Supplemental Table 1a. Mean Dioxin Exposure from Pork, Based on Pork Consumption

	Pork consumption amount	Mean pork TEQ amount	Fat % in non-lean pork	Mean exposure, non-lean pork	Comparison of non-lean pork to the RfD*	Fat % in lean pork	Mean exposure, lean pork	Comparison of lean pork to the RfD*
Units	(g/kg-day)	(pg/g)		(pg/kg-bw-day)			(pg/kg-bw-day)	
	Value[1]	Value[2]	Value[3]	Calculation[4]	Comparison[5]	Value[3]	Calculation[6]	Comparison[5]
Whole population	0.39	0.16	14.95%	0.009	0.013	5.88%	0.004	0.005
Birth to 1	0.17	0.16	14.95%	0.004	0.006	5.88%	0.002	0.002
1-2 years	0.75	0.16	14.95%	0.018	0.026	5.88%	0.007	0.010
3-5 years	0.79	0.16	14.95%	0.019	0.027	5.88%	0.007	0.011
6-12 years	0.52	0.16	14.95%	0.012	0.018	5.88%	0.005	0.007
13-19 years	0.36	0.16	14.95%	0.009	0.012	5.88%	0.003	0.005
20-49 years	0.36	0.16	14.95%	0.009	0.012	5.88%	0.003	0.005
Females 13-49	0.28	0.16	14.95%	0.007	0.010	5.88%	0.003	0.004
50 years and older	0.33	0.16	14.95%	0.008	0.011	5.88%	0.003	0.004

Footnotes:

1. 2011 EPA Exposure Factors Handbook, Table 11-5: http://www.epa.gov/ncea/efh/report.html

2. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200

3. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html

4. Mean exposure, non-lean pork = pork consumption amount x mean pork TEQ amount x fat % in non-lean pork

5 . Comparison to RfD = mean exposure amount/RfD for dioxin

6. Mean exposure, lean pork = pork consumption amount x mean pork TEQ amount x fat % in lean pork

*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 1b. Mean Dioxin Exposure from Chicken, Based on Chicken Consumption

	Chicken consumption amount	Mean chicken TEQ amount	Fat % in non-lean chicken	Mean exposure, non-lean chicken	Comparison of non-lean chicken to the RfD*	Fat % in lean chicken	Mean exposure, lean chicken	Comparison of lean chicken to the RfD*
Units	**(g/kg-day)**	**(pg/g)**		**(pg/kg-bw-day)**			**(pg/kg-bw-day)**	
	Value[1]	**Value[2]**	**Value[3]**	**Calculation[4]**	**Comparison[5]**	**Value[3]**	**Calculation[6]**	**Comparison[5]**
Whole population	0.630	0.174	15.06%	0.017	0.024	3.08%	0.003	0.005
Birth to 1	0.534	0.174	15.06%	0.014	0.020	3.08%	0.003	0.004
1-2 years	1.569	0.174	15.06%	0.041	0.059	3.08%	0.008	0.012
3-5 years	1.415	0.174	15.06%	0.037	0.053	3.08%	0.008	0.011
6-12 years	0.968	0.174	15.06%	0.025	0.036	3.08%	0.005	0.007
13-19 years	0.667	0.174	15.06%	0.017	0.025	3.08%	0.004	0.005
20-49 years	0.578	0.174	15.06%	0.015	0.022	3.08%	0.003	0.004
Females 13-49	0.530	0.174	15.06%	0.014	0.020	3.08%	0.003	0.004
50 years and older	0.397	0.174	15.06%	0.010	0.015	3.08%	0.002	0.003

Footnotes:

1. Based on poultry amounts from the 2011 EPA Exposure Factors Handbook, Table 11-5: http://www.epa.gov/ncea/efh/report.html, and Crème calculations (see accompanying Supplemental Table 8. Poultry Conversion Table)
2. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
   Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
   Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
3. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
4. Mean exposure, non-lean chicken = chicken consumption amount x mean chicken TEQ amount x fat % in non-lean chicken
5. Comparison to RfD = mean exposure amount/RfD for dioxin
6. Mean exposure, lean chicken = chicken consumption amount x mean chicken TEQ amount x fat % in lean chicken

*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 1c. Mean Dioxin Exposure from Turkey, Based on Turkey Consumption

	Turkey consumption amount	Mean turkey TEQ amount	Fat % in non-lean turkey	Mean exposure, non-lean turkey	Comparison of non-lean turkey to the RfD*	Fat % in lean turkey	Mean exposure, lean turkey	Comparison of lean turkey to the RfD*
Units	(g/kg-day)	(pg/g)		(pg/kg-bw-day)			(pg/kg-bw-day)	
	Value[1]	Value[2]	Value[3]	Calculation[4]	Comparison[5]	Value[3]	Calculation[6]	Comparison[5]
Whole population	0.140	0.611	8.02%	0.007	0.010	2.86%	0.002	0.004
Birth to 1	0.156	0.611	8.02%	0.008	0.011	2.86%	0.003	0.004
1-2 years	0.301	0.611	8.02%	0.015	0.021	2.86%	0.005	0.008
3-5 years	0.235	0.611	8.02%	0.012	0.016	2.86%	0.004	0.006
6-12 years	0.212	0.611	8.02%	0.010	0.015	2.86%	0.004	0.005
13-19 years	0.133	0.611	8.02%	0.007	0.009	2.86%	0.002	0.003
20-49 years	0.132	0.611	8.02%	0.006	0.009	2.86%	0.002	0.003
Females 13-49	0.130	0.611	8.02%	0.006	0.009	2.86%	0.002	0.003
50 years and older	0.103	0.611	8.02%	0.005	0.007	2.86%	0.002	0.003

Footnotes:

1. Based on poultry amounts from the 2011 EPA Exposure Factors Handbook, Table 11-5: http://www.epa.gov/ncea/efh/report.html, and Crème calculations (see accompanying Supplemental Table 8. Poultry Conversion Table)
2. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
   Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
   Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
3. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
4. Mean exposure, non-lean turkey = turkey consumption amount x mean turkey TEQ amount x fat % in non-lean turkey
5. Comparison to RfD = mean exposure amount/RfD for dioxin
6. Mean exposure, lean turkey = turkey consumption amount x mean turkey TEQ amount x fat % in lean turkey

*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 2a. Highest Dioxin Exposure from Pork, Based on Pork Consumption

	Pork consumption amount	Highest pork TEQ amount	Fat % in non-lean pork	Highest exposure, non-lean pork	Comparison of non-lean pork to the RfD*	Fat % in lean pork	Highest exposure, lean pork	Comparison of lean pork to the RfD*
Units	(g/kg-day)	(pg/g)		(pg/kg-bw-day)			(pg/kg-bw-day)	
	Value[1]	Value[2]	Value[3]	Calculation[4]	Comparison[5]	Value[3]	Calculation[6]	Comparison[5]
Whole population	0.39	1.367	14.95%	0.080	0.114	5.88%	0.031	0.045
Birth to 1	0.17	1.367	14.95%	0.035	0.050	5.88%	0.014	0.020
1-2 years	0.75	1.367	14.95%	0.153	0.219	5.88%	0.060	0.086
3-5 years	0.79	1.367	14.95%	0.161	0.231	5.88%	0.063	0.091
6-12 years	0.52	1.367	14.95%	0.106	0.152	5.88%	0.042	0.060
13-19 years	0.36	1.367	14.95%	0.074	0.105	5.88%	0.029	0.041
20-49 years	0.36	1.367	14.95%	0.074	0.105	5.88%	0.029	0.041
Females 13-49	0.28	1.367	14.95%	0.057	0.082	5.88%	0.023	0.032
50 years and older	0.33	1.367	14.95%	0.067	0.096	5.88%	0.027	0.038

