Appendix E-3.5
"Typical Choices" Food Patterns: Food Pattern Modeling Analysis

RESEARCH QUESTION

What is the impact on caloric and nutrient intake if the USDA food intake patterns are followed but typical rather than nutrient-dense food choices are made?

BACKGROUND

The USDA food patterns are designed to meet the known nutrient needs of the age/gender groups for which they are targeted within calorie constraints. The patterns include recommended amounts to eat from five major food groups – Fruits; Vegetables; Grains; Meat and Beans; and Milk, Yogurt, Cheese – with recommendations further defined for subgroups of Vegetables and Grains. It is assumed that foods within food groups or subgroups will be consumed in the same relative proportions as they appear in the average American diet. However, food choices are expected to be in their most nutrient-dense forms – lean or low-fat, with no added sugars. They are also generally expected to be choices with no added salt. The question arises: What if consumers get the message about quantities to eat of each food group or subgroup, but fail to understand or adequately implement the moderation messages about types of foods to choose, and instead continue to make more typical food choices? What effect would that have on their nutrient intakes, especially intakes of calories, fats, sugars, and sodium?

The process for updating the USDA food patterns requires that a composite nutrient profile (nutrients per cup or ounce equivalent) be developed for each food group and subgroup used to define the patterns. These nutrient profiles are then used to calculate calories and nutrients provided by each pattern. To develop the nutrient profiles, first item clusters of the same or similar foods are identified within each USDA food pattern food group or subgroup. For example, 13 item clusters have been identified in the whole grain subgroup. These include popcorn, whole-grain crackers, ready-to-eat oat cereals, and others as shown in Table A1. One food – called the "representative food" – is selected to represent the nutritive value of each item cluster. The representative food is an ideal form that is relatively low in fat, added sugars, and sodium. For example, the representative food for the popcorn item cluster in the whole grain subgroup is air-popped popcorn.

Finally, a composite nutrient profile is calculated for the food group by weighting the nutritive value of each representative food in the group by the proportion of intake it represents in American diets. So, with the popcorn example, 12.8% of whole grain consumption is from the popcorn item cluster, so the nutritive value per ounce equivalent of air-popped popcorn counts as 12.8% of the nutrient profile for the whole grain subgroup.

In this analysis, we replaced the "ideal" representative foods used to develop the base patterns with more "typical" representative foods, and determined how that changed the caloric and nutrient content of the patterns.

METHODS

1. **For each item cluster, select a "typical" representative food to replace the "ideal" representative food, using national food consumption data as a basis.**

   For consistency, one nutritionist made the original selections of typical representative foods and documented rationales, identifying options where choices were not clear cut. A team of three additional nutritionists reviewed the selections and decided how to handle exceptions.

   To select the representative foods, food consumption data from NHANES 2003-2004[1] were used to calculate the percentage contribution of individual foods to intake (ounce or cup equivalents) of each item cluster, and foods were sorted from highest to lowest contributor. Generally, the food selected as typical for each item cluster was the top contributor to intake of the cluster. For example, in the biscuit item cluster, the top contributor – commercially baked plain or buttermilk biscuits – provides 32% of the ounce equivalents from the cluster, and another 18% are from commercial-type foods, such as egg and sausage biscuits, made with this product. Thus, this single food contributes 50% of "biscuit" intake, and was, therefore, selected as being typical of the item cluster. In contrast, the lower fat biscuit selected as the ideal representative food was not reported in the 2003-2004 survey.

   To more accurately identify typical choices for some item clusters, similar foods within clusters were categorized together based on their type, form, or cooking method before a representative food that characterized the cluster was selected. For example, foods contributing to meat item clusters were categorized as lean only versus lean and fat eaten. Foods contributing to fish item clusters were categorized by cooking method as fried, baked/broiled, or steamed/poached. Cereals were categorized by their added sugars content.

   Separate item clusters have been established for the milk group based on fat and added sugars content. In this analysis, the typical representative food was matched to the item cluster description. So, for example, whole milk (3.25% milk fat) represents the item cluster of unflavored whole milks, and lowfat chocolate milk (1% milk fat) represents the item cluster of flavored lowfat milks. Reduced fat milk (2% milk fat) represents item clusters of milk in mixed dishes. In contrast, for the ideal patterns, nonfat milk is the representative food for all milk item clusters.

   We assumed that cooked vegetables were typically prepared with salt added in cooking, and representative foods for the vegetable item clusters reflect that assumption. That same assumption applies to meat, poultry, and fish item clusters. However, for the reason described below, representative foods for the meat, poultry, and fish (MPF) item clusters contain added salt only if they are enhanced, processed, canned, or fried forms of the food. Those for all others – over half of the total – are without added salt.

   Some item clusters are represented by foods that are lower in calories, fat, or sodium than the typical choices because of limitations, for the purposes of this analysis, in the data sets used to develop the USDA food patterns. The nutritive values are from the National Nutrient Database for Standard Reference, Release 22 (NDB-SR22)[2], and data for calculating the weight of an ounce or cup equivalent are from the MyPyramid Equivalents Database, 2.0 for USDA Survey Foods, 2003-2004 (MPED 2.0)[3]. For example, many vegetable item clusters would most appropriately be represented by a vegetable with fat added in cooking, but data in the NDB-SR22 are available only

for vegetables without added fat. Similarly, the typical form of many high omega-3 fish is baked with margarine, but available NDB-SR22 data are for fish cooked without added fat. Also, because of issues in applying the MPED 2.0 for this analysis, we had to use light instead of regular ice cream to represent the higher fat ice cream item clusters. As a consequence, nutritive values for the vegetables, high omega-3 fish, and, to a lesser extent, milk groups are lower in calories and fat than would be expected with typical choices. Similarly, representative foods for beef, lamb, ground beef, game, turkey, and many fish item clusters do not include added salt because data for salted forms of the representative foods are not available in the NDB-SR22. Thus, those item clusters from the meat and beans group are lower in sodium than would be expected based on typical choices.

Table 1 shows the number and percentage of the item clusters in each food group and subgroup where the typical representative food is different from the ideal representative food, and summarizes the primary differences. For details, Table A1 lists the typical representative foods used in this analysis and the ideal counterparts used to develop the base patterns described in Appendix E-3.1 *Adequacy of USDA Food Patterns*.

Table 1. Number and Percentage of Item Clusters (ICs) with Different Representative Foods for "Typical" versus "Ideal" Patterns and Primary Reasons for Differences

Food Group	# of Different and Total ICs (% Different)	Primary Reasons for Differences: Compared to Ideal, Typical Representative Food is …
GRAIN		
Non-whole	8 of 19 (42%)	• Higher fat – grain dessert & biscuit item clusters • Tortilla chips instead of corn tortilla • Salted instead of unsalted rice, pasta, pretzel, and cereal • Sugared RTE cereal versus without added sugar
Whole	6 of 13 (46%)	• Regular instead of reduced fat cracker • Granola bar for snack item cluster versus dry oats • Oil-popped micro-waved versus air-popped popcorn • Sugared cereal versus without added sugar
FRUIT	24 of 100 (24%)	• Sweetened canned applesauce instead of unsweetened • Fruits packed in syrup or juice instead of water • Juice with added sugar (e.g., cranberry, lemonade) instead of unsweetened
VEGETABLE		
Dry Beans & Peas	11 of 11 (100%)	• Canned with salt instead of cooked from dry without salt
Starchy	11 of 14 (79%)	• Cooked with salt versus no salt • Fast food fries versus unsalted frozen oven-heated • Regular potato chips versus fat-free potato chips
Dark Green	9 of 19 (47%)	• Cooked with salt versus no salt
Red/Orange	9 of 12 (75%)	• Marinara sauce versus salt-free tomato puree • Cooked or canned with salt versus no salt
Other	21 of 38 (55%)	• Cooked with salt versus no salt

Table 1. Number and Percentage of Item Clusters (ICs) with Different Representative Foods for "Typical" versus "Ideal" Patterns and Primary Reasons for Differences—continued

Food Group	# of Different and Total ICs (% Different)	Primary Reasons for Differences: Compared to Ideal, Typical Representative Food is …
MEAT AND BEANS		
Meats	7 of 9 (78%)	• Higher fat cut of meat • Lean & fat eaten versus lean only eaten • Enhanced fresh pork (higher sodium)
Poultry	2 of 3 (67%)	• Fast food fried chicken versus roasted chicken • Turkey meat and skin versus meat only
Fish – high n3	3 of 13 (23%)	
Fish – low n3	15 of 29 (52%)	• Fried fish versus steamed or cooked with dry heat
Eggs	1 of 1 (100%)	• Fried egg versus hard-boiled egg
Soy	0 of 2 (0%)	
Nuts & Seeds	8 of 17 (47%)	• Nuts with salt added versus without salt added • Oil roasted versus dry roasted nuts
MILK	54 of 65 (83%)	• Higher fat dairy choice for most item clusters • Caloric sweetener in flavored milk, yogurt, & ice cream

2. **Enter nutrient values for typical representative foods into food group and subgroup nutrient profile calculation spreadsheets.**

3. **Compare the calorie, sodium, cholesterol, and saturated fatty acid levels for each nutrient profile using ideal versus typical food choices.**

   Enter nutrient profiles based on typical choices into automated food patterns spreadsheet and identify calorie and nutrient excesses and deficiencies in the patterns. Because many of the typical food choices already include added sugars and fats, we did not add any solid fats and added sugars to the typical choice patterns. We zeroed out the limited amount that is added to the base USDA food patterns when calculating overall pattern results.

RESULTS

Food Group Nutrient Profiles

Table 2 compares ideal and typical food group nutrient profiles for selected nutrients. Generally, the calories, sodium, and saturated fatty acids are higher for nutrient profiles based on typical rather than ideal choices.

Calorie Differences: The biggest calorie differences are for the starchy vegetables, poultry, and milk groups. For those groups, calorie levels are about 65 calories per cup or ounce equivalent higher with typical than ideal choices. Calorie differences are also large for red/orange vegetables and whole grains; both are about 40 calories per equivalent higher with typical choices. For the starchy vegetables group, the higher value is due to the use of fast food instead of oven-baked French fries and hash browns, and regular instead of fat-free potato chips as representative foods. For the poultry group, the difference is due largely to the use of fried instead of roasted chicken as the most typical way to consume chicken. In the milk group, regular cheeses and full-fat and flavored milks and yogurts are represented at their current proportion of consumption, replacing

reduced fat or nonfat dairy products as representative foods. In the red/orange vegetable group, commercial marinara sauce represents the cooked tomatoes item cluster rather than plain tomato puree, and in the whole grain group, higher calorie foods represent the whole-grain snack and ready-to-eat cereal item clusters. Surprisingly, there are small decreases in the calories per cup equivalent for three vegetable groups: dark-green; other; and cooked dry beans and peas. This is due to the fact that, for the same volume, salted versions of the dark-green and other vegetable groups have slightly lower calories than their unsalted counterparts, and cooked dry beans and peas that are canned – the more typical form – have a higher water content and, therefore, fewer calories for the same volume than those that were used as ideal choices.

