

BLOOD DIOXIN CONCENTRATIONS: Weighted TEQ by region

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Notes: TEQ is the TEF-weighted average of the 17 dioxin congeners (excluding the PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood

Zone	N	TEQ (ppt)						
		Mean	S.E.	Median	75th %ile	95th %ile	Min.	Max.
Overall	946	18.9	0.6	16.1	22.6	42.6	2.7	173
M/S FP	251	21.1	0.9	18.5	25.4	42.2	3.7	173
M/S Near FP	197	19.8	1.1	17.4	26.3	43.1	3.5	100.3
M/S Out FP	199	21.4	1.3	17.6	28.1	45.5	3.5	98.6
M/S Plume	48	17.8	1.8	13.5	17.9	49.1	2.7	64.9
Jackson/Calhoun	251	16.6	0.6	15.1	19.7	36	4.1	72.2

M/S: Midland/Saginaw

FP: Floodplain

SAS program: Get_table1_figure1.sas

Created by: BH & XJ

Last Update: XZ 06/05/2008

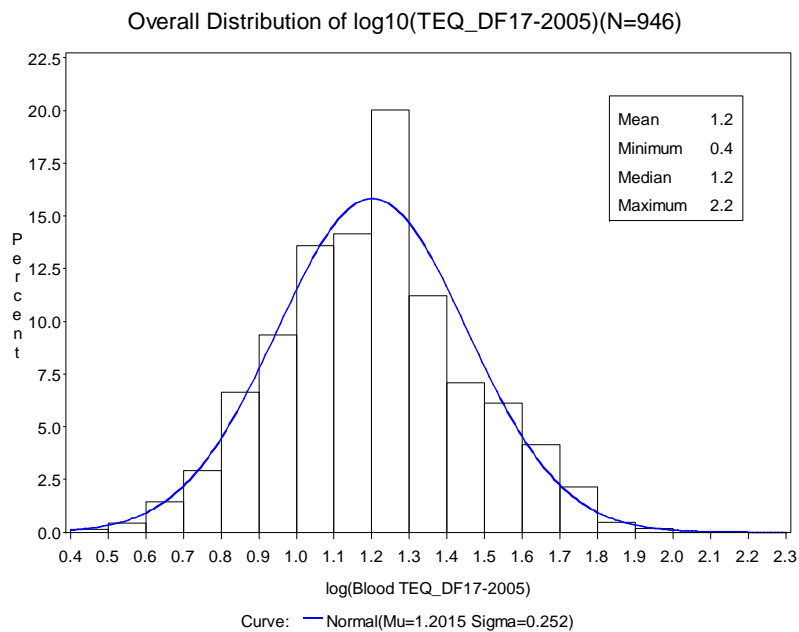
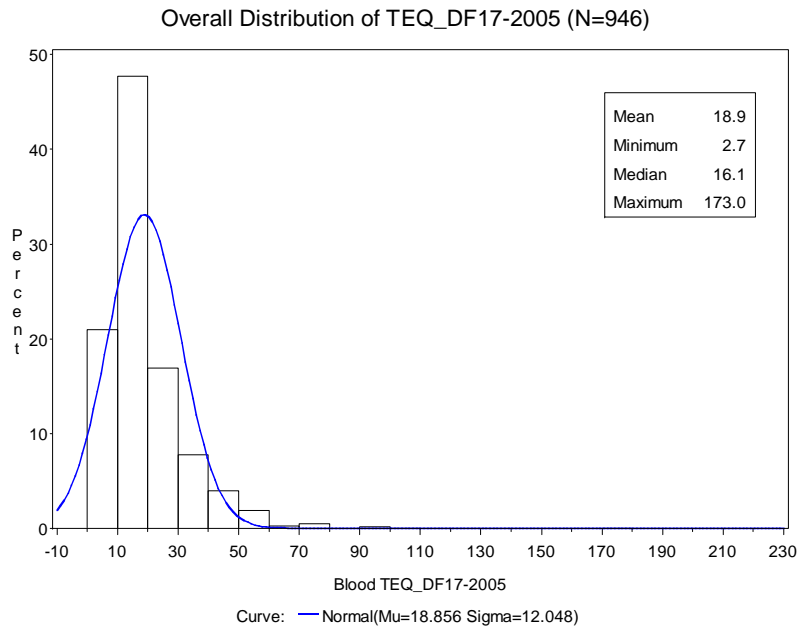
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Survey Sampling Weight: wt_final_blood



