Foods Analyzed by FDA for PCB

November 1969 - Thru June 1971

Since November 1969, the FDA has analyzed all raw agricultural commodities sampled in the pesticide program for PCB's. More than 15,000 samples have been collected and analyzed for PCB's in this program. As of June 1971, a total of 479 samples of raw agricultural commodities have been reported to contain PCB's; 200 of these samples were follow-up samples of suspected lots because of previous analyses. See tables 1 and 2. PCB's were encountered most frequently in fish in approximately 300 of the 479 samples;

The FDA total diet studies for 60 market baskets representing a total of 720 composite samples during FY-70 and FY-71 show 22 composite samples to contain PCB residues ranging from a trace to 0.36 p.p.m. Seventeen of these samples represented the meat, fish, and poultry composite. Other positive findings were in the dairy and the grain and cereal composites. Table 4 (last three items) shows the amount of PCB's in individual items of the total diet and indicates the source in three cases to be the packaging material.

We have also analyzed a number of other paperboard packaging materials and the food packaged in such materials. See tables 3 and 4.

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You will note in examining these tables of PCB data that no PCB's have been found in fresh fruits or vegetables. This is indeed significant because thousands of samples have been analyzed. However, PCB's have been found in a feed by-product from potato processing plants (source of the PCB's could not be identified).

During the past year, there has been a series of accidents related to fishmeal and other animal feeds, which have resulted in the contamination of food. As of August 30, 1971, 166 samples of eggs had been analyzed as a part of the follow-up investigation of the Wilmington East Coast Terminal fish meal accident. Fifty-five of these contained PCB's in excess of the action level of 0.5 p.p.m. Seizures aggregating about 75,000 eggs have been made. The FDA also seized one shipment of the fish meal and five shipments of a catfish and trout chow manufactured from the contaminated meal. It was then agreed the responsible firms would recall the fishmeal and the fish feed.

The U.S.D.A. has examined the poultry involved in that incident and our two agencies have coordinated their efforts to protect the consumer.

POSITIVE ANALYSES OF RANDOM FOOD SAMPLES
November 1969 through June 1971
(15,000 Samples Analyzed --all prior to
East Coast Terminal Fish Meal Incident)
Number Positive Samples (Range-ppm) Average ppm

Table 1

Examining District	Fish	Fish By Product	Cheese[a]	Milk[a]	Shell Eggs	Potato By Product	Oysters	Misc.	Total Positive All Products
Los Angeles	23(0.1-2.60).62	5(0.2-5.0)2.10		6(0.15-0.30).19	1(0.03).03				35
Minneapolis	2(.12-35.29)17.70								2
New Orleans	23(T-1.70)0.4[d]							Milled Rice 1(0.20)	24
New York	3(0.21-4.78)2.49								3
San Francisco					1(0.50).50				1
Seattle	1(0.40).40					8(0.10-4.20)1.16		Straw 1(0.30) Wheat 1(0.32)	11
Kansas City	19(0.60-13.30)3.41								19
Atlanta	1(0.53).53[a]		1(T)	2(0.94-0.97).96				Silage 1(0.82) Silo Coating 1(11.3)	6
Baltimore				22(T-12.58)2.69	5(T-T).00		12(T-T).00	Crabmeat 1(0.24)	40
Boston	1(6.08)6.08								1
Buffalo	19(T-13.00)3.26[d]	1(T).00							20
Chicago				1(0.23)0.23					1
Cincinnati	55(0.04-4.70)1.77			4(0.22-0.24).24					59
Denver						2(0.15-1.12).64			2
Detroit	49(0.25-15.5)2.96			4(0.49-1.86)1.27				Cat Food 1(6.49) Duck 1(0.70)	55
Dallas									0
Total Positive	196	6	1	39	7	10	12	8	279

[a]ppm fat basis [d]T=Trace; not incl. in ave [e]marine species

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Table 2

POSITIVE FOLLOW-UP INVESTIGATIONAL SAMPLES
collected because of suspected PCB Residues
November 1969 through June 1971
Number Positive Samples (Range-ppm) Average-ppm