Table 2. Calories, Sodium, Cholesterol, and Saturated Fatty Acids per Ounce or Cup Equivalent in Food Group Nutrient Profiles for USDA Food Patterns with "Ideal" and "Typical" Food Choices

Food Group or Subgroup	Ideal: Food Energy (kcal)	Typical: Food Energy (kcal)	Ideal: Sodium (mg)	Typical: Sodium (mg)	Ideal: Cholesterol (mg)	Typical: Cholesterol (mg)	Ideal: Saturated Fatty Acids (g)	Typical: Saturated Fatty Acids (g)
Fruits	101	125	6	8	0	0	0.054	0.065
Vegetables								
Dark Green	36	33	52	240	0	0	0.078	0.071
Red/Orange	48	86	36	418	0	2	0.042	0.557
Dry Beans & Peas	242	226	3	618	0	0	0.282	0.867
Starchy	183	249	78	357	0	0	0.738	1.789
Other	48	46	30	275	0	0	0.167	0.161
Grains								
Whole	89	130	82	174	2	2	0.260	0.915
Non-whole	81	94	110	154	0	2	0.281	0.427
Meat and Beans								
Meats	49	73	109	138	19	25	0.751	1.685
Poultry	50	119	60	254	23	24	0.514	1.577
Fish -- high n3	51	51	50	50	17	17	0.533	0.533
Fish -- low n3	33	51	51	91	26	29	0.134	0.493
Eggs	78	90	62	94	212	210	1.634	1.975
Soy Products	49	49	139	139	1	1	0.426	0.426
Nuts & Seeds	87	88	23	52	0	0	1.162	1.275
Milk	81	145	181	256	9	25	0.878	4.523

Sodium Differences: Sodium levels for vegetables, whole grains, poultry, and nuts and seeds more than double when typical instead of ideal choices are made. The most notable differences are for the vegetable groups. For example, sodium from the cooked dry beans and peas group increases from 3 milligrams to 618 milligrams per cup equivalent when dry beans cooked without added salt are replaced by canned beans as the typical choice. Sodium from the red/orange vegetable group increases from 36 milligrams to 418 milligrams per cup equivalent – more than an 11-fold increase – when marinara sauce and vegetables cooked with salt replace their unsalted counterparts. The higher sodium value for typical choice whole grains is due primarily to the use of oil-popped salted popcorn instead of air-popped popcorn, flavored instant oatmeal instead of regular cooked oatmeal, and granola bars instead of raw oats as representative foods. The difference for poultry results from

the use of fried instead of roasted chicken as the representative food. For the nut item clusters, typical representative foods are salted rather than unsalted forms in many cases.

Cholesterol and Saturated Fatty Acid Differences: For most food groups, making typical rather than ideal food choices did not make a large difference in the cholesterol contribution. The exception is the milk group. It contributes an additional 16 milligrams of cholesterol per cup equivalent when typical choices are made. The difference in saturated fatty acids content between ideal and typical choices is also largest for the milk group. A cup equivalent provides an additional 3.6 grams of saturated fatty acids with typical choices. Other food groups contributing substantially more saturated fatty acids (i.e., 0.5 – 1.1 grams per equivalent) with typical versus ideal choices are red/orange vegetables, legumes, starchy vegetables, whole grains, meats, and poultry.

Nutrient Levels in Food Intake Patterns with Typical Food Choices

Comparison to Moderation Goals: When amounts of food in the USDA food patterns are followed, but typical rather than nutrient-dense and low salt food choices are made, moderation goals are not met. Calories, total fat, saturated fat, cholesterol, and sodium are over-consumed in most patterns, often by substantial margins. Selected results in patterns at three calorie levels are presented in Table 3, and results for all nutrients in all patterns in Tables A2 and A3.

The caloric content of the food patterns if typical choices are made is well above the target level for each pattern. For example, the 1600 calorie pattern actually contains 2075 calories, and the 2000 calorie pattern actually contains 2390 calories if food choices are in typically higher fat and sugar forms. Most patterns exceed the calorie target by 15% to 30%. In large part, the excess comes from higher amounts of fat in the patterns. Across typical patterns, total fat ranges from 40% to 42% of calories, and saturated fat ranges from 11% to 13% of calories. Cholesterol levels are above 300 milligrams in patterns at 2200 calories and above, and sodium levels are above 2300 milligrams in all patterns except at 1000 and 1200 calories. In the 2000 calorie pattern, the sodium level is 3550 milligrams, above reported usual intakes, but likely close to what many Americans actually consume.

It should be noted that although these estimated increases above the levels in the base patterns are substantial, they likely underestimate actual calorie and fat levels in typical patterns because they do not include any solid fats or added sugars other than those included in the representative foods. This means that they do not include fats and added sugars that people might typically use as spreads on breads, or add to vegetables or beverages, or use to prepare mixed dishes.

Comparison to Nutrient Adequacy Goals: Adequacy goals are not substantially affected by the use of typical food choices in the patterns (Tables 3, A2, and A3). In some cases, amounts of nutrients are actually higher in the typical choice patterns than the ideal patterns. Most of the increases occur because typical representative foods for the grain groups are more likely to be fortified than their ideal counterparts. For example, the nutrient profile for the typical whole grains subgroup is higher in calcium, iron, vitamin E, and folate than the ideal whole grain profile (data not shown). This is due to the inclusion of more highly fortified products, especially cereals and snack foods, in the typical choice food group. These higher levels of micronutrients are accompanied by a higher calorie level as well (89 versus 130 kcal per ounce equivalent) as shown in Table 2.

Table 3. Comparison of Selected Nutrient Levels (Actual Amounts and % of Goal) in "Ideal" versus "Typical" Patterns at Selected Pattern Calorie Levels.

Pattern Calorie Level and Target Gender/Age Group	Ideal 1600 F 51-70	Typical 1600 F 51-70	Ideal 2000 F 19-30	Typical 2000 F 19-30	Ideal 2400 M 19-30	Typical 2400 M 19-30
Energy (kcal)	1602[1]	2075[2]	1997[1]	2390[2]	2384[1]	2802[2]
Macronutrients						
Protein	83 g	84 g	91 g	92 g	106 g	106 g
% of RDA	180%	183%	198%	200%	189%	190%
% of calories	21%	16%	18%	15%	18%	15%
Total Lipid (Fat)	55 g	97 g	71 g	109 g	86 g	126 g
% of calories	31%	42%	32%	41%	32%	41%
Carbohydrate	203 g	226 g	260 g	271 g	312 g	322 g
% of RDA	157%	174%	200%	208%	240%	247%
% of calories	51%	44%	52%	45%	52%	46%
Fiber, total dietary	25 g	25 g	30 g	30 g	37 g	37 g
% of goal (14 g/1000 kcal)	110%	114%	106%	107%	109%	109%
Minerals						
Calcium	1184 mg	1245 mg	1235 mg	1297 mg	1323 mg	1399 mg
% of AI	99%	104%	124%	130%	132%	140%
Iron	15 mg	21 mg	17 mg	23 mg	21 mg	29 mg
% of RDA	182%	257%	94%	127%	266%	365%
Magnesium	310 mg	315 mg	351 mg	356 mg	418 mg	423 mg
% of RDA	97%	99%	113%	115%	104%	106%
Potassium	2971 mg	2927 mg	3478 mg	3407 mg	3945 mg	3853 mg
% of AI	63%	62%	74%	72%	84%	82%
Sodium	1527 mg	3108 mg	1722 mg	3550 mg	2028 mg	4216 mg
% of UL	66%	135%	75%	154%	88%	183%
Vitamins						
Vitamin A (in µg RAE)	756 µg	858 µg	851 µg	944 µg	969 µg	1062 µg
% of RDA	108%	123%	122%	135%	108%	118%
Vitamin E (in mg AT)	6.7 mg	8.7 mg	8.3 mg	10.5 mg	9.6 mg	12.2 mg
% of RDA	45%	58%	55%	70%	64%	82%
Vitamin C	100 mg	93 mg	126 mg	119 mg	138 mg	128 mg
% of RDA	133%	125%	168%	158%	153%	142%
Folate (in µg DFE)	534 µg	621 µg	628 µg	704 µg	803 µg	900 µg
% of RDA	134%	155%	157%	176%	201%	225%
Fats and Fatty Acids						
Cholesterol	206 mg	267 mg	229 mg	287 mg	268 mg	326 mg
% of goal (<300 mg/day)	69%	89%	76%	96%	89%	109%
Saturated Fatty Acids	14.0 g	29.7 g	18.7 g	32.1 g	22.5 g	35.9 g
% of calories	8%	13%	8%	12%	8%	12%
Monounsaturated Fatty Acids	20.0 g	34.8 g	26.1 g	39.6 g	31.4 g	46.0 g
% of calories	11%	15%	12%	15%	12%	15%
Polyunsaturated Fatty Acids	16.4 g	25.4 g	20.9 g	29.7 g	25.0 g	35.6 g
% of calories	9%	11%	9%	11%	9%	11%

[1]Ideal patterns include essential calories and a maximum limit on solid fats and added sugars.
[2]Typical patterns do not include solid fats and added sugars other than those from representative foods.
Data sources: NHANES 2003-2004, 2-day data, and NDB-SR22.

SUMMARY

The USDA food patterns have been constructed to provide adequate levels of nutrients within calorie limits. To accomplish this, not only must appropriate quantities of foods from each food group be selected, but excess fats, sugars, and salt must be avoided. For this reason, the patterns include foods only in their most nutrient-dense forms, with solid fats and added sugars limited to very small amounts.

We speculated that consumers may find it easier to conceptualize and follow guidance on quantities to eat from each food group than to strictly implement guidance on selecting the most nutrient-dense forms of foods. Thus, this analysis was conducted to determine the impact on calorie and nutrient intakes of making typical food choices instead of the nutrient-dense choices that are recommended while still following guidance on quantities to eat. It is clear that typical choices result in a diet that is too high in calories, total fat, saturated fat, sodium, and cholesterol.

If consumers act on the message about quantities to eat from each food group or subgroup, but fail to implement the moderation messages about choosing foods in low fat, no-added-sugars, and low-sodium forms, they will not meet the important moderation goals for the USDA food patterns.

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Appendices

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses

Typical foods preceded by an asterisk were changed from the ideal food.

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
GRAIN GROUP		
Non-Whole Grain Subgroup		
White bread	Bread, white, commercially prepared (includes soft bread crumbs)	Bread, white, commercially prepared (includes soft bread crumbs)
Flour-based sweet snacks and desserts	Cookies, animal crackers (includes arrowroot, tea biscuits)	*Cookies, sugar, commercially prepared, regular (includes vanilla)
Quick bread	Pancakes, plain, frozen, ready-to-heat (includes buttermilk)	Pancakes, plain, frozen, ready-to-heat (includes buttermilk)
White rice	Rice, white, long-grain, regular, cooked	*Rice, white, long-grain, regular, cooked, enriched, with salt
Pasta	Spaghetti, cooked, enriched, without added salt	*Spaghetti, cooked, enriched, with added salt
Pretzels, crackers	Pretzels, hard, plain, made with enriched flour, unsalted	8Pretzels, hard, plain, salted
Biscuits	Biscuits, plain or buttermilk, refrigerated dough, lower fat, baked	*Biscuits, plain or buttermilk, commercially baked
Corn tortilla	Tortillas, ready-to-bake or -fry, corn	*Tortilla chips, plain, white corn
Bagels, English muffins	Bagels, plain, enriched, with calcium propionate (includes onion, poppy, sesame)	Bagels, plain, enriched, with calcium propionate (includes onion, poppy, sesame)
French bread	Bread, French or Vienna (includes sourdough)	Bread, French or Vienna (includes sourdough)
Wheat flour tortilla	Tortillas, ready-to-bake or -fry, flour	Tortillas, ready-to-bake or -fry, flour
Ready-to-eat cereal	Cereals ready-to-eat, Kellogg's Corn Flakes	*Cereals ready-to-eat, Kellogg's Frosted Flakes
Cornstarch as thickener	Cornstarch	Cornstarch
Flour as thickener	Wheat flour, white, all-purpose, enriched, bleached	Wheat flour, white, all-purpose, enriched, bleached
Breading, stuffing	Bread, white, commercially prepared (includes soft bread crumbs)	Bread, white, commercially prepared (includes soft bread crumbs)
White roll	Rolls, hamburger or hotdog, plain	Rolls, hamburger or hotdog, plain
Pizza crust	Bread, pita, white, enriched	Bread, pita, white, enriched
Pie crust	Pie crust, standard-type, frozen, ready-to-bake, enriched, baked	Pie crust, standard-type, frozen, ready-to-bake, enriched, baked
Cooked cereal	Cereals, corn grits, white, regular and quick, enriched, cooked with water, without salt	*Cereals, corn grits, white, regular, quick, enriched, cooked with water, with salt

