Chapter 7

Adding a Recipe to the Local Database

CHAPTER OBJECTIVES

After reading this chapter, you will understand how to:

- **Select the correct food items and correct measures of foods for recipes.**
- **Determine the difference between cooks' recipes and recipes for nutrient analysis.**
- **Describe the yield factor method using the Food Buying Guide when analyzing the nutrient content of a recipe.**
- **Adjust moisture and fat loss or gain in selected commercially prepared products.**

How the Nutrient Analyses of USDA Quantity Recipes Were Calculated

As discussed earlier, only the *nutrient profiles* (the nutrient analysis totals of the USDA Quantity Recipes) are included in the CN Database – not each specific ingredient. It is important for the menu planner to understand the protocols by which these recipes were analyzed.

- **Based on first ingredient only:** When USDA recipes show alternate ingredient choices, the nutrient analysis is based on the first ingredient listed, not the alternate ingredient. Example:

  Recipe D-13 Beef or Pork Taco

  Raw ground beef or raw ground pork is listed as an ingredient. The nutrient analysis in the CN Database is based on the first ingredient listed, raw ground beef. Therefore, if the SFA/school uses raw ground pork, or a combination of ground beef and ground turkey to prepare this recipe, a new recipe must be entered into the local recipe software database and the nutrient analysis recalculated.

- **Optional ingredients are not included:** The CN Database nutrient profile does not include any ingredients listed as optional in the recipe. For example:

  Recipe D-20 Chili Con Carne with Beans

  Cheddar cheese is an optional ingredient in this recipe and was not included in the nutrient analysis. If cheddar cheese is included as an ingredient in the recipe, the recipe including cheddar cheese must be entered into the local recipe software database and the nutrient analysis recalculated.

- Variations of USDA recipes: Some, but not all, recipe variations are included in the CN Database. Example:

Recipe B-4 Baking Powder Biscuits

Lists four variations:

1. B-4a Baking Powder Biscuit using Master Mix
2. B-4b Cheese Biscuits
3. B-4c Drop Biscuits
4. B-4d Wheat Biscuits

Each of these recipe variations is included in the database, but many other variations are not. For example, if the school district/school is using a variation of a recipe that is not in the database, a new recipe with the recipe variation must be entered into the local software database and the nutrient analysis recalculated.

KEY

Because many schools use alternate or optional ingredients or variations of USDA recipes, some software companies have entered the USDA recipes, including ingredients, into the local database. This data entry may help schools easily modify the recipe, rather than having to enter the entire recipe with the alternate ingredient or variation into the local database. However, USDA has not reviewed this data. SFAs/State agencies must review these recipes prior to modifying them to ensure they have been entered according to the nutrient analysis protocols, including yield factors.

USDA Quantity Recipes That Have Been Modified

Local recipes and USDA Quantity Recipes with optional or alternate ingredients (or with other changes) will need to be entered into the local database recipe file. Follow the software directions. However, regardless of which software program is used, all of these factors need to be considered before adding a new recipe.

Selecting the Correct Food Items/Ingredients for Recipes

To ensure the correct calorie and nutritive value of the recipe, it is important to select the correct food item/ingredient from the software database. The nutrient content of raw foods is different from the nutrient content of cooked foods.

KEY
Individuals performing nutrient analyses must have knowledge of the foods that are purchased and how they will be prepared and served in order to select the correct database item. The C N Database contains multiple entries (and nutrient content) of the same food item, based on the varieties, types, and forms of the food item and different preparation methods.

Recipes that require cooking are a challenge for nutrient analysis because the recipes contain raw ingredients, and yet we eat cooked products. Cooking changes the nutrient content, the moisture content, and, very frequently, the fat content.

Cooks' or Production Recipes Versus Recipes for Nutrient Analysis

Important: Recipes for nutrient analysis and cooks' or production recipes are usually **different things.**

- The amount of calories and nutrients in a food will vary depending on the **edible portion** of the food and whether the food is raw or cooked.
- The ingredients in your standardized recipes or cook's recipes usually indicate foods in their raw form, as purchased, including peel, bone, skin, etc.
- For nutrient analysis purposes, recipes must include only the edible portion of a food.
- Thus, the ingredient information in recipes must be adjusted or converted to reflect what is actually consumed.

Using the Yield Factor Method

After selecting the correct ingredient for the recipe, the menu planner will need to use the yield factor method to convert the raw, frozen, condensed, or dehydrated food item to the form the item will be when consumed. There are numerous food items or ingredients that need to be converted to an edible version such as raw meats, raw and frozen vegetables, and dried pasta that will be cooked before consumption.

