

CHAPTER 04 - PESTICIDES AND CHEMICAL CONTAMINANTS

SUBJECT: TOTAL DIET STUDY (FY 07/08/09) This program has completed a Good Guidance Practices clearance by CFSAN's ORP and OC/DFP/CPB in August 2006.	IMPLEMENTATION DATE October 1, 2006
	COMPLETION DATE (LAB) 9/30/09
DATA REPORTING	
PRODUCT CODES	PRODUCT/ASSIGNMENT CODES
INDUSTRY CODE : 37XYY99 USE APPROPRIATE PRODUCT CODES	04839 (pesticides, industrial chemicals, toxic elements and radionuclides) 21839 (nutritional elements)

FIELD HARD COPY REPORTING REQUIREMENTS

A. Collecting District:

Send the original of each collection report (CR) and a copy of the shopping guide with the samples to the Kansas City District Office (KAN-DO) Laboratory (HFR-SW360).

B. District Follow-up:

Send a brief summary of any follow-up to TDS samples to the Total Diet Study (TDS) monitor and KAN-DO Laboratory. Classify follow-up samples as "compliance samples". Charge all follow-up activities related to pesticides and industrial chemicals against the Pesticides and Industrial Chemicals in Domestic Foods Program, PAC 04004A, and follow-up related to toxic elements (i.e., arsenic, cadmium, lead, mercury, nickel) and radionuclides against the Toxic Elements in Food and Foodware Program, PAC 04019A and 04019C, respectively, unless directed otherwise by the TDS monitor. Also contact the TDS monitor for PAC assignment for follow-up related to nutrient elements.

C. Laboratories:

Kansas City District Office (KAN-DO)
 Winchester Engineering and Analytical Center (WEAC)

Prepare a Total Diet Study Laboratory Report (TDSLRL) discussing analytical findings, quality assurance, and program issues for each market basket. Desired modifications to the Total Diet Study will be addressed in a separate memorandum and referenced in the report. Submit all reports and memoranda to the TDS monitor, with copies to the ORO Scientific Inquiries contact. The TDSLRLs are due 30 days after the completion of all analyses of the market basket (including outliers,

unusual findings, repeat analyses, confirmations, confirmation/certification of data, etc.). All analytical values must be entered in the Field Accomplishments and Compliance Tracking System (FACTS) before submitting the TDSLRL for the market basket. See FACTS reporting instructions in Part IV, Section F.

Arkansas Regional Laboratory (ARL):

Refer to the Pesticides and Industrial Chemicals Program (7304.004) for reporting requirements.

Should unusual or elevated dioxin levels be detected, ARL should contact CFSAN (Paul South) for guidance on follow-up. Such follow-up should be reported under the Pesticides and Industrial Chemical Program, PAC 04004D.

PART I - BACKGROUND

Concentrations of contaminants and nutrients in foods are needed to monitor the impact on the American diet of changes in agricultural practices, new food processing technology or manufacturing processes, the introduction of different methods of food packaging, changes in environmental contamination, or single occurrences of accidental food contamination. The Total Diet Study (TDS) is a program in which foods are collected and analyzed four times each year to determine levels of contaminants and nutrients in the food supply.

The TDS was initiated in the early 1960s to monitor possible contamination of foods by radionuclides resulting from atmospheric nuclear tests. Since its inception, the TDS has been expanded to include many more foods and analytes. The current program analyzes about 260 different foods for elements, pesticide residues, industrial chemicals, radionuclides, and selected vitamins. Since 1991, additional infant/toddler foods (currently 25 foods) have been collected and analyzed for pesticide residues and lead.

Usually, four collections (each referred to as a "market basket") of* the TDS foods plus additional infant/toddler foods* are carried out each year, with each market basket coming from one of four regions of the United States (i.e., south, central, northeast, and west). Each market basket consists of three separate samplings of each food obtained simultaneously from three locales [i.e., standard metropolitan statistical areas (SMSAs)] in the region.

* A list of foods and analytes included in the TDS are provided in the Attachment. Selected TDS foods are analyzed for pesticide residues, polychlorinated biphenyls (PCBs), industrial chemicals, and mercury. All TDS foods are analyzed for other toxic and nutrient elements, radionuclides, and moisture. Additional infant-toddler foods are analyzed for pesticide residues, lead and iodine. Selected TDS foods are analyzed for dioxins under the auspices of the Pesticides and Industrial Chemicals Program, 7304.004. In addition to these analyses listed in the Attachment, independent quality assurance analyses for selected elements and radionuclides are also performed on a subset of foods that are analyzed for radionuclides.*

Radionuclides, moisture, and dioxins are analyzed for one market basket annually. All other analyses are performed for each market basket.

The TDS program is aimed at determining prevailing levels of contaminants rather than enforcement of tolerances or other regulatory limits. For this reason, the levels of the analytes that can be measured in the TDS are generally much lower than those in FDA regulatory programs. From the analytical data derived from the TDS foods and additional infant/toddler foods, dietary intakes of these analytes are estimated by multiplying the average concentration of the analyte in each food by the average daily consumption amounts of each food. Both the food lists and the consumption amounts were revised in 2002 based on results of the U.S. Department of Agriculture's 1994-98 Continuing Survey of Food Intakes by Individuals (CSFII). The new food lists was implemented with the first market basket of FY03.

Dietary intakes are estimated for the following population groups in the U.S.:

6-11 month old infants (m/f)	25-30 year old females
2 year old toddlers (m/f)	40-45 year old males
6 year olds (m/f)	40-45 year old females
10 year olds (m/f)	60-65 year old males
14-16 year old males	60-65 year old females
14-16 year old females	70+ year old males
25-30 year old males	70+ year old females

Part II - PROGRAM MANAGEMENT**A. OBJECTIVES**

- To determine levels of pesticide residues (including selected herbicides, fungicides, and synthetic pyrethroid pesticides), and other industrial chemicals (volatile organic compounds (VOCs)) in foods.
- To determine concentrations of the toxic elements arsenic, cadmium, lead, mercury, and nickel in foods.
- To determine concentrations of strontium-90 (a beta particle emitter) and gamma-ray emitting radionuclides *(potassium-40, radium-226, thorium-232, americium-241, barium-140, cesium-134, cesium-137, cobalt-60, iodine-131, lanthanum-140, ruthenium-103, ruthenium-106, strontium-90, and thorium-232) in foods. *
- To determine concentrations of the nutrient elements copper, zinc, selenium, iron, magnesium, manganese, potassium, phosphorus, calcium, sodium, and iodine in foods.
- To determine moisture content in all foods in at least one market basket per year.
- To determine daily dietary* intakes of TDS analytes for the total U.S. population and * fourteen age/sex groups.
- To identify trends in the levels in foods and dietary intakes of all TDS analytes.
- To compare the levels in foods and dietary intakes of TDS analytes with acceptable levels and recommended intakes established by the FDA, FAO/WHO, the National Academy of Sciences, and other agencies and scientific bodies.