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Whole Grain Subgroup		
Whole-wheat crackers	100% whole-wheat cracker, reduced fat	*100% whole-wheat cracker
Rye bread	Rye bread	Rye bread
Whole-wheat bread	100% whole wheat bread	100% whole wheat bread
Whole grain pasta	Whole-wheat spaghetti, fat not added in cooking	Whole-wheat spaghetti, fat not added in cooking
Whole grains in snacks and desserts	Oats, regular and quick and instant, not fortified, dry	*Breakfast bars, oats, sugar, raisins, coconut (include granola bar)
Whole grain rolls (not sweet)	100% whole-wheat roll	100% whole-wheat roll
Whole grain bagels, English muffins	English muffins, whole-wheat	English muffins, whole-wheat
Brown rice	Brown rice, long-grain, cooked	Brown rice, long-grain, cooked
Whole-wheat quick bread	Pancakes, whole-wheat, dry mix, incomplete, prepared	Pancakes, whole-wheat, dry mix, incomplete, prepared
Popcorn	Popcorn, air-popped (no butter or oil)	*Popcorn, oil-popped, microwave, regular flavor
Whole-wheat ready-to-eat cereals	100% Shredded Wheat, sugar and salt free	*Kellogg's Frosted Mini Wheats
Cooked oatmeal and other cooked cereals	Oats, regular and quick and instant, unenriched, cooked with water, without salt	*Cereals, Quaker, Instant Oatmeal, Cinnamon Spice, prepared with boiling water
Oat ready-to-eat cereals	Cheerios	*Life Cereal
FRUIT GROUP		
Oranges, raw (Includes orange peel)	Oranges, raw, all varieties	Oranges, raw, all varieties
Strawberries, raw	Strawberries, raw	Strawberries, raw
Strawberries, cooked or canned (Includes dried)	Strawberries, frozen, unsweetened	*Strawberries, canned, heavy syrup pack, solids and liquids
Cantaloupe, raw	Melons, cantaloupe, raw	Melons, cantaloupe, raw
Watermelon, raw	Watermelon, raw	Watermelon, raw
Grapefruit, raw	Grapefruit, raw, pink & red & white, all areas	Grapefruit, raw, pink & red & white, all areas
Grapefruit, cooked or canned	Grapefruit, sections, canned, water pack, solids & liquids	*Grapefruit, sections, canned, juice pack, solids & liquids
Lemons, raw or cooked (Includes lemon peel & citron)	Lemons, raw, without peel	Lemons, raw, without peel

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
FRUIT GROUP (CONT'D))		
Lime, raw (Includes calamondin)	Limes, raw	Limes, raw
Cranberries, raw	Cranberries, raw	Cranberries, raw
Cranberries, cooked or canned	Cranberry sauce, canned, sweetened	Cranberry sauce, canned, sweetened
Cranberries, dried	Cranberries, dried, sweetened	Cranberries, dried, sweetened
Kiwifruit, raw	Kiwifruit, green, raw	Kiwifruit, green, raw
Honeydew Melon, raw	Melons, honeydew, raw	Melons, honeydew, raw
Raspberries, raw (Includes black & red)	Raspberries, raw	Raspberries, raw
Raspberries, cooked or canned	Raspberries, raw	*Raspberries, canned, red, heavy syrup pack, solids and liquids
Blueberries, raw	Blueberries, raw	Blueberries, raw
Blueberries, cooked or canned	Blueberries, raw	Blueberries, raw
Blackberries, raw	Blackberries, raw	Blackberries, raw
Blackberries, cooked or canned	Blackberries, raw	*Blackberries, canned, heavy syrup, solids and liquids
Boysenberries, raw	Boysenberries, frozen, unsweetened	Boysenberries, frozen, unsweetened
Tangerine, raw or canned/cooked	Tangerines, (mandarin oranges), raw	Tangerines, (mandarin oranges), raw
Unknown Citrus Fruit	Strawberries, raw	*Jams and preserves
Orange Juice (Includes tangerine & acerola jces)	Orange juice, chilled, includes from concentrate	*Orange juice, canned, unsweetened
Grapefruit Juice	Grapefruit juice, white, canned, unsweetened	Grapefruit juice, white, canned, unsweetened
Lemon Juice	Lemon juice, canned or bottled	*Lemonade, frozen concentrate, white, prepared with water
Cranberry Juice	Cranberry juice, unsweetened	*Cranberry juice cocktail, bottled
Lime Juice	Lime juice, canned or bottled, unsweetened	Lime juice, canned or bottled, unsweetened
Raspberry Juice	Blackberry juice, canned	Blackberry juice, canned
Blackberry Juice	Blackberry juice, canned	Blackberry juice, canned
Strawberry Juice	Blackberry juice, canned	Blackberry juice, canned
Watermelon Juice	Watermelon, raw	Watermelon, raw

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
FRUIT GROUP (CONT'D)		
Cantaloupe Juice/Nectar	Melons, cantaloupe, raw	Melons, cantaloupe, raw
Unknown Citrus Fruit Juice	Orange juice, chilled, includes from concentrate	Orange juice, chilled, includes from concentrate
Mixed Fruit Juice (Citrus)	Orange juice, chilled, includes from concentrate	Orange juice, chilled, includes from concentrate
Apples, raw	Apples, raw, with skin	Apples, raw, with skin
Apples, cooked or canned	Applesauce, canned, unsweetened, without Vitamin C	*Applesauce, canned, sweetened, without salt (includes USDA commodity)
Applesauce	Applesauce, canned, unsweetened, without Vitamin C	*Applesauce, canned, sweetened, without salt (includes USDA commodity)
Apples, dried	Apples, dried, sulfured, uncooked	Apples, dried, sulfured, uncooked
Apricot, raw	Apricots, raw	Apricots, raw
Apricot, cooked or canned	Apricots, canned, water pack, without skin, solids and liquids	*Apricots, canned, heavy syrup pack, with skin, solids and liquids
Apricot, dried	Apricots, dried, sulfured, uncooked	Apricots, dried, sulfured, uncooked
Bananas, raw (Includes white, red, Chinese, and apple types)	Bananas, raw	Bananas, raw
Bananas, cooked or canned (Includes red type)	Bananas, raw	Bananas, raw
Bananas, dried	Bananas, dehydrated, or banana powder	*Banana chips
Dates, raw and cooked	Dates, deglet noor	Dates, deglet noor
Figs, raw	Figs, raw	Figs, raw
Figs, cooked or canned	Figs, canned, water pack, solids and liquids	*Figs, dried, uncooked
Figs, dried	Figs, dried, uncooked	Figs, dried, uncooked
Guava, raw	Guavas, common, raw	Guavas, common, raw
Guava, cooked or canned	Guavas, common, raw	Guavas, common, raw
Lychee, raw	Litchis, raw	Litchis, raw
Mango, raw	Mangos, raw	Mangos, raw
Mango, dried	Mangos, raw	Mangos, raw
Mango, cooked or canned	Mangos, raw	Mangos, raw

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
FRUIT GROUP (CONT'D)		
Nectarine, raw	Nectarines, raw	Nectarines, raw
Papaya, raw	Papayas, raw	Papayas, raw
Papaya, dried	Papayas, raw	Papayas, raw
Papaya, cooked or canned (Includes green)	Papayas, raw	Papayas, raw
Pineapple, raw	Pineapple, raw, all varieties	Pineapple, raw, all varieties
Pineapple, cooked or canned	Pineapple, canned, water pack, solids and liquids	*Pineapple, canned, juice pack, drained
Pineapple, dried	Pineapple, raw, all varieties	Pineapple, raw, all varieties
Peaches, raw	Peaches, raw	Peaches, raw
Peaches, cooked or canned	Peaches, canned, water pack, solids and liquids	*Peaches, canned, light syrup pack, solids and liquids
Peaches, dried	Peaches, dried, sulfured, uncooked	Peaches, dried, sulfured, uncooked
Pomegranate, raw	Pomegranates, raw	Pomegranates, raw
Raisins, raw (Includes raw & dried currants)	Raisins, seedless	Raisins, seedless
Raisins, cooked or canned	Raisins, seedless	Raisins, seedless
Rhubarb, cooked or canned	Rhubarb, raw	*Rhubarb, frozen, cooked, with sugar
Grapes, raw	Grapes, red/green (European type), raw	Grapes, red/green (European type), raw
Grapes, cooked or canned	Grapes, canned, Thompson seedless, water pack, solids and liquids	Grapes, canned, Thompson seedless, water pack, solids and liquids
Pears, raw	Pears, raw	Pears, raw
Pears, cooked or canned	Pears, canned, water pack, solids and liquids	*Pears, canned, heavy syrup, drained
Pears, dried	Pears, dried, sulfured, uncooked	Pears, dried, sulfured, uncooked
Japanese Pears, raw	Pears, Asian, raw	Pears, Asian, raw
Persimmons, raw	Persimmons, native, raw	Persimmons, native, raw
Plums, raw	Plums, raw	Plums, raw
Plums, dried (include dried prunes)	Plums, dried (prunes), uncooked	Plums, dried (prunes), uncooked
Plums/Prunes, cooked or canned	Plums, canned, purple, water pack, solids and liquids	*Plums, dried (prunes) stewed, without added sugar

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
FRUIT GROUP (CONT'D)		
Star Fruit (Carambola), raw	Carambola, (starfruit), raw	Carambola, (starfruit), raw
Cherries, raw	Cherries, sweet, raw	Cherries, sweet, raw
Cherries, cooked or canned (Includes maraschino)	Cherries, sour, red, canned, water pack, solids and liquids	*Pie fillings, canned, cherry
Tamarind, raw or cooked	Tamarinds, raw	Tamarinds, raw
Unknown Other Fruit	Applesauce, canned, unsweetened, without Vitamin C	*Applesauce, canned, sweetened, without salt (includes USDA commodity)
Mixed Other Fruit (NOT citrus)	Applesauce, canned, unsweetened, without Vitamin C	*Babyfood, fruit, bananas and pineapple with tapioca, junior
Apple Juice	Apple juice, canned/bottled, unsweetened, without Vitamin C	Apple juice, canned/bottled, unsweetened, without Vitamin C
Grape Juice	Grape juice, canned/bottled, unsweetened, without Vitamin C	Grape juice, canned/bottled, unsweetened, without Vitamin C
Passion Fruit Juice/Nectar	Passion-fruit juice, yellow, raw	Passion-fruit juice, yellow, raw
Pineapple Juice	Pineapple juice, canned, unsweetened, without Vitamin C	*Pineapple juice, canned, unsweetened, with added Vitamin C
Pear Juice/Nectar	Babyfood, juice, pear	*Pear nectar, canned, without Vitamin C
Papaya Juice/Nectar	Papaya nectar, canned	Papaya nectar, canned
Peach Juice/Nectar	Peach nectar, canned, without Vitamin C	Peach nectar, canned, without Vitamin C
Guava Juice/Nectar	Guava nectar, canned	Guava nectar, canned
Prune Juice	Prune juice, canned	Prune juice, canned
Apricot Juice/Nectar	Apricot nectar, canned, without Vitamin C	Apricot nectar, canned, without Vitamin C
Banana Juice/Nectar	Bananas, raw	Bananas, raw
Mango Juice/Nectar	Mango nectar, canned	Mango nectar, canned
Cherry Juice	Cherries, sweet, raw	*Cherries, sweet, canned, juice pack, solids and liquids
Mixed Fruit Juice (NOT citrus)	Apple juice, canned/bottled, unsweetened, without Vitamin C	Apple juice, canned/bottled, unsweetened, without Vitamin C
Unknown Other Fruit Juice	Apple juice, canned/bottled, unsweetened, without Vitamin C	Apple juice, canned/bottled, unsweetened, without Vitamin C

