

APPENDIX E

Occurrence And Sources Of PCBs In Food

Table of Contents

	<u>Page</u>
I. FDA Pesticide Surveillance Program	108
II. FDA Total Diet Studies	109
III. USDA Sampling Programs	109
IV. Other Regulatory Programs	109
V. Sources of Contamination	110
VI. Results of Surveillance Sampling Programs	110
VII. Industrial Accidents	113
A. Poultry	
B. Meat By-Products	
C. Milk	
VIII. Paper Food Packaging	116
IX. Special Surveys	118

Tables

1. Positive Analyses of Random Food Samples	111
2. Positive Follow-Up Investigational Samples	112
3. Summary of PCB Findings in FDA Total Diet Samples	117
4. Objective Samples - CY 1971 for PCBs	120



II. FDA TOTAL DIET STUDIES

The total diet program is designed to determine the levels of pesticides, PCBs, and trace heavy metals in the dietary intake on a geographical and seasonal basis. Market basket samples, representing the two-week diet of a 15-20 year old male -- which is approximately twice that of the normal diet -- are collected at retail stores, bimonthly, in five regions of the United States. Food items are cooked or prepared for table-ready use by dietitians and are divided into 12 food class composites, such as dairy products; meat, fish and poultry; and leafy vegetables. Each composite is analyzed for a variety of chemical contaminants, including PCBs. The limit of detectability as applied to total diet composites is approximately 0.05 parts per million PCBs. When abnormally high residues are detected in any composite, follow-up analysis is made of the individual food commodities of the composite to determine which food is contributing the excessive residues and to determine whether compliance action is warranted.

III. USDA SAMPLING PROGRAMS

The Consumer and Marketing Service, USDA, has primary responsibility for sampling and analyzing meats, poultry, and broken egg products for pesticide, environmental (PCB), and other chemical or biological contaminants. The USDA program involves all federally inspected slaughtering plants (about 1,200) and egg breaking establishments (about 140). The instructions for sampling request that the agricultural producer of the animal, bird, or eggs, be named so that the State of origin will be known. This facilitates follow-up if a violative sample is found and identifies those samples which originate from the same farm. Inspectors are instructed to collect objective samples from different agricultural producers. The time of sampling and the plant location are determined on a random basis, by computer, for this program.

IV. OTHER REGULATORY PROGRAMS

In addition to these routine sampling activities, FDA and USDA learn of PCB contamination of foods in other ways. As part of their enforcement responsibilities, they conduct in-plant establishment inspections; conduct special investigations and surveys to determine the cause and extent of specific PCB problems; and maintain close contact with State officials and industry who also monitor the occurrence of chemical contaminants in food.

When required, there is also a selective phase to these sampling programs and investigations. Selective sampling is used to determine the extent of violations when a violative sample is encountered or a report of possible harmful residues is received by the responsible agency. An increased number of samples is taken in the suspected area to determine

TABLE 1

POSITIVE ANALYSIS OF BOTTLED FOOD PRODUCTS
November 1969 through June 1971
(15,000 Samples Analyzed --all prior to
First Coast Tetracycline Fish Meal Incident)
Number Positive Samples (Range-ppm) Average ppm

Examining District	Fish	Fish By Product	Cheese ^a	Milk ^b	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							Silage 1(0.82) Silo Coating 1(11.3)	19
Atlanta	1(0.53).53 ^e		1(T)	2(0.96-0.97).96					6
Baltimore				22(T-12.50)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

^appm fat basis ^bT-Grade; not incl. in ave. ^cmarine species