

Improving the risk assessment of pesticides through the integration of human biomonitoring and food monitoring data. A case study for chlorpyrifos

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Supplementary material

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Table S1: Individual TPCy estimations for each PRIMo diet.

DIET CODE*	YEAR (Number corresponds to EFSA report as referenced below)							
	2012 ¹	2013 ²	2014 ³	2015 ⁴	2016 ⁵	2017 ⁶	2018 ⁷	2019 ⁸
DE child	14.86	15.47	14.99	13.36	2.99	2.42	2.20	1.65
DE general						1.10	0.94	0.74
DE women 14-50 yr						1.16	1.00	0.76
DK adult					0.65	0.38	0.39	0.27
DK child	10.75	10.13	9.41	9.49	1.44	1.19	1.17	0.50
ES adult					1.01	1.00	0.83	0.58
ES child	7.21	6.84	6.55	6.12	1.58	1.41	1.24	0.81
FI 3 yr						0.61	0.75	0.72
FI 6 yr						0.50	0.57	0.58
FI adult					0.64	0.48	0.35	0.33
FR adult					1.09	0.63	0.54	0.32
FR child 3 15 yr						1.74	1.53	1.02
FR infant					0.92	0.38	0.39	0.38
FR toddler 2 3 yr	9.46	8.34	7.90	7.96	1.68	1.28	1.16	0.82
GEMS/Food G06						1.74	1.54	0.94
GEMS/Food G07						1.43	1.31	1.05
GEMS/Food G08						1.32	1.20	1.00
GEMS/Food G10						1.33	1.22	0.96
GEMS/Food G11						1.31	1.25	1.08
GEMS/Food G15						1.34	1.17	0.91
IE adult					1.97	1.18	1.16	0.90
IE child						0.20	0.21	0.11
IT adult					0.91	0.83	0.70	0.34
IT toddler	7.66				1.32	1.19	1.04	0.44
LT adult					0.39	0.35	0.34	0.39
NL child	13.42	12.42	12.11	11.12	2.59	1.55	1.52	1.12
NL general					1.13	0.82	0.73	0.63
NL toddler						2.35	2.43	1.72
PL general					0.27	0.19	0.23	0.45
PT general	7.88	7.46	6.95	6.39	1.25	0.93	0.93	0.81
RO general						1.09	0.94	0.66
SE general	8.11		6.09	6.43	1.27	1.10	1.14	0.90
UK adult				6.21	0.63	0.51	0.49	0.35
UK infant				10.28	1.17	0.93	0.99	0.73
UK toddler	7.52	6.79	6.59	6.60	1.50	1.30	1.24	0.92
UK vegetarian					0.81	0.66	0.62	0.44
WHO cluster diet B	12.58	11.35	10.24		2.34			
WHO cluster diet D	8.38				1.28			
WHO cluster diet E		6.17			1.26			
WHO Cluster diet F					1.18			
WHO regional diet					0.94			

* Codes for national diets follow official EU abbreviations. GEMS and WHO are generic diets, see EFSA references below for details.

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Table S2. Individual MOE estimations for each HBM4EU country and population group.

Population group	Country	Endpoint	MOE P50	MOE P95	MOE UCIP95
adults	Portugal	Overall LOAEC	3192.7	<u>808.2</u>	<u>710.0</u>
adults	Switzerland	Overall LOAEC	6123.7	1631.4	1257.9
adults	Israel	Overall LOAEC	2159.2	<u>529.2</u>	107.6
adults	Iceland	Overall LOAEC	6387.1	2869.6	1800.0
adults	Germany	Overall LOAEC	7243.9	2069.7	1534.9
children	Slovenia	Overall LOAEC	6462.1	1287.1	804.3
children	The Netherlands	Overall LOAEC	3498.2	1135.4	712.9
children	Belgium	Overall LOAEC	3235.3	1223.1	784.8
children	Cyprus	Overall LOAEC	607.6	286.6	251.5
children	Israel	Overall LOAEC	1414.6	215.4	137.3
adults	Portugal	Long-term	1064.2	269.4	236.7
adults	Switzerland	Long-term	2041.2	543.8	419.3
adults	Israel	Long-term	719.7	176.4	35.9
adults	Iceland	Long-term	2129.0	956.5	600.0
adults	Germany	Long-term	2414.6	689.9	511.6
children	Slovenia	Long-term	2154.0	429.0	268.1
children	The Netherlands	Long-term	1166.1	378.5	237.6
children	Belgium	Long-term	1078.4	407.7	261.6
children	Cyprus	Long-term	202.5	95.5	83.8
children	Israel	Long-term	471.5	71.8	45.8
adults	Portugal	Short-term AchE	1064.2	<u>269.4</u>	<u>236.7</u>
adults	Switzerland	Short-term AchE	2041.2	543.8	419.3
adults	Israel	Short-term AchE	719.7	<u>176.4</u>	35.9
adults	Iceland	Short-term AchE	2129.0	956.5	600.0

<i>adults</i>	<i>Germany</i>	<i>Short-term AchE</i>	2414.6	689.9	511.6
<i>children</i>	<i>Slovenia</i>	<i>Short-term AchE</i>	2154.0	429.0	<u>268.1</u>
<i>children</i>	<i>The Netherlands</i>	<i>Short-term AchE</i>	1166.1	378.5	<u>237.6</u>
<i>children</i>	<i>Belgium</i>	<i>Short-term AchE</i>	1078.4	407.7	<u>261.6</u>
<i>children</i>	<i>Cyprus</i>	<i>Short-term AchE</i>	<u>202.5</u>	95.5	83.8
<i>children</i>	<i>Israel</i>	<i>Short-term AchE</i>	471.5	71.8	45.8
<i>adults</i>	<i>Portugal</i>	<i>Carcinogenicity</i>	106476.8	26952.4	23679.7
<i>adults</i>	<i>Switzerland</i>	<i>Carcinogenicity</i>	204226.8	54408.1	41949.9
<i>adults</i>	<i>Israel</i>	<i>Carcinogenicity</i>	72010.2	17647.8	3587.4
<i>adults</i>	<i>Iceland</i>	<i>Carcinogenicity</i>	213010.7	95700.5	60030.3
<i>adults</i>	<i>Germany</i>	<i>Carcinogenicity</i>	241585.4	69024.4	51188.6
<i>children</i>	<i>Slovenia</i>	<i>Carcinogenicity</i>	215518.9	42925.9	26823.9
<i>children</i>	<i>The Netherlands</i>	<i>Carcinogenicity</i>	116669.6	37866.3	23777.5
<i>children</i>	<i>Belgium</i>	<i>Carcinogenicity</i>	107900.3	40790.0	26173.7
<i>children</i>	<i>Cyprus</i>	<i>Carcinogenicity</i>	20263.9	9557.1	8389.3
<i>children</i>	<i>Israel</i>	<i>Carcinogenicity</i>	47179.7	7184.4	4578.9