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
VEGETABLE GROUP		
Dry Beans and Peas Subgroup		
Kidney Beans	Beans, kidney, all types, mature seeds, cooked, boiled, without salt	*Beans, kidney, red, mature seeds, canned
Chickpeas	Chickpeas, mature seeds, cooked, boiled, without salt	*Chickpeas, (garbanzo beans, bengal gram), mature seeds, canned
White beans (Includes navy and pea beans)	Beans, small white, mature seeds, cooked, boiled, without salt	*Beans, baked, canned, plain or vegetarian
Black beans	Beans, black, mature seeds, cooked, boiled, without salt	*Beans, black, mature seeds, cooked, boiled, with salt
Pinto beans (Includes pink beans)	Beans, pinto, mature seeds, cooked, boiled, without salt	*Frijoles rojos volteados (Refried beans, red, canned)
Lima beans (mature) (Includes fava and mung beans)	Lima beans, large, mature seeds, cooked, boiled, without salt	*Lima beans, large, mature seeds, cooked, boiled, with salt
Split Peas	Peas, split, mature seeds, cooked, boiled, without salt	*Peas, split, mature seeds, cooked, boiled, with salt
Lentils	Lentils, mature seeds, cooked, boiled, without salt	*Lentils, mature seeds, cooked, boiled, with salt
Cowpeas	Cowpeas, common, mature seeds, cooked, boiled, without salt	*Cowpeas, common, (blackeyes, crowder, southern), mature seeds, cooked, boiled, with salt
Soybeans/Edamame	Soybeans, mature cooked, boiled, without salt	*Soybeans, mature cooked, boiled, with salt
Unknown legume	Beans, small white, mature seeds, cooked, boiled, without salt	*Beans, navy, mature seeds, canned
Starchy Vegetables Subgroup		
Corn (yellow)	Corn, sweet, yellow, cooked, boiled, drained, without salt	*Corn, sweet, yellow, cooked, boiled, drained, with salt
Potatoes, boiled (Includes breadfruit)	Potatoes, boiled, cooked without skin, flesh, without salt	*Potatoes, boiled, cooked without skin, flesh, with salt
Potatoes, baked	Potatoes, white, flesh and skin, baked, without salt	*Potatoes, baked, flesh, with salt
Green Peas, cooked and raw	Peas, green, cooked, boiled, drained, without salt	*Peas, green, frozen, cooked, boiled, drained, with salt
French Fries	Potatoes, French fried, all types, salt not added in processing, frozen, oven heated	*Fast food French fries
Potato Chips/Puffs/Sticks	Snacks, potato chips, fat free, salted	*Snacks, potato chips, salted
Home Fries/Hash Browns	Potatoes, hashed brown, frozen, plain, prepared	*Fast foods, potatoes, hashed brown
Cassava (Tapioca) (Includes taro, burdock root, and white yam)	Cassava, raw	Cassava, raw

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Starchy Vegetables Subgroup (cont'd)		
Corn (white) (Includes hominy)	Corn, sweet, white, cooked, boiled, drained, without salt	*Corn, sweet, white, cooked, boiled, drained, with salt
Lima Beans (immature)	Lima beans, immature seeds, cooked, boiled, drained, without salt	*Lima beans, immature seeds, cooked, boiled, drained, with salt
Cooked Cowpeas, Field Peas, Blackeye Peas (NOT dried) (Includes pigeon peas)	Cowpeas, immature seeds, cooked, boiled, drained, without salt	*Cowpeas, immature seeds, cooked, boiled, drained, with salt
Vegetable starches and unknown starchy veg.	Potato Flour	Potato flour
Cooked Waterchestnuts (Includes lotus root)	Waterchestnuts, Chinese, canned, solids and liquids	Waterchestnuts, Chinese, canned, solids and liquids
Plantains	Plantains, cooked	*Plantains, green, fried
Dark Green Vegetables Subgroup		
Cooked Broccoli	Broccoli, cooked, boiled, drained, without salt	*Broccoli, cooked, boiled, drained, with salt
Cooked Spinach (Includes taro leaves)	Spinach, cooked, boiled, drained, without salt	*Spinach, cooked, boiled, drained, with salt
Cooked Mustard Greens (Includes dandelion and poke greens)	Mustard greens, cooked, boiled, drained, without salt	*Mustard greens, cooked, boiled, drained, with salt
Cooked Collard Greens	Collards, cooked, boiled, drained, without salt	*Collards, cooked, boiled, drained, with salt
Mixed Dark Leafy Greens (includes Romaine, Chicory, Escarole, and Endive)	Lettuce, cos or romaine, raw	Lettuce, cos or romaine, raw
Cooked Kale (Includes lambsquarters, mustard cabbage, raw and cooked beet greens, bitter melon leaves, horseradish leaves, and jute leaves)	Kale, cooked, boiled, drained, without salt	*Kale, cooked, boiled, drained, with salt
Cooked Turnip Greens	Turnip greens, cooked, boiled, drained, without salt	*Turnip greens, cooked, boiled, drained, with salt
Raw Spinach	Spinach, raw	Spinach, raw
Raw Broccoli	Broccoli, raw	Broccoli, raw
Parsley, cooked and raw (Includes epazote)	Parsley, raw	Parsley, raw
Cilantro, raw and cooked	Coriander (cilantro) leaves, raw	Coriander (cilantro) leaves, raw
Unknown dark green veg.	Parsley, raw	Parsley, raw

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Dark Green Vegetables Subgroup (cont'd)		
Watercress (Includes thistle leaves)	Watercress, raw	Watercress, raw
Chard, cooked (Includes escarole)	Chard, Swiss, cooked, boiled, drained, without salt	*Chard, Swiss, cooked, boiled, drained, with salt
Raw Seaweed (Laver), high in Vit. A	Seaweed, laver, raw	Seaweed, laver, raw
Raw Arugula Lettuce	Arugula, raw	Arugula, raw
Grape Leaves, ckd and raw	Grape leaves, raw	*Grape leaves, canned
Bok Choy (Chinese Cabbage)	Cabbage, Chinese (pak-choi), cooked, boiled, drained, without salt	*Cabbage, Chinese (pak-choi), cooked, boiled, drained, with salt
Raw Butterhead Lettuce (Boston, Bibb)	Lettuce, butterhead (includes Boston and bibb types), raw	Lettuce, butterhead (includes Boston and bibb types), raw
Red/Orange Vegetables Subgroup		
Cooked Carrots	Carrots, cooked, boiled, drained, without salt	*Carrots, cooked, boiled, drained, with salt
Cooked Pumpkin	Pumpkin, canned, without salt	*Pumpkin, canned, with salt
Cooked Sweet Potatoes/orange yams	Sweet potato, cooked, baked in skin, without salt	*Sweet potato, cooked, baked in skin, with salt
Cooked Winter Squash	Squash, winter, all varieties, cooked, baked, without salt	*Squash, winter, all varieties, cooked, baked, with salt
Raw Carrots	Carrots, raw	Carrots, raw
Unknown red/orange veg.	Carrots, cooked, boiled, drained, without salt	*Carrots, cooked, boiled, drained, with salt
Carrot Juice	Carrot juice, canned	Carrot juice, canned
Raw Tomatoes	Tomatoes, red, ripe, raw, year round average	Tomatoes, red, ripe, raw, year round average
Cooked Tomatoes	Tomato products, canned, puree, without salt added	*Sauce, pasta, spaghetti/marinara, ready-to-serve
Tomato Juice	Tomato juice, canned, without salt added	*Tomato juice, canned, with salt added
Red Peppers (sweet, bell), cooked and raw (Includes pimentos)	Peppers, sweet, red, cooked, boiled, drained, without salt	*Peppers, sweet, red, cooked, boiled, drained, with salt
Chili Pepper, hot, red, cooked and raw (Includes color not specified)	Peppers, hot chili, red, raw	*Peppers, hot chili, red, canned, excluding seeds, solids and liquids

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Other Vegetables Subgroup		
Green Cabbage, raw and cooked (Includes savoy cabbage; sweet potato, squash, & pumpkin leaves)	Cabbage, raw	Cabbage, raw
Raw Celery	Celery, raw	Celery, raw
Cucumber (Includes flowers of sesbania, squash, lily, pumpkin)	Cucumber, peeled, raw	Cucumber, peeled, raw
Lettuce (Includes Iceberg, manoa)	Lettuce, iceberg, raw	Lettuce, iceberg, raw
Raw Onions (bulbs)	Onions, raw	Onions, raw
Raw Green Peppers (sweet, bell) (Includes color not specified)	Peppers, sweet, green, raw	Peppers, sweet, green, raw
Green Beans, cooked and raw (Includes snap and yellow beans)	Beans, snap, green, cooked, boiled, drained, without salt	*Beans, snap, green, canned, regular pack, drained solids
Cooked Green Cabbage	Cabbage, cooked, boiled, drained, without salt	*Cabbage, cooked, boiled, drained, with salt
Cauliflower, cooked and raw (Includes broccoflower)	Cauliflower, cooked, boiled, drained, without salt	*Cauliflower, cooked, boiled, drained, with salt
Cooked Celery	Celery, cooked, boiled, drained, without salt	*Celery, cooked, boiled, drained, with salt
Mushrooms, cooked and raw (Includes shiitake)	Mushrooms, white, cooked, boiled, drained, without salt	*Mushrooms, white, cooked, boiled, drained, with salt
Cooked Onions (includes Leeks)	Onions, cooked, boiled, drained, without salt	*Onions, cooked, boiled, drained, with salt
Summer Squash, cooked and raw, yellow and zucchini (Includes spaghetti squash, chayote, bitter and winter melons)	Squash, summer, all varieties, cooked, boiled, drained, without salt	*Squash, summer, all varieties, cooked, boiled, drained, with salt
Cucumber Pickles (Includes relish and capers)	Pickles, cucumber, dill, low sodium	*Pickles, cucumber, dill or kosher dill
Olives (raw or cooked)	Olives, ripe, canned (small-extra large)	Olives, ripe, canned (small-extra large)
Garlic, cooked and raw	Garlic, raw	Garlic, raw
Mungbeans, sprouted, cooked and raw (Includes alfalfa and buckwheat sprouts)	Mung beans, mature seeds, sprouted, cooked, boiled, drained, without salt	*Mung beans, mature seeds, sprouted, cooked, boiled, drained, with salt
Cooked Green Peppers (sweet, bell)	Peppers, sweet, green, cooked, boiled, drained, without salt	*Peppers, sweet, green, cooked, boiled, drained, with salt

