



Meal Preparation Documentation



Meal Preparation Documentation

CH.4

Your students see a beautiful serving line with consistently appealing foods. They do not know that behind the scenes, recordkeeping is a critical part of your successful school nutrition operation. Documentation helps you plan from day to day, communicates your plans to staff, and ensures quality control and customer satisfaction. Records also provide a valuable written history for future reference. They help you spot trends, evaluate what works best with your customers, forecast demand, and decide what changes need to be made. Written procedures and daily monitoring logs make food safety second nature to staff. In addition, during an Administrative Review (AR), your records will be ready for review.

In this chapter, you will learn about:

- Production records:
 - Why they are a valuable tool to your school nutrition program
 - Role of production records in the AR
 - Required information on all production records
 - Two-step process for completing a production record
- Standardized recipes:
 - Why they are vital in school nutrition programs
 - Role of standardized recipes in the AR
 - Required information on all standardized recipes
 - Three phases to develop standardized recipes
- Hazard Analysis and Critical Control Point (HACCP)-based food safety program:
 - Food safety standard operating procedures (SOPs)
 - Staff training and Active Managerial Control (AMC)
 - Process Approach to HACCP.

INTRODUCTION

In chapters 2 and 3, you learned steps to create nutritious meals. Your menus meet meal component and serving amount requirements, and dietary specifications for each grade group's meal pattern. Your next step is to develop written plans and document meal production and service. Maintaining production records and standardized recipes are critical to your school nutrition program's success. Written food safety SOPs give your staff guides to follow for daily work habits while preparing and serving foods. These SOPs include HACCP-based control points and critical limits to reduce the risk of foodborne illnesses.

Production records are a communication tool for everyone involved with school meals, from menu development to production and service. Federal guidelines require that all schools participating in the school nutrition programs keep food production records for the meals they produce. These records demonstrate how the meals provide the required meal components and help you plan day to day.

Standardized recipes are companion tools to your production records. Recipes provide the production staff with everything they need to know to produce wholesome, delicious food for the school nutrition program. Because the recipes have been tested, the result is known and can be duplicated over and over. Standardized recipes ensure quality and nutritional consistency. They are also useful in procurement as well as inventory and labor management. Together, production records and standardized recipes confirm that menus meet the National School Lunch Program (NSLP) and School Breakfast Program (SBP) requirements for reimbursable meals.

Providing your staff with well-designed production records and standardized recipes strengthens your culture of food safety. Production records and standardized recipes are supported by food safety SOPs that direct how your team routinely prepares, holds, serves, and stores food. Your HACCP-based program guides all food production activities and reduces the risk of a foodborne illness.

In this chapter, you will see how production records are a communication tool and a historical record. Standardized recipes convey detailed production steps. HACCP-based written SOPs guide all steps of production and service; assuring safe food practices are followed. Upon completion of this chapter, you will understand the value of these tools.

PRODUCTION RECORDS

Maintaining production records is an important responsibility of your school nutrition program. You must document that meals served in NSLP and SBP are reimbursable meals. Your school nutrition team shares this responsibility with you through completing the production record.

Production records document all aspects of meal production, and vary in format, but any successful record achieves two things. First, *it gives the staff information*: what foods and recipes to use, what quantities to prepare, and what amounts to portion. Second, *it enables staff to document information*, such as actual quantities prepared and total meals

(and a la carte items) served. Production records also have a role in food safety as they can be useful tools for traceback during food recalls.

Production records provide historical information that you may use to forecast trends, identify student preferences, and plan future menus. Production records are reviewed during the AR. They help verify that your meal service meets the NSLP and SBP requirements for reimbursable meals.

Reviewers will be looking for specific information on your completed production records. The Anatomy of a Production Record shows a sample completed production record. Refer to this information as you read the next section about the required aspects of a production record.

Production records provide historical information that you may use to forecast trends, identify student preferences, and plan future menus. Production records are reviewed during the AR. They help verify that your meal service meets the NSLP and SBP requirements for reimbursable meals.



Production Records and Standardized Recipes During the Administrative Review

The State agency (SA) must evaluate production records to ensure the following:

- Records include all information necessary to support the claiming of reimbursable meals and any additional SA requirements (i.e., all menu items are listed and all required meal components are offered);
- Records are used for proper planning (e.g., evaluate for consumption and leftovers);
- Records document that food prepared is creditable for the total number of reimbursable meals offered and served;
- Records document a la carte, adult, and/or other nonreimbursable meals, including number of portions for each of these food items;
- Records document that fluid milk, vegetable subgroup, and whole grain-rich requirements are met;
- Records document weekly quantity requirements for fluid milk, vegetables, fruits, grains, and meats/meat alternates; and
- Records align with standardized recipes (e.g., if chicken salad sandwich is on the menu but mayonnaise is not listed on the production records, the SA may examine standardized recipes for additional information).

Excerpted from U.S. Department of Agriculture, Food and Nutrition Service, Child Nutrition Programs, Administrative Review Manual.

Daily Menu Production Record – Food-Based Menu Planning

SAMPLE

- 1 Name of school/site Harvey Elementary School
- 2 Grade Group K- 5
- 3 Date January 14, 2022
- 4 Menu Grilled cheese sandwich or Chicken nuggets & Rice pilaf, Broccoli, Cherry tomatoes, Celery sticks, Fruit cocktail, Orange wedges, Milk: assorted fat-free & 1%
- 5 ☐ Breakfast
☒ Lunch
☒ OVS
☐ Preplated (served)

Reimbursable meals

- 6 Number of student meals planned (projected): 54
- 7 Number of student meals offered (prepared): 50
- 8 Number of student meals selected (served): 48

Nonreimbursable Meals

- 9 Number of meals planned (projected): 5
- 10 Number of meals offered (prepared): 5
- 11 Number of meals selected (served): 4

