

Supplemental Data 1. Details of urine analysis

In brief, urine was thawed, stirred, allowed to stand for 1 hour at 4 °C and the supernatant extracted as follows. One hundred µL of internal standard mixture (each IS at 10 ppb) was added to 100 µL of urine samples; and the samples were mixed well. Then 2800 µL of distilled water was added into each sample. Two different types of solid-phase extraction (SPE) cartridges were used for the purification. The first SPE was InertSep Pharma (60 mg/3 ml) (GL Science, Inc, Tokyo, Japan), and was pre-conditioned by 3 mL of acetonitrile/ dichloromethane (1/ 1) reagent followed by 3 ml of distilled water. The second SPE was InertSep PSA (100 mg/1ml) (GL Science), and pre-conditioned with 1 mL of acetonitrile/ dichloromethane (1/ 1) mixture. Prepared samples were loaded to pre-conditioned InertSep Pharma and washed with 0.5 mL of distilled water. The sample-loaded InertSep Pharma (top) was combined with InertSep PSA (bottom); and the target chemicals were eluted with 3 ml of acetonitrile/ dichloromethane (1/ 1) mixture. After concentrating and dry-solidifying with a centrifugal concentrator (CVE-200D with UT-2000, Eyela, Tokyo, Japan), the samples were reconstituted with 100 µL of 3% methanol aqueous solution containing 10 ppb of cotinin-d3, and transferred in vials for analysis.

Supplemental Data 2. Details of ion analysis in urine

In brief, urine was thawed, stirred, allowed to stand for 1 hour at 4 °C. 990 µL of distilled water was added to 10 µL of urine samples in 1.5 mL Eppendorf tube, and the samples were mixed well. The diluent was centrifuged at 15000 g for 10 minutes, and the supernatant was transferred to an HPLC vial for analysis. Cation (Na⁺, K⁺, Ca²⁺, Mg²⁺, NH₄⁺) concentrations were measured by ion chromatography using an ion chromatograph (ICS-1500, Dionex), auto-sampler (AS-50, Dionex), IonPac CG12A for guard column, IonPac CS12A for analytical column and CERS-500 for cation suppressor. The degassed 20 mM methanesulfonic acid solution was used for eluent. Anion (Cl⁻, NO₃⁻, PO₄³⁻, SO₄²⁻) concentrations were measured by ion chromatography using an ion chromatograph (ICS1500, Dionex) and auto-sampler (AS-50, Dionex), IonPac AG12A for guard column, IonPac AS12A for analytical column and AERS-500 for anion suppressor. The degassed 2.7 mM Na₂CO₃ / 0.3 mM NaHCO₃ solution was used for eluent.

Supplemental Data 3. Details of hair analysis

Briefly, hair samples were ground to a fine powder in a tissue lyser (Retsch MM 400, Germany) for 2 min at 30 Hz using a 20 mm stainless bead. Twenty-five mg of hair powder was transferred to a 2.0 mL microcentrifuge tube, and 1.5 mL of acetonitrile as well as 10 μ L of internal standard solution containing the five isotopically labelled neonicotinoids (125 ng/mL in acetonitrile) were added to the tube. The mixture was shaken in the tissue lyser for 3 min at 30 Hz, centrifuged and the supernatant was reserved. The centrifuged tube containing the hair pellet was re-extracted in 1.5 mL of acetonitrile; and the second extract was combined with the first one. A QuEChERS (Quick, Efficient, Cheap, Easy, Rugged and Safe) procedure was then applied to the acetonitrile extracts by adding 2 mL of acetonitrile, 5 mL water, and 3.25 g of a mixture of salts composed of anhydrous MgSO_4 (2.0 g), NaCl (0.5 g), sodium citrate dehydrate (0.5 g) and sodium citrate sesquihydrate (0.25 g). The tube was vigorously shaken by hand, centrifuged; and the epiphase was recovered and transferred to another tube containing 0.15 g MgSO_4 , 0.1 g C18 bulk phase, and 0.1 g primary-secondary amine bulk phase for dispersive SPE. After another round of shaking and centrifugation, the supernatant was evaporated, reconstituted in 0.25 mL of methanol 25%, filtered and transferred to an HPLC vial for analysis. Extracts were analysed by ultra-high performance liquid chromatography coupled to tandem mass spectrometry (UHPLC-MS/MS) using a well-established method [37].