B. IMPLEMENTATION**CFSAN/Office of Compliance, Compliance Programs Branch will**

- select the Districts and SMSAs that will be responsible for sample collections; and
- issue annually (under a separate mailing) the Market Basket Collection Schedule on or about the beginning of the fourth quarter of each fiscal year preceding the year of collection.

KAN-DO Lab will

- coordinate collection and analysis of TDS and infant/toddler foods;
- prepare shopping guides (one for each collection week) based on the * analytical * priorities established by CFSAN (refer to the Attachment);
- * notify the DIBs of upcoming sample collections about 45 days prior to the first week of sample collection; *

- * provide shopping guides to each collecting district 1-2 weeks prior to the first week of sample collection; *
- perform analyses for pesticide residues, PCBs, industrial chemicals, elements, and moisture in foods *(refer to the Attachment)*; and
- forward portions of TDS food composites to other laboratories with analytical responsibilities as specified below.

Collecting Districts will

- collect samples according to the shopping guides provided by the KAN-DO lab; and
- ship samples to the KAN-DO lab.

WEAC will

- * analyze all TDS foods from one market basket each year for radionuclides.*

CFSAN/Division of Pesticides and Industrial Chemicals (DPIC) will

- conduct independent quality assurance analyses for elements and radionuclides in selected TDS foods from one market basket each year (the same market basket analyzed for radionuclides by WEAC).

ARL will

- analyze selected TDS foods *(refer to the Attachment)* from one market basket each year for dioxins under the auspices of the Pesticides and Industrial Chemicals Program.

PART III - INSPECTIONAL**A. SAMPLE COLLECTION**

For each market basket, samples will be collected by the District designated by the CFSAN TDS monitor. Districts should make every effort to collect all food listed on the shopping guides provided by KAN-DO, visiting up to four major retailers if necessary. District personnel should contact the TDS monitor or the TDS coordinator, KAN-DO Laboratory, if they are unable to procure specific food items cited on the shopping list. Any food item(s) that was not collected should be noted by the collecting District on the shopping list or an accompanying memorandum. KAN-DO will maintain records of foods not purchased by the collecting District and will report this information in the KAN-DO TDSLRL.

Collecting districts should follow these guidelines when purchasing the foods:

- There is a separate shopping guide for each collection week. Use the guide provided by the KAN-DO Lab in numbered order (i.e., for week one, use shopping guide #1).
- Use one Collection Report (CR) (FDA-464) per SMSA per collection week. Use consecutive CRs for the five collection weeks, if possible. All samples are Investigational.
- List each store visited and the items collected from it under the "remarks" section of the CR.
- Purchase food items with no bias toward brand or store name, or whether or not the food originated domestically or was imported. Employ your normal shopping behavior as if you were purchasing foods for your own household.
- Do not collect less than the quantity specified in the shopping guide.
- For items that may be purchased fresh or frozen, fresh items are always preferable and should be purchased if available. The form purchased should be noted on the CR.
- Identify each item collected with the 3-digit number assigned to the product in the shopping guide. Do not deviate from the assigned item numbers. (Stickers will be provided by KAN-DO to facilitate item identification.)

B. STORAGE OF SAMPLES AFTER COLLECTION

Collecting districts should, immediately after sample collection:

- keep frozen foods frozen;
- freeze all meats, seafoods (except canned), butter, and margarine; and
- refrigerate perishables.

C. SUBMISSION OF SAMPLES TO KAN-DO

1. **Collecting districts** should pack samples for shipping to KAN-DO as follows:

- * Carefully follow the instructions provided by KAN-DO for packing and shipping the samples; please call KAN-DO with any questions about these procedures. *

2. * **Collecting districts** should attach the labels provided by KAN-DO to each sample. *

3. **Collecting districts** should ship samples as follows:

- Ship samples by airfreight.
- Ship all foods to arrive in KAN-DO by COB *Wednesday* of the week of collection.
- Ship refrigerated and frozen items within one day of sampling (see * IOM 4.5.5.5)*.

Ship samples to:

US Food and Drug Administration
Attn: Sample Custodian - Total Diet Study
11510 West 80th Street
Lenexa, Kansas 66214

4. * After shipment, **collecting districts** should phone the TDS Sample Collection and Preparation Coordinators listed under Contacts in Section VI. The following information should be provided:*

- sample number and collection week
- number of shipping cartons or containers
- name of carrier and whether carrier will deliver
- carrier's waybill number and flight number
- estimated time of arrival
- other relevant remarks, e.g., "Sufficient dry ice to maintain frozen condition until 8:00 A.M.", etc.

PART IV - ANALYTICAL

Standard Operating Procedures (SOPs) referenced in the following sections contain all necessary analytical instructions, methods of analysis, safety and quality assurance requirements, reporting instructions, limits of quantitation (LOQ) (pesticides), method detection limits (LOD) (elements), and lists of foods to be analyzed. * Analyzing laboratories will keep SOPs up-to-date and notify CFSAN/OPDF and DFS of any revisions.* Changes should also be reported to the TDS monitor.

A. SAMPLE RECEIPT

KAN-DO Lab will:

- log in food items as received;
- commingle specific portions of each food item from the three sampling locales;
- deliver commingled food items requiring cooking to the contract kitchen; and
- retrieve cooked foods from the contract kitchen.

B. SAMPLE PREPARATION

KAN-DO Lab will:

- prepare and process samples of TDS and additional infant/toddler foods as outlined in * KAN-LAB.152 * and related appendices;
- maintain reserves of all intact samples of TDS and additional infant/toddler foods * as indicated in the Attachment * until the market basket analysis has been certified; and
- maintain reserves of composites for all TDS and additional infant/toddler foods until the market basket analysis has been certified.