KEY
The Yield Factor Method requires that each raw recipe ingredient be converted and entered in the recipe database as ready-to-serve or cooked. If the database does not have the raw-to-cooked yield for a specific ingredient, use yield data from USDA's *Food Buying Guide* to convert from the raw to the cooked form.

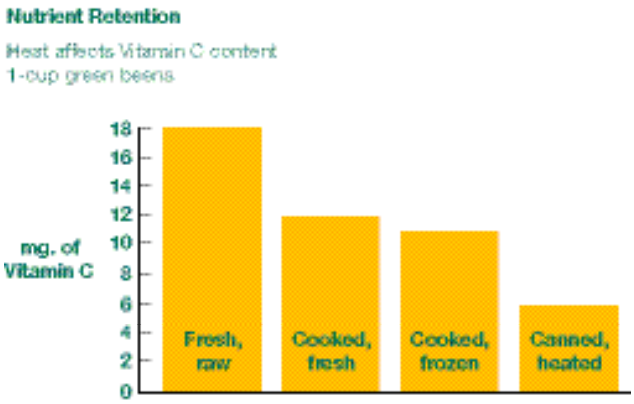
Heat affects the nutrient content of many foods. The nutrient profiles of database foods described as cooked have been adjusted for the nutrient changes that occur with cooking. For example, the nutritive value of frozen green beans cooked with salt will be different from the nutritive value of canned green beans, which have been heated.

The Database features a list of nutritive values of foods prepared by various cooking methods. Cooked foods may be listed, for example, as:

- Boiled
- Broiled
- Baked
- Fried

Vegetables

Vegetables that are indicated in the recipe in the as *raw or frozen* form will need to be converted to the *cooked* form because of change in nutrient and in the moisture content upon heating.



Example: Recipe Using Frozen Whole Green Beans

A recipe calls for 10 pounds of frozen whole green beans to be used to make Green Bean Casserole. To enter the recipe, you would select the cooked green beans (without salt) from the database. We selected *Beans, Green, Whole, Boiled, No Salt* (CN Database #11061).

- To convert the green beans, as purchased, to an edible amount of cooked green beans for the nutrient analysis, refer to the *Food Buying Guide*, page 2-16.

Section 2—Vegetables/Fruits

1 Food As Purchased, AP	2 Purchase Unit	3 Servings per Purchase Unit, EP	4 Serving Size per Meal Contribution	5 Purchase Units for 100 Servings	6 Additional Information
BEANS, GREEN (continued)					
Beans, Green, canned *Whole* *Includes USDA Commodity*	No. 10 can (101 oz)	39.5	1/4 cup heated, drained vegetable	2.6	1 No. 10 can = about 58.0 oz (13 cups) drained, unheated beans
	No. 10 can (101 oz)	52.2	1/4 cup drained vegetable	2.0	
	No. 2-1/2 can (28 oz)	14.4	1/4 cup heated, drained vegetable	7.0	1 No. 2-1/2 can = about 16.0 oz (3-5/8 cups) drained, unheated beans
	No. 300 can (14-1/2 oz)	4.58	1/4 cup heated, drained vegetable	21.9	1 No. 300 can = about 7.3 oz (1-1/8 cups) heated, drained beans
	No. 300 can (14-1/2 oz)	6.95	1/4 cup drained vegetable	14.4	1 No. 300 can = about 7.6 oz (1-5/8 cups) drained, unheated beans
	Pound	8.20	1/4 cup drained vegetable	12.2	
Beans, Green, frozen *Cut* *Includes USDA Commodity*	Pound	11.6	1/4 cup cooked, drained vegetable	8.7	
Beans, Green, frozen *French style* *Includes USDA Commodity*	Pound	12.0	1/4 cup cooked, drained vegetable	8.4	
Beans, Green, frozen *Whole* *Includes USDA Commodity*	Pound	10.7	1/4 cup cooked, drained vegetable	9.4	1 lb AP = 0.88 lb (about 2-5/8 cups) cooked vegetable
BEANS, GREEN, FLAT ITALIAN					
Beans, Green, Flat Italian, canned *Whole*	No. 10 can (103 oz)	35.1	1/4 cup heated, drained vegetable	2.9	1 No. 10 can = about 56.6 oz (8-3/4 cups) heated, drained beans
	No. 10 can (103 oz)	42.7	1/4 cup drained vegetable	2.4	1 No. 10 can = about 63.3 oz (10-5/8 cups) drained, unheated beans

NOTE

Because the yield and nutritive value changes are small, menu planners may use the data for "unheated" canned food items for nutrient analysis.