Footnotes:

1. 2011 EPA Exposure Factors Handbook, Table 11-5: http://www.epa.gov/ncea/efh/report.html
2. Highest TEQ amount is the highest-TEQ per pg/g of lipid
   Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
   Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
3. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
4. Highest exposure, non-lean pork = pork consumption amount x highest pork TEQ amount x fat % in non-lean pork
5. Comparison to RfD = mean exposure amount/RfD for dioxin
6. Highest exposure, lean pork = pork consumption amount x highest pork TEQ amount x fat % in lean pork

*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 2b. Highest Dioxin Exposure from Chicken, Based on Chicken Consumption

	Chicken consumption amount	Highest chicken TEQ amount	Fat % in non-lean chicken	Highest exposure, non-lean chicken	Comparison of non-lean chicken to the RfD*	Fat % in lean chicken	Highest exposure, lean chicken	Comparison of lean chicken to the RfD*
Units	(g/kg-day)	(pg/g)		(pg/kg-bw-day)			(pg/kg-bw-day)	
	Value[1]	Value[2]	Value[3]	Calculation[4]	Comparison[5]	Value[3]	Calculation[6]	Comparison[5]
Whole population	0.630	1.281	15.06%	0.121	0.174	3.08%	0.025	0.035
Birth to 1	0.534	1.281	15.06%	0.103	0.147	3.08%	0.021	0.030
1-2 years	1.569	1.281	15.06%	0.303	0.432	3.08%	0.062	0.088
3-5 years	1.415	1.281	15.06%	0.273	0.390	3.08%	0.056	0.080
6-12 years	0.968	1.281	15.06%	0.187	0.267	3.08%	0.038	0.055
13-19 years	0.667	1.281	15.06%	0.129	0.184	3.08%	0.026	0.038
20-49 years	0.578	1.281	15.06%	0.112	0.159	3.08%	0.023	0.033
Females 13-49	0.530	1.281	15.06%	0.102	0.146	3.08%	0.021	0.030
50 years and older	0.397	1.281	15.06%	0.077	0.109	3.08%	0.016	0.022

Footnotes:

1. Based on poultry amounts from the 2011 EPA Exposure Factors Handbook, Table 11-5: http://www.epa.gov/ncea/efh/report.html, and Crème calculations (see accompanying Supplemental Table 8. Poultry Conversion Table)
2. Highest TEQ amount is the highest-TEQ per pg/g of lipid
   Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
   Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
3. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
4. Highest exposure, non-lean chicken = chicken consumption amount x highest chicken TEQ amount x fat % in non-lean chicken
5. Comparison to RfD = mean exposure amount/RfD for dioxin
6. Highest exposure, lean chicken = chicken consumption amount x highest chicken TEQ amount x fat % in lean chicken

*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 2c. Highest Dioxin Exposure from Turkey, Based on Turkey Consumption

	Turkey consumption amount	Highest turkey TEQ amount	Fat % in non-lean turkey	Highest exposure, non-lean turkey	Comparison of non-lean turkey to the RfD*	Fat % in lean turkey	Highest exposure, lean turkey	Comparison of lean turkey to the RfD*
Units	(g/kg-day)	(pg/g)		(pg/kg-bw-day)			(pg/kg-bw-day)	
	Value[1]	Value[2]	Value[3]	Calculation[4]	Comparison[5]	Value[3]	Calculation[6]	Comparison[5]
Whole population	0.140	4.597	8.02%	0.052	0.074	2.86%	0.018	0.026
Birth to 1	0.156	4.597	8.02%	0.058	0.082	2.86%	0.021	0.029
1-2 years	0.301	4.597	8.02%	0.111	0.158	2.86%	0.040	0.057
3-5 years	0.235	4.597	8.02%	0.087	0.124	2.86%	0.031	0.044
6-12 years	0.212	4.597	8.02%	0.078	0.112	2.86%	0.028	0.040
13-19 years	0.133	4.597	8.02%	0.049	0.070	2.86%	0.017	0.025
20-49 years	0.132	4.597	8.02%	0.049	0.069	2.86%	0.017	0.025
Females 13-49	0.130	4.597	8.02%	0.048	0.068	2.86%	0.017	0.024
50 years and older	0.103	4.597	8.02%	0.038	0.054	2.86%	0.014	0.019

Footnotes:

1. Based on poultry amounts from the 2011 EPA Exposure Factors Handbook, Table 11-5: http://www.epa.gov/ncea/efh/report.html, and Crème calculations (see accompanying Supplemental Table 8. Poultry Conversion Table)
2. Highest TEQ amount is the highest-TEQ per pg/g of lipid
   Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
   Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
3. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
4. Highest exposure, non-lean turkey = turkey consumption amount x highest turkey TEQ amount x fat % in non-lean turkey
5. Comparison to RfD = mean exposure amount/RfD for dioxin
6. Highest exposure lean turkey = turkey consumption amount x highest turkey TEQ amount x fat % in lean turkey

*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 3a. Dioxin Exposure from Pork as One of Several Protein Foods Sources
Mean Recommended Calorie Level and Mean TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Mean calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Meat % of meat, poultry, egg amount	Recommended meat amount	Pork % of meat	Recommended pork amount	Recommended pork amount	Body weight (bw)	Consumption amount	Mean pork TEQ amount	Fat % in lean pork	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
1-2 years	1000	2.0	1.4	49.05%	0.7	31%	0.22	6.158	11.4	0.54	0.16	5.88%	0.005	0.007
3-5 years	1400	4.0	2.7	49.05%	1.3	31%	0.41	11.701	18.6	0.63	0.16	5.88%	0.006	0.008
6-12 years	1800	5.0	3.4	49.05%	1.7	31%	0.52	14.780	31.8	0.46	0.16	5.88%	0.004	0.006
13-19 years	2600	6.5	4.4	49.05%	2.2	31%	0.67	19.091	71.6	0.27	0.16	5.88%	0.003	0.004
20-49 years	2600	6.5	4.4	49.05%	2.2	31%	0.67	19.091	80	0.24	0.16	5.88%	0.002	0.003
Females 13-49	1800	5.0	3.4	49.05%	1.7	31%	0.52	14.780	70^	0.21	0.16	5.88%	0.002	0.003
50 years and older	2000	5.5	3.7	49.05%	1.8	31%	0.56	16.011	80	0.20	0.16	5.88%	0.002	0.003
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	2.5~	31%	0.78	21.971	80	0.275	0.16	5.88%	0.003	0.004
Recommended U.S. intake	2000	5.5	N/A	N/A	1.8~	31%	0.56	15.819	80	0.198	0.16	5.88%	0.002	0.003