C. SENDING SAMPLES FROM KAN-DO TO OTHER LABS

Portions of TDS composites from one market basket each year are sent by KAN-DO to ARL, WEAC, and * CFSAN * for analysis of dioxin, and radionuclides, respectively. The specific market baskets from which samples are sent to these laboratories are rotated each year to ensure geographic representation. The table below provides the rotation schedule for the next 3 years.

*** TDS Market Basket Rotation Schedule for
Radionuclide and Dioxin Analyses ***

FY	Market Basket 1	Market Basket 2	Market Basket 3	Market Basket 4
07			WEAC + CFSAN (radionuclides)	ARL (dioxin)
08	WEAC + CFSAN (radionuclides)	ARL (dioxin)		
09		WEAC + CFSAN (radionuclides)	ARL (dioxin)	

1. For samples to be analyzed by WEAC:

KAN-DO will send to WEAC a portion (filling a 32 oz. container) of all TDS food composites from one market basket each year (refer to the table above) for radionuclide analysis. * If WEAC requires a different amount of any of the foods, they must notify KAN-DO's Sample Preparation and Collection Coordinator (refer to Section VI.A) at the beginning of the quarter preceding the quarter in which samples are to be collected. KAN-DO should* notify WEAC [(781) 729-5700] that samples have been shipped and provide all pertinent shipping information. * Follow the appropriate guidance in Subchapter 4.5 - Sampling: Preparation, Handling, Shipping of the IOM.*

Send food composites to:

Winchester Engineering and Analytical Center
Attn: James J. Cherniack
109 Holton Street
Winchester, MA 01890

2. For samples to be analyzed by CFSAN/DPIC:

KAN-DO will send to CFSAN a minimum of 0.5 L (tightly packed) of composites of selected TDS foods listed in * an email and/or hard copy sent from the CFSAN contact to KAN-DO's Sample Preparation and Collections Coordinator during the quarter prior to that of the collection. * Samples will be from the same market basket for which composites are sent to WEAC (see table above). Containers for these samples will be supplied to KAN-DO by CFSAN. If sample portions are limited, those analyzed by KAN-DO and WEAC have priority over the samples for CFSAN. * KAN-DO should notify David L. Anderson [(301)975-6272]* that samples have been shipped and provide all pertinent shipping information. * Follow the appropriate guidance in Subchapter 4.5 - Sampling: Preparation, Handling, Shipping of the IOM.*

Food composites should be sent to:

National Institute of Standards and Technology
* Attn: David L. Anderson
NCNR, Building # 235
Route 270 and Quince Orchard Road
100 Bureau Drive *
Gaithersburg, MD 20899

3. For samples to be analyzed by ARL:

KAN-DO will send to ARL portions of composites of selected TDS foods (refer to the Attachment) from one market basket per year (see table above) to be analyzed for dioxin.

KAN-DO should send at least 1000 g each of foods that are to be freeze-dried before analysis and at least 400 g each of all other foods. ARL composite portions should be dispensed in contaminant-free glass or plastic containers and sealed with aluminum foil. * KAN-DO should * notify ARL [(870)543-4012] that samples have been shipped and provide all pertinent shipping information * Follow the appropriate guidance in Subchapter 4.5 - Sampling: Preparation, Handling, Shipping of the IOM.*

Send food composites to:

FDA, Arkansas Regional Laboratory, HFR-SW500
Attn: Kirk Wilkes
3900 NCTR Road, Building 26
Jefferson, AR 72079

D. SAMPLE ANALYSES

All labs will:

Follow methods as described in approved SOPs.

Follow quality assurance procedures outlined in SOPs.

KAN-DO Lab will:

Analyze TDS foods from each market basket for selected pesticide residues, industrial chemicals (including PCBs), nutrient and toxic elements * (refer to the Attachment).*

Analyze additional infant/toddler foods from each market basket for pesticide residues *(see Attachment) as well as lead and iodine.*

Determine moisture content in all TDS foods for at least one basket per year.

*** For bottled water only, follow these instructions to confirm unusual findings for analytes for which standards have been established:**

Perform analyses of the SMSA reserve portions of the homogenate and immediately notify the TDS monitor when the confirmed analysis of the homogenate shows failure to conform to 21 CFR Part 165 - Beverages, Subpart B - Requirements for Specific Standardized Beverages, Section 165.110 Bottled water.

For analytes not included in the bottled water standard above, and for all other TDS foods, follow the instructions below to confirm unusual findings.*

Follow these * instructions * to confirm unusual findings for pesticides:

Perform analyses of the SMSA reserve portions of the homogenate (or its ingredients) and immediately notify the TDS monitor when the confirmed analysis of the homogenate shows:

- Pesticide residue findings for which there are no regulatory standards.
- Pesticide residue findings that may indicate a residue level in excess of a regulatory standard.

Follow these * instructions * to confirm unusual findings for industrial chemicals:

Perform analyses of the SMSA reserve portions of the homogenate (or its ingredients) and immediately notify the TDS monitor when the confirmed analysis of the homogenate shows:

- PCB residues at 0.05 ppm or higher (See Table 2 in * KAN-LAB-PES.51*(fatty items) and * KAN-LAB-PES.52 * (non-fatty items) for LOQs for 50 mg equivalent sample injections).

- For carbon tetrachloride, tetrachloroethylene and trichloroethylene, * levels of 20 ppb or higher.*
- For benzene, levels at * 5 ppb or higher in beverages (e.g., cola, low cal cola, fruit flavored carbonated beverages, milk, and juices) and for other foods at * 20 ppb or higher.
- For all other VOCs, levels * at 200 ppb or higher.*

Follow these * instructions * to confirm unusual findings for elements:

- For both toxic and nutrient elements, a TDS food homogenate (or its ingredients) is reanalyzed (2 replicates) if the element's original result falls outside (either above or below) the "Reanalysis Range" listed in the current version of the document "Total Diet Study Element Historical Values" provided by CFSAN.
- If a high level of a toxic element (Pb, Cd, As, Ni, Hg) is confirmed, KAN-DO is to notify the TDS monitor immediately and analyze the individual SMSA reserve portions (i.e., the individual cities' collections/samples) if available.
- In all other cases (i.e., confirmation of a low level of a toxic element, or either a high or a low level of a nutritional element), notify the TDS monitor immediately. CFSAN will advise KAN-DO if additional follow-up or analyses are warranted.