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Other Vegetables Subgroup (cont'd)		
Raw Radishes	Radishes, raw	Radishes, raw
Spring Onions/Scallions, cooked and raw	Onions, spring or scallions (includes tops and bulb), raw	Onions, spring or scallions (includes tops and bulb), raw
Cooked Eggplant (Includes hearts of palm)	Eggplant, cooked, boiled, drained, without salt	*Eggplant, cooked, boiled, drained, with salt
Cooked Beets	Beets, cooked, boiled, drained, without salt	*Beets, cooked, boiled, drained, with salt
Unknown other vegetables	Onions, cooked, boiled, drained, without salt	*Onions, cooked, boiled, drained, with salt
Horseradish (Includes ginger root)	Horseradish, prepared	Horseradish, prepared
Chives, cooked and raw	Chives, raw	Chives, raw
Chili Pepper, hot, green, cooked and raw (Includes serrano and dwarf green)	Peppers, hot chili, green, raw	*Peppers, hot chili, green, canned, pods, excluding seeds, solids and liquids
Miscellaneous Additional Vegetables	Seaweed, wakame, raw	Seaweed, wakame, raw
Cooked Okra (Includes horseradish pods)	Okra, cooked, boiled, drained, without salt	*Okra, cooked, boiled, drained, with salt
Cooked Bamboo Shoots	Bamboo shoots, cooked, boiled, drained, without salt	*Bamboo shoots, canned, drained solids
Turnips, cooked and raw (Includes rutabaga, jicama, kohlrabi, celeriac, fennel bulb)	Turnips, cooked, boiled, drained, without salt	*Turnips, cooked, boiled, drained, with salt
Tomatillos, cooked and raw	Tomatillos, raw	Tomatillos, raw
Raw Red Cabbage (Includes radicchio)	Cabbage, red, raw	Cabbage, red, raw
Edible-pod Green Peas, cooked and raw (Includes snowpeas, fern shoots)	Peas, edible-podded, boiled, drained, without salt	*Peas, edible-podded, boiled, drained, with salt
Artichoke	Artichokes, cooked, boiled, drained, without salt	*Artichokes, cooked, boiled, drained, with salt
Asparagus, cooked and raw	Asparagus, cooked, boiled, drained, without salt	*Asparagus, cooked, boiled, drained, with salt
Brussels Sprouts	Brussels sprouts, cooked, boiled, drained, without salt	*Brussels sprouts, cooked, boiled, drained, with salt
Cactus (Nopales), cooked and raw	Nopales, cooked, without salt	Nopales, cooked, without salt
Avocado	Avocados, raw, all commercial varieties	Avocados, raw, all commercial varieties

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
MEAT AND BEANS GROUP		
Meats Subgroup		
Beef	Beef, round, eye of round, roast, separable lean only, trimmed to 1/8" fat, all grades, cooked, roasted	*Beef, chuck, blade roast, separable lean only, trimmed to 0" fat, select, cooked, braised
Pork, fresh	Pork, fresh, loin, sirloin (chops), boneless, lean, cooked, broiled	*Pork, fresh, loin, top loin (chops), boneless, enhanced, separable lean and fat, cooked, pan-broiled
Pork, cured	Pork, cured, ham, whole, separable lean only, roasted	*Pork, cured, ham, rump, boneless, regular (approximately 11% fat), roasted
Lamb	Lamb, domestic, leg, whole (shank and sirloin), separable lean only, trimmed to 1/4" fat, choice, roasted	*Lamb, domestic, composite of trimmed retail cuts, separable lean and fat, trimmed to 1/4", choice, cooked
Luncheon meats, beef	Frankfurter, beef, low fat	*Frankfurter, beef
Liver	Beef, liver, pan-fried	Beef, liver, pan-fried
Luncheon meats, pork	Ham, sliced, extra lean	*Pork, cured, ham, boneless, extra lean and regular, unheated
Beef, ground	Ground beef, 95% lean, patty, pan-broiled	*Ground beef, 80% lean meat/20% fat, patty, cooked, broiled
Game meat	Deer, loin, separable lean only, 1" steak, broiled	Deer, loin, separable lean only, 1" steak, broiled
Poultry Subgroup		
Luncheon meats, poultry	Chicken roll, light meat	Chicken roll, light meat
Chicken	Chicken, meat only, roasted	*Fast foods, chicken, breaded and fried, boneless pieces, plain
Turkey	Turkey, meat only, roasted	*Turkey, all classes, meat and skin, cooked, roasted
High Omega-3 Fish Subgroup		
Anchovy	Anchovy, European, canned in oil, drained	Anchovy, European, canned in oil, drained
Herring	Herring, Atlantic, cooked, dry heat	*Herring, Atlantic, raw
Mackerel	Mackerel, Atlantic, cooked, dry heat	Mackerel, Atlantic, cooked, dry heat
Salmon	Salmon, Atlantic, farmed, cooked, dry heat	Salmon, Atlantic, farmed, cooked, dry heat
Sardines	Sardine, Atlantic, canned in oil, drained solids with bone	Sardine, Atlantic, canned in oil, drained solids with bone
Sea bass	Sea bass, mixed species, cooked, dry heat	Sea bass, mixed species, cooked, dry heat
Swordfish	Swordfish, cooked, dry heat	Swordfish, cooked, dry heat

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
High Omega-3 Fish Subgroup, (cont'd)		
Trout	Trout, rainbow, farmed, cooked, dry heat	Trout, rainbow, farmed, cooked, dry heat
Roe	Roe, mixed species, cooked dry heat	Roe, mixed species, cooked dry heat
Mussels	Mussel, blue, cooked, moist heat	Mussel, blue, cooked, moist heat
Tuna-high Omega 3	Tuna, white, canned in water, drained solids	Tuna, white, canned in water, drained solids
Shark	Shark, mixed species, raw	Shark, mixed species, raw
Smelt	Smelt, rainbow, cooked, dry heat	Smelt, rainbow, cooked, dry heat
Low Omega-3 Fish Subgroup		
Shrimp	Shrimp, cooked, moist heat	Shrimp, cooked, moist heat
Unknown Fish	Pollock, Atlantic, cooked, dry heat	*Haddock, cooked, dry heat
Fish sticks	Pollock, Atlantic, cooked, dry heat	*Fish portions and sticks, frozen, preheated
Restructured fish	Pollock, Atlantic, cooked, dry heat	*Crustaceans, crab, Alaska king, imitation, made from surimi
Carp	Carp, cooked, dry heat	Carp, cooked, dry heat
Catfish	Catfish, channel, farmed, cooked, dry heat	*Catfish, channel, farmed, cooked, breaded and fried
Cod	Cod, Pacific, cooked, dry heat	Cod, Pacific, cooked, dry heat
Croaker	Croaker, Atlantic, raw	*Croaker, Atlantic, cooked, breaded and fried
Flounder	Flatfish (flounder and sole), cooked, dry heat	*Croaker, Atlantic, cooked, breaded and fried
Haddock	Haddock, cooked, dry heat	*Croaker, Atlantic, cooked, breaded and fried
Mullet	Mullet, striped, cooked, dry heat	*Croaker, Atlantic, cooked, breaded and fried
Perch	Ocean perch, Atlantic, cooked, dry heat	*Croaker, Atlantic, cooked, breaded and fried
Pike	Pike, northern, cooked, dry heat	*Fish, gefiltefish, commercial, sweet recipe
Pompano	Pompano, Florida, cooked, dry heat	Pompano, Florida, cooked, dry heat
Porgy	Sheepshead, cooked, dry heat	*Snapper, mixed species, cooked, dry heat
Tuna-low 0mega3	Tuna, light, canned in water, drained solids	Tuna, light, canned in water, drained solids

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Low Omega-3 Fish Subgroup (cont'd)		
Whiting	Fish, whiting, mixed species, cooked, dry heat	*Croaker, Atlantic, cooked, breaded and fried
Frog	Frog legs, raw	Frog legs, raw
Octopus/squid	Octopus, common, cooked, moist heat	*Squid, mixed species, cooked, fried
Clams	Clams, mixed species, cooked, moist heat	*Clams, mixed species, canned, drained solids
Crab	Crab, blue, cooked, moist heat	Crab, blue, cooked, moist heat
Lobster	Lobster, northern, cooked, moist heat	Lobster, northern, cooked, moist heat
Oysters	Oyster, Pacific, cooked, moist heat	*Oyster, eastern, wild, cooked, moist heat
Scallops	Scallops (bay and sea), cooked, steamed	Scallop (bay and sea), cooked, steamed
Snapper	Snapper, mixed species, cooked, dry heat	Snapper, mixed species, cooked, dry heat
Halibut	Halibut, Atlantic and Pacific, cooked, dry heat	Halibut, Atlantic and Pacific, cooked, dry heat
Turtle/terrapin	Turtle, green, raw	Turtle, green, raw
Crayfish	Crayfish, mixed species, wild, cooked, moist heat	Crayfish, mixed species, wild, cooked, moist heat
Snails	Snail, raw	Snail, raw
Soy Subgroup		
Tofu	Tofu, firm, prepared with calcium sulfate and magnesium chloride	Tofu, firm, prepared with calcium sulfate and magnesium chloride
Processed Soy	Veggie burgers or soyburgers, unprepared	Veggie burgers or soyburgers, unprepared
Egg Subgroup		
Eggs	Egg, whole, cooked, hard-boiled	*Egg, whole, cooked, fried
Nuts and Seeds Subgroup		
Peanut butter	Peanut butter, smooth style, with salt	Peanut butter, smooth style, with salt
Peanuts, roasted without salt	Peanuts, all types, dry-roasted, without salt	*Peanuts, all types, oil-roasted, with salt
Mixed nuts, roasted, with peanuts	Mixed nuts, dry roasted, with peanuts, without salt added	*Mixed nuts, with peanuts, oil roasted, with salt added
Walnuts	Walnuts, English	Walnuts, English

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Nuts and Seeds Subgroup (cont'd.)		
Pecans	Pecans	Pecans
Cashew nuts, roasted, without salt	Cashew nuts, dry roasted, without salt added	*Cashew nuts, dry roasted, with salt added
Pistachio nuts, roasted, without salt	Pistachio nuts, dry roasted, without salt added	*Pistachio nuts, dry roasted, with salt added
Almonds, dry roasted, without salt	Almonds, dry roasted, without salt added	*Almonds
Sunflower seeds, roasted, without salt	Sunflower seed kernels, dry roasted, without salt	*Sunflower seed kernels, oil roasted, with salt added
Sesame seeds	Sesame seed kernels, toasted, without salt added (decorticated)	Sesame seed kernels, toasted, without salt added (decorticated)
Pine nuts	Pine nuts, dried	Pine nuts, dried
Pumpkin/squash seed kernels	Pumpkin and squash seed kernels, roasted, without salt	*Pumpkin and squash seed kernels, roasted, with salt
Brazil nuts	Brazilnuts, dried, unblanched	Brazilnuts, dried, unblanched
Chestnuts	Chestnuts, European, roasted	Chestnuts, European, roasted
Filberts/hazelnuts	Hazelnuts or filberts	Hazelnuts or filberts
Macadamia nuts	Macadamia nuts, dry roasted, without salt added	*Macadamia nuts, dry roasted, with salt added
Flax seeds	Flaxseed	Flaxseed
Milk Group		
Unflavored cow milks, whole	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, whole, 3.25% milkfat, with added vitamin D
Unflavored cow milks, 2%	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D
Unflavored cow milks, 1%	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, low fat, fluid, 1% milkfat, with added vitamin A and vitamin D
Unflavored cow milks, fat-free	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)
Low lactose, calcium-fortified, acidopholus, buttermilk, goat's milk & imitation milks, whole and not further specified (NFS)	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, whole, 3.25% milkfat, with added vitamin D
Low lactose, calcium-fortified, acidopholus, buttermilk, goat's milk & imitation milks, 2%	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, buttermilk, fluid, cultured, reduced fat
Low lactose, calcium-fortified, acidopholus, buttermilk, goat's milk & imitation milks, 1% and fat-free	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, low fat, fluid, 1% milkfat, with added vitamin A and vitamin D

