

Appendix I: Methodology

Products were selected for testing according to several overlapping criteria: collection from as diverse a geographic area as possible, inclusion of products made by major manufacturers, collection from leading publicly traded retailers and the ability to compare older cans stored on home pantry shelves with new products purchased directly from a retailer.

Brand Selection

We identified the following publicly traded brands for testing: Campbell's, Coca-Cola, ConAgra (owner of Chef Boyardee and Healthy Choice), DelMonte (owner of College Inn and Star-Kist, in addition to DelMonte brand), General Mills (owner of Muir Glen), Goya, Hain Celestial (owner of brands such as Eden Foods), Kraft, Pepsi, Unilever (makers of Slim Fast), Walmart (which sells its house brand, Great Value), and Whole Foods (which sells its house brand, 365).

Participant and Product Selection

We recruited 20 individuals in 19 states and Ontario, Canada to collect products. We surveyed participants to determine what products from the brands listed above were in their pantries. Efforts were made to select products from as many different brands as possible. Individuals were told which of the products on their shelves they should submit, and then were asked to purchase matching products from a designated store's shelves. In two cases, California and Ontario, only new products were purchased. In one state, New York, two different kinds of products were selected. In three cases, Maine, Montana, and New York, store-bought products were similar but not identical to products submitted from pantry shelves.

Participants sent cans to a central location in New York where we collected data about each can. Cans were then shipped in two batches to Anresco Laboratories at 1370 Vandyke Ave., San Francisco, CA 94124.

Laboratory Analysis

Anresco Laboratories⁷³ used methodology described by Czech J., Food Science, Volume 21, No. 3:85-90 with in-house modifications.

Food samples were composited by stainless steel blender in a Mason jar, from which 15 g were taken for analysis (samples were fortified as needed). BPA was extracted using QuEChERS method with 15 ml ACN. In a plastic centrifuge tube, 15 g sample + 1.5 NaCl + 6 g MgSO₄ + 15 ml ACN were

shaken for 2 minutes. The mixture was centrifuged for 10 minutes at 4000 RPM. 10 ml of ACN top layer were evaporated and taken through derivatization. The BSTFA/TMCS volume was modified to 1 ml and was added to the residue at which point it was placed into an oven for 30 minutes at 80 degrees C. After cooling, the derivatization agent was evaporated under N₂ and the residue was reconstituted in 4 ml of chloroform. Sample was microfuged at 10,000 RPM. 2 µl were injected into the Gas Chromatograph Mass Spectrometer (GCMS).

For beverages, 40 g (fortified as necessary) of each sample were extracted with three 390 ml portions of dichloromethane. Carbonated beverages were opened and allowed to

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lose carbonation for 2 hours before extraction. The dichloromethane layer was passed through sodium sulfate. The extract was evaporated to approximately 3 ml using a KD evaporator and then to dryness under a stream of N₂. The residue was then derivatized. The BSTFA/TMCS volume was modified to 1 ml and was added to the residue, at which point it was placed into an oven for 30 minutes at 80 degrees C. After cooling, the derivatization agent was evaporated under N₂ and the residue was reconstituted in 4 ml of chloroform. Sample was microfuged at 10,000 RPM. 2 µl were injected into the GCMS.

GCMS operating parameters: Shimadzu GC-17A equipped with MS QP4000. 150 degree C for 2 minutes then 20 degree/minute to 300 C and hold 15 minutes. Flow @ 1.0 ml/minute. Interface at 300 degrees C. Injector at 250 degrees C. SIM (m/z): 372, 357.

Four spiked samples at the level of 20 ppb per sample yielded the following recoveries: Sample #1: 121.5%, Sample #14: 118.5%, Sample #20: 116.5%, Sample #25: 95.6%.

Negative controls were used throughout the process: blanks of de-ionized water were run between every sample and always indicated that no BPA was detected. The estimated level of detection was 0.5 µg/kg.