R = Reimbursable NR = Nonreimbursable T = Total

12 Menu/food items	Recipe ID/product ID	Portion Size	Component contributions per portion size					21 Planned (projected) Servings			22 Planned (projected) quantity of food (in purchase units)	23 Actual number servings (offered) prepared			24 Actual number servings selected (served)			Substitutions, leftovers, and notes	25
			16 Meats/meat alternates	17 Grains	18 Fruits	19 Vegetables	20 Milk	R	NR	T		R	NR	T	R	NR	T		
Grilled cheese sandwich	R# 32	1 ea	2 oz eq	2 oz eq WGR				24		24	48 sl WG bread 3 lbs cheese	20		20	20		20	No leftovers; all children were offered both choices	
XYZ Chicken Nuggets w/WG, 3.97 oz eq = 2 oz eq M/MA, 1 oz eq grains CN #123456	R# 4203	6 ea	2 oz eq	1 oz eq WGR				30	5	35	8.7 lbs	30	5	35	28	4	32	3 servings leftover, discarded	
Brown rice pilaf, USDA recipe	R# B22	#8 scoop		1 oz eq WGR				32	5	37	1.25 gallons	32	5	37	31	3	34	1.5 cups leftover, discarded	
Steamed broccoli florets (RTU), dark green vegetable	R# 15	2 oz spoodle					¼ c	50	5	55	2 lbs	50	5	55	49	4	53	0.5 cup leftover; chilled and refrigerated for use in soup tomorrow	
Cherry tomato (3 ea), red/orange vegetable, Celery sticks (3 ea, RTU), other vegetable	R# 18	¼ c					¼ c	30		30	2.5 lbs	30		30	24		24	1.5 cups cherry tomatoes & 1 cup celery leftover; bagged & refrigerated for use in soup tomorrow	
Fruit cocktail in light syrup, drained, USDA Foods Diced peaches, drained	R# 3	4 oz spoodle			½ c			35	3	38	2.25 #10 cans	35	3	38	25	3	28	Substituted peaches, 5 cups leftover; refrigerated for use in breakfast tomorrow	
Orange wedges (138 count)	R# 5	4 oz spoodle			½ c			15	3	18	5.5 lbs	25	2	27	35	2	37	No leftovers; made 10 more servings, 3 more lbs used	
Extra: Ranch dressing 1/2 oz packets	P# 1514	1 ea						54		54	54 ea	50		50	45		45	5 leftover, returned to inventory	
13 Milk by type and flavor:	Item#																	No leftovers	
fat-free (unflavored):	501	1 ea					1 cup	5		5	5	5		5	5		5		
fat-free (chocolate):	502	1 ea					1 cup	30		30	30	28		28	28		28		
1% unflavored:	503	1 ea					1 cup	10		10	10	10		10	10		10		

26 Ms. Manager

verifier signature

1/14/22

date

Anatomy of a Production Record

You may use any production record format you wish as long as it includes certain key items. These items are summarized and then explained in more detail below.

BASIC INFORMATION

- 1 Name of school/site
- 2 Grade group
- 3 Date
- 4 Menu
- 5 Menu type (lunch or breakfast) and Offer Versus Serve (OVS) or Preplated (served)

REIMBURSABLE MEALS

- 6 Planned (projected) number of student meals; provides an estimate of planned (projected) student meals for the specified grade group
- 7 Actual number of student meals offered (prepared); provides the total number of student meals offered (prepared) for the specified grade group
- 8 Actual number of student meals selected (served); provides the total number of student meals selected (served) for the specified grade group

NONREIMBURSABLE MEALS

- 9 Planned (projected) number of nonreimbursable meals—the number of staff and guests
- 10 Offered (prepared) number of nonreimbursable meals—the number of staff and guests
- 11 Actual number of nonreimbursable meals selected (served); provides the total number of nonreimbursable meals selected (served) for the specified school/site

ALL MENU ITEMS LISTED

- 12 Menu/food items—all food item choices included on the specified grade group's menu, such as main entrees, vegetable subgroups, fruit, milk, dessert, condiments, and substitutions. For each food item, include product information such as manufacturer item name and code number, USDA Foods information, or specific information to guide preparation
- 13 Planned (projected), offered (prepared), and selected (served) number of milk by type—fat-free unflavored, fat-free chocolate or other flavors, 1% low-fat unflavored, 1% low-fat chocolate or other flavors

RECIPE/PRODUCT NUMBER

- 14 Recipe ID/product ID number—standardized recipe number or product ID number

PORTION SIZE

- 15 Portion size for the specified grade group—specific unit of measure: scoop number, measuring cup amount, each, ladle or spoodle size, etc.

REIMBURSABLE MEAL COMPONENTS PROVIDED BY PORTION SIZE

- 16 Meats/meat alternates in ounce equivalent (oz eq)
- 17 Grains in oz eq (WGR indicates whole grain-rich)
- 18 Fruits—portion offered in volume (½ cup in sample)
- 19 Vegetables—portion offered in volume (¼ cup in sample), note that subgroup is identified in column #12
- 20 Milk—portion offered in volume (1 cup in sample)

MEALS PLANNED (PROJECTED), OFFERED (PREPARED), SELECTED (SERVED) AND LEFTOVER

- 21 Planned (projected) number of servings to prepare—provided by menu planner using forecasting tools (reimbursable and nonreimbursable combined)
- 22 Planned (projected) quantity of food to use in purchase units—forecasted from past production, standardized recipes and the *Food Buying Guide for Child Nutrition Programs* (FBG). Adjust on day-of-service, if needed
- 23 Actual number of servings offered (prepared)—provides total number of servings prepared with any changes from planned (projected) amounts noted, as needed
- 24 Actual number of servings selected (served)—provides total number of servings selected (served) for each food item on the menu; provides information for forecasting future meal preparation
- 25 Substitutions and leftovers—any substitutions for the planned menu must be recorded. Record the amount of leftovers of each item and planned use (*examples: chilled and refrigerated for use in future meal, freeze for future use in cycle menu, or discard*)

VERIFIER SIGNATURE AND DATE

- 26 Person in charge of site reviews, verifies, signs and dates the production record, and files for future reference. Your State agency may require signed production records.

OTHER DETAILS YOU MAY NEED OR WANT TO RECORD ARE:

- Food preparation and holding temperatures
- Specific information of value for preparation, service, and future forecasting, such as weather-related school closures, field trips, etc.
- FBG details—source of calculations for purchase units required for total servings planned
- Additional required information by your State agency or school program

Two-Step Process for Completing Production Records

Production records are completed in two distinct steps. This first step includes listing preproduction elements needed. The second step is production information added the day of meal service.

Step One: Preproduction Information

You can fill in preproduction information days or weeks in advance. Some of the key items are constant and may be preprinted on the record; software can automate this process. Information noted in the first phase includes:

- Menu type (breakfast or lunch) and preplated (served) or OVS
- Meal site
- Date
- Grade group(s)
- Menu items (food items or recipes), including identification numbers
- Planned (projected) quantity of food (in purchase units)
- Portion amounts (serving sizes) and planned (projected) total servings for each grade group, adults and a la carte
- Component contribution for each menu item.