- The *Food Buying Guide* indicates that each pound of frozen green beans yields 0.88 pounds of cooked, drained green beans. 10 pounds X 0.88 = 8.8 pounds of cooked green beans

- The menu planner would select from the CN database, ingredient number 11061, *Beans, Green, Whole, Boiled, No Salt* and enter a weight of 8.8 pounds of cooked green beans into the Green Bean Casserole recipe.

Fresh Vegetables in Cooked Recipes

There are several fresh vegetables that are frequently added to school recipes made "from scratch." To expedite the conversion of these vegetables from raw to cooked, conversion from yield data in the *Food Buying Guide* of 1 pound raw to cooked is provided in Appendix G.

Meats

There are a number of factors that must be considered in entering recipes that contain raw meat for nutrient analysis. Remember, the recipe must be analyzed to reflect the nutrients in the recipe that the children will actually consume (yield factor method).

When there is "Raw-to-cooked yield" in the database:

Several of the meat items in the software database have a conversion factor built in for raw-to-cooked data. For those items, the computer will calculate the nutritive value of the cooked yield when the amount of raw meat in the recipe is entered.

When raw-to-cooked data is available, you would …

1. select the "cooked" meat item from the database,
2. select "yield after cooking," "raw to cooked," "raw," "raw yields," or other language used by your software program that indicates you may enter a raw weight,
3. enter the weight of the raw meat as indicated in the recipe, and
4. the analysis will be calculated by the software using the nutritive values and cooked weight conversion from raw weight.

When there is no "raw to cooked yield" in the database:

What if the software does not indicate that you can enter the raw weight of the meat? In that case, you must convert the raw weight in the recipe to the cooked or edible weight, using the Yield Factor Method.

To convert raw weight to edible or cooked weight, you would…

1. select the "cooked" meat item from the database,

2. convert the raw weight to the edible or cooked weight by multiplying the raw weight of the meat called for in the recipe by the percent yield in the *Food Buying Guide* (Column 6)

3. enter the cooked weight into the computer

KEY

The Yield Factor Method involves using the food code for the cooked ingredient from the database and adjusting the amount of ingredient in the recipe by using yield data from USDA's *Food Buying Guide*. The "cooked codes" and cooked yields will reflect the losses or gains in moisture and fat, as well as the effect of cooking on other nutrients.

Example of converting raw to cooked yield for Beef Stew:

Recipe for Beef Stew

An SFA/school is entering a local recipe for beef stew which calls for 21 lbs. of raw stew meat (the recipe calls for browning the meat and draining the fat) and there is no raw-to-cooked yield for beef stew in their database. Foodservice staff would check the USDA *Food Buying Guide* for the cooked yield of stew meat (61 percent), calculate the cooked weight, and enter that figure along with the ingredient code for cooked stew meat. The CN Database item would be #13004, *Beef, Composite of Trimmed Retail Cuts,Cooked*. This example is demonstrated below:

To correctly enter this recipe for nutrient analysis, the user would enter the correct identification code for cooked beef stew meat (13004) or find cooked beef stew meat through the search feature. Then enter 12.81 pounds.

Converting Raw Weight of Beef Stew Meat to Cooked Weight Example Your recipe calls for 21 lbs. of raw beef stew meat. You need to know the weight of the stew meat after cooking. Information excerpted from the USDA *Food Buying Guide*.	
Food as Purchased	Beef, Stew Meat (composite of trimmed retail cuts)
Purchase Unit	Pound
Additional yield information	1 lb. "As Purchased" = .61 lbs. cooked lean meat
Answer: 21 lbs. x .61 = 12.81 lbs. of cooked beef stew meat	

"As Purchased" vs. "Edible Portion" of Chicken (without bones and or skin)

The nutritive value of a three-ounce portion of cooked chicken with the skin and bones will be different from the nutritive value of a three-ounce portion of cooked boneless chicken.

If a recipe calls for 25 lbs of raw chicken thighs to be baked and served with the skin, you must convert the 25 lbs. of **as purchased** raw chicken thighs to the equivalent weight of the baked meat and skin only.