WEAC will:

Analyze homogenates of all TDS foods submitted by KAN-DO from one market basket each FY (see TDS MB Rotation Schedule, Section C) for strontium-90 and gamma-ray-emitting radionuclides * (potassium-40, radium-226, thorium-232, americium-241, barium-140, cesium-134, cesium-137, cobalt-60, iodine-131, lanthanum-140, ruthenium-103, ruthenium-106, strontium-90, and thorium-232).*

Immediately notify the TDS monitor whenever unusual levels of radionuclides are encountered so that appropriate follow-up may be * considered. *

CFSAN/DPIC will:

* Perform independent quality assurance analyses of selected TDS foods from one market basket each year (see TDS MB Rotation Schedule, Section C) for selected elements and radionuclides. * (Note: These results are reported directly to CFSAN; they are not reported into FACTS.)

E. ANALYTICAL METHODS

* The Attachment specifies the analyses to be performed for each TDS foods and additional infant/toddler foods. Analytical methods, and the labs responsible for the analyses, are specified below.*

Multi-residue Methods for Fatty Foods (KAN-DO)

Analyze selected fatty foods for pesticide and industrial chemical residues using the methods and procedures described in *KAN-LAB-PES.51 * and related SOPs.

Multi-residue Methods for Nonfatty Foods (KAN-DO)

Analyze selected non-fatty foods for pesticide and industrial chemical residues using the methods and procedures described in * KAN-LAB-PES.52* and related SOPs.

Chlorophenoxy Acids & Pentachlorophenol (KAN-DO)

Analyze selected foods previously positive for pentachlorophenol or representing significant current usage of 2,4-D for chlorophenoxy acid and pentachlorophenol residues using the methods and procedures described in KCP-5.

Phenylurea Herbicides (KAN-DO)

Analyze selected foods representing significant current usage for phenylurea herbicide residues using the methods and procedures described in* KAN-LAB-PES.54.*

Carbamate Pesticides (KAN-DO)

Analyze selected foods representing significant current usage for carbamate pesticide residues using the methods and procedures described in *KAN-LAB-PES.55 * and related SOPs.

Ethylenethiourea (KAN-DO)

Analyze selected foods representing significant current usage of ethylene bis dithiocarbamate pesticides for ETU residues using the methods and procedures described in * KAN-LAB-PES.56.*

Benzimidazole Fungicides (KAN-DO)

Analyze selected foods representing U.S. registration for postharvest application with tolerances of 5 ppm or greater or significant domestic or foreign usage for benzimidazole fungicide residues using the methods and procedures described in * KAN-LAB-PES.57.*

Volatile Organic Compounds (KAN-DO)

Analyze selected foods for VOCs using the methods and procedures described in KAN-DO SOP * KAN-LAB-PES.58.*

Total Mercury (KAN-DO)

Analyze selected foods for total mercury by cold vapor atomic absorption spectrometry using the methods and procedures described in *SOP KAN-LAB-MET.91. *

Cadmium, Nickel, & Lead (KAN-DO)

Analyze all TDS foods by graphite furnace atomic absorption spectrometry using the methods and procedures described in * SOPs KAN-LAB-MET.97 and KAN-LAB-MET.93.*

Arsenic & Selenium (KAN-DO)

Analyze all TDS foods by hydride generation atomic absorption spectrometry (HGAAS) using the methods and procedures described in* SOPs KAN-LAB-MET.99 and KAN-LAB-MET.96.*

Calcium, Copper, Iron, Magnesium, Manganese, Phosphorus, Potassium, Sodium, Zinc (KAN-DO)

Analyze all TDS foods items by inductively coupled plasma atomic emission spectrometry (ICPAES) using the methods and procedures described in * SOPs KAN-LAB-MET.99 and KAN-LAB-MET.92.*

Iodine (KAN-DO)

Analyze all TDS foods for iodine using the methods and procedures described in *KAN-LAB-MET.95.*

Gamma-ray Emitters (WEAC)

Analyze all TDS foods from one market basket collected each FY (see TDS MB Rotation Schedule, Section C) by gamma-ray spectrometry for the analytes listed in the Attachment using the methods and procedures described in * WEAC.RN.METHOD.3.0. *

Strontium-90 (beta emitter) (WEAC)

Analyze all TDS foods from one market basket collected each FY (see TDS MB Rotation Schedule, Section C) by radiochemical separation beta spectrometry using the methods and procedures described in * WEAC.RN.Method 2.0.*

Moisture (KAN-DO)

Analyze all TDS foods from at least one basket per year by microwave analyzer using instructions in KAN-DO SOP* KAN-LAB.151.*

F. REPORTING ANALYTICAL RESULTS

All analytical results, with the exception of the independent quality assurance (IQA) analyses performed by CFSAN, should be reported by the analyzing laboratory into the FACTS system. (Results of the IQA analyses are reported directly to CFSAN.)

Pesticides and Industrial Chemicals (KAN-DO)

Report results in FACTS under PAC 04839 using PAF KTD.

Toxic and Nutrient Elements (KAN-DO)

Report results in FACTS under PAC 04839 for toxic elements and PAC 21839 for nutrient elements using PAF KTE.

Radionuclides (WEAC)

Report results in FACTS under PAC 04839 using PAF NUC in units of Bq/kg decay corrected to analysis date. Always report results for strontium-90, cesium-137 and potassium-40. Report only when detected any other gamma-ray emitting radionuclides including, but not limited to, those listed in * Part IV.D.*

PART V - REGULATORY/ADMINISTRATIVE FOLLOW-UP

When an unusual finding for pesticides, industrial chemicals or elements has been confirmed according to the guidelines in Part IV, Section D, KAN-DO Laboratory will notify the TDS monitor and * follow the directions below:*

- For unusual findings that do not comply with applicable regulatory standards, KAN-DO will notify the * collecting * district. The home district should follow the regulatory/administrative guidance in the applicable compliance program.
- For unusual findings for which there is no regulatory standard, follow-up will be done only as directed by CFSAN.

For unusual TDS findings determined by WEAC contact the TDS monitor so that appropriate follow-up action may be * considered. *

All labs will forward all such findings to the TDS monitor.

When the TDS monitor is notified of unusual findings in foods that may present a hazard to health (i.e., toxic elements or pesticide residues or chemicals that exceed established tolerance levels or for which there is no established tolerance), the TDS monitor will notify CFSAN/Domestic Compliance Branch * contact who will coordinate scientific review with the appropriate program office.

