002861	12	Plum, prune, fresh-babyfood	0.006000	1.000	0.150
12002870	12	Plum, prune, dried	0.006000	5.000	0.150
12002871	12	Plum, prune, dried-babyfood	0.006000	5.000	0.150
12002880	12	Plum, prune, juice	0.006000	1.400	0.150
12002881	12	Plum, prune, juice-babyfood	0.006000	1.400	0.150
25002900	M	Pork, meat	0.000043	1.000	1.000
25002901	M	Pork, meat-babyfood	0.000043	1.000	1.000
25002920	M	Pork, meat byproducts	0.000032	1.000	1.000
25002921	M	Pork, meat byproducts-babyfood	0.000032	1.000	1.000
25002940	M	Pork, kidney	0.000032	1.000	1.000
25002950	M	Pork, liver	0.001800	1.000	1.000
01032960	10	Potato, chips	0.046000	1.000	0.410
01032970	10	Potato, dry (granules/ flakes)	0.046000	6.500	0.410
01032971	10	Potato, dry (granules/ flakes)-b	0.046000	6.500	0.410
01032980	10	Potato, flour	0.046000	1.000	0.410
01032981	10	Potato, flour-babyfood	0.046000	1.000	0.410
01032990	10	Potato, tuber, w/peel	0.046000	1.000	0.410
01032991	10	Potato, tuber, w/peel-babyfood	0.046000	1.000	0.410
01033000	10	Potato, tuber, w/o peel	0.046000	1.000	0.410
01033001	10	Potato, tuber, w/o peel-babyfood	0.046000	1.000	0.410
09023080	9B	Pumpkin	0.005000	1.000	0.440
09023090	9B	Pumpkin, seed	0.005000	1.000	0.440
1003100	10	Quince	0.005000	1.000	0.530
29003120	M	Rabbit, meat	0.000043	1.000	1.000
04013130	4A	Radicchio	0.015000	1.000	1.000
01013140	1AB	Radish, roots	0.005000	1.000	0.330
01013160	1AB	Radish, Oriental, roots	0.005000	1.000	0.330
05023180	5B	Rape greens	0.116000	1.000	1.000
20003190	20	Rapeseed, oil	0.005000	1.000	0.550
20003191	20	Rapeseed, oil-babyfood	0.005000	1.000	0.550
13013200	13A	Raspberry	0.020000	1.000	1.000
13013201	13A	Raspberry-babyfood	0.020000	1.000	1.000
13013210	13A	Raspberry, juice	0.020000	1.000	1.000
13013211	13A	Raspberry, juice-babyfood	0.020000	1.000	1.000
04023220	4B	Rhubarb	0.007000	1.000	1.000
01013270	1AB	Rotabaga	0.005000	1.000	0.330
20003300	20	Safflower, oil	0.005000	1.000	0.150
20003301	20	Safflower, oil-babyfood	0.005000	1.000	0.150
01013310	1AB	Salsify, roots	0.005000	1.000	0.330
26003390	M	Sheep, meat	0.000043	1.000	1.000
26003391	M	Sheep, meat-babyfood	0.000043	1.000	1.000
26003400	M	Sheep, meat byproducts	0.000032	1.000	1.000
26003420	M	Sheep, kidney	0.000032	1.000	1.000
26003430	M	Sheep, liver	0.001800	1.000	1.000
15003440	15	Sorghum, grain	0.005000	1.000	0.090
15003450	15	Sorghum, syrup	0.005000	1.000	0.090
06003470	6	Soybean, seed	0.005000	1.000	0.110
06003480	6	Soybean, flour	0.005000	1.000	0.110
06003481	6	Soybean, flour-babyfood	0.005000	1.000	0.110
06003490	6	Soybean, soy milk	0.005000	1.000	0.110
06003491	6	Soybean, soy milk-babyfood or in	0.005000	1.000	0.110
06003500	6	Soybean, oil	0.005000	1.000	0.110
06003501	6	Soybean, oil-babyfood	0.005000	1.000	0.110