To enter the correct chicken ingredient into the recipe, select CN Database # 5094, *Chicken, Thigh, Roasted, with Skin*, and enter: 13 pounds.

The *Food Buying Guide* also contains **as purchased** to **edible portion** yield data for cooked chicken without skin.

Example of Converting Raw Chicken to Cooked Chicken with Skin

Your recipe calls for 25 lbs. of raw chicken thighs. You need to know the weight of the edible portion of the cooked chicken meat with skin (without the bones).

Food as Purchased	Chicken thigh, 4 oz.
Purchase Unit	Pound
Additional yield information	1 lb. "As Purchased" = .52 lbs. cooked chicken with skin

Answer: 25 lbs. x .52 = 13 lbs. of cooked chicken with skin

Exception to Use of Yield Factor Method for Some Cooked Meats

There is an exception to the rule of choosing a cooked meat item from the database and calculating the cooked meat yield. When you are entering a recipe where the fat will remain in the final product, you must select the raw meat database item and enter the weight of the raw meat into the recipe for analysis.

For example, if you are analyzing a recipe for Red Beans with Sausage, and the recipe instructions specify to slice the uncooked sausage and add it to the beans during cooking, you need to select the raw sausage data and the weight of the raw product. This is because the fat which would normally have cooked out and been drained off will remain in the final product. (This is a good example of a recipe that should be modified—using either the cooking method and/or ingredients, to reduce fat and saturated fat.)

Other examples of situations where you would choose the raw meat database item and enter the weight of the raw meat into the recipe for analysis include recipes for soups or stews where raw meat is added to the soup or stew and the fat contained in the raw meat ends up in the final product. However, if the soup or stew is chilled after preparation and the fat is skimmed off the top, it is appropriate to choose the cooked meat item from the database and enter the cooked weight of the meat.

Dried Pasta

Determining Cooked Volume of Dried Pasta

A recipe for Spaghetti and Marinara Sauce calls for cooking the dried pasta in boiling salted water prior to combining it with the sauce. This presents a difficult situation for nutrient analysis because the pasta does not absorb the total amount of either the boiling water or the salt during cooking. This problem can be resolved by selecting Spaghetti, Cooked, Enriched, with Added Salt from the CN Database, item number 20321. But first, the weight of the dried pasta has to be converted to the appropriate amount of cooked pasta, using the Yield Factor Method. The water and salt used in the recipe are **not included** in the computer data entry for the nutrient analysis.

The user would select the *Spaghetti, Cooked, Enriched, with Added Salt* from the CN Database (#20321) and enter: 21 cups of cooked spaghetti.

Example of Converting Dried Weight of Spaghetti to Cooked Volume

Determining cooked volume of 4 lbs. of dried spaghetti from the USDA *Food Buying Guide*

Food as Purchased	Dried Spaghetti
Purchase Unit	Pound
Servings per purchase unit	10.6
Serving size or portion	1/2 cup

Answer: Yield data from *Food Buying Guide* indicates 1 lb. dried spaghetti = 5.25 cups cooked pasta
4 lbs. x 5.25 cups = 21 cups of cooked spaghetti

The user would select the *Spaghetti, Cooked, Enriched, with Added Salt* from the CN Database (#20321) and enter 21 cups of cooked spaghetti.

Exception: If the **pasta is cooked in and absorbs recipe liquid**, the dry pasta would be the appropriate item to select from the database and the dry weight of the pasta would be entered. For example, a recipe for Lasagna with Ground Beef calls for the lasagna noodles to be cooked in the tomato sauce. In this case, the dried pasta would be the correct database item to select and the dry weight of the pasta called for in the recipe would be entered.

Adjusting Moisture and Fat Loss or Gain in Commercially Prepared Food Products

Many commercially prepared food products, such as frozen French fries, chicken nuggets, and fish portions, will undergo further preparation in the school kitchen.

The most common preparation technique is oven heating (bringing a fully-cooked product to the proper serving temperature). Because oven heating generally has minimal impact on moisture or fat loss, fully cooked, prepared food products that are only oven heated do not need adjustment for fat/moisture loss. However, these same products may have significant moisture loss and fat gain during deep-frying.

TIP

Always check the database first and use the item that reflects the cooking method for the food item.

