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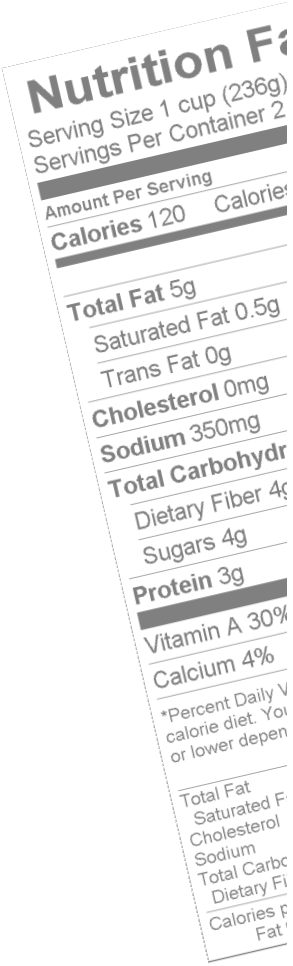

DUE DILIGENCE WITH DATABASE NUTRITION ANALYSIS

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DUE DILIGENCE WITH DATABASE NUTRITION ANALYSIS

Due diligence is the thorough performance of obligatory nutrition analysis tasks. The performance utilizes deep knowledge of food composition and professional wisdom that leads to accurate and customer-friendly nutrition information for ready-to-eat products on a per serving basis.

Getting Started:

Final Step:

Additional Information:

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Getting Started:
Gather your Data Sources

Establish the list of ingredients used in the menu items you will be analyzing.

Determine the nutrients you will be tracking.

Have at hand a research-quality database.

Evaluate all supplier specification sheets for usability or need for further information. Ideally, for each supplier spec sheet, you want information that includes:

- Unrounded nutrient data
- Complete data for all nutrients you are tracking
- Data for moisture and ash
- Proximates (protein, carbohydrate, fat, moisture, ash) that add up to 100% of the reported weight (typically 100 grams)
- Calories that make sense in context of 4-4-9 formula, Atwater factors, or another FDA-allowed method for calorie calculation
- Fat components (saturated, monounsaturated, polyunsaturated, trans) that make sense in context of total fat
- Carbohydrate components (dietary fiber, sugars, sugar alcohol, other carbohydrates) that make sense in context of total carbohydrate
- The source of the data
- Data that passes your own "common sense" test for the item being described

Set up your “Raw Materials” Database

Referring to the list of ingredients, determine which will need to be entered into the database as new food items and which will be matched with existing food items in the database. For example, a special sauce unique to your restaurant will be a new food item, while a tomato slice will be matched with existing USDA data.

You may need to interpolate to account for missing values in some instances. Keep in mind:

- You cannot derive a total trans fat value if you don’t have trans fat values for all ingredients.
- You cannot correctly account for moisture adjustment when you don’t have moisture data for all ingredients in your recipe formulation.
- Proximates will not total 100% when you don’t have complete data for moisture and ash.

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Enter the Recipe Ingredients and Amounts

If your data sources are good (as described earlier), you will end up with accurate nutrient values for your recipes and menu builds (before processing). However, while entering recipe ingredients and amounts you need to consider:

- Do you have sub-recipes that need to be entered before you can produce the data for menu items as served? For example, if your restaurant makes its own sauce and crust, the sub-recipes for each need to be entered in order to produce the data for a pizza slice as served.

- Are there items that are marinated, dipped, battered or breaded? The part left behind in the bowls should not be included in the final calculated nutrition data.

Make Adjustments for Processing

For example:

- You will need to enter a moisture adjustment if you are simmering a sauce, soup or other item where you have water evaporation.

- You will have a moisture adjustment if you are baking a cake, cookies, muffins or another item where you have water evaporation.

- If you are deep-fat or pan-frying an item, the specific frying oil needs to be treated as a separate ingredient and entered in your list of recipe ingredients according to the amount absorbed. However, the fried item will lose moisture as it absorbs fat. This moisture loss needs to be entered at this step.