95003520	O	Spearmint	0.094000	1.000	0.090
95003530	O	Spearmint, oil	0.094000	1.000	0.090
04013550	4A	Spinach	0.077000	1.000	1.000
04013551	4A	Spinach-babyfood	0.077000	1.000	1.000
09023560	9B	Squash, summer	0.005000	1.000	0.440
09023561	9B	Squash, summer-babyfood	0.005000	1.000	0.440
09023570	9B	Squash, winter	0.005000	1.000	0.440
09023571	9B	Squash, winter-babyfood	0.005000	1.000	0.440
95003590	O	Strawberry	0.005000	1.000	0.460
95003591	O	Strawberry-babyfood	0.005000	1.000	0.460
95003600	O	Strawberry, juice	0.005000	1.000	0.460
95003601	O	Strawberry, juice-babyfood	0.005000	1.000	0.460
20003640	20	Sunflower, seed	0.005000	1.000	0.250
20003650	20	Sunflower, oil	0.005000	1.000	0.250
20003651	20	Sunflower, oil-babyfood	0.005000	1.000	0.250
01033660	1CD	Sweet potato	0.046000	1.000	0.330
01033661	1CD	Sweet potato-babyfood	0.046000	1.000	0.330
04023670	4B	Swiss chard	0.007000	1.000	1.000
01033710	1CD	Tanier, corm	0.046000	1.000	0.330
08003740	8	Tomatillo	0.005000	1.000	0.150
08003750	8	Tomato	0.005000	1.000	0.150
08003751	8	Tomato-babyfood	0.005000	1.000	0.150
08003760	8	Tomato, paste	0.005000	5.400	0.150
08003761	8	Tomato, paste-babyfood	0.005000	5.400	0.150
08003770	8	Tomato, puree	0.005000	3.300	0.150
08003771	8	Tomato, puree-babyfood	0.005000	3.300	0.150
08003780	8	Tomato, dried	0.005000	14.300	0.150
08003781	8	Tomato, dried-babyfood	0.005000	14.300	0.150
08003790	8	Tomato, juice	0.005000	1.500	0.150
01033870	1CD	Turmeric	0.046000	1.000	0.330
01013880	1AB	Turnip, roots	0.005000	1.000	0.330
05023890	5B	Turnip, greens	0.116000	1.000	1.000
09013990	9A	Watermelon	0.005000	1.000	0.130
09014000	9A	Watermelon, juice	0.005000	1.000	0.130
15004010	15	Wheat, grain	0.005000	1.000	0.020
15004011	15	Wheat, grain-babyfood	0.005000	1.000	0.020
15004020	15	Wheat, flour	0.005000	1.000	0.020
15004021	15	Wheat, flour-babyfood	0.005000	1.000	0.020
15004030	15	Wheat, germ	0.005000	1.000	0.020
15004040	15	Wheat, bran	0.005000	1.000	0.020
01034060	1CD	Yam, true	0.046000	1.000	0.330
01034070	1CD	Yam bean	0.046000	1.000	0.330

Attachment 4 Summary of the Acute Dietary Exposure and Risk Estimates for Clothianidin.

U.S. Environmental Protection Agency
DEEM-FCID ACUTE Analysis for CLOTHIANIDIN
Residue file: Max C + Max C from T + Water.R98 Adjustment factor #2 NOT used.
Analysis Date: 08-30-2006/10:58:31 Residue file dated: 08-30-2006/10:52:57/8
Daily totals for food and foodform consumption used.
Run Comments: "Acute and Chronic RfDs include a 10X FQPA Safety Factor"
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Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure	% aRfD	Exposure	% aRfD	Exposure	% aRfD
U.S. Population:	0.002813	11.25	0.006603	26.41	0.017962	71.85
All infants	0.007807	31.23	0.015645	62.58	0.035592	142.37
Children 1-2 yrs:	0.011229	44.92	0.024321	97.28	0.069201	276.80
Children 3-5 yrs:	0.007232	28.93	0.013984	55.94	0.030672	122.69
Children 6-12 yrs:	0.003083	12.33	0.006925	27.70	0.017535	70.14
Youth 13-19 yrs:	0.001409	5.64	0.003216	12.86	0.009108	36.43
Adults 20-49 yrs:	0.001902	7.61	0.004329	17.32	0.007551	30.20
Adults 50+ yrs:	0.002102	8.41	0.004351	17.40	0.007931	31.72
Females 13-49 yrs:	0.001976	7.90	0.004598	18.39	0.008201	32.80

Attachment 5. Summary of the Chronic Dietary Exposure and Risk Estimates for Clothianidin from Clothianidin Application.

U.S. Environmental Protection Agency
DEEM-FCID Chronic analysis for CLOTHIANIDIN
Residue file name: C:\Documents and Settings\mdoherty\My Documents\Chemistry Reviews\DEEM
Runs\Clothianidin and Thiamethoxam\Average Clothianidin from Clothianidin + Water.R98
Ver. 2.00
(1994-98 data)
Adjustment factor #2 used.
Analysis Date 08-30-2006/10:54:09 Residue file dated: 08-30-2006/10:51:52/8
Reference dose (RfD, Chronic) = .0098 mg/kg bw/day
COMMENT 1: Acute and Chronic RfDs include a 10X FQPA Safety Factor
=====