SAS program: Get_table1_figure1.sas

Created by: BH & XJ

Last Update: XZ 06/05/2008

BLOOD DIOXIN CONCENTRATIONS: Weighted TEQ by Age group and region

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Notes: **TEQ** is the TEF-weighted average of the 17 dioxin congeners (excluding the PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood

Age Group	Zone	N	TEQ (ppt)						
			Mean	S.E.	Median	75th %ile	95th %ile	Min.	Max.
Age_18_29	Overall	55	6.7	0.3	6.8	7.7	9.4	3.5	13.8
	M/S FP	11	5.5	0.5	5.7	6.3	9.8	3.8	9.8
	M/S Near FP	12	7.4	0.9	6.7	8.9	13.8	3.5	13.8
	M/S Out FP	13	7.3	0.5	7.6	8.9	10.3	3.6	13.3
	M/S Plume	3	5.3	0.5	5.0	5.0	7.9	4.8	7.9
	Jackson/Calhoun	16	6.3	0.4	6.6	7.2	9.2	4.1	10.4
Age_30_44	Overall	200	12.1	0.5	11.4	14.4	18.4	3.5	34.7
	M/S FP	40	13.4	0.8	13.1	15.5	21.8	6.0	31.4
	M/S Near FP	41	14.7	1.9	12.6	18.2	29.2	4.5	29.2
	M/S Out FP	44	12.5	1.0	11.2	14.0	18.4	3.5	34.7
	M/S Plume	9	11.0	0.7	10.6	12.3	13.3	6.4	25.7
	Jackson/Calhoun	66	11.8	0.7	11.6	15.1	18.5	4.1	22.2
Age_45_59	Overall	378	18.4	0.7	17.0	20.6	33.7	2.7	51.9
	M/S FP	103	18.4	0.8	17.7	22.2	31.8	3.7	36.7
	M/S Near FP	86	18.1	1.0	17.4	19.8	31.3	7.9	46.9
	M/S Out FP	74	20.2	1.2	18.5	26.1	36.4	7.3	45.5
	M/S Plume	17	16.8	2.5	17.2	17.5	49.1	2.7	49.1
	Jackson/Calhoun	98	17.2	1.0	16.6	19.5	28.1	5.1	51.9
Age_60_more	Overall	313	30.4	1.3	27.5	38.1	56.8	7.5	173.0
	M/S FP	97	31.7	1.8	27.2	38.5	57.4	7.5	173.0
	M/S Near FP	58	30.9	2.2	30.7	36.0	54.7	9.6	100.3
	M/S Out FP	68	33.5	2.1	30.5	42.0	60.5	10.7	98.6
	M/S Plume	19	31.8	2.7	28.8	37.1	61.9	12.1	64.9
	Jackson/Calhoun	71	26.3	1.2	23.8	31.3	43.8	8.8	72.2

M/S: Midland/Saginaw

FP: Floodplain

SAS program: Get_table_TEQ_age.sas

Created by: BH & XJ

Last Update: XZ 06/05/2008

BLOOD DIOXIN CONCENTRATIONS: Test results for comparing weighted TEQ among regions

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Notes: TEQ is the TEF-weighted average of the 17 dioxin congeners (excluding the PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood

Summary statistics for blood weighted TEQ concentration for region comparisons

Region	Mean of log ₁₀ TEQ	% > Jackson/Calhoun's 75 th percentile, which is 19.7 ppt	% > Jackson/Calhoun's 95 th percentile, which is 36 ppt
1-M/S FP (n=251)	1.2493	41.3%	11.6%
2-M/S Near FP (n=197)	1.2259	37.4%	8.7%
3-M/S Out FP (n=199)	1.2479	41.1%	13.2%
4-M/S Plume (n=48)	1.1693	24.2%	8.7%
5-Jackson/Calhoun (n=251)	1.1613	25.2%	5.0%

M/S: Midland / Saginaw; FP: Floodplain

Pair-wise comparisons for blood TEQ between regions (Each cell contains the p-value and effect direction)

This table shows the results of 1) t-tests (SAS PROC Surveyreg) for comparisons of the means of log₁₀TEQ between each combination of two regions; 2) Wald chi-square tests (SAS PROC Surveylogistic) for comparisons of the odds of subjects being above the 75th percentile TEQ for Jackson/Calhoun Counties between each combination of two regions; and 3) Wald chi-square tests (SAS PROC Surveylogistic) for comparisons of the odds of subjects being above the 95th percentile TEQ for Jackson/Calhoun Counties between each combination of two regions.

"+" after p-value: the row-region has higher mean or higher odds of being above the selected cut-point than the column-region.

"-" after p-value: the row-region has lower mean or lower odds of being above the selected cut-point than the column-region.

P-value	1-M/S FP	2-M/S Near FP			3-M/S Out FP			4-M/S Plume			5-Jackson/Calhoun		
		Mean of log ₁₀ TEQ	%>J/C's 75 th	%>J/C's 95 th	Mean of log ₁₀ TEQ	%>J/C's 75 th	%>J/C's 95 th	Mean of log ₁₀ TEQ	%>J/C's 75 th	%>J/C's 95 th	Mean of log ₁₀ TEQ	%>J/C's 75 th	%>J/C's 95 th
1-M/S FP													
Unadjusted		0.4587 +	0.5349 +	0.3998 +	0.9647 +	0.9809 +	0.7172 -	0.0973 +	0.0599 +	0.5857 +	0.0003 +	0.0017 +	0.0211 +
Adjusted		0.5343 -	0.5278 -	0.9524 -	0.6150 -	0.6316 -	0.9036 +	0.2473 +	0.2295 +	0.7866 -	0.0112 +	0.0584 +	0.0417 +
2-M/S Near FP													
Unadjusted					0.5261 -	0.5756 -	0.2948 -	0.2603 +	0.1575 +	0.9937 -	0.0227 +	0.0371 +	0.1849 +
Adjusted					0.8114 +	0.8638 +	0.8776 +	0.1511 +	0.1291 +	0.8337 -	0.0062 +	0.0319 +	0.0859 +
3-M/S Out FP													
Unadjusted								0.1185 +	0.0691 +	0.4596 +	0.0024 +	0.0042 +	0.0210 +
Adjusted								0.1620 +	0.1463 +	0.7381 -	0.0005 +	0.0310 +	0.0446 +
4-M/S Plume													
Unadjusted											0.8624 +	0.9036 -	0.3457 +
Adjusted											0.9041 -	0.9826 -	0.1324 +

Unadjusted: Region Only;

Adjusted: Region + Age + Age² + BMI;