PART VI - CONTACTS, REFERENCES, ATTACHMENT**A. CONTACTS****CFSAN**

TDS Monitor/Compliance Program Inquiries: William Baczynskyj, HFS-636,
(301) 436-1612

Scientific Inquiries : Katie Egan, HFS-308, (301) 436-1946

Dioxin Inquiries: Paul South, (301) 436-1640

Analytical Methods Inquiries:

Inorganics: Steve Capar, HFS-338, (301) 436-2003

Organics: Mark Wirtz,*HFS-338*,(301) 436-2001

* Volatile organic compounds (VOCs): Gregory Diachenko, HFS-245,
(301) 436-1898 *

Radionuclides: David L. Anderson, HFS-338, (301) 975-6272

Regulatory Guidance: Priya Joy,* Domestic Compliance Branch,*
HFS-607, (301) 436-2078

ORA

Scientific Inquiries: * Steven Robbs, HFC-140, (301) 827-9555 *

Investigations Inquiries: Barbara Marcelletti, HFC-132, (301)
827-5635

LABORATORIES**KAN-DO Laboratory (HFR-SW360):**

TDS Coordinator: * Chris Sack, (913) 752-2166 *

Sample Preparation and Collections: Ron Sisk, *(913) 752-2741*

Sample Preparation and Collections:* Susan Nickols (913) 752-2166*

* Laboratory Director: Ann Adams (913) 752-2155 *

Winchester Engineering And Analytical Center (HFR-NE460): * James J.
Cherniack, (781) 729-5700, Ext. 713 *

Arkansas Regional Laboratory (HFR-SW500): Kirk Wilkes, (870) 543-4012

B. ATTACHMENT

***Total Diet Study Food/Analyte Matrix ***

PART VII - CENTER RESPONSIBILITIES**A. OFFICE OF PLANT AND DAIRY FOODS(OPDF)**

In general, OPDF

- Provides general direction on the technical aspects of the program.
- Makes recommendations regarding expansion of the program (e.g., addition of analytes or foods).

The following Divisions within OPDF have specific program responsibilities:

1. * Risk Assessment Staff:*

- Compiles the TDS food list
- Advises on substitutions of foods
- Determines food consumption amounts for selected population groups
- Estimates dietary intakes of pesticides and elements
- Publishes dietary intake estimates in scientific journals

2. Division of Pesticides and Industrial Chemicals *(DPIC)*

- Develops analytical methodologies and associated quality control criteria
- Analyzes selected TDS foods for elements and radionuclides for independent quality assurance and report results to the * Risk Assessment Staff (HFS-308)* with copies to ORO/Division of Field Science (HFC-141)
- Reviews lab results
- Posts results on FDA's website
- Publishes concentration data in scientific journals

B. OFFICE OF COMPLIANCE, Compliance Programs Branch (CPB)

In general, CPB:

- Oversees the execution of the program
- Prepares drafts of the compliance program and other relevant guidance documents
- Facilitates clearance of above documents
- Monitors data through the FACTS
- Prepares ORA's Workplan for the Total Diet Study Program
- Acts as liaison between CFSAN and the field offices (including KAN-DO and WEAC)
- Schedules the market baskets (collecting locations and dates)

TOTAL DIET STUDY FOOD/ANALYTE MATRIX

The table below lists all TDS foods (food # 1-382) and additional infant/toddler foods (food # 700 and higher).

The table identifies specific foods that are analyzed for pesticide residues, VOCs, mercury, radionuclides, and dioxin. In addition, all TDS foods are analyzed for other toxic elements (arsenic, cadmium, lead and nickel) and nutrient elements (calcium, copper, iodine, iron, magnesium, manganese, phosphorus, potassium, selenium, sodium, and zinc). The additional infant/toddler foods are also analyzed for lead and iodine.

The table also indicates the priority with which foods are analyzed and the foods for which KAN-DO maintains reserves of the intact samples pending certification of the market basket analyses.

Abbreviations for analytes listed in the table are:

Fats and nonfats: multi-residue methods (MRMs) for pesticides and industrial chemicals

CPA: chlorophenoxy acids

Phen: phenylureas

Carb: carbamates

ETU: ethylenethiourea

Benz: benzimidazoles

VOC: volatile organic compounds

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNLDES (WEAC)	DIOXIN (ARL)
001	Milk, whole, fluid	√		√					√	√	3		√	√
002	Milk, lowfat (2%), fluid	√		√						√	3		√	√
003	Milk, chocolate, lowfat, fluid	√									3		√	√
004	Milk, skim, fluid	√									3		√	√
007	Milk shake, chocolate, fast-food	√									3		√	√
010	Cheese, American, processed	√							√		2	√	√	√
012	Cheese, cheddar, natural (sharp/mild)	√							√		3	√	√	√
013	Beef, ground, regular, pan-cooked	√							√		2		√	√
014	Beef roast, chuck, oven-	√							√		3		√	√

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
	roasted													
017	Ham, cured (not canned), baked	√									3		√	√
018	Pork chop, pan-cooked w/ oil	√									3		√	√
019	Pork sausage, pan-cooked	√									3		√	√
020	Pork bacon, pan-cooked	√							√		3		√	√
021	Pork roast, loin, oven-roasted	√									3		√	√
022	Lamb chop, pan-cooked w/ oil	√									3		√	√
026	Turkey breast, oven-roasted	√								√	3		√	√
027	Liver (beef/calf), pan-cooked w/ oil	√								√	3		√	√
028	Frankfurter (beef/pork), boiled	√							√		2		√	√
029	Bologna (beef/pork)	√							√		2		√	√
030	Salami, luncheon-meat type (not hard)	√							√		3		√	√
034	Fish sticks or patty, frozen, oven-cooked	√							√	√	2		√	√
035	Eggs, scrambled w/ oil	√							√	√	3		√	√
037	Eggs, boiled	√								√	3		√	√
038	Pinto beans, dry, boiled		√			√	√	√			3	√	√	
039	Pork and beans, canned	√									3	√	√	√
042	Lima beans, immature, frozen, boiled		√			√	√	√			3	√	√	
046	Peas, green, fresh/frozen, boiled		√		√	√					3	√	√	
047	Peanut butter, smooth	√							√	*√*	3	√	√	√
048	Peanuts, dry roasted, salted	√									3	√	√	√