Total exposure by population subgroup

Population Subgroup	Total Exposure	
	mg/kg body wt/day	Percent of Rfd
U.S. Population (total)	0.000370	3.8%
U.S. Population (spring season)	0.000363	3.7%
U.S. Population (summer season)	0.000377	3.8%
U.S. Population (autumn season)	0.000371	3.8%
U.S. Population (winter season)	0.000371	3.8%
Northeast region	0.000389	4.0%
Midwest region	0.000374	3.8%
Southern region	0.000335	3.4%
Western region	0.000407	4.2%
Hispanics	0.000369	3.8%
Non-hispanic whites	0.000376	3.8%
Non-hispanic blacks	0.000340	3.5%
Non-hisp/non-white/non-black	0.000368	3.8%
All infants (< 1 year)	0.001085	11.1%
Nursing infants	0.000495	5.1%
Non-nursing infants	0.001309	13.4%
Children 1-6 yrs	0.001004	10.2%
Children 7-12 yrs	0.000426	4.4%
Females 13-19 (not preg or nursing)	0.000232	2.4%
Females 20+ (not preg or nursing)	0.000301	3.1%
Females 13-50 yrs	0.000297	3.0%
Females 13+ (preg/not nursing)	0.000271	2.8%
Females 13+ (nursing)	0.000341	3.5%
Males 13-19 yrs	0.000217	2.2%
Males 20+ yrs	0.000266	2.7%
Seniors 55+	0.000306	3.1%
Children 1-2 yrs	0.001321	13.5%
Children 3-5 yrs	0.000928	9.5%
Children 6-12 yrs	0.000453	4.6%
Youth 13-19 yrs	0.000225	2.3%
Adults 20-49 yrs	0.000274	2.8%
Adults 50+ yrs	0.000302	3.1%
Females 13-49 yrs	0.000281	2.9%

Attachment 6. Summary of the Chronic Dietary Exposure and Risk Estimates for Clothianidin from Thiamethoxam Application.

U.S. Environmental Protection Agency Ver. 2.00
DEEM-FCID Chronic analysis for CLOTHIANIDIN (1994-98 data)
Residue file name: G:\Briefcase\Chemistry Reviews\DEEM Runs\Clothianidin and Thiamethoxam\Average Clothianidin from Thiamethoxam.R98

Adjustment factor #2 NOT used.
Analysis Date 07-31-2006/16:16:32 Residue file dated: 07-31-2006/16:15:28/8
Reference dose (RfD, Chronic) = .0098 mg/kg bw/day
COMMENT 1: Acute and Chronic RfDs include a 10X FQPA Safety Factor

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Total exposure by population subgroup

Population Subgroup	Total Exposure	
	mg/kg body wt./day	Percent of Rfd
U.S. Population (total)	0.000105	1.1%
U.S. Population (spring season)	0.000104	1.1%
U.S. Population (summer season)	0.000107	1.1%
U.S. Population (autumn season)	0.000105	1.1%
U.S. Population (winter season)	0.000103	1.1%
Northeast region	0.000101	1.0%
Midwest region	0.000111	1.1%
Southern region	0.000103	1.1%
Western region	0.000103	1.1%
Hispanics	0.000105	1.1%
Non-hispanic whites	0.000103	1.0%
Non-hispanic blacks	0.000112	1.1%
Non-hisp/non-white/non-black	0.000113	1.1%
All infants (0-1 year)	0.000179	1.8%
Nursing infants	0.000094	1.0%
Non-nursing infants	0.000212	2.2%
Children 1-5 yrs	0.000229	2.3%
Children 6-12 yrs	0.000135	1.4%
Females 13-49 (not preg or nursing)	0.000086	0.9%
Females 20+ (not preg or nursing)	0.000081	0.8%
Females 13-50 yrs	0.000085	0.9%
Females 13+ (preg/not nursing)	0.000078	0.8%
Females 13+ (nursing)	0.000091	0.9%
Males 13-19 yrs	0.000105	1.1%
Males 20+ yrs	0.000087	0.9%
Seniors 55+	0.000085	0.9%
Children 1-2 yrs	0.000263	2.7%
Children 3-5 yrs	0.000223	2.3%
Children 6-12 yrs	0.000142	1.5%
Youth 13-19 yrs	0.000095	1.0%
Adults 20-49 yrs	0.000084	0.9%
Adults 50+ yrs	0.000085	0.9%
Females 13-49 yrs	0.000081	0.8%

Attachment 7. Summary of Acute Exposure and Risk Estimates Based on Clothianidin Tolerances.

U.S. Environmental Protection Agency Ver. 2.02
DEEM-FCID ACUTE Analysis for CLOTHIANIDIN (1994-98 data)
Residue file: C Tol + Max C from T + Water.R98 Adjustment factor #2 NOT used.
Analysis Date: 08-30-2006/11:05:56 Residue file dated: 08-30-2006/11:04:01/8
Daily totals for food and foodform consumption used.
Run Comment: "Acute and Chronic RfDs include a 10X FQPA Safety Factor"
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Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure	% aRfD	Exposure	% aRfD	Exposure	% aRfD
U.S. Population:	0.008826	35.30	0.024750	99.00	0.054270	217.08
All infants:	0.032173	128.69	0.054339	217.36	0.119354	477.42
Children 1-2 yrs:	0.039897	159.59	0.070648	282.59	0.144471	577.88
Children 3-5 yrs:	0.027336	109.35	0.043227	172.91	0.080867	323.47
Children 6-12 yrs:	0.011424	45.69	0.022899	91.60	0.039696	158.78
Youth 13-19 yrs:	0.005066	20.27	0.010533	42.13	0.023283	93.13
Adults 20-49 yrs:	0.004960	19.84	0.009680	38.72	0.017307	69.23
Adults 50+ yrs:	0.005167	20.67	0.009127	36.51	0.017970	71.88
Females 13-49 yrs:	0.005391	21.56	0.010467	41.87	0.017772	71.09