Each item on a production record provides useful information. Let's look at some preproduction elements in more detail:

Grade group(s): Identify the grade group or blended grade group (for example, K–8, K–12). You may use one production record for more than one grade group. However, you need to include the serving size for each grade group, if serving sizes are different.

Name (description) of menu items used: List all food items and the form used (fresh, frozen, canned, etc.). This is the first step in effectively communicating the menu to your staff. Accurately list all food items, including condiments, if not included as recipe ingredients.

Food item or recipe identification number for each menu item: Indicate the menu's recipes and food products with identification (ID) numbers. Specific ID numbers help distinguish between similar food items or recipes.

Portion amount (portion size, serving size): List portion amounts and include the serving utensil. If used, include the size of the ladle, scoop, or spoodle. Your staff will then know the correct portion amounts of each food item. The planned (projected) and offered (prepared) portion amounts should be the same. Note the offered (prepared) portion amount, if different from the planned (projected) amount. If you adjust portion amounts for different grade groups, list each grade group portion on a separate line. See Appendix 4.B for a handy reference to measuring portions.

Component contributions: Note the corresponding component contribution for the portion amount for each menu item. This handy check helps to verify meal pattern and crediting requirements.

Total planned (projected) servings: Forecast the number of servings needed for each menu item. Projecting the number of servings helps determine how much food to order, how much time to allot for preparation, and which equipment to use. For menus with choices between several different selections or with OVS, rely on past production records to help determine the quantity to prepare. Use these past records to help accurately forecast all menu planning options.

Planned (projected) quantity of food to use in purchase units: Forecast from past production records, standardized recipes, and the FBG. Adjust on the day-of-service, if needed.

Step Two: Day-of-Service Production Information

The second step of completing a production record happens on the day-of-service. The staff completes the remaining sections during meal production and service, including:

- Quantity of food in purchase units and actual number of servings offered (prepared), if different from the planned (projected)

- Actual number of reimbursable meals offered (prepared) by grade group, if different from the planned (projected amount)
- Actual number of nonreimbursable meals offered (prepared), if different from the planned (projected amount)
- Total number of meals offered (prepared)
- Actual number of reimbursable meals selected (served) by grade group
- Actual number of nonreimbursable meals selected (served)
- Total number of servings selected (served)
- Actual number of a la carte items selected (served), if any
- Actual number of full second reimbursable meals selected (served), if any (breakfast only)
- Any substitutions made and total amount and use of leftovers.

The day-of-service information is valuable for future menu planning as well as future production days with the same menu. The offered (prepared) menu counts and number of servings can be used for the weighted nutrient analysis of your menus.

Now let's look at the day of production elements in more detail:

Total quantity of food (in purchase units) and actual number of servings offered (prepared)

Site staff must record the quantity of food actually offered (prepared), if different from planned amount. The offered (prepared) amount may be different than the planned (projected) amount for a variety of reasons. For example, a grade level is away from school on a field trip, or significant absences occur due to illness. Make note of this information; it is helpful for future menu planning. Past production information is combined with the servings offered (prepared) and selected (served) to shape future production needs.

Actual meals and items offered (prepared): At the end of service, site staff must record the total amount of each food item offered (prepared). Your team also records the total number of reimbursable meals by grade group, as well as the total number of nonreimbursable meals and a la carte items. *Substitutions and leftovers:* During preparation and service, site staff must record any substitutions

made to the planned (projected) menu. Careful substitutions are especially important for meeting weekly vegetable subgroup requirements or when crediting vegetables toward the fruits requirement at breakfast. At the end of meal service, site staff must record leftover amounts and indicate whether leftovers will be retained for later use or discarded. Tracking the use of leftovers is important in your food safety program. It also helps identify overproduction, thus aiding in food cost management. Refer to current guidance and your State agency on how to credit leftovers.

Actual meals and items selected (served): At the end of service, site staff must also record the total amount of each food item selected (served). Your team also records the total number of reimbursable meals by grade group and the total number of nonreimbursable meals and a la carte items sold. For breakfast only, any full second reimbursable meal served to students must be recorded.

You will use the information on actual servings for future menu planning and adjustment. Review planned (projected), offered (prepared), and actual servings selected (served) and note significant trends versus temporary changes due to uncommon events or circumstances that affect participation.

Some records include spaces for recording Critical Control Points (CCPs), temperatures, employee initials, or other information. Some schools use separate logs for this information. Either way, your staff must document CCPs and limits (time and temperature) in writing.

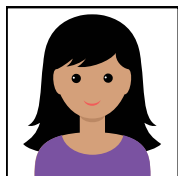
At the end of the meal service, the site manager reviews the production record, verifies the information is accurate and complete, and signs and files it for future reference. Your operation may use more than one production record per day for a meal. For example, a large high school with five different serving stations may have five production records for the salad bar, build-a-sandwich bar, vegetarian, home cooking, and ethnic food lines. An elementary school production record may list salad bar as a line item and use a separate detailed salad bar production record. Listing all of the items of the salad bar on the general production record may not be practical.

Let's see how four different school menu planners use production records.

Menu Chat



Hi everyone.



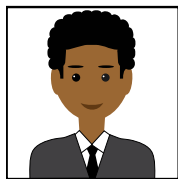
Elena

We are reviewing our production records and trying to figure out the best approach for our schools with two grade groups and fruit and vegetable bars. Do you have an idea to share with us?



Lin

We use a single production record for all grades. Ours is a small district and all the students eat in one cafeteria. A simple approach helps: a single menu with a few choices between fruits and vegetables for everyone and a variety of entree choices for my high school students. I make sure the planned portion sizes are correct for each grade group.



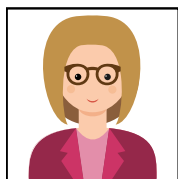
Tyler

A single production record works in our district, too, even though we have different schools. We have a similar menu at all grades; I fill in the portion size for the specific grade group in each building.



Sandra

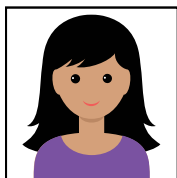
We use multiple production records. We have a large volume production record for our central kitchen. Each school kitchen has its own production record. Due to the number of specialty lines and menu options we offer districtwide, we also find a separate log for recording temperatures for CCPs works best for us. We require our staff to initial the temperature measurements and time notations.