Supplemental Table 1. Neonicotinoids and metabolites quantification in urine from the general population.

Country of residence of participants	n	Quantified neonicotinoids/metabolites	Ref.
Japan	33	6CNA	Taira 2011
Japan	3	DMAP	Taira 2013
Japan	147	6CNA, 2TCA, 3FA	Nomura 2013
Japan	52	IMI, ACE, THI, NIT, TMX, CLO, DIN	Ueyama 2014
China	295	IMI, 6CNA	WangL 2015
Japan	85	DMAP, THI, NIT, TMX, CLO	Marfo 2015
Japan	20	IMI, ACE, THI, NIT, CLO, TMX	Ueyama2015
Japan	373	IMI, ACE, DMAP, THI, TMX, CLO, DIN	Harada 2016
Japan	223	IMI, ACE, NIT, TMX, CLO,	Osaka 2016
Sri Lanka	40	IMI, DMAP, TMX, CLO,	Kabata2016
US	60	IMI, 5OH-IMI, ACE, DMAP, THI, CLO	Baker 2018
China	275	IMI, 6CNA	TaoY 2019
US	3038	IMI, 5OH-IMI, DMAP, CLO	Ospina 2019
Japan	46	IMI, ACE, DMAP, THI, NIT, TMX, CLO, DIN	Ikenaka 2019
Japan	57	DMAP, DIN,	Ichikawa 2019
China	324	IMI, ACE, THI, TMX, CLO, DIN	ZhangT 2019
US	20	IMI, 6CNA , ACE, DMAP, TMX, DMTX, CLO, IMZ, SFO	Honda 2019
Japan	50	IMI, ACE, DMAP, THI, TMX, CLO, DIN	Ueyama 2019
Korea, Japan, Vietnam, Kuwait, Saudi, India, China, Greece, US	566	IMI, 6CNA, ACE, DMAP, THI, TA, NIT, TMX, CLO, DIN	Li 2020
China	275	5OH-IMI, Of-IMI, DMAP, DIN-G, DIN-U	Song 2020
China	129	IMI, IMI-ole, DN-IMI, ACE, DMAP, TMX, CLO, DIN	WangA 2020
China	289	IMI, ACE, DMAP, NIT, TMX, DMTX, CLO, DIN	WangH 2020
Thai	100	IMI, IMI-ole, ACE, DMAP, THI, TMX, CLO, DIN, SFO	Suwannarin 2020
Japan	1036	IMI, ACE, DMAP, THI, TMX, CLO, DIN	Oya 2021
Japan	109	IMI, ACE, DMAP, TMX, CLO, DIN	Anai 2021
China	408	IMI, 5OH-IMI, IMI-ole, DN-IMI, ACE, DMAP, TMX, CLO	Mahai 2021
Ghana	75	IMI, ACE, DMAP, THI, NIT, TMX, CLO, DIN	Nimako 2021
Thai	143	IMI, IMI-ole, ACE, DMAP, THI, TA, NIT, TMX, CLO, DM-CLO, DIN	Suwannarin 2021
China	40	IMI, 5OH-IMI , ACE, DMAP, THI, TMX, CLO, DIN	ZangH 2021a
China	386	IMI, ACE, DMAP, THI, NIT, CLO, DIN, SFO, IMZ	Zhou 2021
Sri Lanka	92	IMI, ACE, DMAP, THI, TMX, CLO, DIN	Taira 2021
Switzerland	14	IMI, IMI-ole, DMAP, SFO	Laubscher 2022
China	305	IMI, ACE, , THI, TMX, CLO, DIN	Zhao 2022
US	1381	IMI, 5OH-IMI, ACE, DMAP, THI, CLO	Vuong 2022
China	374	IMI, 5OH-IMI, ACE, DMAP, THI, CLO, DIN, DIN-G, DIN-U	ZhangH 2022a
China	20	IMI, 6CNA, IMI-ole, IMI-G, IMI-urea, ACE, DMAP, THI, THI-amide, NIT, TMX, DM-TMX, CLO	Huang 2022
Philippines	99	IMI, ACE, DMAP, THI, NIT, TMX, CLO, DIN	Current study