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk

3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm

4. Recommended meat amount = meat % of meat, poultry and egg amount x recommended meat, poultry and egg amount
~Usual and recommended U.S. intake for meat portion of protein foods amount is taken from Table 5-1, and represents a 2000 calorie diet

5. Pork % of "Meats Subgroup" is 31 %: the sum of cured pork, fresh pork and pork luncheon meats
USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf

6. Recommended pork amount = recommended meat amount x pork % of meat

7. Conversion from ounces to grams = oz x 28.35 g/oz

8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
^"Females 13-49" body weight is an average taken from Table 8-5

9. Consumption amount = recommended pork amount/body weight

10. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200

11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html

12. Exposure = consumption amount x mean pork TEQ amount x fat % in lean pork

13. Comparison of exposure to the RfD = exposure/RfD for dioxin
*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 3b. Dioxin Exposure from Chicken as One of Several Protein Foods Sources
Mean Recommended Calorie Level and Mean TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Mean calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Poultry % of meat, poultry, egg amount	Recommended poultry amount	Chicken % of poultry	Recommended chicken amount	Recommended chicken amount	Body weight (bw)	Consumption amount	Mean chicken TEQ amount	Fat % in lean chicken	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
1-2 years	1000	2.0	1.4	39.39%	0.6	93%	0.52	14.772	11.4	1.30	0.174	3.08%	0.007	0.010
3-5 years	1400	4.0	2.7	39.39%	1.1	93%	0.99	28.068	18.6	1.51	0.174	3.08%	0.008	0.012
6-12 years	1800	5.0	3.4	39.39%	1.4	93%	1.25	35.454	31.8	1.11	0.174	3.08%	0.006	0.009
13-19 years	2600	6.5	4.4	39.39%	1.7	93%	1.62	45.795	71.6	0.64	0.174	3.08%	0.003	0.005
20-49 years	2600	6.5	4.4	39.39%	1.7	93%	1.62	45.795	80	0.57	0.174	3.08%	0.003	0.004
Females 13-49	1800	5.0	3.4	39.39%	1.4	93%	1.25	35.454	70^	0.51	0.174	3.08%	0.003	0.004
50 years and older	2000	5.5	3.7	39.39%	1.5	93%	1.35	38.408	80	0.48	0.174	3.08%	0.003	0.004
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	1.2~	93%	1.11	31.503	80	0.394	0.174	3.08%	0.002	0.003
Recommended U.S. intake	2000	5.5	N/A	N/A	1.5~	93%	1.39	39.378	80	0.492	0.174	3.08%	0.003	0.004

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk

3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm

4. Recommended poultry amount = poultry % of meat, poultry and egg amount x recommended meat, poultry and egg amount
~Usual and recommended U.S. intake for poultry portion of protein amount is taken from Table 5-1, and represents a 2000 calorie diet

5 . Chicken % of "Poultry Subgroup" is 92.6 %: the sum of chicken and poultry luncheon meats
USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf

6. Recommended chicken amount = recommended poultry amount x chicken % of poultry

7. Conversion from ounces to grams = oz x 28.35 g/oz

8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
^"Females 13-49" body weight is an average taken from Table 8-5

9. Consumption amount = recommended chicken amount/body weight

10. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200

11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html

1 2. Exposure = consumption amount x mean chicken TEQ amount x fat % in lean chicken

13. Comparison of exposure to the RfD = exposure/RfD for dioxin
*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

<u>Supplemental Table 3c</u>. Dioxin Exposure from Turkey as One of Several Protein Foods Sources
Mean Recommended Calorie Level and Mean TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Mean calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Poultry % of meat, poultry, egg amount	Recommended poultry amount	Turkey % of poultry	Recommended turkey amount	Recommended turkey amount	Body weight (bw)	Consumption amount	Mean turkey TEQ amount	Fat % in lean turkey	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
1-2 years	1000	2.0	1.4	39.39%	0.6	7%	0.04	1.181	11.4	0.10	0.611	2.86%	0.002	0.003
3-5 years	1400	4.0	2.7	39.39%	1.1	7%	0.08	2.243	18.6	0.12	0.611	2.86%	0.002	0.003
6-12 years	1800	5.0	3.4	39.39%	1.4	7%	0.10	2.833	31.8	0.09	0.611	2.86%	0.002	0.002
13-19 years	2600	6.5	4.4	39.39%	1.7	7%	0.13	3.660	71.6	0.05	0.611	2.86%	0.001	0.001
20-49 years	2600	6.5	4.4	39.39%	1.7	7%	0.13	3.660	80	0.05	0.611	2.86%	0.001	0.001
Females 13-49	1800	5.0	3.4	39.39%	1.4	7%	0.10	2.833	70^	0.04	0.611	2.86%	0.001	0.001
50 years and older	2000	5.5	3.7	39.39%	1.5	7%	0.11	3.069	80	0.04	0.611	2.86%	0.001	0.001
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	1.2~	7%	0.09	2.517	80	0.031	0.611	2.86%	0.001	0.001
Recommended U.S. intake	2000	5.5	N/A	N/A	1.5~	7%	0.11	3.147	80	0.039	0.611	2.86%	0.001	0.001

<u>Footnotes:</u>

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk

3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm

4. Recommended poultry amount = poultry % of meat, poultry and egg amount x recommended meat, poultry and egg amount
~Usual and recommended U.S. intake for poultry portion of protein amount is taken from Table 5-1, and represents a 2000 calorie diet

5. Turkey % of "Poultry Subgroup" is 7.4%
USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf

6. Recommended turkey amount = recommended poultry amount x turkey % of poultry

7. Conversion from ounces to grams = oz x 28.35 g/oz

8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
^"Females 13-49" body weight is an average taken from Table 8-5

9. Consumption amount = recommended turkey amount/body weight

10. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200

11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html

12. Exposure = consumption amount x mean turkey TEQ amount x fat % in lean turkey

13. Comparison of exposure to the RfD = exposure/RfD for dioxin
*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 4a. Dioxin Exposure from Pork as One of Several Protein Foods Sources
Mean Recommended Calorie Level and Highest TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Mean calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Meat % of meat, poultry, egg amount	Recommended meat amount	Pork % of meat	Recommended pork amount	Recommended pork amount	Body weight (bw)	Consumption amount	Highest pork TEQ amount	Fat % in lean pork	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
1-2 years	1000	2.0	1.4	49.05%	0.7	31%	0.22	6.158	11.4	0.54	1.367	5.88%	0.043	0.062
3-5 years	1400	4.0	2.7	49.05%	1.3	31%	0.41	11.701	18.6	0.63	1.367	5.88%	0.051	0.072
6-12 years	1800	5.0	3.4	49.05%	1.7	31%	0.52	14.780	31.8	0.46	1.367	5.88%	0.037	0.053
13-19 years	2600	6.5	4.4	49.05%	2.2	31%	0.67	19.091	71.6	0.27	1.367	5.88%	0.021	0.031
20-49 years	2600	6.5	4.4	49.05%	2.2	31%	0.67	19.091	80	0.24	1.367	5.88%	0.019	0.027
Females 13-49	1800	5.0	3.4	49.05%	1.7	31%	0.52	14.780	70^	0.21	1.367	5.88%	0.017	0.024
50 years and older	2000	5.5	3.7	49.05%	1.8	31%	0.56	16.011	80	0.20	1.367	5.88%	0.016	0.023
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	2.5~	31%	0.78	21.971	80	0.275	1.367	5.88%	0.022	0.032
Recommended U.S. intake	2000	5.5	N/A	N/A	1.8~	31%	0.56	15.819	80	0.198	1.367	5.88%	0.016	0.023