Appendix II: Detailed Data

Product	Pantry or Store	State	BPA in sample (µg/kg)	Unit size (g)	Serving size (g)	BPA per serving (in µg)
365 Cannellini beans	P	NC	22.40	425	130	2.91
365 Cannellini beans	S	NC	24.20	425	130	3.15
365 Organic Black Bean Soup	S	CAN	52.50	411	245	12.86
365 Organic Cream of Mushroom Soup	S	CAN	53.50	411	245	13.11
365 Organic Kidney Beans	S	CAN	32.20	425	130	4.19
365 Organic Lentil Soup	S	CAN	47.40	411	411	19.48
365 Organic Light Coconut Milk	S	CA	74.60	400*	59	4.40
365 Organic Pinto Beans	S	CAN	28.80	425	130	3.74
Campbell's chicken noodle Soup	P	OR	120.70	305	305	36.81
Campbell's chicken noodle Soup	S	OR	127.50	305	305	38.89
Campbell's Cream of Mushroom Soup	P	WA	130.40	305	124	16.17
Campbell's Cream of Mushroom Soup: 25% less sodium	S	WA	92.60	305	124	11.48
Chef Boyardee Beef Ravioli	S	MI	9.70	425	252	2.44
Chef Boyardee Beef Ravioli	P	MI	21.50	425	425	9.14
Coca-cola classic	S	NJ	0.20*	360	360	0.07
Coca-cola classic	P	NJ	0.40*	360	360	0.14
College Inn Vegetable broth	P	CT	18.00	425	243	4.37
College Inn Vegetable broth	S	CT	40.80	425	106	4.34
DelMonte French Style Green beans	S	WI	296.20	411	121	35.84
DelMonte French Style Green beans	P	WI	1,140.00	411	121	137.94
DelMonte Lite Sliced Peaches—Yellow cling in extra light syrup	S	ME	7.60	822	124	0.94
DelMonte organic whole kernel corn	S	MN	33.00	432	113	3.74
DelMonte organic whole kernel corn	P	MN	37.10	432	113	4.21
DelMonte Yellow Freestone sliced peaches in light syrup	P	ME	1.20	822	124	0.15
Diet Caffeine-free coke	S	IN	ND*	355*	355	ND
Diet Caffeine-free coke	P	IN	0.40*	355*	355	0.14
Diet Coke	P	MA	ND*	350*	350	ND
Diet Coke	S	MA	0.70	350*	350	0.25
Eagle brand condensed milk	S	NY	ND*	397*	39	ND
Eagle brand condensed milk	P	NY	ND*	397*	39	ND
Goya Coconut Milk	S	VT	77.60	400*	59	4.58
Goya Coconut Milk	P	VT	82.20	400*	59	4.85
Goya Pink Beans	P	IL	76.50	439	113	8.67
Goya Pink Beans	S	IL	80.30	439	113	9.11
Great Value Pinto Beans	P	IA	11.70	439	113	1.33
Great Value Pinto Beans	S	IA	19.40	439	113	2.20
Great Value Sweet Peas	P	KY	6.50	425	125	0.81
Great Value Sweet Peas	S	KY	329.30	425	125	41.16
Health Valley Organic Lentil Soup (No salt)	S	CAN	44.60	439	240	10.70
Health Valley Organic Lentil Soup (No salt)	S	CAN	45.00	439	240	10.80
Health Valley Organic Minestrone Soup (No salt)	S	CAN	38.50	439	240	9.24
Health Valley Organic Minestrone Soup (No salt)	S	CAN	45.40	439	439	19.95
Health Valley Organic Vegetable Soup (No salt)	S	CAN	37.70	439	240	9.05
Health Valley Organic Vegetable Soup (No salt)	S	CAN	51.60	439	240	12.38
Healthy Choice Old Fashioned Chicken Noodle Soup	P	MT	323.60	439	439	142.20
Healthy Choice Old Fashioned Chicken with Rice	S	MT	172.40	439	439	75.76
Muir Glen Organic Fire Roasted Crushed tomatoes	P	NY	1.90	439	110	0.21
Muir Glen Organic Fire Roasted Diced tomatoes	S	NY	7.10	439	110	0.78
Star-Kist Tuna	P	AK	0.70	439	220	0.15
Star-Kist Tuna	S	AK	1.60	439	220	0.35

* Liquids are measured in ml. For the purposes of this report we considered it sufficiently accurate to assume one ml equals one g.

+ These values were reported by the laboratory but fall below the level of detection. ND means, "Not detected."