Abbreviations: IMI, imidacloprid; 6-chloro-nicotinic acid; 5OH-IMI, 5-hydroxy-imidacloprid; IMI-ole, imidacloprid-olefin; IMI-urea, imidacloprid-urea; IMI-G, imidacloprid-guanidine; DN-IMI, desnitro-imidacloprid; 6CNA, ACE, acetamiprid; DMAP, *N*-desmethyl-acetamiprid; THI, thiacloprid; TA, thiacloprid-amide; NIT, nitenpyram; TMX, thiamethoxam; DMTX, *N*-desmethyl-thiamethoxam; CLO, clothianidin; DM-CLO, *N*-desmethyl-clothianidin; DIN,

dinotefuran; 2TCA, 2-chloro-1,3-thiazole-5-carboxylic acid; 3FA, 3- furoic acid; DIN-G, 1-methyl-3-(tetrahydro-3-furylmethyl) guanidine; DIN-U, 1-methyl-3-(tetrahydro-3-furylmethyl) urea; SFO, sulfoxaflo; IMZ, imidaclothiz;

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Supplemental Table 2. Neonicotinoids and metabolites quantification in body fluid except urine and in hair from the general population.

	Country	n	Detected neonicotinoids/metabolites	Ref.
Serum	China	200	IMI, IMI-ole, ACE, DMAP, THI, TMX, CLO, DIN, DIN-U	ZhangH 2022b
	China	120	IMI, ACE, THI, NIT, TMX, CLO	ChenQ 2021
	Saudi Arabia	25	IMI, 6CNA, ACE, DMAP, TA, TMX, CLO, DIN, SFO	Li 2020b
Plasma	Switzerland	14	IMI, DMAP, TMX, SFX	Laubscher 2022
Blood	Pakistan	109	IMI	Khan 2008
	Pakistan	184	6CNA	Khan 2013
	China	196	IMI, IMI-ole, ACE, DMAP, THI, TMX, CLO, DIN, DIN-U	Xu 2021
Cerebrospinal fluid	Switzerland	14	IMI, DMAP, TMX, SFX	Laubscher 2022
Saliva	China	188	IMI, 5OH-IMI, ACE, DMAP, THI, TMX, CLO, DIN, DIN-U	ZhangH 2021b
Semen	China	191	IMI-ole, DMAP, DM-CLO.	WangA 2022
Breast milk	China	80	IMI, ACE, DMAP, THI, NIT, CLO	ChenD 2020
Tooth	China	127	IMI, 5OH-IMI, ACE, DMAP, THI, TMX, CLO, DIN, DIN-U	ZhangN 2020
Hair	Greece	32	IMI	Kavvalaskis 2013
	Burkina Faso	101	IMI, ACE,	Lehmann 2017
	China	204	IMI, ACE, THI, TMX, CLO	Peng 2020
	Philippines	100	IMI, ACE, THI, TMX, CLO	Bonmatin 2021

Abbreviations: IMI, imidacloprid; 5OH-IMI, 5-hydroxy imidacloprid; IMI-ole, imidacloprid-olefin; ACE, acetamiprid; DMAP, *N*-desmethyl acetamiprid; THI, thiacloprid; NIT, nitenpyram; TMX, thiamethoxam; CLO, clothianidin; DM-CLO, desmethyl clothianidin; DIN, dinotefuran; DIN-U, 1-methyl-3-(tetrahydro-3-furylmethyl) urea; SFO, sulfoxaflor.

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Supplemental Table 3. Correlation between food and beverage habits and neonicotinoid residue in urine and hair (Spearman Rank correlation) in the Italian study.

Neonicotinoid	Food		Non-alcoholic beverage		Alcoholic beverage		Sum of three		Residence	
	Rho	p value	Rho	p value	Rho	p value	Rho	p value	Rho	p value
Urine (n=24)										
DMAP	-0.04	0.84	0.08	0.72	-0.17	0.43	-0.14	0.49	-0.17	0.43
Hair (n=40)										
Thiamethoxam	-0.04	0.78	-0.05	0.76	-0.09	0.56	-0.82	0.62	0.15	0.34
Clothianidin	0.25	0.12	0.33	0.03	-0.01	0.95	0.19	0.23	0.29	0.06
Imidacloprid	0.04	0.79	0.13	0.42	-0.01	0.95	0.05	0.75	0.11	0.49
Acetamiprid	0.22	0.18	-0.002	0.99	0.23	0.15	0.19	0.23	-0.08	0.62
Thiacloprid	0.12	0.45	0.27	0.09	0.16	0.33	0.22	0.18	0.10	0.55
Σ five NEO	0.15	0.34	0.32	0.044	0.14	0.38	0.24	0.14	0.29	0.07