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Milk Group, (cont'd.)		
Dry milks (reconstituted +not reconstituted) & evaporated milks, whole, reduced fat, and NFS	Milk, dry, nonfat, instant, with added vitamin A and vitamin D	*Milk, canned, evaporated, with added vitamin D and without added vitamin A
Dry milks (reconstituted +not reconstituted) & evaporated milks, low fat and fat-free	Milk, dry, nonfat, instant, with added vitamin A and vitamin D	Milk, dry, nonfat, instant, with added vitamin A and vitamin D
Milk NFS	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D
Flavored milks (chocolate milk, cocoa), whole	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, chocolate, fluid, commercial, whole, with added vitamin A and vitamin D
Flavored milks (chocolate milk, cocoa), 2%	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, chocolate, fluid, commercial, reduced fat, with added vitamin A and vitamin D
Flavored milks (chocolate milk, cocoa), 1%	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, chocolate, fluid, commercial, low fat, with added vitamin A and vitamin D
Flavored milks (chocolate milk, cocoa), fat-free	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, chocolate, fluid, commercial, low fat, with added vitamin A and vitamin D
Flavored milks (chocolate milk, cocoa), NFS	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, chocolate, fluid, commercial, reduced fat, with added vitamin A and vitamin D
Milk in coffee drinks, lattes, etc.	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D
Milk shakes, malted milk drinks, fruit-milk drinks/smoothies, fat-free	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, chocolate, fluid, commercial, low fat, with added vitamin A and vitamin D
Milk shakes, malted milk drinks, fruit-milk drinks/smoothies, NFS	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Malted drink mix, chocolate, with added nutrients, powder, prepared with whole milk
Meal supplements/replacement drinks/diet drinks	Milk, dry, nonfat, instant, with added vitamin A and vitamin D	Milk, dry, nonfat, instant, with added vitamin A and vitamin D
Milk powder drinks (reconstituted +not reconstituted), milk in eggnog or other beverage	Milk, dry, nonfat, instant, with added vitamin A and vitamin D	Milk, dry, nonfat, instant, with added vitamin A and vitamin D
Milk in soups	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D
Milk in casseroles, "mixtures," coatings/batters, frozen meals, main dishes & other dishes	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D
Milk in scrambled eggs/omelets	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Milk Group (cont'd)		
Milk in mashed potatoes, creamed/sauced vegetables, cooked cereals, sauces, gravies, and salad dressings	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D
Milk in puddings (caloric & low calorie sweeteners) custards, milk-based desserts, other desserts, sweetened condensed milk	Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)	*Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D
Milk in candies and "bars"	Milk, dry, nonfat, instant, without added vitamin A and vitamin D	Milk, dry, nonfat, instant, without added vitamin A and vitamin D
Ice cream (caloric and low calorie sweeteners), light and fat-free	Ice cream, vanilla, light	Ice cream, vanilla, light
Ice cream (caloric sweeteners), regular and rich	Ice cream, vanilla, light	Ice cream, vanilla, light
Ice cream sundaes, cones, sticks/bars/novelties (caloric & low calorie sweeteners), light and low fat	Ice cream, vanilla, light	Ice cream, vanilla, light
Ice cream sundaes, cones, sticks/bars/novelties (caloric & low calorie sweeteners), regular, rich, and NFS	Ice cream, vanilla, light	Ice cream, vanilla, light
Frozen yogurt (caloric & low calorie sweeteners) and sherbet, regular, low fat, fat-free, and NFS	Frozen yogurts, chocolate, nonfat milk, sweetened without sugar	*Frozen yogurts, flavors other than chocolate
Unflavored yogurts, whole and NFS	Yogurt, plain, skim milk, 13 grams protein per 8 ounce	*Yogurt, plain, whole milk, 8 grams protein per 8 ounce
Unflavored yogurts, low fat	Yogurt, plain, skim milk, 13 grams protein per 8 ounce	*Yogurt, plain, low fat, 12 grams protein per 8 ounce
Unflavored yogurts, fat-free	Yogurt, plain, skim milk, 13 grams protein per 8 ounce	Yogurt, plain, skim milk, 13 grams protein per 8 ounce
Flavored yogurts (caloric sweeteners), low fat	Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener, fortified with vitamin D	*Yogurt, vanilla, low fat, 11 grams protein per 8 ounce
Flavored yogurts (caloric sweeteners), fat-free	Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener, fortified with vitamin D	*Yogurt, vanilla, low fat, 11 grams protein per 8 ounce
Flavored yogurts (caloric sweeteners), NFS	Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener, fortified with vitamin D	*Yogurt, vanilla, low fat, 11 grams protein per 8 ounce

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Milk Group (cont'd)		
Flavored yogurts (low calorie sweeteners), fat-free	Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener, fortified with vitamin D	*Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener
Fruit yogurts (caloric sweeteners) includes yogurt not specified, whole	Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener, fortified with vitamin D	*Yogurt, plain, whole milk, 8 grams protein per 8 ounce
Fruit yogurts (caloric sweeteners) includes yogurt not specified, low fat	Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener, fortified with vitamin D	*Yogurt, vanilla, low fat, 11 grams protein per 8 ounce
Fruit yogurts (caloric sweeteners) includes yogurt not specified, fat-free	Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener, fortified with vitamin D	*Yogurt, vanilla, low fat, 11 grams protein per 8 ounce
Fruit yogurts (caloric sweeteners) includes yogurt not specified, fat NFS	Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener, fortified with vitamin D	*Yogurt, vanilla, low fat, 11 grams protein per 8 ounce
Fruit yogurts (low calorie sweeteners), fat-free	Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener, fortified with vitamin D	*Yogurt, vanilla or lemon flavor, nonfat milk, sweetened with low-calorie sweetener
Natural cheeses (includes low sodium cheeses), regular	Cheese, Mexican, blend, reduced fat	*Cheese, Cheddar
Natural cheeses (includes low sodium cheeses), reduced-fat	Cheese, Mozzarella, nonfat or fat free	*Cheese, Mozzarella, part skim milk, low moisture
Natural cheeses (includes low sodium cheeses), low fat and fat-free	Cheese, Mexican, blend, reduced fat	*Cheese, Swiss, low fat
Natural cheeses (includes low sodium cheeses), fat NFS	Cheese, Mozzarella, nonfat or fat free	*Cheese, Mozzarella, part skim milk, low moisture
Cottage cheeses, regular	Cheese, cottage, low fat, 1% milkfat, no sodium added	*Cheese, cottage, creamed, large or small curd
Cottage cheeses, low fat and fat NFS	Cheese, cottage, low fat, 1% milkfat, no sodium added	*Cheese, cottage, low fat, 1% milkfat
Processed cheeses (includes low sodium cheeses), regular	Cheese, pasteurized process, American, low fat	*Cheese food, pasteurized process, American, without di-sodium phosphate
Processed cheeses (includes low sodium cheeses), reduced-fat	Cheese, pasteurized process, American, low fat	*Cheese product, pasteurized process, Cheddar or American, reduced fat
Processed cheeses (includes low sodium cheeses), low fat and fat-free	Cheese, pasteurized process, American, low fat	Cheese, pasteurized process, American, low fat
Cheese spreads, dips, sauces, soups	Cheese, pasteurized process, American, low fat	*Cheese spread, pasteurized process, American, without di-sodium phosphate
Cheese on sandwiches	Cheese, pasteurized process, American, low fat	*Cheese food, pasteurized process, American, without di-sodium phosphate

Table A1. Item Clusters and Representative Foods for 2010 USDA Food Patterns and Food Pattern Modeling Analyses—continued.

Item Cluster	"Ideal" Representative Food	"Typical" Representative Food
Milk Group (cont'd)		
Cheese in grains products, snacks (includes breads and cereals), desserts/sweets, regular and NFS	Cheese, pasteurized process, American, low fat	*Cheese food, pasteurized process, American, without di-sodium phosphate
Cheese in grains products (includes fried cheese, gnocchi), desserts/sweets, reduced fat, low fat, nonfat	Cheese, Mozzarella, nonfat or fat free	*Cheese, Mozzarella, part skim milk, low moisture
Cheese in Mexican dishes	Cheese, Mexican, blend, reduced fat	*Cheese, Chedder
Cheese in egg or meat dishes and frozen meals	Cheese, Mexican, blend, reduced fat	*Cheese food, pasteurized process, American, without di-sodium phosphate
Cheese on pizza and calzone, regular	Cheese, Mozzarella, nonfat or fat free	*Cheese, Parmesan, grated
Cheese on pizza and calzone, reduced-fat and low fat	Cheese, Mozzarella, nonfat or fat free	*Cheese, Mozzarella, part skim milk, low moisture
Cheese in pasta and Italian dishes, regular and NFS	Cheese, Mexican, blend, reduced fat	*Cheese food, pasteurized process, American, without di-sodium phosphate
Cheese in pasta and Italian dishes, reduced fat, low fat, and nonfat	Cheese, Mexican, blend, reduced fat	*Cheese, Mozzarella, part skim milk, low moisture
Cheese on vegetables (cheese sauce), in salads & dressings	Cheese, pasteurized process, American, low fat	*Cheese food, pasteurized process, American, without di-sodium phosphate
Cheese NFS	Cheese, Mexican, blend, reduced fat	*Cheese food, pasteurized process, American, without di-sodium phosphate
Soymilk	Soymilk (all flavors), unsweetened, with added calcium, vitamins A and D	*Soymilk, original and vanilla, with added calcium, vitamins A and D

Table A2. Summary of Nutrients in Ideal (Base) and Typical Food Patterns

Calorie Level	Food Pattern	Energy (kcal)	Protein (g)	Total lipid (g)	Carbo-hydrate (g)	Dietary Fiber (g)	Calcium (mg)	Iron (mg)	Magnes-ium (mg)	Phos-phorus (mg)	Potassium (mg)	Sodium (mg)
1000	Ideal	992	44	36	128	14	751	8	169	886	1667	885
1000	Typical	1183	45	54	133	14	783	11	172	932	1640	1699
1200	Ideal	1200	55	43	155	17	803	10	212	1052	2059	1088
1200	Typical	1467	56	67	165	18	845	14	217	1120	2027	2180
1400	Ideal	1389	65	47	184	21	849	13	250	1195	2374	1265
1400	Typical	1727	66	76	202	21	900	18	257	1285	2350	2502
1600	Ideal	1602	83	55	203	25	1184	15	310	1562	2971	1527
1600	Typical	2075	84	97	226	25	1245	21	315	1672	2927	3108
1800	Ideal	1797	87	61	234	28	1221	16	336	1643	3272	1666
1800	Typical	2259	88	103	254	29	1283	22	341	1746	3194	3468
2000	Ideal	1997	91	71	260	30	1235	17	351	1690	3478	1722
2000	Typical	2390	92	109	271	30	1297	23	356	1803	3407	3550
2200	Ideal	2190	100	77	287	34	1290	20	394	1836	3836	1883
2200	Typical	2630	100	119	301	34	1358	26	398	1955	3742	3974
2400	Ideal	2384	106	86	312	37	1323	21	418	1932	3945	2028
2400	Typical	2802	106	126	322	37	1399	29	423	2063	3853	4216
2600	Ideal	2583	111	92	343	41	1374	24	457	2046	4275	2153
2600	Typical	3010	111	135	352	41	1455	32	460	2172	4150	4576
2800	Ideal	2795	118	99	376	44	1416	26	491	2156	4544	2296
2800	Typical	3244	118	143	387	44	1506	35	494	2295	4424	4822
3000	Ideal	2985	120	111	396	47	1434	26	509	2203	4780	2329
3000	Typical	3381	120	153	398	46	1522	36	510	2337	4636	5009
3200	Ideal	3182	120	126	412	48	1435	26	509	2204	4781	2353
3200	Typical	3441	120	159	398	46	1522	36	510	2337	4636	5012