- Some vitamins are not retained during cooking and storage. The vitamin losses should be accounted for during this step.

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Set the Serving Size

Restaurant item recipes usually represent one portion as served. Since the goal at the outset was to produce the nutrient values per portion (item ordered by the customer), no further adjustment is needed.

Some items (example, a cake or pie) will be portioned into multiple servings. The serving size will be entered at this step.

For items sold in the retail marketplace, use FDA Reference Amounts Customarily Consumed (RACC) from 21CFR101.12.

Perform the Due Diligence Checks

- Does your spreadsheet report contain a value in every cell?
- Does the total for proximates equal 100%?
- Do the calories make sense in context of 4-4-9 formula, Atwater factors, or another FDA-allowed method for calorie calculation?
- Do fat components (saturated, monounsaturated, polyunsaturated, trans) make sense in context of total fat?
- Do carbohydrate components (dietary fiber, sugars, sugar alcohol, other carbohydrates) make sense in context of total carbohydrate?

All your answers should be ***yes***.

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Apply the Rounding Rules

The nutrition values you publish for the general public should be customer-friendly. This means you should report rounded nutrient values *per portion served*. FDA has established specific rounding rules for each nutrient.

Nutrient	Rounding Increments	May Round to Zero…
Calories	nearest 5 calories up to 50 calories; nearest 10 calories if more than 50	if less than 5 calories
Calories From Fat	nearest 5 calories up to 50 calories; nearest 10 calories if more than 50	if less than 5 calories
Total Fat	nearest 0.5 gram up to 5 grams; nearest 1 gram if more than 5 grams	if less than 0.5 gram
Saturated Fat	nearest 0.5 gram up to 5 grams; nearest 1 gram if more than 5 grams	if less than 0.5 gram
Trans Fat	nearest 0.5 gram up to 5 grams; nearest 1 gram if more than 5 grams	if less than 0.5 gram
Cholesterol	nearest 5 milligram increment; if between 2 and 5 milligrams, may report as "less than 5 milligrams"	if less than 2 milligrams
Sodium	nearest 5 milligrams up to 140 milligrams; nearest 10 milligrams if more than 140 milligrams	if less than 5 milligrams
Carbohydrate	nearest 1 gram; if less than 1 gram, may report as "less than 1 gram"	if less than 0.5 gram
Dietary Fiber	nearest 1 gram; if less than 1 gram, may report as "less than 1 gram"	if less than 0.5 gram
Sugars	nearest 1 gram; if less than 1 gram, may report as "less than 1 gram"	if less than 0.5 gram
Protein	nearest 1 gram; if less than 1 gram, report as "less than 1 gram"	if less than 0.5 gram
Vitamins/Minerals	nearest 2% increment up to and including the 10% level; nearest 5% above 10% up to and including the 50% level; nearest 10% above the 50% level	if less than 2% DV

REFERENCE: Fed. Reg. Jan 6, 1993. (58 FR 2066 et seq.)

Final Step:
Evaluate in a Side-by-Side Comparison

Once your final report is prepared, review all your nutrient profiles again to make sure they pass the "common sense" test in a side-by-side comparison. For example, it makes sense that you would expect to see higher calories, fat, etc. for a chili cheeseburger than a plain hamburger assuming the burger and bun sizes are the same.