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
050	Rice, white, enriched, cooked		√	√		√	√	√		√	2	√	√	√
051	Oatmeal, plain, cooked		√	√	√	√	√			√	2	√	√	√
052	Cream of wheat (farina), enriched, cooked		√	√			√				3	√	√	
053	Corn/hominy grits, enriched, cooked		√		√	√	√	√			3	√	√	
054	Corn, fresh/frozen, boiled		√		√	√	√	√			2		√	
055	Corn, canned		√		√	√	√	√			2	√	√	√
058	Bread, white, enriched		√	√			√		√	√	2		√	√
060	Cornbread, homemade	√									3	√	√	√
061	Biscuits, refrigerated-type, baked	√									3		√	
062	Bread, whole wheat		√	√			√				3		√	√
063	Tortilla, flour	√									3	√	√	
064	Bread, rye		√				√				3		√	
065	Muffin, blueberry	√							√		3		√	√
066	Crackers, saltine	√									2	√	√	√
067	Corn/tortilla chips	√							√		3	√	√	√
069	Noodles, egg, enriched, boiled		√								3	√	√	
071	Corn flakes cereal		√	√							2	√	√	√
072	Fruit-flavored sweetened cereal		√	√					√	√	2	√	√	√
073	Shredded wheat cereal		√	√			√	√			3	√	√	√
074	Raisin bran cereal		√	√			√	√			3	√	√	√
075	Crisped rice cereal		√	√				√		√	2	√	√	
076	Granola w/ raisins	√					√				3	√	√	

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
077	Oat ring cereal		√	√			√				1	√	√	
078	Apple (red), raw (w/ peel)		√		√	√	√	√	√		3		√	√
079	Orange (navel/Valencia), raw		√			√		√	√		3		√	
080	Banana, raw		√		√	√	√	√	√		3		√	√
081	Watermelon, raw/frozen		√			√	√	√			3		√	√
083	Peach, raw/frozen		√		√	√	√	√			3		√	√
084	Applesauce, bottled		√		√	√	√	√			1	√	√	
085	Pear, raw (w/ peel)		√		√	√	√	√			3		√	√
086	Strawberries, raw/frozen		√			√		√	√		2		√	√
087	Fruit cocktail, canned in light syrup		√		√	√		√			2	√	√	
088	Grapes (red/green), raw		√		√	√	√	√			3		√	√
089	Cantaloupe, raw/frozen		√			√		√			3		√	√
092	Grapefruit, raw		√			√		√			3		√	
093	Pineapple, canned in juice		√		√	√		√			2	√	√	√
095	Raisins		√		√	√	√	√	√	√	2	√	√	
097	Avocado, raw	√							√	√	3		√	
098	Orange juice, frozen conc, reconstituted		√			√		√	√	√	1	√	√	√
099	Apple juice, bottled		√		√	√	√	√		√	1	√	√	√
100	Grapefruit juice, bottled		√			√		√			3	√	√	
103	Prune juice, bottled		√			√		√		√	3	√	√	√
105	Lemonade, frozen conc, reconstituted		√			√		√			2	√	√	√
107	Spinach, fresh/frozen, boiled		√			√	√	√		√	3		√	√

PROGRAM

7304.839

ATTACHMENT

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
108	Collards, fresh/frozen, boiled		√			√	√			√	3		√	√
109	Lettuce, iceberg, raw		√			√	√				3		√	√
110	Cabbage, fresh, boiled		√			√	√	√			3		√	√
113	Broccoli, fresh/frozen, boiled		√			√	√	√			2		√	√
114	Celery, raw		√			√	√	√			3		√	
115	Asparagus, fresh/frozen, boiled		√		√	√					3		√	√
116	Cauliflower, fresh/frozen, boiled		√			√	√	√		√	3		√	√
117	Tomato, raw		√			√	√	√	√	√	3		√	
119	Tomato sauce, plain, bottled		√			√	√	√			3	√	√	√
121	Green beans, fresh/frozen, boiled		√		√	√	√	√			2		√	√
122	Green beans, canned		√			√	√	√			2	√	√	√
123	Cucumber, peeled, raw		√			√	√	√			3		√	√
124	Summer squash, fresh/frozen, boiled		√			√	√	√			3		√	√
125	Pepper, sweet, green, raw		√			√	√	√			3		√	√
126	Squash, winter (Hubbard or acorn), fresh/frozen, boiled		√			√	√	√			3		√	√
128	Onion, mature, raw		√			√	√				3		√	√
131	Beets, canned		√			√					3	√	√	√
136	Potato, boiled (w/out peel)		√		√	√	√	√			2		√	√
137	Potato, baked (w/ peel)		√		√	√	√	√			3		√	√
138	Potato chips	√							√		2	√	√	√
142	Spaghetti w/ meat sauce, homemade	√									3	√	√	√
145	Chili con carne w/ beans,	√									3	√	√	√

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
	canned													
146	Macaroni and cheese, prepared from box mix	√									2	√	√	√
147	Quarter-pound hamburger on bun, fast-food	√							√		3		√	√
148	Meatloaf, beef, homemade	√							√		3		√	√
152	Chicken potpie, frozen, heated	√									3	√	√	√
155	Soup, chicken noodle, canned, cond, prep w/ water		√								2	√	√	√
156	Soup, tomato, canned, cond, prep w/ water		√			√	√	√			2	√	√	
157	Soup, vegetable beef, canned, cond, prep w/ water		√			√		√			3	√	√	√
161	Dill cucumber pickles		√			√	√	√			3	√	√	√
162	Margarine, regular (not lowfat), salted	√							√		3	√	√	√
164	Butter, regular (not lowfat), salted	√							√		3	√	√	√
166	Mayonnaise, regular, bottled	√									3	√	√	√
167	Cream, half & half	√									3		√	√
168	Cream substitute, non-dairy, liquid	√									3	√	√	√
169	Sugar, white, granulated		√								3	√	√	√
170	Syrup, pancake		√								3	√	√	√
172	Honey		√								3	√	√	√
173	Tomato catsup		√			√	√	√			3	√	√	
177	Ice cream, light, vanilla	√							√	√	3	√	√	√
178	Cake, chocolate w/ icing	√							√		3		√	√
182	Sweet roll/Danish pastry	√							√		3		√	√