Megan

Our production record for both grade groups includes amounts as purchased and edible portion servings for the fresh fruit and vegetable bar. We prepare for the bar at the beginning of the week and label and date items for the expected day of service. But if the sweet potato sticks are really popular on Monday, we pull from Wednesday's supply to ensure we offer enough red/orange vegetable subgroup on Monday. We either prepare additional sweet potatoes for Wednesday or substitute baby carrots for the red/orange subgroup. Each day's production record is updated accordingly.

Menu Chat



Elena

THANKS!

You have helped me see how each approach is useful. Now I need to assess which is best for our schools.

The production record relays the steps required to prepare the menu. Your food production team uses the record for guidance during preparation and service. Your staff documents actual preparation and service information throughout the day. All members of your production team should understand the importance and use of production record information. Training your staff to use and properly document information on production records is essential.

Now that you have learned about production records, let's take a look at standardized recipes. Standardized recipes communicate serving size and meal component information. They provide preparation, service, and food safety information to guide your school nutrition staff. You will quickly see how important standardized recipes are to daily meal production.

STANDARDIZED RECIPES

Consistently producing high-quality food that satisfies your customers and meets requirements for reimbursable meals is not an easy task. To do so, you and your team must know the principles of developing and using standardized recipes. A standardized recipe is one that has been tried, adapted, and retried at least three times and has been found to produce the same good results and yield every time when the exact procedures are used with the same type of equipment and the same quantity and quality of ingredients. You may have a set of standardized recipes at the district level that are further standardized to reflect individual school equipment and other factors.

Schools often use recipes with yields of 50 and 100 servings, or even more. Quantity recipes produce 25 or more servings. You have quantity recipes, but are they standardized? Your quantity recipes become standardized only after adapting them to your school nutrition program.

Advantages of Standardized Recipes

Using standardized recipes provides many benefits to school foodservice operations.

- 1. Consistent food quality:** The use of standardized recipes ensures that menu items will be consistent in quality each time they are prepared and served.
- 2. Predictable yield:** The planned number of servings will be produced by using standardized recipes. This can help reduce the amount of leftover food if there has been overproduction and help prevent shortages of servings on the line. A predictable yield is especially important when food is transported from a production kitchen to other serving sites.
- 3. Customer satisfaction:** Well-developed recipes that appeal to students are an important factor in maintaining and increasing student participation levels. Schools may take a lesson from national restaurant chains that have developed popular menu items consistent in every detail of ingredient, quantity, preparation, and presentation. Standardized recipes provide this consistency and can result in increased customer satisfaction.

4. **Consistent nutrient content:** Standardized recipes will ensure that nutritional values per serving are valid and consistent.
5. **Food cost control:** Standardized recipes provide consistent and accurate information for food cost control because the same ingredients and quantities of ingredients per serving are used each time the recipe is produced.
6. **Efficient purchasing procedures:** Purchasing is more efficient because the quantity of food needed for production is easily calculated from the information on each standardized recipe.
7. **Inventory control:** The use of standardized recipes provides predictable information on the quantity of food inventory that will be used each time the recipe is produced.
8. **Labor cost control:** Written standardized procedures in the recipe make efficient use of labor time and allow for planned scheduling of foodservice personnel for the workday. Training costs are reduced because new employees are provided specific directions for preparation in each recipe.
9. **Increased employee confidence:** Employees feel more satisfied and confident in their jobs because standardized recipes eliminate guesswork, decrease the chances of producing poor food products, and prevent shortages of servings during meal service.
10. **Successful completion of ARs:** Standardized recipes are a documentation source for the AR. ARs determine how well schools are meeting nutrition standards. A review cannot be completed if the recipes are missing information or provide inaccurate information on ingredients, yield, or serving size. ARs require standardized recipes to ensure that the nutrient analysis is accurate. Menus, recipes, production records, and the nutrient analysis are to be kept on file for review.

Information to Include on Standardized Recipes

Your standardized recipe format needs to include the following:

- **Recipe Title and Description:** The recipe should have a title (name) along with a brief description (1–3 sentences) of the recipe.
- **Recipe Category:** Identify the recipe as an entree or side dish.
- **Ingredients:** Include all ingredients used in a recipe. The ingredient name should include the name of the product, product type/form (fresh, frozen, canned), and any preparation technique(s) (peeled, grated, minced, diced). Be sure to indicate size for preparation techniques, such as slicing and dicing (e.g., “½-inch slices” or “¼-inch diced”). List the ingredients in the order they are used when preparing the recipe.
- **Weight/Volume of Each Ingredient:** List the quantity of each ingredient in weight and volume. USDA includes both the weight and volume, except when the weight is below 1 oz because weight provides the most accurate information for the Recipe Analysis Workbook (RAW) and nutrient analysis.
- **Units of Measure for Each Ingredient:** Avoid using packaging to describe the amount of a product, such as “1 package.” The packaging is variable, and the size can vary depending on the supplier. The amount of product in a package may vary depending on its’ form. List quantities in the most straightforward unit of measure (e.g., “1 lb 4 oz” instead of “20 oz” or “½ cup” instead of “8 Tbsp.”). Use standard abbreviations for units of measure and a fraction format.
- **Preparation Directions:** List the steps for the preparation of the recipe. This can include information on alternative preparation methods and helpful cooking tips.
- **Cooking Time, Temperature, and Preparation Time:** Include the cooking temperature and cooking time, if appropriate, as well as the amount of time required to prepare the recipe. This includes time for chopping or dicing ingredients, preparing individual servings, placing items on a baking sheet, etc.

- **Serving Size:** Provide the amount of a single portion in volume and/or weight. Give this information in a practical amount, such as ½ cup, one slice, two squares, etc.
 - **Recipe Yield:** Provide the amount of the finished or processed product (weight and volume, and number of servings) available at the completion of production.
 - **Equipment and Tools Needed:** List the cooking and serving equipment needed to prepare and serve the recipe.
 - **Crediting Information:** This statement should identify which meal component(s) the ingredients in the recipe credit toward. If an ingredient may be credited toward more than one meal component, include both crediting statements.
 - **Nutrient Analysis:** In this section, identify the nutrients provided per serving. The purpose of the nutrient analysis is to determine compliance with school meal regulatory requirements for calories, saturated fat, and sodium and to monitor levels of these dietary components in school meals.
 - **Marketing Guide:** Use *The Food Buying Guide for Child Nutrition Programs* to determine the amount of product needed (as purchased) to yield the edible portion required for the recipe. More information on the marketing guide can be found in chapter 5.
 - **Food Safety Guidelines/Critical Control Points:** Include procedures designed to ensure the safe production and service of food. Indicate Hazard Analysis Critical Control Point (HACCP) information, if appropriate. Include the appropriate cooking temperature for any ingredients that require cooking and/or chilling and a final holding temperature. As applicable, include information about food allergens or developmental considerations (e.g., choking hazards for young children).
- Additional information such as service style, recipe variations, alternative ingredients, optional ingredients, and safety notes such as choking risks and food allergy information may also be included. This is additional information that may be included in the recipe—not directly related to the standardization process but still important information for the recipe user.