The CN Database already contains some fried food items that reflect moisture loss and fat gains which occur during deep-frying. For example, if an SFA uses generic frozen French-fried potatoes and deep-fat fries them in commodity vegetable oil, the best selection from the CN Database would be Item 11404, *Potatoes, frozen, french-fried, fried in vegetable oil.* Select the database item rather than entering data on the French fries you are purchasing and adjusting for moisture loss and fat gain, since this item description already reflects moisture loss and fat absorption

However, there are commercially prepared products that **may not be in the database,** as a deep-fried version. If you serve a commercially prepared product which will be deep fried, and it is not in the database, you will need to create a recipe that can be adjusted for moisture losses and fat gains which occur with frying (unless the Nutrition Facts Label or the manufacturer has provided "as served" data using the method of cooking and/or other preparation that will be used in the school kitchen. In this case, the food item can be entered directly into the ingredient database).

KEY

If a recipe for the fried product will need to be developed because there is no nutrient data available for moisture loss or fat gain, the database food/ingredient code for the commercially prepared food product, the database food/ingredient code for the type of fat used in frying, and the percentages of moisture loss and fat gain will have to be entered in the recipe.

The USDA-approved software programs will allow the user to enter the type of fat and percentages of moisture and fat losses directly into the recipe and make the calculations. Assume zero (0) moisture/fat change for food items that are only heated/reheated.

Refer to Appendix H to obtain common moisture losses and fat gains during deep-frying, and incorporate this information into the recipe.

Selecting the Correct Measure of a Food

Volume vs. Weight

The unit of measure entered will depend on how the food is used in the recipe or the menu. When selecting data be sure the correct measure of food is entered, for example, teaspoon, gram, cup, gallon, pound or fluid ounce. If weight measures (oz, lb) are available for a recipe, it is more accurate to enter the weight measure.

The database contains the nutritive values of food items per 100-gram weights. The software will convert any measure (volume, weight) of a food item to a gram weight and calculate its nutritive value for the recipe ingredient or menu item amount—provided that each volume measure has a corresponding weight entered into the database.

In selecting the correct measure of a food, it is critical to know whether the food is measured by weight or by volume. **Unless it is specifically designated as fluid ounces (fl. oz.) in the database, any measure that is listed as *ounces* (oz) is calculated as a *weight* measure**. Weight measures include grams, ounces, and pounds. Volume measures will be listed as teaspoons, tablespoons, fluid ounces, cups, pints, quarts, and gallons.

The chart below demonstrates nutrient analysis errors that can occur when volume measures are confused with weight measures.

Example: Selecting the Correct Measurement

Menu Items:
1/2 cup Raisin Bran
3/4 cup Canned Peaches
1 cup Popcorn

	Weight (Incorrectly Entered)	Volume (Correctly Entered)
Raisin Bran	4 oz. = 356 calories	1/2 cup = 79 calories
Peaches	6 oz. = 92 calories	3/4 cup = 102 calories
Popcorn	8 oz. = 587 calories	1 cup = 23 calories

Note: 4 oz. = 1/4 pound (not 1/2 cup); 6 oz. = 3/8 pound (not 3/4 cup);
8 oz. = 1/2 pound (not 1 cup)
1/2 cup = 4 fluid ounces; 3/4 cup = 6 fluid ounces; and 1 cup = 8 fluid ounces.

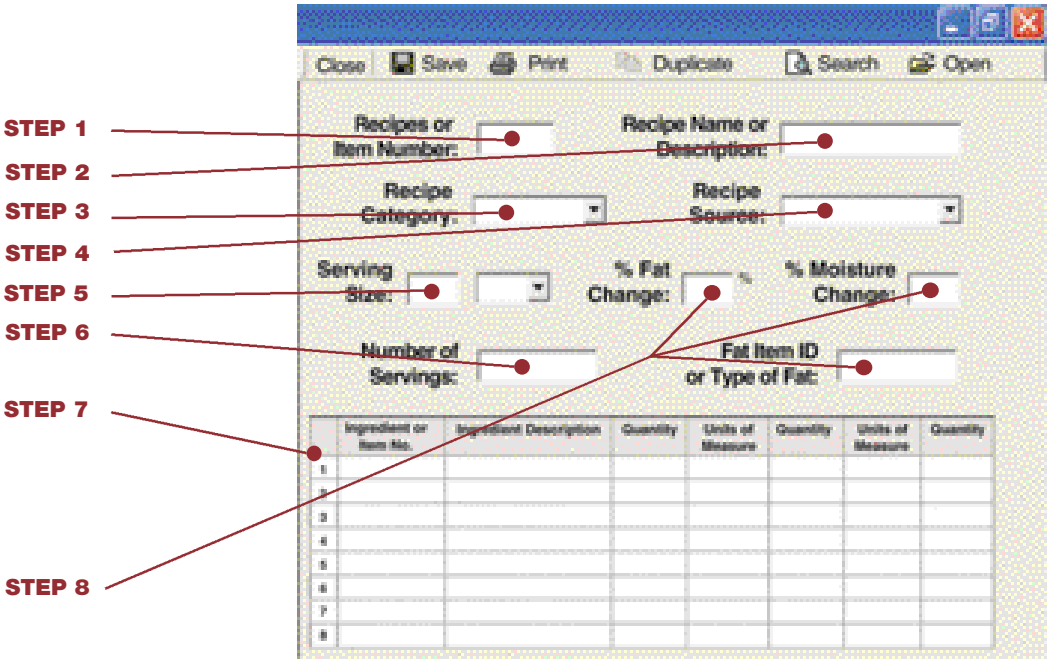
With all of these considerations in mind, the user can now begin to enter the data for a local recipe.