Type of food intake (1: organic food only, 2: mostly organic food, 3: no strong selection but clearly also some organic food, 4: little proportion of organic food, or 5: never any organic); non-alcoholic beverages (1: organic only, 2: mostly organic, 3: no strong selection but clearly also some organic beverage, or 4: never any organic beverage); alcoholic beverages (0: no alcohol, 1: organic only, 2: mostly organic, 3: no strong selection but clearly also some organic beverages, or 4: never any organic beverages); living residential community (1: urban area, 2: sub-urban area -some agricultural fields exist within 10 km, or 3: rural area)

Supplemental table 4. Comparison of neonicotinoid residue level in urine and in hair between Europeans and others in the Italian study.

Urine	European (n=17)			American, Australian & Asian (n=7)			p value^c
M/F	13/4			3/4			0.036
age	58.9±16.4			51.9±11.0			0.31
	>LOQ	Mean ^b (µg/L)	Maximum (µg/L)	>LOQ	Mean ^b (µg/L)	Maximum (µg/L)	
DMAP	58.8%	0.01	0.39	57.1%	0.01	0.08	0.69
Hair^a	European (n=28, M/F=21/7)			America, Australia & Asia (n=12, M/F=6/6)			
M/F	21/7			6/6			0.008
age	56.9±15.6			49.1±11.0			0.19
	>LOQ (%)	Mean ^b (µg/kg)	Maximum (µg/kg)	>LOQ (%)	Mean ^b (µg/kg)	Maximum (µg/kg)	
Thiamethoxam	25.0%	0.01	8.46	25.6%	0.01	0.56	0.60
Clothianidin	17.9%	0.02	123	25.0%	0.04	60.4	0.65
Imidacloprid	85.7%	0.40	89.8	83.3%	0.38	43.2	0.95
Acetamiprid	39.3%	0.01	0.22	58.3%	0.04	0.88	0.52
Thiacloprid	67.9%	0.12	2.36	41.7%	0.10	1.26	0.71
Σ five NEO	100%	1.19	134	91.7%	0.92	65.4	0.73

^a pooled data for 2016 and 2017; ^b geometric mean on assumption <LOQ data is a half of LOQ; ^c Comparison between the participants from Europe and North America, Australia & Asia by Mann-Whitney U test.

Supplemental Table 5. Comparison of neonicotinoid residue level in hair and in urine between man and women in the Italian study

Urine	Male (n=16)			Female (n=8)			p value ^c
Age (mean±SD)	61.5±12.5			47.5±16.4			0.075
	>LOQ	Mean ^b (µg/L)	Maximum (µg/L)	>LOQ	Mean ^b (µg/L)	Maximum (µg/L)	
DMAP	56.2%	0.013	0.39	62.5%	0.016	0.08	0.68
Hair ^a	Male (n=27)			Female (n=13)			
Age (mean±SD)	57.0±13.5			48.8±16.3			0.16
	>LOQ	Mean ^b (µg/kg)	Maximum (µg/kg)	>LOQ	Mean ^b (µg/kg)	Maximum (µg/kg)	
Thiamethoxam	22.2%	0.009	0.94	30.8%	0.021	8.46	0.13
Clothianidin	14.8%	0.014	0.62	30.8%	0.104	12	0.013
Imidacloprid	81.5%	0.408	89.8	92.3%	0.353	15.3	0.86
Acetamiprid	44.4%	0.016	0.88	46.2%	0.017	0.70	0.92
Thiacloprid	63.0%	0.102	1.63	53.8%	0.155	2.36	0.35
Σ five NEO	96.3%	0.950	89.8	100%	1.49	134	0.55

^a pooled data for 2016 and 2017; ^b geometric mean on assumption <LOQ data is a half of LOQ; ^c Comparison between the male and female participants by Mann-Whitney U test.