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk

3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm

4. Recommended meat amount = meat % of meat, poultry and egg amount x recommended meat, poultry and egg amount
~Usual and recommended U.S. intake for meat portion of protein foods amount is taken from Table 5-1, and represents a 2000 calorie diet

5. Pork % of "Meats Subgroup" is 31 %: the sum of cured pork, fresh pork and pork luncheon meats
USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf

6. Recommended pork amount = recommended meat amount x pork % of meat

7. Conversion from ounces to grams = oz x 28.35 g/oz

8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
^"Females 13-49" body weight is an average taken from Table 8-5

9. Consumption amount = recommended pork amount/body weight

10. Highest TEQ amount is the highest-TEQ per pg/g of lipid
Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200

11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html

12. Exposure = consumption amount x highest pork TEQ amount x fat % in lean pork

13. Comparison of exposure to the RfD = exposure/RfD for dioxin
*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 4b. Dioxin Exposure from Chicken as One of Several Protein Foods Sources
Mean Recommended Calorie Level and Highest TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Mean calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Poultry % of meat, poultry, egg amount	Recommended poultry amount	Chicken % of poultry	Recommended chicken amount	Recommended chicken amount	Body weight (bw)	Consumption amount	Highest chicken TEQ amount	Fat % in lean chicken	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
1-2 years	1000	2.0	1.4	39.39%	0.6	93%	0.52	14.772	11.4	1.30	1.281	3.08%	0.051	0.073
3-5 years	1400	4.0	2.7	39.39%	1.1	93%	0.99	28.068	18.6	1.51	1.281	3.08%	0.060	0.085
6-12 years	1800	5.0	3.4	39.39%	1.4	93%	1.25	35.454	31.8	1.11	1.281	3.08%	0.044	0.063
13-19 years	2600	6.5	4.4	39.39%	1.7	93%	1.62	45.795	71.6	0.64	1.281	3.08%	0.025	0.036
20-49 years	2600	6.5	4.4	39.39%	1.7	93%	1.62	45.795	80	0.57	1.281	3.08%	0.023	0.032
Females 13-49	1800	5.0	3.4	39.39%	1.4	93%	1.25	35.454	70^	0.51	1.281	3.08%	0.020	0.029
50 years and older	2000	5.5	3.7	39.39%	1.5	93%	1.35	38.408	80	0.48	1.281	3.08%	0.019	0.027
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	1.2~	93%	1.11	31.503	80	0.394	1.281	3.08%	0.016	0.022
Recommended U.S. intake	2000	5.5	N/A	N/A	1.5~	93%	1.39	39.378	80	0.492	1.281	3.08%	0.019	0.028

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk

3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm

4. Recommended poultry amount = poultry % of meat, poultry and egg amount x recommended meat, poultry and egg amount
~Usual and recommended U.S. intake for poultry portion of protein amount is taken from Table 5-1, and represents a 2000 calorie diet

5. Chicken % of "Poultry Subgroup" is 92.6 %: the sum of chicken and poultry luncheon meats
USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf

6. Recommended chicken amount = recommended poultry amount x chicken % of poultry

7. Conversion from ounces to grams = oz x 28.35 g/oz

8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
^"Females 13-49" body weight is an average taken from Table 8-5

9. Consumption amount = recommended chicken amount/body weight

10. Highest TEQ amount is the highest-TEQ per pg/g of lipid
Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200

11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html

12. Exposure = consumption amount x highest chicken TEQ amount x fat % in lean chicken

13. Comparison of exposure to the RfD = exposure/RfD for dioxin
*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 4c. Dioxin Exposure from Turkey as One of Several Protein Foods Sources
Mean Recommended Calorie Level and Highest TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Mean calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Poultry % of meat, poultry, egg amount	Recommended poultry amount	Turkey % of poultry	Recommended turkey amount	Recommended turkey amount	Body weight (bw)	Consumption amount	Highest turkey TEQ amount	Fat % in lean turkey	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
1-2 years	1000	2.0	1.4	39.39%	0.6	7%	0.04	1.181	11.4	0.10	4.597	2.86%	0.014	0.019
3-5 years	1400	4.0	2.7	39.39%	1.1	7%	0.08	2.243	18.6	0.12	4.597	2.86%	0.016	0.023
6-12 years	1800	5.0	3.4	39.39%	1.4	7%	0.10	2.833	31.8	0.09	4.597	2.86%	0.012	0.017
13-19 years	2600	6.5	4.4	39.39%	1.7	7%	0.13	3.660	71.6	0.05	4.597	2.86%	0.007	0.010
20-49 years	2600	6.5	4.4	39.39%	1.7	7%	0.13	3.660	80	0.05	4.597	2.86%	0.006	0.009
Females 13-49	1800	5.0	3.4	39.39%	1.4	7%	0.10	2.833	70^	0.04	4.597	2.86%	0.005	0.008
50 years and older	2000	5.5	3.7	39.39%	1.5	7%	0.11	3.069	80	0.04	4.597	2.86%	0.005	0.007
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	1.2~	7%	0.09	2.517	80	0.031	4.597	2.86%	0.004	0.006
Recommended U.S. intake	2000	5.5	N/A	N/A	1.5~	7%	0.11	3.147	80	0.039	4.597	2.86%	0.005	0.007

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk

3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm

4. Recommended poultry amount = poultry % of meat, poultry and egg amount x recommended meat, poultry and egg amount
~Usual and recommended U.S. intake for poultry portion of protein amount is taken from Table 5-1, and represents a 2000 calorie diet

5. Turkey % of "Poultry Subgroup" is 7.4%
USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf

6. Recommended turkey amount = recommended poultry amount x turkey % of poultry

7. Conversion from ounces to grams = oz x 28.35 g/oz

8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
^"Females 13-49" body weight is an average taken from Table 8-5