J/C: Jackson/Calhoun

SAS program: Get_blood_region_compare.sas

Created by: BH & WC

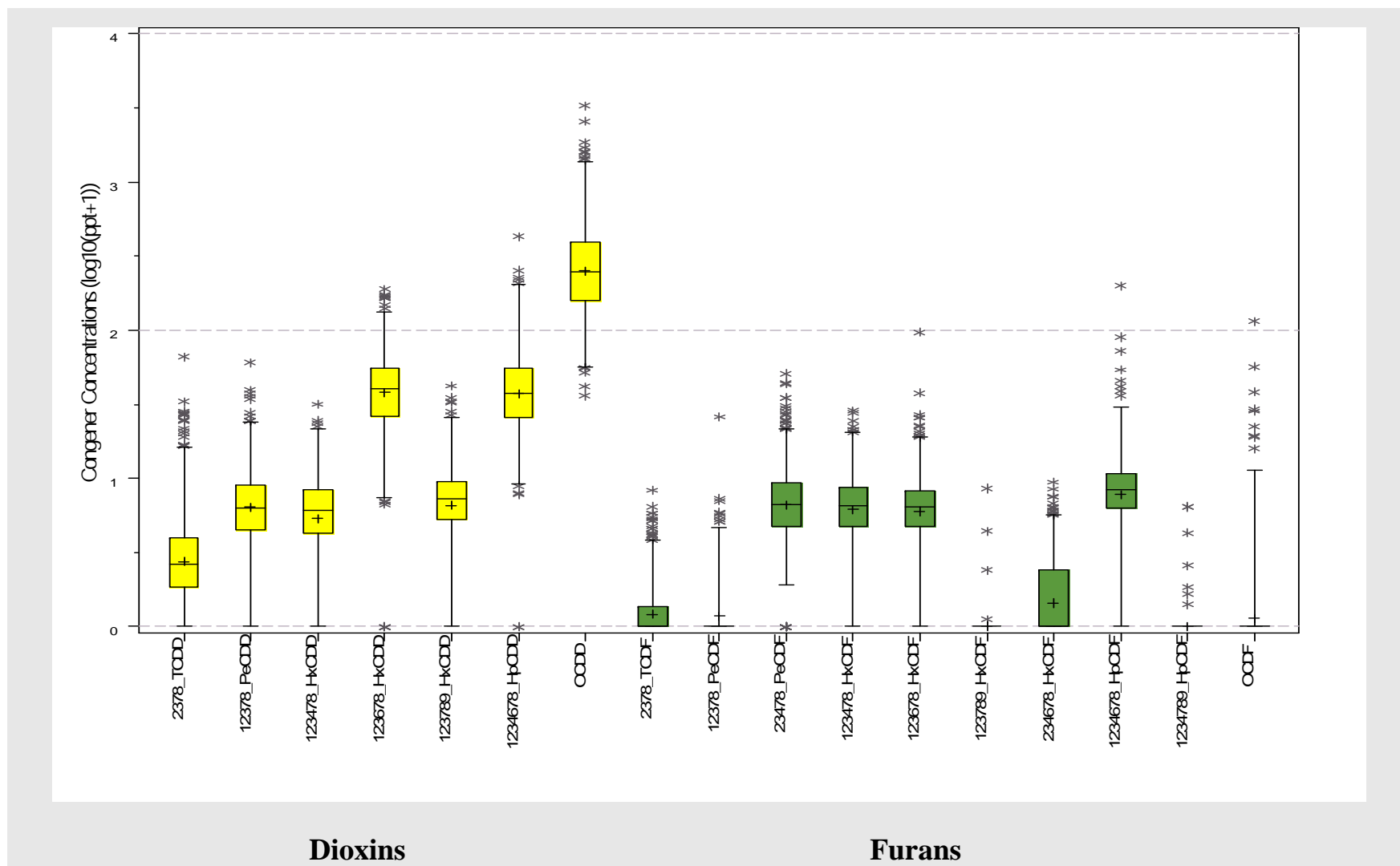
Last Update: XZ 06/16/2008

WEIGHTED BLOOD CONCENTRATIONS: Distribution of each dioxin and furan congener concentration, shown using box plots on the log₁₀ scale.

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Survey Sampling Weight: wt_final_blood