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Nutrient Content Claims – FDA Definitions

Nutrient Claim	Definition
Low Calorie	40 calories or less per serving Main dish/meal product: 120 calories or less per 100 grams
Salt Free or Sodium Free	Less than 5 milligrams sodium per serving, and does not contain sodium chloride (table salt)
Very Low Sodium	35 milligrams or less sodium per serving Main dish/meal product: 35 milligrams or less sodium per 100 grams
Low Sodium	140 milligrams or less sodium per serving Main dish/meal product: 140 milligrams or less sodium per 100 grams
Fat Free	Less than 0.5 gram fat per serving, and does not contain added ingredients that are fats
Low Fat	3 grams or less fat per serving Main dish/meal product: 3 grams or less fat per 100 grams, and not more than 30% of calories from fat
Cholesterol Free	Less than 2 milligrams cholesterol and 2 grams or less saturated fat per serving Main dish product: 19.5 grams or less total fat, less than 2 milligrams cholesterol, and less than 2 grams saturated fat per serving Meal product: 26 grams or less total fat, less than 2 milligrams cholesterol, and less than 2 grams saturated fat per serving
Low Cholesterol	20 milligrams or less cholesterol, and 2 grams or less saturated fat per serving Main dish product: 20 milligrams or less cholesterol and 2 grams or less saturated fat per 100 grams, and 19.5 grams or less total fat per serving Meal product: 20 milligrams or less cholesterol and 2 grams or less saturated fat per 100 grams, and 26 grams or less total fat per serving
Saturated Fat Free	Less than 0.5 gram saturated fat per serving, and the level of trans fatty acids does not exceed 1% of total fat
Low Saturated Fat	1 gram or less saturated fat per serving, and not more than 15% of calories from saturated fat Main dish/meal product: 1 gram or less saturated fat per 100 grams, and less than 10% of calories from saturated fat

(continued on next page)

Lean	Meat, poultry, seafood and game meat with less than 10 grams fat, 4 grams saturated fat, and 95 milligrams cholesterol per serving and per 100 grams
Extra Lean	Meat, poultry, seafood and game meat with less than 5 grams fat, 2 grams saturated fat, and 95 milligrams cholesterol per serving and per 100 grams
Good Source **Contains** **Provides**	10-19% Daily Value per serving. Example: A good source of iron contains between 1.8 and 3.4 milligrams iron per serving.
Excellent Source **High in…** **Rich in…**	20% or more Daily Value per serving. Example: An excellent source of fiber contains 5 grams or more fiber per serving.
Light or Lite	1/3 fewer calories or 50% less fat than the higher-calorie, higher-fat version
Reduced in…	A nutritionally-altered food that contains at least 25% less of a nutrient than a reference food
Healthy	A food that is low in fat and saturated fat, contains 480 milligrams or less sodium per serving, and provides at least 10% Daily Value for one of these nutrients: Vitamin A, Vitamin C, calcium, iron, protein and fiber

*A serving is a reference amount of more than 30 grams or more than 2 tablespoons. Different criteria may apply for smaller reference amounts.

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Main dish products weigh at least 6 ounces per serving, contain not less than 40 grams each of at least two different foods from at least two specified food groups, and are represented as a main dish.

Meal products weigh at least 10 ounces per serving, contain not less than 40 grams each of at least three different foods from at least two specified food groups, and are represented as a meal.

REFERENCE: Fed. Reg. Jan 6, 1993. (58 FR 2066 et seq.)

ABOUT KAREN DUESTER

Karen C. Duester, MS, RD, President and Founder of Food Consulting Company, has performed thousands of analyses for both restaurant items and packaged foods.

FOOD CONSULTING COMPANY FACTS

- Founded in 1993
- Largest outsource provider of food label development and FDA regulatory support
- Over 1,000 clients ranging in size from early stage start-ups to *Fortune 500* food companies
- More company information at www.foodlabels.com

RESTAURANT NUTRITION/ALLERGEN GUIDES

Food Consulting Company creates and maintain a custom database for each restaurant client. This will include your purchased ingredients and sub-component recipes. We analyze all of your menu items and prepare a spreadsheet of your nutrient profiles with rounded values in a *ready-to-publish* format. We can also provide you with Ingredient/ Allergen Statements, Diet Exchanges, Child Nutrition Labeling and website coordination. Count on us to keep you abreast of government and consumer group actions that affect nutrition labeling in restaurants.

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