FOOD #	FOOD DESCRIPTION	MRMS - FATS	MRMS - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
183	Chocolate chip cookies	√							√		2	√	√	√
184	Sandwich cookies w/ crème filling	√							√		2	√	√	√
185	Pie, apple, fresh/frozen	√							√		3	√	√	√
186	Pie, pumpkin, fresh/frozen	√									3	√	√	√
187	Candy bar, milk chocolate, plain	√							√		3	√	√	√
190	Gelatin dessert, any flavor		√								2	√	√	√
191	Carbonated beverage, cola, regular		√						√		3	√	√	
193	Fruit drink, from powder		√			√				*√*	2	√	√	
194	Carbonated beverage, cola, low-calorie		√						√		3	√	√	
197	Tea, from tea bag		√								3	√	√	
198	Beer		√			√					3	√	√	
199	Wine, dry table, red/ white		√			√	√	√			3	√	√	
202	BF, Infant formula, milk-based, high iron, RTF	√		√						√	1	√	√	√
203	BF, Infant formula, milk-based, low iron, RTF	√		√					√	√	1	√	√	√
205	BF, beef and broth/gravy	√							√		1	√	√	√
207	BF, chicken and broth/gravy	√								√	1	√	√	√
211	BF, vegetables and beef		√			√		√		√	1	√	√	√
212	BF, vegetables and chicken		√			√		√			1	√	√	√
214	BF, chicken noodle dinner		√								1	√	√	√
215	BF, macaroni, tomato and beef		√			√	√	√			1	√	√	√
216	BF, turkey and rice		√	√		√		√			1	√	√	√
218	BF, carrots		√		√	√	√	√	√		1	√	√	√

PROGRAM

7304.839

ATTACHMENT

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLDES (WEAC)	DIOXIN (ARL)
219	BF, green beans		√		√	√	√	√			1	√	√	√
220	BF, mixed vegetables		√		√	√		√		√	1	√	√	√
221	BF, sweet potatoes		√			√		√			1	√	√	√
223	BF, peas		√		√	√					1	√	√	√
225	BF, applesauce		√		√	√	√	√			1	√	√	√
226	BF, peaches		√		√	√	√	√			1	√	√	√
227	BF, pears		√		√	√	√	√		√	1	√	√	√
230	BF, juice, apple		√		√	√	√	√	√	√	1	√	√	√
232	BF, custard/pudding		√								1	√	√	√
233	BF, fruit dessert/pudding		√					√			1	√	√	√
235	Yogurt, lowfat, fruit-flavored	√								*√*	3		√	√
236	Cheese, Swiss, natural	√							√		3	√	√	√
237	Cream cheese	√							√		3	√	√	√
239	Luncheon meat, ham	√									3	√	√	√
240	Chicken breast, oven-roasted (skin removed)	√								√	3		√	√
241	Chicken nuggets, fast-food	√							√	√	3		√	√
244	Shrimp, boiled	√								√	3		√	√
248	Bread, cracked wheat		√	√			√				3		√	√
249	Bagel, plain, toasted		√								2		√	
250	English muffin, plain, toasted		√								2		√	√
251	Graham, crackers	√							√		1	√	√	√
252	Crackers, butter-type	√							√		3	√	√	√
254	Peach, canned in light/medium syrup		√		√	√	√	√			2	√	√	

FOOD #	FOOD DESCRIPTION	MRMS - FATS	MRMS - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
255	Pear, canned in light syrup		√		√	√	√	√			2	√	√	
256	Pineapple juice, frozen conc, reconstituted		√		√	√		√			3	√	√	√
257	Grape juice, frozen conc, reconstituted		√		√	√	√	√			1	√	√	√
258	French-fries, fast-food	√							√		3		√	√
259	Carrot, fresh, peeled, boiled		√		√	√	√	√			3		√	√
261	Tomato juice, bottled		√			√	√	√			3	√	√	√
263	Brussels sprouts, fresh/frozen, boiled		√			√		√			3		√	√
264	Mushrooms, raw		√					√		√	3		√	√
265	Eggplant, fresh, peeled, boiled		√			√	√	√			3		√	√
266	Turnip, fresh/frozen, boiled		√			√	√				3		√	√
267	Okra, fresh/frozen, boiled		√			√					3		√	
268	Mixed vegetables, frozen, boiled		√		√	√	√	√			2	√	√	√
269	Beef stroganoff w/ noodles, homemade	√									3		√	√
272	Tuna noodle casserole, homemade	√								√	3	√	√	√
275	Quarter-pound cheeseburger on bun, fast-food	√							√		3		√	√
276	Fish sandwich on bun, fast-food	√							√		3		√	√
278	Egg, cheese, and ham on English muffin, fast-food	√									3		√	√
279	Taco/tostada w/ beef and cheese, from Mexican carry-out	√							√		3		√	√
281	Pizza, cheese and pepperoni, regular crust, from pizza carry-out	√							√		3		√	√

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
283	Soup, bean w/ bacon/pork, canned, cond, prep w/ water	√									3	√	√	√
285	Clam chowder, New England, canned, cond, prep w/ whl milk	√								√	3	√	√	√
286	Ice cream, regular (not lowfat), vanilla	√							√		3	√	√	√
287	Sherbet, fruit-flavored	√							√		3	√	√	
288	Popsicle, fruit-flavored		√			√			√		2	√	√	
290	Doughnut, cake-type, any flavor, from donut store	√							√		3		√	√
291	Brownie	√							√		3	√	√	√
292	Sugar cookies	√							√		2	√	√	√
293	Candy, hard, any flavor		√			√					2	√	√	
294	Pretzels, hard, salted	√									3	√	√	
295	Syrup, chocolate	√								*√*	2	√	√	√
296	Jelly, any flavor		√			√	√	√		*√*	3	√	√	
298	Mustard, yellow, plain	√									3	√	√	√
299	Black olives	√									3	√	√	√
300	Sour cream	√							√		3		√	√
305	Coffee, from ground		√			√					3	√	√	√
306	Carbonated beverage, fruit-flavored, regular		√			√			√	*√*	3	√	√	
307	Fruit drink (10% juice), canned or bottled		√			√		√			2	√	√	
309	BF, Infant formula, soy-based, RTF	√		√					√	√	1	√	√	√
313	BF, bananas		√		√	√	√	√		√	1	√	√	√
317	BF, teething biscuits		√								1	√	√	√