Table A2. Summary of Nutrients in Ideal (Base) and Typical Food Patterns—continued

Calorie Level	Food Pattern	Zinc (mg)	Copper (mg)	Man-ganese (mg)	Selenium (mcg)	Vitamin A (mcg RAE)	Vitamin E (mg AT)	Vitamin D (IU)	Vitamin C (mg)
1000	Ideal	7	0.651	2	49	447	4.0	155	58
1000	Typical	8	0.676	2	47	502	5.0	155	55
1200	Ideal	9	0.851	2	64	527	4.9	166	70
1200	Typical	10	0.887	2	61	589	6.2	164	65
1400	Ideal	10	1.014	3	79	569	5.4	177	89
1400	Typical	12	1.054	3	74	638	7.0	173	84
1600	Ideal	13	1.212	3	95	756	6.7	249	100
1600	Typical	15	1.263	3	90	858	8.7	248	93
1800	Ideal	14	1.376	4	101	820	7.6	252	108
1800	Typical	16	1.422	4	96	926	9.8	250	99
2000	Ideal	14	1.446	4	106	851	8.3	258	126
2000	Typical	16	1.494	4	100	944	10.5	254	119
2200	Ideal	16	1.635	4	117	930	9.1	266	137
2200	Typical	18	1.685	4	110	1028	11.6	259	128
2400	Ideal	17	1.727	5	127	969	9.6	275	138
2400	Typical	19	1.780	5	119	1062	12.2	264	128
2600	Ideal	18	1.900	5	134	1056	10.6	279	149
2600	Typical	20	1.946	5	125	1153	13.4	265	136
2800	Ideal	19	2.037	6	144	1098	11.2	287	168
2800	Typical	22	2.083	6	135	1197	14.2	271	156
3000	Ideal	20	2.132	6	145	1133	12.5	289	175
3000	Typical	22	2.179	6	136	1225	15.6	271	162
3200	Ideal	20	2.132	6	145	1160	13.5	293	175
3200	Typical	22	2.179	6	136	1229	16.4	271	162

Table A2. Summary of Nutrients in Ideal (Base) and Typical Food Patterns—continued

Calorie Level	Food Pattern	Thiamin (mg)	Riboflavin (mg)	Niacin (mg)	Vitamin B-6 (mg)	Vitamin B-12 (mcg)	Choline (mg)	Vitamin K (mg)	Folate (mcg DFE)	Cholesterol (mg)
1000	Ideal	0.9	1.2	9.9	1.1	3.3	155	58	295	94
1000	Typical	0.9	1.4	12.3	1.2	3.5	144	61	339	129
1200	Ideal	1.1	1.4	13.8	1.4	4.0	200	89	387	129
1200	Typical	1.2	1.7	16.8	1.6	4.2	181	93	450	167
1400	Ideal	1.3	1.6	17.1	1.7	4.7	238	92	467	164
1400	Typical	1.5	2.0	20.6	1.9	4.9	214	97	551	205
1600	Ideal	1.5	2.0	19.8	2.0	6.1	304	125	534	206
1600	Typical	1.7	2.5	24.0	2.2	6.4	275	132	621	267
1800	Ideal	1.7	2.2	21.8	2.2	6.3	320	134	614	208
1800	Typical	1.9	2.6	26.6	2.4	6.5	288	142	688	269
2000	Ideal	1.8	2.2	22.9	2.3	6.5	340	140	628	229
2000	Typical	1.9	2.7	27.7	2.5	6.8	304	147	704	287
2200	Ideal	2.0	2.4	25.8	2.6	7.0	372	175	736	248
2200	Typical	2.2	2.9	31.2	2.8	7.2	331	181	814	307
2400	Ideal	2.2	2.6	28.0	2.8	7.4	391	180	803	268
2400	Typical	2.4	3.1	33.9	3.0	7.7	347	185	900	326
2600	Ideal	2.4	2.7	30.1	3.0	7.6	410	211	906	271
2600	Typical	2.6	3.3	36.8	3.3	7.8	363	216	1005	328
2800	Ideal	2.6	2.9	32.6	3.2	8.0	434	216	983	290
2800	Typical	2.9	3.5	39.8	3.6	8.2	384	221	1103	348
3000	Ideal	2.7	2.9	33.3	3.4	8.1	446	233	1015	292
3000	Typical	2.9	3.6	40.6	3.7	8.3	393	238	1120	348
3200	Ideal	2.7	2.9	33.3	3.4	8.1	447	243	1015	298
3200	Typical	2.9	3.6	40.6	3.7	8.3	393	244	1120	348

Table A2. Summary of Nutrients in Ideal (Base) and Typical Food Intake Patterns—continued

Calorie Level	Food Pattern	Saturated fatty acids (g)	Mono-unsaturated fatty acids (g)	Poly-unsaturated fatty acids (g)	18:2 Linoleic (g)	18:3 Linolenic (g)	20:5 n-3 EPA (g)	22:6 n-3 DHA (g)	18:0 Stearic (g)
1000	Ideal	9.7	13.1	10.9	9.8	0.98	0.015	0.031	2.6
1000	Typical	17.2	19.2	14.5	12.8	1.17	0.011	0.021	3.9
1200	Ideal	11.2	15.7	12.8	11.5	1.13	0.022	0.047	3.0
1200	Typical	20.1	24.3	18.3	16.2	1.39	0.016	0.031	4.7
1400	Ideal	12.3	17.3	13.7	12.3	1.19	0.029	0.062	3.3
1400	Typical	22.4	27.7	20.6	18.2	1.51	0.021	0.042	5.3
1600	Ideal	14.0	20.0	16.4	14.7	1.45	0.037	0.078	3.6
1600	Typical	29.7	34.8	25.4	22.5	1.93	0.026	0.052	6.9
1800	Ideal	15.8	22.4	18.2	16.3	1.63	0.037	0.078	4.2
1800	Typical	30.9	37.3	27.8	24.6	2.10	0.027	0.052	7.3
2000	Ideal	18.7	26.1	20.9	18.7	1.85	0.040	0.086	5.0
2000	Typical	32.1	39.6	29.7	26.3	2.27	0.029	0.057	7.6
2200	Ideal	20.1	28.4	22.8	20.4	2.03	0.044	0.093	5.4
2200	Typical	34.2	43.3	33.1	29.3	2.49	0.032	0.063	8.2
2400	Ideal	22.5	31.4	25.0	22.4	2.20	0.048	0.101	6.0
2400	Typical	35.9	46.0	35.6	31.6	2.65	0.035	0.068	8.6
2600	Ideal	24.0	33.8	27.2	24.4	2.42	0.048	0.101	6.5
2600	Typical	37.5	48.9	39.0	34.5	2.89	0.035	0.068	9.0
2800	Ideal	25.7	36.2	29.1	26.2	2.57	0.052	0.109	6.9
2800	Typical	39.2	51.7	41.5	36.9	3.07	0.038	0.073	9.5
3000	Ideal	28.4	40.7	33.5	30.2	3.01	0.052	0.109	7.7
3000	Typical	40.8	55.4	45.9	40.8	3.47	0.038	0.073	9.9
3200	Ideal	32.6	46.1	38.2	34.4	3.42	0.052	0.109	8.9
3200	Typical	41.8	57.8	49.0	43.6	3.77	0.038	0.073	10.2

Table A3. Nutrients in Ideal and Typical Food Patterns Compared to Goals

Calorie Level	Food Pattern	% of goal for:	Energy (% of calorie level)	Protein (% RDA)	Carbo-hydrate (% RDA)	Dietary Fiber (% of 14g /1000 kcal)	Protein (% kcal)	Carbo-hydrate (% kcal)	Total lipid (% kcal)	Calcium (% AI)	Iron (% RDA)	Mag-nesium (% RDA)
1000	Ideal	M/F 1 to 3	99%	335%	99%	97%	18%	52%	33%	150%	110%	211%
1000	Typical	M/F 1 to 3	118%	344%	103%	99%	15%	45%	41%	157%	154%	215%
1200	Ideal	M/F 4 to 8	100%	287%	119%	104%	18%	52%	32%	100%	104%	163%
1200	Typical	M/F 4 to 8	122%	293%	127%	107%	15%	45%	41%	106%	144%	167%
1400	Ideal	M/F 4 to 8	99%	340%	142%	105%	19%	53%	31%	106%	126%	193%
1400	Typical	M/F 4 to 8	123%	346%	156%	109%	15%	47%	40%	112%	177%	197%
1600	Ideal	M/F 9 to 13	100%	243%	157%	110%	21%	51%	31%	91%	182%	129%
1600	Ideal	F 51 to 70	100%	180%	157%	110%	21%	51%	31%	99%	182%	97%
1600	Typical	M/F 9 to 13	130%	247%	174%	114%	16%	44%	42%	96%	257%	131%
1600	Typical	F 51 to 70	130%	183%	174%	114%	16%	44%	42%	104%	257%	99%
1800	Ideal	M/F 9 to 13	100%	256%	180%	112%	19%	52%	31%	94%	206%	140%
1800	Ideal	F 14-18	100%	189%	180%	112%	19%	52%	31%	94%	110%	93%
1800	Ideal	F 31-50	100%	189%	180%	112%	19%	52%	31%	122%	91%	105%
1800	Typical	M/F 9 to 13	126%	260%	195%	114%	16%	45%	41%	99%	279%	142%
1800	Typical	F 14-18	126%	192%	195%	114%	16%	45%	41%	99%	149%	95%
1800	Typical	F 31-50	126%	192%	195%	114%	16%	45%	41%	128%	124%	107%
2000	Ideal	M 51-70	100%	163%	200%	106%	18%	52%	32%	103%	211%	83%
2000	Ideal	F19-30	100%	198%	200%	106%	18%	52%	32%	124%	94%	113%
2000	Typical	M 51-70	120%	165%	208%	107%	15%	45%	41%	108%	286%	85%
2000	Typical	F19-30	120%	200%	208%	107%	15%	45%	41%	130%	127%	115%
2200	Ideal	M 14-18	100%	192%	221%	112%	18%	52%	32%	99%	177%	96%
2200	Ideal	M 31-50	100%	178%	221%	112%	18%	52%	32%	129%	244%	94%
2200	Typical	M 14-18	120%	193%	232%	112%	15%	46%	41%	104%	240%	97%
2200	Typical	M 31-50	120%	179%	232%	112%	15%	46%	41%	136%	330%	95%
2400	Ideal	M 19-30	99%	189%	240%	109%	18%	52%	32%	132%	266%	104%
2400	Typical	M 19-30	117%	190%	247%	109%	15%	46%	41%	140%	365%	106%
2600	Ideal	M 19-30	99%	198%	264%	113%	17%	53%	32%	137%	297%	114%
2600	Typical	M 19-30	116%	199%	270%	112%	15%	47%	40%	145%	405%	115%
2800	Ideal	M 14-18	100%	226%	289%	113%	17%	54%	32%	109%	234%	120%
2800	Typical	M 14-18	116%	227%	298%	112%	15%	48%	40%	116%	322%	121%
3000	Ideal	M 19-30	99%	214%	304%	112%	16%	53%	33%	143%	331%	127%
3000	Typical	M 19-30	113%	214%	306%	110%	14%	47%	41%	152%	451%	128%
3200	Ideal	M 14-18	99%	230%	317%	106%	15%	52%	36%	110%	241%	124%
3200	Typical	M 14-18	108%	230%	306%	103%	14%	46%	42%	117%	328%	124%