USDA Recipes

USDA standardized recipes are excellent additions to your recipe collection. Look for these resources.

Recipes for Healthy Kids Cookbook for Schools (<https://www.fns.usda.gov/tn/recipes-healthy-kids-cookbook-schools>).

The Institute of Child Nutrition's Child Nutrition Recipe Box (<https://theicn.org/cnrb/>)

Anatomy of a Standardized Recipe

1 Bok Choy Wrappers

SAMPLE

Meal Components: Meat-Dark Green Vegetable-Fruit-Grains 2

Sandwiches 3

Ingredients 4	50 Servings 5		100 servings 5		Directions 7
	Weight 6	Measure 6	Weight 6	Measure 6	
Water		1 gal 2 qt		3 gal	1. Boil water.
Brown rice, long-grain, regular, dry	5 lb 8	3 qt ½ cup	10 lb 8	1 gal 2 ¼ qt	2. Place 2 lb 8 oz brown rice in each steam table pan (12" x 20" x 2 ½"). For 50 servings, use 2 pans. For 100 servings, use 4 pans. 3. Pour water (3 qt per steam table pan) over brown rice. Stir. Cover pans tightly.
					4. Bake: Conventional oven: 350 °F for 40 minutes 10 Convection oven: 325 °F for 40 minutes 5. Remove from oven and let stand covered for 5 minutes.
*Fresh bok choy, sliced ¼"	3 lb 6 oz	1 gal	6 lb 12 oz	2 gal	6. Combine brown rice, bok choy, pineapple, chicken, sweet and sour sauce, and soy sauce. Pour into steam table pans (12" x 20" x 2 ½"). For 50 servings, use 2 pans. For 100 servings, use 4 pans. 9
Canned pineapple tidbits, in 100% juice	6 lb 10 oz	3 qt (1 No. 10 can)	13 lb 4 oz	1 gal 2 qt (2 No. 10 cans)	
Frozen, cooked chicken strips, thawed	6 lb 2 oz	1 gal 2 qt	12 lb 4 oz	3 gal	
Sweet and sour sauce		1 qt 2 cups		3 qt	
Low-sodium soy sauce		2 Tbsp		¼ cup	
					7. Bake: Conventional oven: 350 °F for 30 minutes 10 Convection oven: 350 °F for 20 minutes Critical Control Point: Heat to 165 °F or higher for at least 15 seconds.
					8. Critical Control Point: Hold for hot service at 135 °F or higher. 11
*Fresh romaine lettuce, outer leaves, rinsed, dry	5 lb	100 leaves	10 lb	200 leaves	9. Top each romaine lettuce leaf with a 6 fl oz spoodle (¾ cup) of filling. Optional: garnish with diced red peppers. Fold sides of lettuce in toward center; roll up like burrito. Place seam side down. Serve immediately. 12
Two wraps provide 1 oz equivalent meat, ¾ cup dark green vegetable, ½ cup fruit, and 1 ½ oz equivalent grains. 14					10. Serve 2 wraps. 13
One wrap provides ½ oz equivalent meat, ¾ cup dark green vegetable, and ¾ oz equivalent grains. 14					

- 1 Recipe Name

2 Meal Components

3 Recipe Category

4 Ingredients

5 Servings per Recipe

6 Weight and Measure

7 Preparation Instructions

8 Ingredient Amounts

9 Equipment Needed

10 Cooking Time and Temperature

11 CCP (Critical Control Point)

12 Portioning Utensil

13 Serving Information

14 Serving Size and Component Contributions



Additional recipe elements may be required by your SA. Check before finalizing your recipe format to verify any additional requirements. Your standardized recipes provide

information to your SA during the AR. The SA will compare recipe yields to production records servings during the AR.

Your school nutrition program relies on standardized recipes. They ensure that FBMP provides quality food portioned correctly for each grade group. Now let's look at how to standardize recipes.

Three Phases of Recipe Standardization



The USDA Recipe Standardization Guide for School Nutrition Programs from the Institute of Child Nutrition (ICN) (<https://theicn.org/cicn/usda-recipe-standardization-guide-for-school-nutrition-programs/>) is a “how-to” guide on recipe standardization

for school nutrition recipe developers. The guide is designed to be a complete source of information on recipe standardization from conception to implementation of a recipe and includes examples, practice exercises, and reference materials. The following information is adapted from this publication.

Standardizing recipes involves three phases: recipe verification, product evaluation, and quantity adjustment. To achieve the final standardized recipe, your team may need to repeat one or more phases. Here is a brief look at each phase:

Recipe verification – Recipe verification consists of identifying the recipe, sourcing ingredients, writing and reviewing the recipe in detail, preparing it in a small-batch quantity, verifying its yield, and recording changes.

Product evaluation – Product evaluation focuses on determining the acceptability of the product produced from the recipe. The product evaluation phase is conducted in two parts:

- Informal Evaluation Process — The recipe development team conducts a taste test.
- Formal Evaluation Process — A taste test is conducted with program stakeholders.

Quantity adjustment – The quantity adjustment phase is used to change the recipe yield, and ingredient amounts to the desired number of servings for use in the program.

School food service production teams should work together on the recipe standardization process. Input from students and other customers is critical during the product evaluation phase. Determine acceptance standards for each phase of the process. If the recipe meets the acceptance standard, move to the next phase. For recipes that fail to meet established standards, repeat the work before moving forward. A recipe may go through these phases several times before becoming standardized at the necessary quantity for an operation. Once the recipe meets your goals, the process is complete. No modifications will be required unless there are ingredient or equipment changes. Each of the three phases contributes to the success of a recipe.