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
318	Salmon, steaks/fillets, baked	√								√	3		√	√
320	BF, squash		√			√	√	√			1	√	√	√
323	BF, cereal, oatmeal, dry, prep w/ water		√	√	√		√				1	√	√	√
324	BF, cereal, rice, dry, prep w/ water		√	√		√		√		√	1	√	√	√
325	BF, cereal, rice w/apples, dry, prep w/ water		√	√	√	√	√	√		√	1	√	√	√
326	BF, veal and broth/gravy	√							√		1	√	√	√
327	BF, lamb and broth/gravy	√							√		1	√	√	√
328	BF, turkey and broth/gravy	√							√		1	√	√	√
331	Meal replacement, liquid RTD, any flavor	√									3	√	√	√
332	Cottage cheese, creamed, lowfat (2% milk fat)	√									3		√	√
333	Sour cream dip, any flavor	√							√		3		√	√
334	Beef steak, loin/sirloin, broiled	√									3		√	√
335	Luncheon meat (chicken/turkey)	√									2	√	√	√
336	Chicken breast, fried, fast-food (w/ skin)	√							√	√	3		√	√
337	Chicken thigh, oven-roasted (skin removed)	√								√	3		√	√
338	Chicken leg, fried, fast-food (w/ skin)	√							√	√	3		√	√
339	Catfish, pan-cooked w/ oil	√							√	√	3		√	√
340	Tuna, canned in water, drained	√							√	√	3	√	√	√
341	Refried beans, canned	√									3	√	√	√
342	White beans, dry, boiled		√			√	√	√			3	√	√	√
343	Sunflower seeds (shelled), roasted, salted	√							√		3	√	√	√

FOOD #	FOOD DESCRIPTION	M/RMS - FATS	M/RMS - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
344	Pancakes, frozen, heated	√									3	√	√	√
345	Breakfast tart/toaster pastry	√							√		2	√	√	√
346	Macaroni salad, from grocery/deli	√							√		3		√	√
347	Spaghetti, enriched, boiled		√								2	√	√	√
348	Apricots, canned in heavy/light syrup		√			√	√	√			3	√	√	√
350	Fruit juice blend (100% juice), canned/bottled		√		√	√	√	√	√		2	√	√	√
351	Cranberry juice cocktail, canned/bottled		√		√	√	√		√	*√*	3	√	√	√
352	Orange juice, bottled/carton		√			√		√	√		1	√	√	√
353	Potato salad, mayonnaise-type, from grocery/deli	√							√		3		√	√
354	Potatoes, mashed, prepared from fresh	√									2		√	√
355	Coleslaw, mayonnaise-type, from grocery/deli	√							√		3		√	√
356	Carrot, baby, raw		√		√	√	√	√			2		√	√
357	Lettuce, leaf, raw		√			√	√				2		√	√
358	Sweet potatoes, canned		√					√			3	√	√	√
359	Tomato salsa, bottled		√			√	√	√			3	√	√	√
360	Stew, beef and vegetable, canned	√									3	√	√	√
361	Lasagna w/ meat, frozen, heated	√									3		√	√
362	Beef w/ vegetables in sauce, from Chinese carry-out	√								√	3		√	√
363	Chicken w/ vegetables in sauce, from Chinese carry-out	√									3		√	√
364	Fried rice, meatless, from Chinese carry-out	√		√						√	3		√	√

FOOD #	FOOD DESCRIPTION	MRMS - FATS	MRMS - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLES (WEAC)	DIOXIN (ARL)
365	Burrito w/ beef, beans and cheese, from Mexican carry-out	√							√		3		√	√
366	Chicken filet (broiled) sandwich on bun, fast-food	√							√		3		√	√
367	Soup, Oriental noodles (ramen noodles), prep w/ water		√								3	√	√	√
368	Pudding, ready-to-eat, flavor other than chocolate	√									2	√	√	√
369	Cake, white w/ icing	√									3		√	√
370	Granola bar, w/ raisins	√					√				3	√	√	√
371	Candy bar, chocolate, nougat, and nuts	√							√		3	√	√	√
372	Popcorn, microwave, butter-flavored	√			√				√		3	√	√	√
373	Sweet & sour sauce		√								3	√	√	√
374	Brown gravy, canned or bottled	√									3	√	√	√
375	Salad dressing, creamy/buttermilk type, regular	√									3	√	√	√
376	Salad dressing, creamy/buttermilk type, low-calorie	√							√		3	√	√	√
377	Salad dressing, Italian, regular	√									3	√	√	√
378	Olive oil	√							√		3	√	√	√
379	Vegetable oil	√							√		3	√	√	√
380	Bottled drinking water (mineral/spring), not carbonated or flavored		√	√		√			√		3	√	√	
381	Coffee, decaffeinated, from ground		√			√					3	√	√	√
382	Tea, decaffeinated, from tea bag		√			√					3	√	√	√

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLDES (WEAC)	DIOXIN (ARL)
700	BF, cereal, barley, dry, prep w/ water		√				√				1	√		√
701	BF, cereal, mixed, dry, prep w/ water		√								1	√		√
703	BF, juice, apple-banana		√		√	√	√	√			1	√		
704	BF, juice, apple-cherry		√		√	√	√	√			1	√		
705	BF, juice, apple-grape		√		√	√	√	√			1	√		
710	BF, juice, mixed fruit		√		√	√	√	√			1	√		
711	BF, juice, pear		√		√	√	√	√			1	√		
712	BF, juice, grape		√		√	√	√	√			1	√		
713	BF, pears and pineapple		√		√	√	√	√			1	√		
714	BF, plums/prunes w/apples or pears		√		√	√	√	√			1	√		
717	BF, apricots w/ mixed fruit		√			√	√	√			1	√		
719	BF, banana dessert		√		√	√	√	√			1	√		
720	BF, peach cobbler/dessert		√		√	√	√	√			1	√		√
721	BF, fruit yogurt dessert		√		√	√	√	√			1	√		√
722	BF, dutch apple/apple cobbler		√		√	√	√	√			1	√		√
723	BF, arrowroot cookies		√								1	√		√
724	BF, zweiback toast		√								1	√		√
725	BF, cereal, oatmeal w/ fruit, prep w/ water		√		√	√	√	√			1	√		√
726	BF, chicken w/ rice		√			√	√	√			1	√		√
728	BF, vegetables and turkey		√		√	√	√	√			1	√		√
729	BF, macaroni and cheese	√									1	√		√
730	BF, apples with berries		√		√	√	√	√			1	√		√

PROGRAM

7304.839

ATTACHMENT

FOOD #	FOOD DESCRIPTION	MRMs - FATS	MRMs - NON FATS	CPA	PHEN	CARB	ETU	BENZ	VOC	MERCURY	PRIORITY	INTACTS	RDNCLDES (WEAC)	DIOXIN (ARL)
731	BF, apples with fruit other than berries		√		√	√	√	√			1	√		√