Steps to Entering a Local Recipe

You must follow your software directions as these directions may vary from software program to program.

STEP 1
Enter recipe number

Most software programs will automatically assign a number as each new recipe is added.



KEY

When the menu planner uses weighted averaging for nutrient analysis, all menu items must be weighted, including milk, condiments, salad dressings, etc.

STEP 2
Enter the recipe name

For software programs that base the "search" feature on the first word of the recipe name, it is important to develop a system that will help you locate your recipes. For example, a recipe for Baked Chicken could be listed as Chicken, Baked. This will allow you to search through all the chicken recipes.

STEP 3
Identify the recipe category

For example, Entrees, Salads, Vegetables, etc. This will also be of assistance in searching for a recipe.

STEP 4
Identify the source of the recipe

You will always enter "Local" even when the recipe is a USDA recipe that you are modifying.

STEP 5
Enter the serving or portion size

Example, 1/2 cup, 2.25 oz. patty, 2" x 3" rectangle, 1 each, etc.

STEP 6
Enter the number of servings the recipe makes (yield)

STEP 7
Select the correct food items/ingredients from the database and enter the correct amount

- View the food ingredients listed in the database.
- Select the correct food items or ingredients from the database.
- Enter the correct amount of each ingredient according to previous directions for the **Yield Factor Method.**

STEP 8
If applicable, enter the type of fat used for deep-frying and the percent moisture loss or fat gain for the recipe

Follow your software directions for entering this information. Refer to Appendix H for percent moisture loss or fat gains for selected products.

KEY

Selecting the correct food item from the database is critical to accurate nutrient analysis. For example, if the SFA uses a firm hydrogenated soybean oil margarine but selects a soft corn oil margarine from the CN Database, nutrient analysis will be inaccurate.

STEP 9

Compare the computer recipe with your printed recipe to be sure that:

- the yield is correct,
- the serving size is correct,
- all ingredients are included,
- the correct food items were selected from the ingredient and recipe databases, and
- the amount of each ingredient is correct using the **Yield Factor Method.**

STEP 10

Save the recipe to the local database recipe file.

STEP 11

Compare the computer recipe with your printed recipe to be sure that:

The following will be calculated for each recipe:

- Gram weight of one serving
- Calories
- Protein
- Carbohydrate
- Total fat
- Saturated fat
- Vitamin A
- Vitamin C
- Iron
- Calcium
- Percentage of calories from protein
- Percentage of calories from carbohydrate
- Percentage of calories from saturated fat
- Cholesterol
- Sodium
- Dietary fiber

STEP 12
Compare the gram weight calculated for one serving with the average gram weight of one serving

(See the section below on ***How the Software Calculates Recipes***) This comparison can help to identify if there has been an error in the data entry of the recipe.

STEP 13
Print the recipe, including nutrient analysis

How the Software Calculates the Nutrient Analysis

When recipes are entered into the database, both a serving size and a recipe yield (the number of servings a recipe makes) are entered. It is important to know that the nutrient analysis software calculates the nutrients in a serving based on the *number of servings in the recipe* (the yield), **not** based on the *size of the serving* entered. In addition, the nutrient analysis software will calculate the gram weight of one serving. (Some software programs also display the weight of one serving in ounces.)

If the recipe has been entered accurately using the Yield Factor Method, the gram weight of one serving as calculated by the software should be close to the average actual gram weight of one serving.