Recipe Verification Phase

The Recipe Verification Phase has several steps, including:

- Identifying the recipe using customer feedback and taste preferences of the school community
- Sourcing ingredients through vendors
- Writing the recipe to include all standardized recipe components
- Reviewing the recipe in detail to assess the ease of use and feasibility of the recipe
- Preparing the recipe in a small-batch, usually 25 servings, for taste-testing and evaluation
- Verifying the recipe yield
- Recording changes in the recipe

Product Evaluation Phase

Product evaluation follows the recipe verification phase and is an important part of the recipe standardization process. Product evaluation helps determine the acceptability of the recipe and provides objective information that can be used to further improve the recipe. Recipe evaluation should include the manager, foodservice staff members, and customers (can include students, teachers, administrators, and parents). Two types of evaluation occur in the evaluation phase: informal and formal.

The recipe needs to pass the informal evaluation before it goes on to the formal evaluation. The informal evaluation may have been conducted with the recipe development team during the Recipe Verification Phase. You may choose to conduct another informal evaluation with the broader school nutrition team to gather additional feedback. Informal evaluation includes three decision choices:

- Product totally unacceptable
- Product acceptable, but requires modifications and goes back to the verification phase
- Product acceptable and ready to be produced for formal evaluation.

The formal evaluation occurs after successfully completing the informal evaluation process when the foodservice staff believes a recipe has potential for service in their operation. Getting feedback from taste testers is key. If the taste testers do not like the recipe, it needs to be re-evaluated. The evaluation should be tailored to the audience— young students, older students, or a mix. As you develop the evaluation, address:

- Acceptable appearance
- Flavor
- Product qualities—hot or cold; moist or dry; hard to chew or bite.

Students may evaluate a product differently than your school nutrition team. The students must like the product for it to become a “winner” in their minds. Remember, the student is your customer, not you and your staff!

During the informal and formal evaluation process, use these steps to prepare the recipe for evaluation:

- Establish an area where everyone may view, taste, and evaluate the recipe produced
- Use evaluation forms to summarize results

Determine the next step for the recipe:

- Accept the recipe as-is
- Modify the recipe until acceptable
- Reject the recipe

Quantity Adjustment Phase

Once a recipe is accepted, you need to adjust it for quantity production. Adjusting the recipe for quantity production entails scaling the recipe to reflect the number of servings you will use in your program. The factor method is often used in school nutrition programs during standardization. See “Steps to Adjust Recipe Yield” on page 142 to learn how to use the factor method to adjust the yield of a standardized recipe.

As your team completes recipe standardization, you may find modifications necessary to create the quality and quantity required. Always test and standardize recipes before including them in your school nutrition program menus.

Continued on page 145



School District:
Prairie Hills Unified
School District 113

Located:
Sabetha, KS

Enrollment:
1,100

Website:
www.usd113.org

Engaging Staff, Students, and Community for Menu Success

Brook Brubeck, school food service director, Prairie Hills School District, spearheaded an increase in school meal participation by involving staff, students, and families in improving school menus. All six schools have student teams that participate in taste tests, help evaluate existing menus, and plan new menus. The students have influenced many positive menu changes while learning about meeting the school meal standards. Ms. Brubeck has also started school nutrition program Facebook and Twitter accounts where she posts menus, menu-related food facts, pictures of food-related district activities, and healthy, easy recipes for at-home family fun. Ms. Brubeck also uses an online survey service for feedback and a chat group where she can discuss the surveys, general ideas, and comments about the program with students. This online forum works very well, because it allows the students to interact with her on their schedules. Virtual meetings allow her to meet with students any time. Ms. Brubeck provides the following suggestion to other directors: “I would suggest to directors who don’t know how to set up something like this to work with their tech department, or, even better, go to their technology classes in their schools and ask for help. The students LOVE to teach the adults, and it’s a great learning experience for both parties.” She says, “The main thing I see happening with these new projects is a renewed enthusiasm about school food, both from parents and students. There is a dialogue happening between our staff and their ‘customers’ that had been missing for a while. The kids feel empowered to make suggestions, and the cooks are getting out of their kitchens during lunch service and talking to the kids. It’s wonderful to see both sides open the lines of communication and share their thoughts!”



Steps To Adjust Recipe Yield

Using the factor method, you can adjust the yield of a standardized recipe for your school nutrition program. Three steps in the process include:

- **Determine the factor to be used:** $\text{desired yield} \div \text{current yield} = \text{factor}$.
- **Multiply each ingredient by the factor:** $\text{current measure} \times \text{factor} = \text{new measure}$.
- **Change amounts into more common measurements:** a new measure may not convert to a useful measure.

Here is an example for increasing a recipe for the first two steps:

- **Determine the factor to be used:** $\text{desired yield} \div \text{current yield} = \text{factor}$
Example: $250 \text{ (desired serving yield)} \div 100 \text{ (current serving yield)} = 2.5 \text{ (factor)}$.
- **Multiply each ingredient by the factor:** $\text{current measure} \times \text{factor} = \text{new measure}$
Example: $5 \text{ pounds (current measure for 100 servings)} \times 2.5 \text{ (factor)} = 12.5 \text{ pounds (measure for 250 servings)}$.

Here is an example for decreasing a recipe for the first two steps:

- **Determine the factor to be used:** $\text{desired yield} \div \text{current yield} = \text{factor}$
Example: $125 \text{ (desired serving yield)} \div 250 \text{ (current serving yield)} = 0.5 \text{ (factor)}$.
- **Multiply each ingredient by the factor:** $\text{current measure} \times \text{factor} = \text{new measure}$
Example: $5 \text{ pounds (current measure for 250 servings)} \times 0.5 \text{ (factor)} = 2.5 \text{ pounds (measure for 125 servings)}$.

Note: The factor to decrease a recipe is always less than 1; the factor to increase a recipe is always greater than 1.

Then, if necessary, use the third step:

- **Change amounts into more common measurements:** a new measure may not convert to a useful measure.

Examples:

A recipe for 50 servings calls for $\frac{2}{3}$ cup (0.66 cup) shredded carrots, the amount for 300 servings is 3.96 cups of shredded carrots – convert to 1 quart.

A recipe for 100 servings calls for 2 cups of diced onions, the amount for 60 servings is 1.2 cups – convert to $\frac{1}{4}$ cups of diced onions.

Some ingredients require special attention during recipe standardization. These ingredients do not increase or decrease proportionately:

- Herbs and spices
- Leavening agents – baking powder, soda, and yeast
- Thickening agents – flour, cornstarch, and eggs
- Liquids – water and juice.