Examining District	Fish	Fish By Product	Cheese[a]	Milk[a]	Shell Eggs	Potato By Product	Oysters	Misc.	Total Positive All Products
Los Angeles	31(0.1-6.0)1.54		43 (.03-1.0).30[c]						74
Minneapolis	58(T-9.37)1.97[d]								58
New Orleans	4(0.26-2.0)1.03							Boiled Oyster 1(0.23)	5
New York								Frog Legs 1(0.09)	1
San Francisco									0
Seattle	1(1.98)1.98					2(1.39-1.73)1.56			3
Kansas City	1(8.39)8.39								1
Atlanta	2(0.43-1.23).83[e]			2(6.60-22.80)14.7					4
Baltimore	5(T-T).00			13(0.57-9.96)4.03	10(T-.01).01			Apple Pomace 1(T)	29
Boston									0
Buffalo	3(1.51-2.29)1.95								3
Chicago				6(0.14-0.24).19					6
Cincinnati	3(1.00-1.50)1.27								3
Denver	3(0.32-0.77).54[e]								3
Detroit	10(0.73-4.70)2.47								10
Dallas									0
Total Positive	121	0	43	21	10	2	0	3	200

[a]ppm fat basis [c]import [d]trace;not incl. in ave. [e]marine species

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FDA CINCINNATI DISTRICT OFFICE PACKAGING INVESTIGATION

AUGUST 1971

TABLE 3

PCB's in PAPERBOARD

Sample No.	Grade or Use Term	Description	Product Use	PCB 1242 in ppm
INV 010-604E	Gardner Board	Four layer all bleached paperboard from re-cycled paper	Hamburger box	73
	Sulfate Board	Single stock board made from virgin sulfate pulp	Baked food Pizza	1.7 4.7
	Food Packaging	Paperboard with a bleached liner from selected grades of waste selected on basis of no odor or taste	Box for crackers Corn Bread box Gelatin box Rice box Pecan Bars box	433 40 29 44 29
	Chip Board	Paper with one-half to one-third mixed paper in filler. Mixed paper is identified as clean, dry waste paper. May contain over 10% box cuttings and news or news stock such as magazines and catalogues	Shredded Wheat dividers	46

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TABLE 4

PCB's in FOOD PACKAGES and FOOD PRODUCTS

Sample No.	Sample	Arochlor 1242 in ppm Food product	Box or carton	Other
	Carton dividers			5.3 (divider)
	Cartons for Shredded Wheat		18	
062-065E	"		12	
027-695E	Shredded Wheat in cardboard cartons	0.5	14	11 (divider)
013-123E	"	0.5 0.1 ck	18 8 ck	6.4 (divider) 6.2 ck
INV 008-756E	"	0.3 0.3 1.0 1.9 0.9	15-30	
INV 062-260E	"	None 1.5 ←	17	(Re-analyzed after holding 6 weeks)
INV 008-756E	Bread crumbs in cylinder type cartons	None	20	

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TABLE 4

Sample No.	Sample	Arochlor 1242 in ppm Food product	Box or carton	Other
INV 008-757 E	Cookies in cellophane package with cardboard dividers	none	none	none
INV 096-802E	Cookies in cardboard box with cellophane inner wrapper	none	33	none (inner wrapper)
INV 061-880E	Crackers packaged and un-packaged in cardboard cartons	none	8.3 empty 10 packed	none
010-909E	Crackers in 2 lb. boxes	none	132	185 (inner plastic bag) 6.1 (waxed paper)
010-910E	Crackers in 1 lb. boxes	none	99	45 (inner plastic bag) 5.1 (waxed paper)
008-759E	Spaghetti in cardboard package	none	16	
008-760E	"	none	14	
INV 016-206E	Cartons for Spaghetti dinner		17 12 ck	
INV 016-208E	Cartons for Spaghetti dinner		13 13 ck	
INV 016-207E	Cartons for Noodle and Cheese Dinner		21 15 ck	
010-928E	Confectioner's Powdered Sugar	none	17	none (inner wrapper)