9. Consumption amount = recommended turkey amount/body weight

10. Highest TEQ amount is the highest-TEQ per pg/g of lipid
Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200

11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html

12. Exposure = consumption amount x highest turkey TEQ amount x fat % in lean turkey

13. Comparison of exposure to the RfD = exposure/RfD for dioxin
*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

<u>Supplemental Table 5a</u>. Dioxin Exposure from Pork as One of Several Protein Foods Sources
Highest Recommended Calorie Level and Mean TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Highest calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Meat % of meat, poultry, egg amount	Recommended meat amount	Pork % of meat	Recommended pork amount	Recommended pork amount	Body weight (bw)	Consumption amount	Mean pork TEQ amount	Fat % in lean pork	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
Children 1-2 years	1000	2.0	1.4	49.05%	0.7	31%	0.22	6.158	11.4	0.54	0.16	5.88%	0.005	0.007
Females 3-5 years	1600	5.0	3.4	49.05%	1.7	31%	0.52	14.780	18.3	0.81	0.16	5.88%	0.008	0.011
Males 3-5 years	1600	5.0	3.4	49.05%	1.7	31%	0.52	14.780	18.8	0.79	0.16	5.88%	0.007	0.011
Females 6-12 years	2200	6.0	4.1	49.05%	2.0	31%	0.63	17.859	31.7	0.56	0.16	5.88%	0.005	0.008
Males 6-12 years	2400	6.5	4.4	49.05%	2.2	31%	0.67	19.091	31.9	0.60	0.16	5.88%	0.006	0.008
Females 13-19 years	2400	6.5	4.4	49.05%	2.2	31%	0.67	19.091	65.9	0.29	0.16	5.88%	0.003	0.004
Males 13-19 years	3200	7.0	4.9	49.05%	2.4	31%	0.74	20.938	77.3	0.27	0.16	5.88%	0.003	0.004
Females 20-49 years	2400	6.5	4.4	49.05%	2.2	31%	0.67	19.091	77.1	0.25	0.16	5.88%	0.002	0.003
Males 20-49 years	3000	7.0	4.9	49.05%	2.4	31%	0.74	20.938	90.5	0.23	0.16	5.88%	0.002	0.003
Females 50 years and older	2200	6.0	4.1	49.05%	2.0	31%	0.63	17.859	77.5	0.23	0.16	5.88%	0.002	0.003
Males 50 years and older	2800	7.0	4.9	49.05%	2.4	31%	0.74	20.938	89.5	0.23	0.16	5.88%	0.002	0.003
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	2.5~	31%	0.78	21.971	80	0.275	0.16	5.88%	0.003	0.004
Recommended U.S. intake	2000	5.5	N/A	N/A	1.8~	31%	0.56	15.819	80	0.198	0.16	5.88%	0.002	0.003

<u>Footnotes:</u>

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk

3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm

4. Recommended meat amount = meat % of meat, poultry and egg amount x recommended meat, poultry and egg amount
~Usual and recommended U.S. intake for meat portion of protein foods amount is taken from Table 5-1, and represents a 2000 calorie diet

5. Pork % of "Meats Subgroup" is 31 %: the sum of cured pork, fresh pork and pork luncheon meats
USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf

6. Recommended pork amount = recommended meat amount x pork % of meat

7. Conversion from ounces to grams = oz x 28.35 g/oz

8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
^"Females 13-49" body weight is an average taken from Table 8-5

9. Consumption amount = recommended pork amount/body weight

10. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200

11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html

12. Exposure = consumption amount x mean pork TEQ amount x fat % in lean pork

13. Comparison of exposure to the RfD = exposure/RfD for dioxin

*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

<u>Supplemental Table 5b</u>. Dioxin Exposure from Chicken as One of Several Protein Foods Sources
Highest Recommended Calorie Level and Mean TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Highest calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Poultry % of meat, poultry, egg amount	Recommended poultry amount	Chicken % of poultry	Recommended chicken amount	Recommended chicken amount	Body weight (bw)	Consumption amount	Mean chicken TEQ amount	Fat % in lean chicken	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value [1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
Children 1-2 years	1000	2.0	1.4	39.39%	0.6	93%	0.52	14.836	11.4	1.30	0.174	3.08%	0.007	0.010
Females 3-5 years	1600	5.0	3.4	39.39%	1.4	93%	1.26	35.607	18.3	1.95	0.174	3.08%	0.010	0.015
Males 3-5 years	1600	5.0	3.4	39.39%	1.4	93%	1.26	35.607	18.8	1.89	0.174	3.08%	0.010	0.015
Females 6-12 years	2200	6.0	4.1	39.39%	1.6	93%	1.52	43.025	31.7	1.36	0.174	3.08%	0.007	0.010
Males 6-12 years	2400	6.5	4.4	39.39%	1.7	93%	1.62	45.992	31.9	1.44	0.174	3.08%	0.008	0.011
Females 13-19 years	2400	6.5	4.4	39.39%	1.7	93%	1.62	45.992	65.9	0.70	0.174	3.08%	0.004	0.005
Males 13-19 years	3200	7.0	4.9	39.39%	1.9	93%	1.78	50.443	77.3	0.65	0.174	3.08%	0.003	0.005
Females 20-49 years	2400	6.5	4.4	39.39%	1.7	93%	1.62	45.992	77.1	0.60	0.174	3.08%	0.003	0.005
Males 20-49 years	3000	7.0	4.9	39.39%	1.9	93%	1.78	50.443	90.5	0.56	0.174	3.08%	0.003	0.004
Females 50 years and older	2200	6.0	4.1	39.39%	1.6	93%	1.52	43.025	77.5	0.56	0.174	3.08%	0.003	0.004
Males 50 years and older	2800	7.0	4.9	39.39%	1.9	93%	1.78	50.443	89.5	0.56	0.174	3.08%	0.003	0.004
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	2.5~	93%	2.33	65.914	80	0.824	0.174	3.08%	0.004	0.006
Recommended U.S. intake	2000	5.5	N/A	N/A	1.8~	93%	1.67	47.458	80	0.593	0.174	3.08%	0.003	0.005

<u>Footnotes:</u>

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm

2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk

3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm

4. Recommended poultry amount = poultry % of meat, poultry and egg amount x recommended meat, poultry and egg amount
~Usual and recommended U.S. intake for poultry portion of protein amount is taken from Table 5-1, and represents a 2000 calorie diet

5. Chicken % of "Poultry Subgroup" is 92.6 %: the sum of chicken and poultry luncheon meats
USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf

6. Recommended chicken amount = recommended poultry amount x chicken % of poultry

7. Conversion from ounces to grams = oz x 28.35 g/oz

8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
^"Females 13-49" body weight is an average taken from Table 8-5

9. Consumption amount = recommended chicken amount/body weight

10. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200

11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html

12. Exposure = consumption amount x mean chicken TEQ amount x fat % in lean chicken

13. Comparison of exposure to the RfD = exposure/RfD for dioxin
*EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7 X 10^{-10} mg/kg-bw-day)