CAUTION
Remember the software calculates a nutrient analysis by the yield (number of servings). When recipe ingredients and/or quantities are changed, the recipe yield is frequently changed. You must re-standardize the recipe, recalculate yield and enter a corrected yield, if applicable.

Checking Recipes for Error

The comparison of the gram weight of one serving as calculated by the computer with the actual average gram weight of one serving can be used to check a recipe for possible errors. It is expected that there will be some variation in the two weights because nutrient analysis is not an exact science, and moisture loss may not always be accurately reflected in the calculations. A significant discrepancy between the two weights may indicate one of the following:

- an error in data entry,

- the recipe has not been standardized and either the yield or the serving size is inaccurate, or

- the Yield Factor Method has not been followed.

If the recipe is portioned using a scoop or measuring spoon, you probably do not know the weight of an average serving.

The following procedures can be used to calculate the weight of one serving of a recipe.

- Prepare the recipe and carefully portion out 5 servings using the stated portion size. Using a gram scale, weigh each serving.

- Add the serving weights and divide the total by 5. This will give you an "average" serving weight.

- To get a better estimate of true serving weight, 2 persons should do the portioning and weighing of 5 samples each.

OR

- Prepare the recipe, weigh the total quantity produced (minus weight of container) and divide by the number of servings (yield) of the recipe.

Creating a Recipe Variation

USDA Quantity Recipe Variations for Optional Ingredient(s)

When the school district/school is preparing a USDA recipe exactly as written with the only exception that they are simply adding an ingredient(s) that is listed as “optional” in the recipe (e.g., adding the optional ingredient, raisins, to Applesauce Cake), a new recipe should be created and named.

Example: Applesauce Cake with Raisins
Source: Local

Since the nutrient profiles of all USDA Quantity Recipes are incorporated into the CN Database, the user would select the original USDA recipe from the food item/ingredient file and insert it into the new recipe. Then the user would need only to add the optional ingredient(s) to this new local recipe.

KEY

Before using USDA Quantity Recipes developed by the software vendor in a separate recipe file, the user must review these recipes to ensure that the nutrient analysis protocols have been followed.

USDA Recipe Variation for Alternate Ingredient(s) or other Modifications

When the SFA/school prepares a USDA recipe using an alternate ingredient(s) or make other changes to the recipe, you will need to create a new recipe using the Yield Factor Method by entering the ingredients and their amounts and saving it as a different recipe. Or, if the software company has entered the USDA recipes with its ingredients, you may copy the appropriate USDA recipe and review it carefully for accuracy. Then, following the Yield Factor Method, you may change the ingredient(s) and/or amount(s) as needed, and name and save it as a different recipe.

Modifying a Local Standardized Recipe

When adding a recipe variation such as alternate or optional ingredients to a local database recipe, you may modify the original recipe and then resave it. If you want to keep both recipe variations, you may copy the original recipe, make changes, rename, and save the recipe.

When local recipes are entered and saved to the recipe file, you can:

- Change, add or delete food ingredients and amounts.
- Change preparation and/or serving instructions.

Single Serving Recipes

In addition, for nutrient analysis, recipes can be made for single servings, for example 1/2 cup French fries, 1 beef patty, 1 hotdog and bun. The software program is able to convert the nutrients in the single serving recipes to the nutrients in the number of servings that are actually planned or served.

Creating a Theme Bar Recipe

Salad bars and other food bars, such as pasta bars, taco bars, deli bars, potato bars, and such can serve as the complete reimbursable lunch (except for milk) or as a food or menu item that is part of a reimbursable lunch—depending on the food items on the bar and how it is structured. The recipe and nutrient analysis of the food bar is based on historical usage of food bar items.

Standardized recipes can be developed for food bars and entered into the database at the local level. The recipe should be constructed based on a "typical" day.

To develop a standardized recipe for a theme bar:

Step 1: Determine the number of servings the recipe produces (yield). This would be the number of people who use the food bar, regardless of whether by students for reimbursable meals, by adults, or for a la carte sales.

Step 2: Determine the serving size. The serving size is the minimum quantity that the student must select for Offer versus Serve. For example, for an entrée salad, the minimum quantity might be 1 cup.

Step 3: Determine the amount of each food ingredient in the recipe:

- Measure the amount of each ingredient placed on the food bar on a typical day (the amounts placed on the bar at the beginning of the meal service plus any additions to the bar during the meal service).
- Measure the amount of each ingredient left over on the food bar at the end of the meal service.
- Subtract the amount left over from the amount placed on the food bar for each ingredient to determine the amount of each ingredient to enter for the recipe.