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TABLE 4

Sample No.	Sample	Arochlor 1242 in ppm Food product	Box or carton	Other
INV 016-209E	Cartons for Noodle with Chicken Dinner		5.8 3.6 ck	
002-805E	Spaghetti Dinner	None	14	
002-808E	"	3.0 1.6 ck 2.1 ck	1144	
002-806E	Noodles Dinner	0.4	6.3	
002-807E	"	0.3	17	
002-804E	Macaroni Dinner	none	8.1	
055-234E	Hot Roll Mix	none	27	none (inner wrapper)
055-235E	"	none	19	none (inner wrapper)
063-745E	"	none	104	none (inner wrapper)
093-586E	"	none	88	none (inner wrapper)
000-685E	"	none	32	none (inner wrapper)
INV 000-437E	Cartons for White Hominy Grits		16 20 ck	
INV 000-438E	"		22 17 ck	
INV 000-439E	"		39 29 ck	
INV 000-440E	"		26 27 ck	

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TABLE 4

Sample No.	Sample	Arochlor 1242 in ppm Food product	Box or carton	Other
016-752E	Quick Grits	0.6 0.4 ck	21	
INV 039-981E	Pudding and Pie Filling	none	none	none (inner wrapper)
010-926E	Dark Brown Cane Sugar	none	23	none (inner wrapper)
010-927E	Light Brown Cane Sugar	none	18	35 (inner wrapper)
INV 077-951E	Cereal Six Pack-601 oz. cardboard boxes of various cereals	1.1 (composite)	47	(Note: Check analyses run on the individua cereals)
"	Mixed (2)	1.0, 1.1	30	29 (box $\bar{c}$ removed printing)
	Oatmeal (2)	1.6, 1.6	32	28 (box $\bar{c}$ removed printing)
	High Protein (1)	1.9	45	
	Rice (1)	0.8	29	
Boston Total Diet Basket April/May '71	Shredded Wheat	24	70	497 (divider)
Minneapolis Total Diet Basket April/May '71	Corn Meal	0.8		
	Pancake Mix	trace *		
	Wheat Cereal	trace*		
Kansas City Total Diet Basket June/Jyly '71	Corn Meal	0.2 *	12	
	Pancake Mix	0.1 *	6.7	
	Rice grain	trace *		
	Puffed Rice	trace *		
	Hot wheat cereal	trace *		
	Wheaties	trace *		
	Corn Flakes	trace *		
	Wheat Bread	trace *		

* Calc. as 1242; may be a mixture

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Sample No.	Sample	Mfgr.	Arochlor 1242 in ppm Food Product	Box or Carton	Other
Baltimore Total Diet Basket June/July 1971	Oats		2.4(2.5	111(122)	
	Grits		0.5(0.4)	23(22)	
	Cake Mix		0.5(0.3)	4.2(3.6)	
	Pancake Mix		0.3(0.1		
	Corn Flakes		None		
	Shredded Wheat		None		
	Puffed Rice		None		
	Whole Wheat Bread		None		
INV 021-321E	High Protein Baby Cereal		Trace	19	
INV 077-950E	High Protein Baby Cereal		Trace	3.4	

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(5)

14) FDA pol on chipboard level - grant - trying to complete survey - migration etc - might set guidelines - options open.

15) Paperboard Institute V.P. - office waste not used in food product container - PCBs by food product packagers discontinued last January for food pkg - Trace of PCBs in all paper board think because of PCBs in environment.

16) Human testing by FDA last January - Kolbye - ongoing contracts w/ dermatology hosp. facilities - not aware of specific FDA testing.

17) Any VS deaths by PCBs - Kolbye unaware of

18) Kolbye - Kanaclor 400 - suggests impurities

19) substitute - health threat - What is MC doing toward substitutes. - Wodica - PCBs popular because of increased combination of good characteristics - where PCBs out of heat & exchanges - fire already - transformers - would entail redesign of transformers w/ new and large geometry - added flammability.

20) In Aug - testing of whole egg products show 0.5 to 1.9 in Wash eggs but not seized. Rio Duggin - sampled eggs - got analysis by hrs - eggs gone.

21) PCB background level in env "not high" - What's that mean? - no real answer by anyone.

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