Supplemental Table 5c. Dioxin Exposure from Turkey as One of Several Protein Foods Sources
Highest Recommended Calorie Level and Mean TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Highest calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Poultry % of meat, poultry, egg amount	Recommended poultry amount	Turkey % of poultry	Recommended turkey amount	Recommended turkey amount	Body weight (bw)	Consumption amount	Mean turkey TEQ amount	Fat % in lean turkey	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
Children 1-2 years	1000	2.0	1.4	39.39%	0.6	7%	0.04	1.117	11.4	0.10	0.611	2.86%	0.002	0.002
Females 3-5 years	1600	5.0	3.4	39.39%	1.4	7%	0.09	2.680	18.3	0.15	0.611	2.86%	0.003	0.004
Males 3-5 years	1600	5.0	3.4	39.39%	1.4	7%	0.09	2.680	18.8	0.14	0.611	2.86%	0.002	0.004
Females 6-12 years	2200	6.0	4.1	39.39%	1.6	7%	0.11	3.238	31.7	0.10	0.611	2.86%	0.002	0.003
Males 6-12 years	2400	6.5	4.4	39.39%	1.7	7%	0.12	3.462	31.9	0.11	0.611	2.86%	0.002	0.003
Females 13-19 years	2400	6.5	4.4	39.39%	1.7	7%	0.12	3.462	65.9	0.05	0.611	2.86%	0.001	0.001
Males 13-19 years	3200	7.0	4.9	39.39%	1.9	7%	0.13	3.797	77.3	0.05	0.611	2.86%	0.001	0.001
Females 20-49 years	2400	6.5	4.4	39.39%	1.7	7%	0.12	3.462	77.1	0.04	0.611	2.86%	0.001	0.001
Males 20-49 years	3000	7.0	4.9	39.39%	1.9	7%	0.13	3.797	90.5	0.04	0.611	2.86%	0.001	0.001
Females 50 years and older	2200	6.0	4.1	39.39%	1.6	7%	0.11	3.238	77.5	0.04	0.611	2.86%	0.001	0.001
Males 50 years and older	2800	7.0	4.9	39.39%	1.9	7%	0.13	3.797	89.5	0.04	0.611	2.86%	0.001	0.001
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	2.5~	7%	0.18	4.961	80	0.062	0.611	2.86%	0.001	0.002
Recommended U.S. intake	2000	5.5	N/A	N/A	1.8~	7%	0.13	3.572	80	0.045	0.611	2.86%	0.001	0.001

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
   For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk
3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm
4. Recommended poultry amount = poultry % of meat, poultry and egg amount x recommended meat, poultry and egg amount
   ~Usual and recommended U.S. intake for poultry portion of protein amount is taken from Table 5-1, and represents a 2000-calorie diet
5. Turkey % of "Poultry Subgroup" is 7.4%
   USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf
6. Recommended turkey amount = recommended poultry amount x turkey % of poultry
7. Conversion from ounces to grams = oz x 28.35 g/oz
8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
   ^"Females 13-49" body weight is an average taken from Table 8-5
9. Consumption amount = recommended turkey amount/body weight
10. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
    Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
    Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
12. Exposure = consumption amount x mean turkey TEQ amount x fat % in lean turkey
13. Comparison of exposure to the RfD = exposure/RfD for dioxin

    *EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7 X 10^{-10} mg/kg-bw-day)

Supplemental Table 6a. Dioxin Exposure from Pork as One of Several Protein Foods Sources
Highest Recommended Calorie Level and Highest TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Highest calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Meat % of meat, poultry, egg amount	Recommended meat amount	Pork % of meat	Recommended pork amount	Recommended pork amount	Body weight (bw)	Consumption amount	Highest pork TEQ amount	Fat % in lean pork	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
Children 1-2 years	1000	2.0	1.4	49.05%	0.7	31%	0.22	6.158	11.4	0.54	1.367	5.88%	0.043	0.062
Females 3-5 years	1600	5.0	3.4	49.05%	1.7	31%	0.52	14.780	18.3	0.81	1.367	5.88%	0.065	0.093
Males 3-5 years	1600	5.0	3.4	49.05%	1.7	31%	0.52	14.780	18.8	0.79	1.367	5.88%	0.063	0.090
Females 6-12 years	2200	6.0	4.1	49.05%	2.0	31%	0.63	17.859	31.7	0.56	1.367	5.88%	0.045	0.065
Males 6-12 years	2400	6.5	4.4	49.05%	2.2	31%	0.67	19.091	31.9	0.60	1.367	5.88%	0.048	0.069
Females 13-19 years	2400	6.5	4.4	49.05%	2.2	31%	0.67	19.091	65.9	0.29	1.367	5.88%	0.023	0.033
Males 13-19 years	3200	7.0	4.9	49.05%	2.4	31%	0.74	20.938	77.3	0.27	1.367	5.88%	0.022	0.031
Females 20-49 years	2400	6.5	4.4	49.05%	2.2	31%	0.67	19.091	77.1	0.25	1.367	5.88%	0.020	0.028
Males 20-49 years	3000	7.0	4.9	49.05%	2.4	31%	0.74	20.938	90.5	0.23	1.367	5.88%	0.019	0.027
Females 50 years and older	2200	6.0	4.1	49.05%	2.0	31%	0.63	17.859	77.5	0.23	1.367	5.88%	0.019	0.026
Males 50 years and older	2800	7.0	4.9	49.05%	2.4	31%	0.74	20.938	89.5	0.23	1.367	5.88%	0.019	0.027
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	2.5~	31%	0.78	21.971	80	0.275	1.367	5.88%	0.022	0.032
Recommended U.S. intake	2000	5.5	N/A	N/A	1.8~	31%	0.56	15.819	80	0.198	1.367	5.88%	0.016	0.023

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
   For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk
3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm
4. Recommended meat amount = meat % of meat, poultry and egg amount x recommended meat, poultry and egg amount
   ~Usual and recommended U.S. intake for meat portion of protein foods amount is taken from Table 5-1, and represents a 2000 calorie diet
5. Pork % of "Meats Subgroup" is 31 %: the sum of cured pork, fresh pork and pork luncheon meats
   USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf
6. Recommended pork amount = recommended meat amount x pork % of meat
7. Conversion from ounces to grams = oz x 28.35 g/oz
8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
   ^"Females 13-49" body weight is an average taken from Table 8-5
9. Consumption amount = recommended pork amount/body weight
10. Highest TEQ amount is the highest-TEQ per pg/g of lipid
    Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
    Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
12. Exposure = consumption amount x highest pork TEQ amount x fat % in lean pork
13. Comparison of exposure to the RfD = exposure/RfD for dioxin
    *EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7 X 10^{-10} mg/kg-bw-day)

Supplemental Table 6b. Dioxin Exposure from Chicken as One of Several Protein Foods Sources
Highest Recommended Calorie Level and Highest TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Highest calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Poultry % of meat, poultry, egg amount	Recommended poultry amount	Chicken % of poultry	Recommended chicken amount	Recommended chicken amount	Body weight (bw)	Consumption amount	Highest chicken TEQ amount	Fat % in lean chicken	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
Children 1-2 years	1000	2.0	1.4	39.39%	0.6	93%	0.52	14.836	11.4	1.30	1.281	3.08%	0.051	0.073
Females 3-5 years	1600	5.0	3.4	39.39%	1.4	93%	1.26	35.607	18.3	1.95	1.281	3.08%	0.077	0.110
Males 3-5 years	1600	5.0	3.4	39.39%	1.4	93%	1.26	35.607	18.8	1.89	1.281	3.08%	0.075	0.107
Females 6-12 years	2200	6.0	4.1	39.39%	1.6	93%	1.52	43.025	31.7	1.36	1.281	3.08%	0.054	0.077
Males 6-12 years	2400	6.5	4.4	39.39%	1.7	93%	1.62	45.992	31.9	1.44	1.281	3.08%	0.057	0.081
Females 13-19 years	2400	6.5	4.4	39.39%	1.7	93%	1.62	45.992	65.9	0.70	1.281	3.08%	0.028	0.039
Males 13-19 years	3200	7.0	4.9	39.39%	1.9	93%	1.78	50.443	77.3	0.65	1.281	3.08%	0.026	0.037
Females 20-49 years	2400	6.5	4.4	39.39%	1.7	93%	1.62	45.992	77.1	0.60	1.281	3.08%	0.024	0.034
Males 20-49 years	3000	7.0	4.9	39.39%	1.9	93%	1.78	50.443	90.5	0.56	1.281	3.08%	0.022	0.031
Females 50 years and older	2200	6.0	4.1	39.39%	1.6	93%	1.52	43.025	77.5	0.56	1.281	3.08%	0.022	0.031
Males 50 years and older	2800	7.0	4.9	39.39%	1.9	93%	1.78	50.443	89.5	0.56	1.281	3.08%	0.022	0.032
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	2.5~	93%	2.33	65.914	80	0.824	1.281	3.08%	0.033	0.046
Recommended U.S. intake	2000	5.5	N/A	N/A	1.8~	93%	1.67	47.458	80	0.593	1.281	3.08%	0.023	0.033