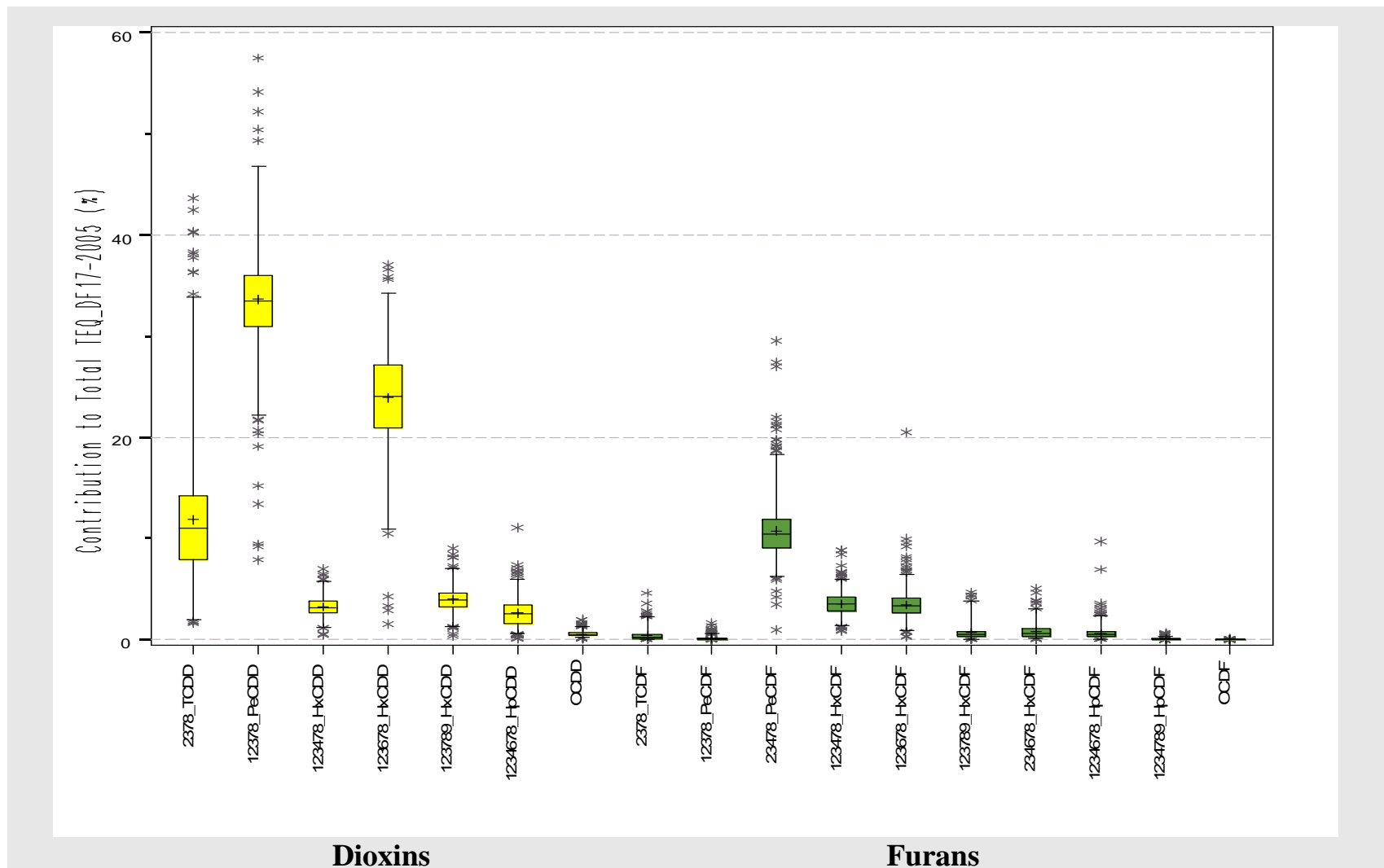
WEIGHTED BLOOD CONCENTRATIONS: Contribution of each congener to the total TEQ, shown using box plots

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Notes: TEQ is the TEF-weighted average of the 17 dioxin congeners (excluding the PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood



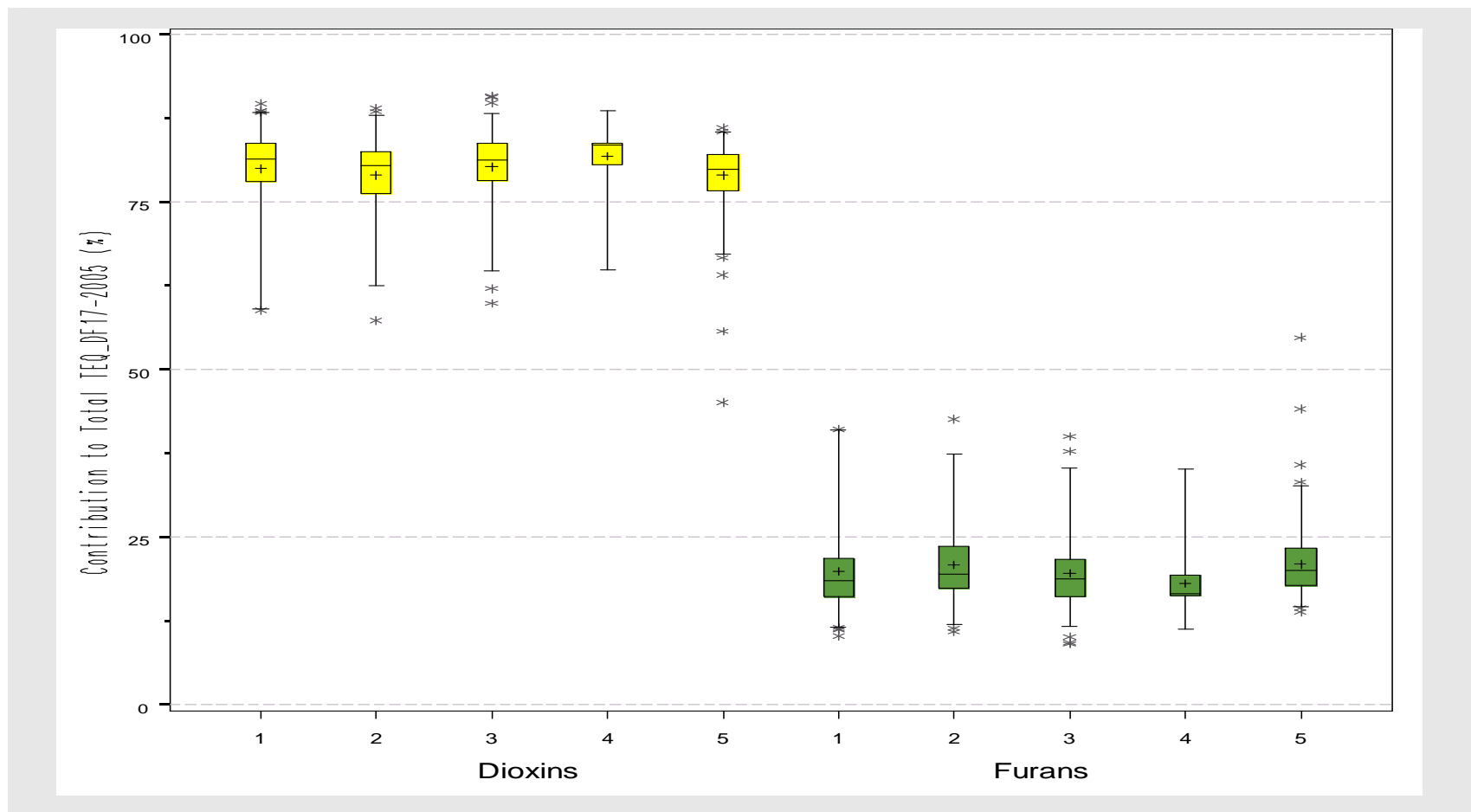
WEIGHTED BLOOD CONCENTRATIONS: Percent contribution to total TEQ for dioxins and furans, by region, shown using box plots

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Notes: TEQ is the TEF-weighted average of the 17 dioxin congeners (excluding the PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood



Region* 1-Midland/Saginaw FP; 2-Midland/Saginaw Near FP; 3-Midland/Saginaw Out FP;
 4-Midland/Saginaw Plume; 5-Jackson/Calhoun

SAS program: Get_boxplot_Figure3_4_TEQ05_17.sas

Created by: BH

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