Table A3. Nutrients in Ideal and Typical Food Intake Patterns Compared to Goals—continued

Calorie Level	Food Pattern	% of goal for:	Phos-phorus (% RDA)	Potas-sium (% AI)	Sodium (% UL)	Zinc (% RDA)	Copper (% RDA)	Man-ganese (% RDA)	Selenium (% RDA)	Vitamin A (% RDA)	Vitamin E (% RDA)	Vitamin D (% RDA)	Vitamin C (% RDA)
1000	Ideal	M/F 1 to 3	193%	56%	59%	231%	191%	148%	247%	149%	67%	77%	388%
1000	Typical	M/F 1 to 3	203%	55%	113%	257%	199%	151%	236%	167%	83%	78%	370%
1200	Ideal	M/F 4 to 8	210%	54%	57%	176%	194%	156%	214%	132%	70%	83%	279%
1200	Typical	M/F 4 to 8	224%	53%	115%	197%	202%	161%	203%	147%	89%	82%	259%
1400	Ideal	M/F 4 to 8	239%	62%	67%	210%	231%	192%	262%	142%	77%	89%	356%
1400	Typical	M/F 4 to 8	257%	62%	132%	235%	240%	197%	247%	160%	100%	87%	338%
1600	Ideal	M/F 9 to 13	125%	66%	69%	166%	173%	210%	237%	126%	61%	125%	222%
1600	Ideal	F 51 to 70	223%	63%	66%	166%	135%	187%	172%	108%	45%	62%	133%
1600	Typical	M/F 9 to 13	134%	65%	141%	187%	180%	217%	224%	143%	79%	124%	208%
1600	Typical	F 51 to 70	239%	62%	135%	187%	140%	193%	163%	123%	58%	62%	125%
1800	Ideal	M/F 9 to 13	131%	73%	76%	173%	197%	193%	253%	137%	69%	126%	240%
1800	Ideal	F 14-18	131%	70%	72%	154%	155%	229%	184%	117%	50%	126%	166%
1800	Ideal	F 31-50	235%	70%	72%	173%	153%	203%	184%	117%	50%	126%	144%
1800	Typical	M/F 9 to 13	140%	71%	158%	195%	203%	196%	240%	154%	89%	125%	221%
1800	Typical	F 14-18	140%	68%	151%	173%	160%	233%	175%	132%	65%	125%	153%
1800	Typical	F 31-50	249%	68%	151%	195%	158%	207%	175%	132%	65%	125%	132%
2000	Ideal	M 51-70	241%	74%	75%	130%	161%	164%	192%	95%	55%	64%	140%
2000	Ideal	F19-30	241%	74%	75%	179%	161%	210%	192%	122%	55%	129%	168%
2000	Typical	M 51-70	258%	72%	154%	147%	166%	167%	182%	105%	70%	64%	132%
2000	Typical	F19-30	258%	72%	154%	203%	166%	213%	182%	135%	70%	127%	158%
2200	Ideal	M 14-18	147%	82%	82%	144%	184%	199%	212%	103%	61%	133%	183%
2200	Ideal	M 31-50	262%	82%	82%	144%	182%	190%	212%	103%	61%	133%	153%
2200	Typical	M 14-18	156%	80%	173%	163%	189%	201%	201%	114%	77%	130%	170%
2200	Typical	M 31-50	279%	80%	173%	163%	187%	193%	201%	114%	77%	130%	142%
2400	Ideal	M 19-30	276%	84%	88%	155%	192%	208%	231%	108%	64%	137%	153%
2400	Typical	M 19-30	295%	82%	183%	175%	198%	211%	217%	118%	82%	132%	142%
2600	Ideal	M 19-30	292%	91%	94%	165%	211%	234%	243%	117%	71%	140%	166%
2600	Typical	M 19-30	310%	88%	199%	186%	216%	236%	228%	128%	90%	133%	152%
2800	Ideal	M 14-18	173%	97%	100%	177%	229%	268%	262%	122%	75%	144%	224%
2800	Typical	M 14-18	184%	94%	210%	198%	234%	270%	245%	133%	95%	135%	208%
3000	Ideal	M 19-30	315%	102%	101%	180%	237%	263%	264%	126%	84%	145%	195%
3000	Typical	M 19-30	334%	99%	218%	202%	242%	264%	247%	136%	104%	135%	180%
3200	Ideal	M 14-18	176%	102%	102%	180%	240%	275%	264%	129%	90%	146%	234%
3200	Typical	M 14-18	187%	99%	218%	202%	245%	276%	247%	137%	110%	136%	216%

Table A3. Nutrients in Ideal and Typical Food Patterns Compared to Goals—continued

Calorie Level	Food Pattern	% of goal for:	Thiamin (% RDA)	Riboflavin (% RDA)	Niacin (% RDA)	Vitamin B-6 (% RDA)	Vitamin B-12 (% RDA)	Choline (% AI)	Vitamin K (% AI)	Folate (% RDA)	Cholesterol (% of 300 mg)
1000	Ideal	M/F 1 to 3	172%	239%	165%	213%	371%	78%	193%	197%	31%
1000	Typical	M/F 1 to 3	188%	287%	205%	236%	389%	72%	203%	226%	43%
1200	Ideal	M/F 4 to 8	186%	234%	172%	233%	335%	80%	162%	193%	43%
1200	Typical	M/F 4 to 8	204%	285%	210%	259%	349%	72%	169%	225%	56%
1400	Ideal	M/F 4 to 8	224%	269%	214%	280%	390%	95%	167%	234%	55%
1400	Typical	M/F 4 to 8	247%	328%	258%	308%	404%	85%	176%	276%	68%
1600	Ideal	M/F 9 to 13	171%	226%	165%	202%	341%	81%	209%	178%	69%
1600	Ideal	F 51 to 70	140%	185%	141%	134%	256%	72%	139%	134%	69%
1600	Typical	M/F 9 to 13	188%	277%	200%	222%	355%	73%	220%	207%	89%
1600	Typical	F 51 to 70	154%	226%	172%	148%	266%	65%	147%	155%	89%
1800	Ideal	M/F 9 to 13	193%	241%	181%	220%	347%	85%	223%	205%	69%
1800	Ideal	F 14-18	174%	217%	155%	183%	261%	80%	178%	154%	69%
1800	Ideal	F 31-50	158%	197%	155%	169%	261%	75%	149%	154%	69%
1800	Typical	M/F 9 to 13	209%	291%	221%	241%	363%	77%	236%	229%	90%
1800	Typical	F 14-18	188%	262%	190%	201%	272%	72%	189%	172%	90%
1800	Typical	F 31-50	171%	238%	190%	185%	272%	68%	158%	172%	90%
2000	Ideal	M 51-70	150%	172%	143%	137%	272%	62%	117%	157%	76%
2000	Ideal	F19-30	164%	203%	163%	180%	272%	80%	156%	157%	76%
2000	Typical	M 51-70	162%	207%	173%	149%	284%	55%	122%	176%	96%
2000	Typical	F19-30	177%	245%	198%	194%	284%	72%	163%	176%	96%
2200	Ideal	M 14-18	170%	186%	161%	201%	290%	68%	234%	184%	83%
2200	Ideal	M 31-50	170%	186%	161%	201%	290%	68%	146%	184%	83%
2200	Typical	M 14-18	183%	225%	195%	219%	301%	60%	241%	204%	102%
2200	Typical	M 31-50	183%	225%	195%	219%	301%	60%	151%	204%	102%
2400	Ideal	M 19-30	184%	197%	175%	213%	308%	71%	150%	201%	89%
2400	Typical	M 19-30	200%	240%	212%	234%	319%	63%	154%	225%	109%
2600	Ideal	M 19-30	202%	208%	188%	231%	317%	74%	176%	226%	90%
2600	Typical	M 19-30	218%	255%	230%	255%	326%	66%	180%	251%	109%
2800	Ideal	M 14-18	219%	221%	204%	249%	335%	79%	288%	246%	97%
2800	Typical	M 14-18	238%	272%	249%	275%	343%	70%	295%	276%	116%
3000	Ideal	M 19-30	225%	224%	208%	259%	337%	81%	194%	254%	97%
3000	Typical	M 19-30	242%	274%	254%	286%	345%	71%	198%	280%	116%
3200	Ideal	M 14-18	225%	224%	208%	261%	340%	81%	324%	254%	99%
3200	Typical	M 14-18	242%	274%	254%	287%	348%	71%	326%	280%	116%

Table A3. Nutrients in Ideal and Typical Food Patterns Compared to Goals—continued

Calorie Level	Food Pattern	% of goal for:	Saturated fatty acids (% of kcal)	Mono-unsaturated fatty acids (% of kcal)	Poly-unsaturated fatty acids (% of kcal)	18:2 Linoleic (% AI)	18:3 Linolenic (% AI)
1000	Ideal	M/F 1 to 3	9%	12%	10%	140%	140%
1000	Typical	M/F 1 to 3	13%	15%	11%	183%	167%
1200	Ideal	M/F 4 to 8	8%	12%	10%	115%	126%
1200	Typical	M/F 4 to 8	12%	15%	11%	162%	154%
1400	Ideal	M/F 4 to 8	8%	11%	9%	123%	132%
1400	Typical	M/F 4 to 8	12%	14%	11%	182%	168%
1600	Ideal	M/F 9 to 13	8%	11%	9%	147%	145%
1600	Ideal	F 51 to 70	8%	11%	9%	133%	132%
1600	Typical	M/F 9 to 13	13%	15%	11%	225%	193%
1600	Typical	F 51 to 70	13%	15%	11%	205%	176%
1800	Ideal	M/F 9 to 13	8%	11%	9%	136%	135%
1800	Ideal	F 14-18	8%	11%	9%	149%	148%
1800	Ideal	F 31-50	8%	11%	9%	136%	148%
1800	Typical	M/F 9 to 13	12%	15%	11%	205%	175%
1800	Typical	F 14-18	12%	15%	11%	223%	191%
1800	Typical	F 31-50	12%	15%	11%	205%	191%
2000	Ideal	M 51-70	8%	12%	9%	134%	116%
2000	Ideal	F19-30	8%	12%	9%	156%	168%
2000	Typical	M 51-70	12%	15%	11%	188%	142%
2000	Typical	F19-30	12%	15%	11%	219%	206%
2200	Ideal	M 14-18	8%	12%	9%	128%	127%
2200	Ideal	M 31-50	8%	12%	9%	120%	127%
2200	Typical	M 14-18	12%	15%	11%	183%	155%
2200	Typical	M 31-50	12%	15%	11%	172%	155%
2400	Ideal	M 19-30	8%	12%	9%	132%	137%
2400	Typical	M 19-30	12%	15%	11%	186%	166%
2600	Ideal	M 19-30	8%	12%	9%	144%	151%
2600	Typical	M 19-30	11%	15%	12%	203%	181%
2800	Ideal	M 14-18	8%	12%	9%	164%	161%
2800	Typical	M 14-18	11%	14%	12%	231%	192%
3000	Ideal	M 19-30	9%	12%	10%	177%	188%
3000	Typical	M 19-30	11%	15%	12%	240%	217%
3200	Ideal	M 14-18	9%	13%	11%	188%	188%
3200	Typical	M 14-18	11%	15%	13%	255%	217%