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
   For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk
3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm
4. Recommended poultry amount = poultry % of meat, poultry and egg amount x recommended meat, poultry and egg amount
   ~Usual and recommended U.S. intake for poultry portion of protein amount is taken from Table 5-1, and represents a 2000 calorie diet
5. Chicken % of "Poultry Subgroup" is 92.6 %: the sum of chicken and poultry luncheon meats
   USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf
6. Recommended chicken amount = recommended poultry amount x chicken % of poultry
7. Conversion from ounces to grams = oz x 28.35 g/oz
8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
   ^"Females 13-49" body weight is an average taken from Table 8-5
9. Consumption amount = recommended chicken amount/body weight
10. Highest TEQ amount is the highest-TEQ per pg/g of lipid
    Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
    Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
12. Exposure = consumption amount x highest chicken TEQ amount x fat % in lean chicken
13. Comparison of exposure to the RfD = exposure/RfD for dioxin
    *EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7 X 10^{-10} mg/kg-bw-day)

Supplemental Table 6c. Dioxin Exposure from Turkey as One of Several Protein Foods Sources
Highest Recommended Calorie Level and Highest TEQ
Based on USDA Food Pattern Recommendations in the 2010 Dietary Guidelines

	Highest calorie level	Recommended protein foods amount	Recommended meat, poultry, egg amount	Poultry % of meat, poultry, egg amount	Recommended poultry amount	Turkey % of poultry	Recommended turkey amount	Recommended turkey amount	Body weight (bw)	Consumption amount	Highest turkey TEQ amount	Fat % in lean turkey	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit		(oz/day)	(oz/day)		(oz/day)		(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Value[1]	Value[2]	Value[3]	Calculation[4]	Value[5]	Calculation[6]	Conversion[7]	Value[8]	Calculation[9]	Value[10]	Value[11]	Calculation[12]	Comparison[13]
Children 1-2 years	1000	2.0	1.4	39.39%	0.6	7%	0.04	1.117	11.4	0.10	4.597	2.86%	0.013	0.018
Females 3-5 years	1600	5.0	3.4	39.39%	1.4	7%	0.09	2.680	18.3	0.15	4.597	2.86%	0.019	0.028
Males 3-5 years	1600	5.0	3.4	39.39%	1.4	7%	0.09	2.680	18.8	0.14	4.597	2.86%	0.019	0.027
Females 6-12 years	2200	6.0	4.1	39.39%	1.6	7%	0.11	3.238	31.7	0.10	4.597	2.86%	0.013	0.019
Males 6-12 years	2400	6.5	4.4	39.39%	1.7	7%	0.12	3.462	31.9	0.11	4.597	2.86%	0.014	0.020
Females 13-19 years	2400	6.5	4.4	39.39%	1.7	7%	0.12	3.462	65.9	0.05	4.597	2.86%	0.007	0.010
Males 13-19 years	3200	7.0	4.9	39.39%	1.9	7%	0.13	3.797	77.3	0.05	4.597	2.86%	0.006	0.009
Females 20-49 years	2400	6.5	4.4	39.39%	1.7	7%	0.12	3.462	77.1	0.04	4.597	2.86%	0.006	0.008
Males 20-49 years	3000	7.0	4.9	39.39%	1.9	7%	0.13	3.797	90.5	0.04	4.597	2.86%	0.006	0.008
Females 50 years and older	2200	6.0	4.1	39.39%	1.6	7%	0.11	3.238	77.5	0.04	4.597	2.86%	0.005	0.008
Males 50 years and older	2800	7.0	4.9	39.39%	1.9	7%	0.13	3.797	89.5	0.04	4.597	2.86%	0.006	0.008
Usual U.S. intake (adults)	2000	5.5	N/A	N/A	2.5~	7%	0.18	4.961	80	0.062	4.597	2.86%	0.008	0.012
Recommended U.S. intake	2000	5.5	N/A	N/A	1.8~	7%	0.13	3.572	80	0.045	4.597	2.86%	0.006	0.008

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
2. Based on recommended meat, poultry, egg amounts from Dietary Guidelines for Americans, 2010, Appendix 7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
   For example, for a 1000 calorie diet, a value of 10 oz/wk is divided by 7 days/wk
3. Personal communication with CNPP (USDA Center for Nutrition Policy and Promotion); based on the USDA Food Patterns: http://www.cnpp.usda.gov/USDAFoodPatterns.htm
4. Recommended poultry amount = poultry % of meat, poultry and egg amount x recommended meat, poultry and egg amount
   ~Usual and recommended U.S. intake for poultry portion of protein amount is taken from Table 5-1, and represents a 2000 calorie diet
5. Turkey % of "Poultry Subgroup" is 7.4%
   USDA Food Patterns: http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/ItemClustersAndRepFoods.pdf
6. Recommended turkey amount = recommended poultry amount x turkey % of poultry
7. Conversion from ounces to grams = oz x 28.35 g/oz
8. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
   ^"Females 13-49" body weight is an average taken from Table 8-5
9. Consumption amount = recommended turkey amount/body weight
10. Highest TEQ amount is the highest-TEQ per pg/g of lipid
    Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
    Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
11. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
12. Exposure = consumption amount x highest turkey TEQ amount x fat % in lean turkey
13. Comparison of exposure to the RfD = exposure/RfD for dioxin
    *EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7 X 10^{-10} mg/kg-bw-day)

Supplemental Table 7a. Mean Dioxin Exposure from Pork as the Sole Protein Food Consumed
Based on USDA Food Pattern Recommended Intakes of all Protein Foods in the 2010 Dietary Guidelines

	Recommended protein foods amount	Recommended protein foods amount	Body weight (bw)	Consumption amount	Mean pork TEQ amount	Fat % in lean pork	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit	(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Conversion[2]	Value[3]	Calculation[4]	Value[5]	Value[6]	Calculation[7]	Comparison[8]
1-2 years	2.0	56.700	11.4	4.97	0.16	5.88%	0.047	0.067
3-5 years	4.0	113.400	18.6	6.10	0.16	5.88%	0.057	0.082
6-12 years	5.0	141.750	31.8	4.46	0.16	5.88%	0.042	0.060
13-19 years	6.5	184.275	71.6	2.57	0.16	5.88%	0.024	0.035
20-49 years	6.5	184.275	80	2.30	0.16	5.88%	0.022	0.031
Females 13-49	5.0	141.750	70^	2.03	0.16	5.88%	0.019	0.027
50 years and older	5.5	155.925	80	1.95	0.16	5.88%	0.018	0.026