The best method to determine the quantities of these specific ingredients is to prepare the recipe.

Menu Chat

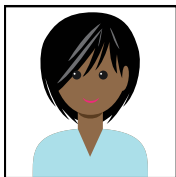


Hello!



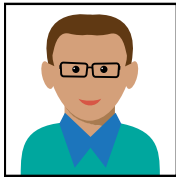
Megan

I am preparing a training session on standardized recipes for my staff. Do you have any tips? I am looking for nuggets of wisdom I can include.



Sandra

I learned through experience that I need to double check the crediting of components for all recipes, no matter the source. The calculations might be wrong or there could be a typo in the recipe. I have a second staff member check my work because of these same issues.



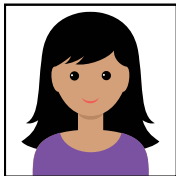
Dylan

I know that even when I cook for my family at home that many recipes I find on websites may not have been tested. I often find ingredients, amounts of ingredients, or preparation steps are missing. I figure that this can happen with a quantity recipe, too. We always review the recipes carefully before we do our first preparation. It saves us time and money in the long run.



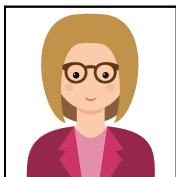
Lin

Our equipment varies by kitchen, so we have to standardize the recipe to each site. My workers that float between sites know how important it is to follow the recipe that is standardized for each kitchen's equipment. Differences in equipment affect recipe volume and other preparation factors. The standardized recipes help ensure a consistent product from all sites.



Elena

We have a recipe for everything on the menu, even single items such as our orange wedges and chicken nuggets. The recipe provides instructions for portion information, washing produce, CCPs, and other preparation steps. Because each product we purchase is assigned an identification number and we use that on the recipes and production records, it helps us catch that rare time when the wrong product is delivered to a school. For example, we stock two different bake and serve whole grain-rich breadsticks, 1 oz eq for grades K–8 and 2 oz eq for grades 9–12. The smaller product does not meet the daily minimum serving amount for grains for grades 9–12, so comparing product ID numbers is important because the product packaging and names are similar. My staff finds this very helpful because we cross train our employees to work in different preparation areas.



Megan

THANKS!

I knew I could count on your wisdom, thanks for the ideas!

Sample Nonstandardized Recipe

Bulgur and Brown Rice Pilaf			
Servings: 100 - ½ cup servings		Meal Pattern Contribution: 1/2 cup provides 1 oz eq grains.	
Ingredients	Weight	Measure	Directions
Vermicelli, fine, enriched, broken in half-inch lengths	2 lb 8 oz		1. Sauté vermicelli, onion, and garlic in margarine or butter until lightly browned in a skillet over medium-high heat.
Onion, diced	3 lb 12 oz	2 qt 2 5/8 cups	2. Add rice and bulgur and sauté.
Garlic, finely chopped	2 1/8 oz	20 cloves	3. In a large stock pot combine sautéed vermicelli, onion, garlic, rice, and bulgur. Add chicken stock or broth and marjoram. Stir to mix well.
Margarine or butter	1 lb 8 oz	3 cups	4. Bring to boil, cover and simmer over low heat for approximately 30-35 minutes or until liquid is absorbed.
Brown rice	2 lb	5 cups	CCP: Heat to 135 °F or higher for at least 15 seconds.
Whole grain bulgur (cracked wheat)	4 lb 10 oz	15 cups	CCP: Hold for hot service at 135 °F or higher
Chicken stock or broth	21 lb 3 oz	2 ½ gal	5. Portion with a No. 8 (½ cup) scoop.
Marjoram	¼ oz	3 Tbsp 1 tsp	

Source: Whole Grains Council/Sunnyland Mills

Nutrition Facts per Serving				Whole Grains <i>in Child Nutrition Programs</i>
Calories: 204	Total Fat: 6.15 g	Vitamin A: 466.4 IU	Calcium: 80.24 mg	
Protein: 3.94 g	Saturated Fat: 1.06 mg	Vitamin C: 1.50 mg	Sodium: 623 mg	
Carbohydrates: 34.66 g	Cholesterol: 0 mg	Iron: 4.45 mg	Dietary Fiber: 4.93 g	

These recipes have been provided by schools, but have not been tested or standardized by USDA. Schools should standardize the recipes for their own operation.

- 1

Recipe name
- 2

Yield and portion size
- 3

Weight and measure
- 4

Food components
- 5

Ingredients
- 6

Preparation steps and cooking method
- 7

Equipment needed
- 8

Cooking method
- 9

CCP (Critical Control Point)
- 10

Serving utensil
- 11

Source
- 12

Nutrients per serving
- 13

Not all recipes are marked as tested/not tested! Always test and standardize recipes to your kitchens.

The recipe for Bulgur and Brown Rice (**see page 144**) looks like a tested, standardized recipe. However, the notation below the nutrition facts per serving section indicates it has not been standardized. Be aware that few quantity recipes are marked this way, even if the recipe has never actually been tested in large quantity amounts. A printed recipe may have been adjusted from a smaller quantity, but never prepared and verified in the larger volume. As your team completes recipe standardization, you may find modifications necessary to create the quality and quantity required. Always test and standardize recipes before including them in your school nutrition program menus.

Here is an example of why standardizing a recipe such as Bulgur and Brown Rice is necessary. Imagine:

- Your school needs 150 ½-cup servings for grade group K–8 and 75 1-cup servings for grade group 9–12.
- The total yield required is 150 cups (volume of total yield is 9¾ gallons).
- The Bulgur and Brown Rice recipe produces 100 ½-cup servings (volume of recipe yield is 3⅓ gallons).

Without standardization, your team might not produce the correct volume or quantity of the Bulgur and Brown Rice recipe. The amount produced may be too little for lunch needs, creating a service line crisis. A standardized recipe that is adjusted to meet volume needs reduces the opportunity for error and improves product consistency. A recipe may have yields divided between two portion amounts: 150 ½-cup servings for K–8 and 75 1-cup servings for 9–12.

Through standardization you and your team will create a recipe that meets the needs of your school(s). How a serving portion of the recipe contributes to meal components is essential information. USDA standardized recipes provide component contributions. For recipes without component contributions, you will need to calculate and add those to the recipe information.