Supplemental Table 6. Results of urine and hair analysis of adult men and women in the Philippine study

	Adult men (n=44)			Adult women (n=27)			
	>LOQ	Mean ^a	Max	>LOQ	Mean ^a	Max	p value ^b
Urine		(µg/L)	(µg/L)		(µg/L)	(µg/L)	
Thiamethoxam	27.3%	0.041	0.15	48.1%	0.063	0.45	0.056
Clothianidin	22.7%	0.03	0.09	14.8%	0.03	0.30	0.57
Imidacloprid	56.8%	0.06	0.22	40.7%	0.05	0.19	0.36
Acetamiprid	13.6%	0.008	0.13	0%	0.005	<LOQ	0.046
Thiacloprid	2.3%	0.005	0.12	0%	0.005	<LOQ	0.43
Nitenpyram	4.5%	0.027	0.25	0%	0.025	<LOQ	0.28
Dinotefuran	18.2%	0.04	0.95	14.8%	0.03	0.31	0.51
DMAP	6.8%	0.006	0.09	3.7%	0.27	0.09	0.83
Σ NEO	77.3%	0.29	1.10	85.2%	0.28	0.82	0.79
Σ five NEO	72.7%	0.18	0.80	81.5%	0.19	0.72	0.62
Hair		(µg/kg)	(µg/kg)		(µg/kg)	(µg/kg)	
Thiamethoxam	40.9%	0.049	129	14.8%	0.007	0.14	0.004
Clothianidin	40.9%	0.036	6.72	33.3%	0.020	0.26	0.161
Imidacloprid	61.4%	0.100	341.4	59.3%	0.052	0.36	0.226
Acetamiprid	20.5%	0.006	0.069	7.4%	0.001	0.010	0.048
Thiacloprid	13.6%	0.006	0.021	7.4%	0.018	0.018	0.564
Σ five NEO	84.1%	0.042	351	66.7%	0.11	0.78	0.012

^a geometric mean on assumption <LOQ data is a half of LOQ; ^b t-test

Supplemental Table 7. Results of urine and hair analysis of the three islands in the Philippine study.

	Luzon (n=31)			Marinduque (n=31)			Mindanao (n=37)			
	>LOQ	Mean ^a	Max	>LOQ	Mean ^a	Max	>LOQ	Mean ^a	Max	p value ^b
Urine		(µg/L)	(µg/L)		(µg/L)	(µg/L)		(µg/L)	(µg/L)	
Thiamethoxam	12.9%	0.03	0.36	45.1%	0.05	0.15	35.1%	0.05	0.45	0.052
Clothianidin	0		<LOQ	12.9%	0.03	0.09	27.0%	0.04	0.30	0.003
Imidacloprid	61.3%	0.06	0.55	41.9%	0.04	0.22	43.2%	0.04	0.19	0.17
Acetamiprid	3.2%	0.01	0.07	6.5%	0.01	0.09	18.9%	0.01	0.13	0.049
Thiacloprid	0		<LOQ	0		<LOQ	2.7%	0.01	0.12	0.43
Nitenpyram	0		<LOQ	3.2%	0.03	0.25	2.7%	0.03	0.66	0.55
Dinotefuran	19.3%	0.04	0.95	3.3%	0.03	0.20	24.3%	0.04	0.66	0.061
DMAP	3.2%	0.01	0.27	3.2%	0.01	0.21	10.8%	0.01	0.09	0.55
Σ NEO	71.0%	0.25	1.1	83.9%	0.24	0.35	78.4%	0.30	1.02	0.19
Σ five NEO	64.5%	0.15	0.55	80.6%	0.16	0.26	67.6%	0.18	0.80	0.35
Hair		(µg/kg)	(µg/kg)		(µg/kg)	(µg/kg)		(µg/kg)	(µg/kg)	
Thiamethoxam	12.9%	0.01	0.25	3.2%	0.01	0.08	67.6%	0.16	129.28	<0.001
Clothianidin	232.6%	0.02	0.33	45.1%	0.03	0.53	64.9%	0.08	6.72	<0.001
Imidacloprid	61.3%	0.06	0.63	25.8%	0.02	0.24	89.2%	0.27	341.40	<0.001
Acetamiprid	12.9%	0.01	0.07	12.9%	0.005	0.06	13.5%	0.01	0.07	0.97
Thiacloprid	3.2%	0.01	0.01	0		<LOQ	18.9%	0.01	0.02	0.009
Σ five NEO	77.4%	0.13	0.66	61.3%	0.09	0.53	94.6%	1.03	350.52	<0.001

^a geometric mean on assumption <LOQ data is a half of LOQ; ^b one way ANOVA

Supplemental Table 8. Urinary ion level in the Philippine study (n=93)