Once the recipe is entered into the database, it can be used in planning and/or analyzing a day's menu. The number of servings entered into the menu for nutrient analysis would be the estimated number of students who are expected to select a reimbursable meal from the food bar (or the estimated number of servings of the menu item which will be selected as part of a reimbursable meal, if the food bar does not offer a full meal).

A separate recipe must be developed for each variation of the food bar. For example, if you rotate 2 salad bars, one that features iceberg lettuce and another that features fresh spinach, two separate recipes would need to be developed. If other ingredients vary, each separate combination would need a separate recipe.

Shortcut Hints for Data Entry for Menu Analysis: Creating Recipes to Simplify Data Entry

In addition to your own local standardized recipes that you will be entering in your software database, there are "recipes" that you can create to make data entry speedier. These "recipes" are not actually recipes for food production but are data-entry shortcuts for analyzing menus. The use of shortcut data entry recipes will reduce the amount of data entry for each menu. These are menu item choices that do not vary from day to day and which have usage that has been documented to be consistent.

This shortcut is illustrated for milk:

- A school district's menus have consistent choices for milk, and consistent student selection from one meal to the next.

- In weighted averaging, the milk shortcut data entry recipe must be based on the choices of milk available and the percentages consistently chosen. If the SFA plans central menus, it would be based on usage for the district. This can

be calculated from milk invoices. If milk invoices can be separated by age/grade grouping used in the district (example K-6, 7-12), a more accurate analysis will result.

KEY
If an SFA/school uses a data entry shortcut recipe for milk, they must develop their own using SFA/school data.

Example for Weighted Averaging:
The Central City School District plans central menus and uses weighted averaging for nutrient analyses. Four kinds of milk are offered every day: whole milk, low-fat milk (1%), chocolate low-fat milk (1%), and nonfat milk. During the past year, 12% of the district purchases of 1/2 pint cartons were whole milk, 57% were 1% chocolate low-fat milk, 21% were 1% low-fat milk, and 10% were nonfat milk.

The Data Entry Shortcut Milk Recipe was created as follows:
For 100 servings:
12 - 1/2 pints whole milk
57 - 1/2 pints 1% chocolate low-fat milk
21 - 1/2 pints 1% low-fat milk
10 - 1/2 pints nonfat milk

- When using simple averages, the milk shortcut data entry recipe must be based on giving equal weight to each milk available, regardless of percentage choices by students.

Example for Simple Averages:
The Unified City School District plans central menus and uses simple averages for nutrient analyses. Four kinds of milk are offered each school day: reduced fat milk (2%), low-fat milk (1%), nonfat milk, and chocolate nonfat milk.

The Data Entry Shortcut Milk Recipe was created as follows:
For 100 servings:
25 - 1/2 pints 2% reduced fat milk
25 - 1/2 pints 1% low-fat milk
25 - 1/2 pints nonfat milk
25 - 1/2 pints chocolate nonfat milk

- If the standard kinds of milk offered changes, or if the district uses weighted averages and the proportions selected by the students change, then a new recipe must be created.

Other Shortcut Data Entry Recipes

Other shortcut data entry recipes for standardized choices can be created if the items offered do not vary and student choices are consistent (for districts using weighted averages). Some examples of menu items offered as standardized choices by SFAs/schools include fruit juices, cold cereals, and assorted salad dressings.

Creating shortcut data entry recipes for condiments is not recommended unless the exact condiments are offered each day, and students select the exact percentage of condiments (weighted averaging). Since student selection and usage of condiments is usually dependent on the day's menu, a condiment shortcut data entry recipe cannot be developed. For example: Students may select catsup more frequently on days that hamburgers and French fries are offered.

Common Errors in Data Entry of Recipes

- Incorrect food item/ingredient selected from database
- Incorrect measurements, such as weight/volume errors, incorrect recipe serving sizes, etc.
- "As Purchased" weight used rather than "Edible Portion"
- Recipes entered have not been standardized, or standardized recipes have been analyzed but not used in the SFA/schools.

Reminders:

- Carefully select the correct food item from the database.
- Choose the correct measurement, such as volume or weight.
- Use cooked weight for cooked foods. (May require conversion from the *Food Buying Guide*).
- Use only standardized recipes that are used in the SFA/schools. For example, a recipe for rolls must show the added fat if butter or margarine is brushed on top of rolls