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
2. Conversion from ounces to grams = oz x 28.35 g/oz
3. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
   ^"Females 13-49" body weight is an average taken from Table 8-5
4. Consumption amount = recommended Protein Foods amount/body weight
5. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
   Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
   Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
6. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
7. Exposure = consumption amount x mean pork TEQ amount x fat % in lean pork
8. Comparison of exposure to the RfD = exposure/RfD for dioxin

   *EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 7b. Mean Dioxin Exposure from Chicken as the Sole Protein Food Consumed
Based on USDA Food Pattern Recommended Intakes of all Protein Foods in the 2010 Dietary Guidelines

	Recommended protein foods amount	Recommended protein foods amount	Body weight (bw)	Consumption amount	Mean chicken TEQ amount	Fat % in lean chicken	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit	(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Conversion[2]	Value[3]	Calculation[4]	Value[5]	Value[6]	Calculation[7]	Comparison[8]
1-2 years	2.0	56.700	11.4	4.97	0.174	3.08%	0.027	0.038
3-5 years	4.0	113.400	18.6	6.10	0.174	3.08%	0.033	0.047
6-12 years	5.0	141.750	31.8	4.46	0.174	3.08%	0.024	0.034
13-19 years	6.5	184.275	71.6	2.57	0.174	3.08%	0.014	0.020
20-49 years	6.5	184.275	80	2.30	0.174	3.08%	0.012	0.018
Females 13-49	5.0	141.750	70^	2.03	0.174	3.08%	0.011	0.016
50 years and older	5.5	155.925	80	1.95	0.174	3.08%	0.010	0.015

Footnotes:

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
2. Conversion from ounces to grams = oz x 28.35 g/oz
3. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
   ^"Females 13-49" body weight is an average taken from Table 8-5
4. Consumption amount = recommended Protein Foods amount/body weight
5. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
   Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
   Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
6. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
7. Exposure = consumption amount x mean chicken TEQ amount x fat % in lean chicken
8. Comparison of exposure to the RfD = exposure/RfD for dioxin

   *EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

<u>Supplemental Table 7c</u>. Mean Dioxin Exposure from Turkey as the Sole Protein Food Consumed
Based on USDA Food Pattern Recommended Intakes of all Protein Foods in the 2010 Dietary Guidelines

	Recommended protein foods amount	Recommended protein foods amount	Body weight (bw)	Consumption amount	Mean turkey TEQ amount	Fat % in lean turkey	Exposure based on recommended amount	Comparison of exposure to RfD*
Unit	(oz/day)	(g/day)	(kg)	(g/kg-day)	(pg/g)		(pg/kg-bw-day)	
	Value[1]	Conversion[2]	Value[3]	Calculation[4]	Value[5]	Value[6]	Calculation[7]	Comparison[8]
1-2 years	2.0	56.700	11.4	4.97	0.611	2.86%	0.087	0.124
3-5 years	4.0	113.400	18.6	6.10	0.611	2.86%	0.107	0.152
6-12 years	5.0	141.750	31.8	4.46	0.611	2.86%	0.078	0.111
13-19 years	6.5	184.275	71.6	2.57	0.611	2.86%	0.045	0.064
20-49 years	6.5	184.275	80	2.30	0.611	2.86%	0.040	0.058
Females 13-49	5.0	141.750	70^	2.03	0.611	2.86%	0.035	0.051
50 years and older	5.5	155.925	80	1.95	0.611	2.86%	0.034	0.049

<u>Footnotes:</u>

1. Based on recommended calorie levels and Protein Foods amounts from Dietary Guidelines for Americans, 2010, Appendices 6&7: http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm
2. Conversion from ounces to grams = oz x 28.35 g/oz
3. 2011 EPA Exposure Factors Handbook, Table 8-1: http://www.epa.gov/ncea/efh/report.html
   ^"Females 13-49" body weight is an average taken from Table 8-5
4. Consumption amount = recommended Protein Foods amount/body weight
5. Mean TEQ amount is the mean sum-TEQ per pg/g of lipid
   Dioxin 08 Survey: Dioxins and Dioxin-Like Compounds in the U.S. Domestic Meat and Poultry Supply: http://www.fsis.usda.gov/PDF/Dioxin_Report_1009.pdf
   Huwe et al., J. Agric. Food Chem., 2009, 57, 11194–11200
6. 2011 EPA Exposure Factors Handbook, Table 11-38: http://www.epa.gov/ncea/efh/report.html
7. Exposure = consumption amount x mean turkey TEQ amount x fat % in lean turkey
8. Comparison of exposure to the RfD = exposure/RfD for dioxin

   *EPA Dioxin Reassessment, Feb. 2012; RfD for dioxin = 0.7 pg/kg-bw-day (7×10^{-10} mg/kg-bw-day)

Supplemental Table 8. Poultry Conversion Table. Consumption amounts for Chicken Tables 1&2 and Turkey Tables 1&2
Generated from Crème software and 2011 EPA Exposure Factors Handbook
Crème Food Exposure Assessment Software purchased from Crème Global, http://www.cremeglobal.com/cremeusclient/

Chicken Conversion Age Group	Chicken consumption amount from Crème	Poultry consumption amount from Crème	% Chicken in poultry	Poultry consumption amount from 2011 EPA Exposure Factors Handbook	Chicken consumption amount (g/kg-day)
Whole Population	0.6444	0.7879	0.8179	0.77	0.6298
Birth to 1 year	0.6005	0.7764	0.7734	0.69	0.5336
1 to 2 years	1.5791	1.8819	0.8391	1.87	1.5691
3 to 5 years	1.5058	1.7562	0.8574	1.65	1.4147
6 to 12 years	0.9580	1.1678	0.8204	1.18	0.9680
13 to 19 years	0.6814	0.8173	0.8338	0.8	0.6670
20 to 49 years	0.5851	0.7185	0.8143	0.71	0.5781
Females 13 to 49 years	0.5320	0.6619	0.8038	0.66	0.5305
50 years and older	0.4149	0.5230	0.7932	0.5	0.3966
			chicken amount/poultry amount		% chicken x poultry consumption amount

Turkey Conversion Age Group	Turkey consumption amount from Crème	Poultry consumption amount from Crème	% Turkey in poultry	Poultry consumption amount from 2011 EPA Exposure Factors Handbook	Turkey consumption amount (g/kg-day)
Whole Population	0.1435	0.7879	0.1821	0.77	0.1402
Birth to 1 year	0.1759	0.7764	0.2266	0.69	0.1564
1 to 2 years	0.3028	1.8819	0.1609	1.87	0.3009
3 to 5 years	0.2504	1.7562	0.1426	1.65	0.2353
6 to 12 years	0.2098	1.1678	0.1796	1.18	0.2120
13 to 19 years	0.1359	0.8173	0.1662	0.8	0.1330
20 to 49 years	0.1335	0.7185	0.1857	0.71	0.1319
Females 13 to 49 years	0.1299	0.6619	0.1962	0.66	0.1295
50 years and older	0.1082	0.5230	0.2068	0.5	0.1034
			turkey amount/poultry amount		% turkey x poultry consumption amount