Urinary ion (mEq/L)	Min	25 th percentile	50 th percentile	75 th percentile	97.5 th percentile	Max
Na ⁺	11.7	57.55	79.1	127.1	217.3	257.4
K ⁺	2	9.5	19.4	27	73.1	88.6
Ca ²⁺	0.2	1.7	2.9	4.8	11.94	14.7
Mg ²⁺	0.4	2.95	5.7	8.25	15.12	16.9
NH ⁴⁺	2	16.05	25.1	34.55	90.83	140.4
CL ⁻	13.6	56	89.7	156.7	326.3	337.4
NO ³⁻	0.008	0.113	0.168	0.359	1.060	1.567
PO ₄ ³⁻	1	8.4	15.4	22.95	62.8	70.6
SO ₄ ²⁻	3.2	17.2	24.5	34.6	65.12	73

Supplement Table 9. Urinary Sodium to Potassium Ratios in the Philippines study

		n	median	minimum	maximum	more than 4 (%)	mean	SD
Total	Children	27	4.93	1.91	23.96	63.0	6.51	4.57
	Adult men	43	4.62	1.02	14.54	58.1	5.24	3.35
	Adult women	23	4.64	1.89	12.35	65.2	4.95	2.05
Luzon	Children	10	4.42	1.91	9.71	60.0	4.91	2.50
	Adult men	11	4.28	1.02	8.85	54.5	4.19	2.17
	Adult women	9	4.44	3.62	5.98	55.6	4.51	0.84
Marinduque	Children	9	6.87	3.68	23.96	88.9	8.82	6.21
	Adult men	11	5.56	2.11	8.66	72.7	5.60	2.25
	Adult women	9	6.12	3.01	12.35	88.9	6.15	2.62
Mindanao	Children	8	3.93	2.69	12.41	37.5	5.92	3.80
	Adult men	21	4.14	1.30	14.54	52.4	5.59	4.22
	Adult women	5	3.52	1.89	5.23	40.0	3.60	1.41

Supplemental Table 10. Relationships between neonicotinoids concentration in urine and in hair in Philippine study.

Neonicotinoid	Urine Concentration >LOQ	+	+	-	-
	Hair Concentration >LOQ	+	-	+	-
		n (%)	n (%)	n (%)	n (%)
Thiamethoxam	Total	11 (11%)	20 (20%)	19 (19%)	49 (49%)
	Children	0	6 (21%)	8 (29%)	14 (50%)
	Adults, pesticide related workers	7 (14%)	9 (18%)	10 (20%)	24 (48%)
	Adults, not pesticide related workers	4 (19%)	52 (24%)	1 (5%)	11 (52%)
Clothianidin	Total	9 (9%)	5 (5%)	36 (36%)	49 (49%)
	Children	0	0	18 (64%)	10 (36%)
	Adults, pesticide related workers	7 (14%)	4 (8%)	14 (28%)	25 (50%)
	Adults, not pesticide related workers	2 (10%)	1 (5%)	4 (19%)	14 (67%)
Imidacloprid	Total	25 (25%)	22 (22%)	35 (35%)	17 (17%)
	Children	4 (14%)	7 (25%)	13 (46%)	4 (14%)
	Adults, pesticide related workers	18 (36%)	11 (22%)	12 (24%)	9 (18%)
	Adults, not pesticide related workers	3 (14%)	4 (19%)	10 (48%)	4 (19%)
Acetamiprid	Total	0	10 (10%)	13 (13%)	76 (77%)
	Children	0	4 (14%)	2 (7%)	22 (79%)
	Adults, pesticide related workers	0	5 (10%)	10 (20%)	35 (70%)
	Adults, not pesticide related workers	0	1 (5%)	1 (5%)	19 (90%)
Thiacloprid	Total	0	1 (1%)	7 (7%)	91 (92%)
	Children	0	0	0	28 (100%)
	Adults, pesticide related workers	0	1 (2%)	4 (8%)	45 (90%)
	Adults, not pesticide related workers	0	0	3 (14%)	18 (86%)
Acetamiprid/DMAP ^a	Total	2 (2%)	4 (4%)	11 (11%)	82 (83%)
	Children	1 (4%)	1 (4%)	1 (4%)	25 (89%)
	Adults, pesticide related workers	1 (2%)	3 (6%)	9 (18%)	37 (74%)
	Adults, not pesticide related workers	0	0	1 (5%)	20 (95%)

^a: Relationship between urine N-desmethyl acetamiprid concentration and hair acetamiprid concentration.