How To Calculate Meal Components per Serving

Once the process of increasing or decreasing a recipe is complete, your next step is to calculate meal components for each serving amount. The Recipe Analysis Workbook (RAW) is a tool to help you determine your recipe's meal pattern contribution. You can access the RAW in the FBG Interactive Web-Based Tool at <https://foodbuyingguide.fns.usda.gov/>. The RAW calculates the meal contribution for each creditable ingredient.

Information you will need to complete the RAW includes:

- Ingredients that contribute to the meal components
- Correct weight and volume of each ingredient
- Serving size (½ cup, one slice, one sandwich, etc.)
- Servings per recipe.

Review the user guide and training videos in the FBG Interactive Web-Based Tool on using the RAW. You will want to save a copy of the RAW for each recipe you calculate.

A standardized recipe also includes food safety information. Your staff members need to know CCPs and critical limits for safe food production, specific to each recipe or menu item. In the next section, you will learn about HACCP-based food safety procedures.

HACCP-BASED FOOD SAFETY PROCEDURES



The National School Lunch Act requires School Food Authorities (SFAs) to implement a school food safety program based on

Hazard Analysis and Critical Control Point (HACCP) principles.

HACCP is a systematic approach of constructing a food safety program. The approach reduces the risk of foodborne hazards by focusing on steps of the food preparation process – receiving through service. A food safety checklist is an excellent tool for developing strong HACCP procedures. The *Food-Safe Schools Action Guide* (Action Guide) (<https://www.fns.usda.gov/sites/default/files/Food-Safe-Schools-Action-Guide.pdf>) features a checklist to evaluate your food safety program. Use the evaluation results to determine any changes needed to your HACCP-based food safety program.

HACCP-Based Standard Operating Procedures (SOPs) Support Your Food Safety Program

SOPs are written instructions for routine activities. Write original or modify sample SOPs to support

your food safety program. When followed, SOPs safeguard food during food preparation and service. You need to make your food safety SOPs specific to each school meal production facility in your district. This is because equipment and facilities vary among sites. You may also need to modify them to meet additional State and local requirements. Once you have written SOPs, training, supervision, and management are critical in creating a culture of food safety. The goal is for SOPs to become second nature to your staff.

HACCP-based food safety SOPs include:

- Instructions
- Monitoring procedures
- Corrective actions
- Verification procedures
- Recordkeeping procedures.

Active managerial control (AMC) is critical to the success of a food safety program based on HACCP principles. AMC is a tool that management uses to lead school nutrition staff members in handling food safely. AMC requires school nutrition managers to take proactive and preventive, rather than reactive, approaches to food safety. Your school HACCP-based food safety program is more than a written plan. Your staff puts that plan into action every day. Their routine work habits reduce foodborne illness risk.

Important HACCP Terms

- Hazard Analysis – review of operation to identify areas where food safety problems may occur.
- Control Measures – steps to reduce food contamination or bacterial growth.
- Critical Control Points (CCPs) – points in food preparation where process control (example – cooking) is essential to keep food safe.
- Critical Limits – time and temperature range for food preparation and service to keep food safe (hot, 135 °F or higher; cold, 41 °F or lower).
- Process Approach – a HACCP method of grouping menu items into one of three processes depending upon the number of times food goes through the temperature danger zone (41 °F to 135 °F).





School District:
Wilson County
Schools

Located:
Wilson,
North Carolina

Enrollment:
12,400

Website:
[www.
wilsonschooolsnc.
net/](http://www.wilsonschooolsnc.net/)

Active Managerial Control with Daily Staff Meetings

Cindy Bailey, R.D., director of Food Services, Wilson County Schools, has developed a policy and standard operating procedure (SOP) for daily menu meetings. This is a great example of Active Managerial Control, taking a proactive and preventive approach to operation challenges. The policy states that school nutrition managers will conduct daily menu meetings with staff to ensure that all lunch and breakfast meals comply with the nutrition standards and food safety practices. During the 5-10 minute meeting, the team reviews:

- Meal equivalents of food items
- Recipes
- Substitutions and/or leftovers
- Time as a Public Health Control (TPHC) items and procedures
- Non-TPHC items to be recorded on daily temperature log
- Components in each menu item and what constitutes a reimbursable meal.

The SOP also states the child nutrition supervisor and child nutrition director will observe daily menu meetings in their kitchen reviews, onsite reviews, and regular visits. Developing a districtwide policy and SOP for daily staff meetings at each school helps ensure consistent implementation through knowledgeable and engaged staff.



Wilson County Schools standard operating procedure calls for a daily menu meeting for staff to review reimbursable meal and food safety practices for each day's menu.



Preparation and service food safety SOPs focus on:

- Controlling time and temperature during:
 - Preparation
 - Cooking of Time/Temperature Control for Safety (TCS) foods
 - Cooling TCS foods
 - Reheating TCS foods
 - Holding hot and cold TCS foods
- Date marking ready-to-eat foods and TCS foods
- Preventing cross-contamination during storage and preparation
- Calibrating and using thermometers
- Using appropriate utensils or wearing gloves when handling ready-to-eat foods.

Your food safety SOPs help your school nutrition team know how to:

- Practice good personal hygiene
- Monitor food temperatures to control time spent in the temperature danger zone
- Use single-use gloves or utensils when handling ready-to-eat foods
- Use a calibrated thermometer to check food temperatures
- Follow CCPs in standardized recipes
- Meet critical limits
- Record food temperatures during holding, serving, and storage

Food Safety – Administrative Review

Food safety is a general area of the Administrative Review. To evaluate compliance, the SA must:

- Review the written food safety plan for compliance with Hazard Analysis and Critical Control Point (HACCP) program criteria found in Facilities Management, Food safety program; 7 Code of Federal Regulations (CFR) 210.13(c).
- Determine whether the SFA has any contracted or self-operated warehouses and, if so, determine whether all foods (commercial and USDA Foods) are being stored properly.
- Determine whether two food safety inspections have been obtained.
- Confirm the posting of the most recent food safety inspection report.*
- Verify compliance with HACCP principles and local and State health standards.
- Check temperature logs to ensure proper recordkeeping.
- Examine onsite food storage for dates and condition of foods.

SAs are expected to assess food safety compliance offsite and onsite.

* **Note:** Report formats may vary, and in some cases be too large in size to post. Thus, SA reviewers should ensure that the posted portion reflects the inspection dates and approval/disapproval status, and allow that other supporting documents contained in the report be maintained on site and be available upon request.

Excerpted from U.S. Department of Agriculture, Food and Nutrition Service, Child Nutrition Programs, Administrative Review Manual.



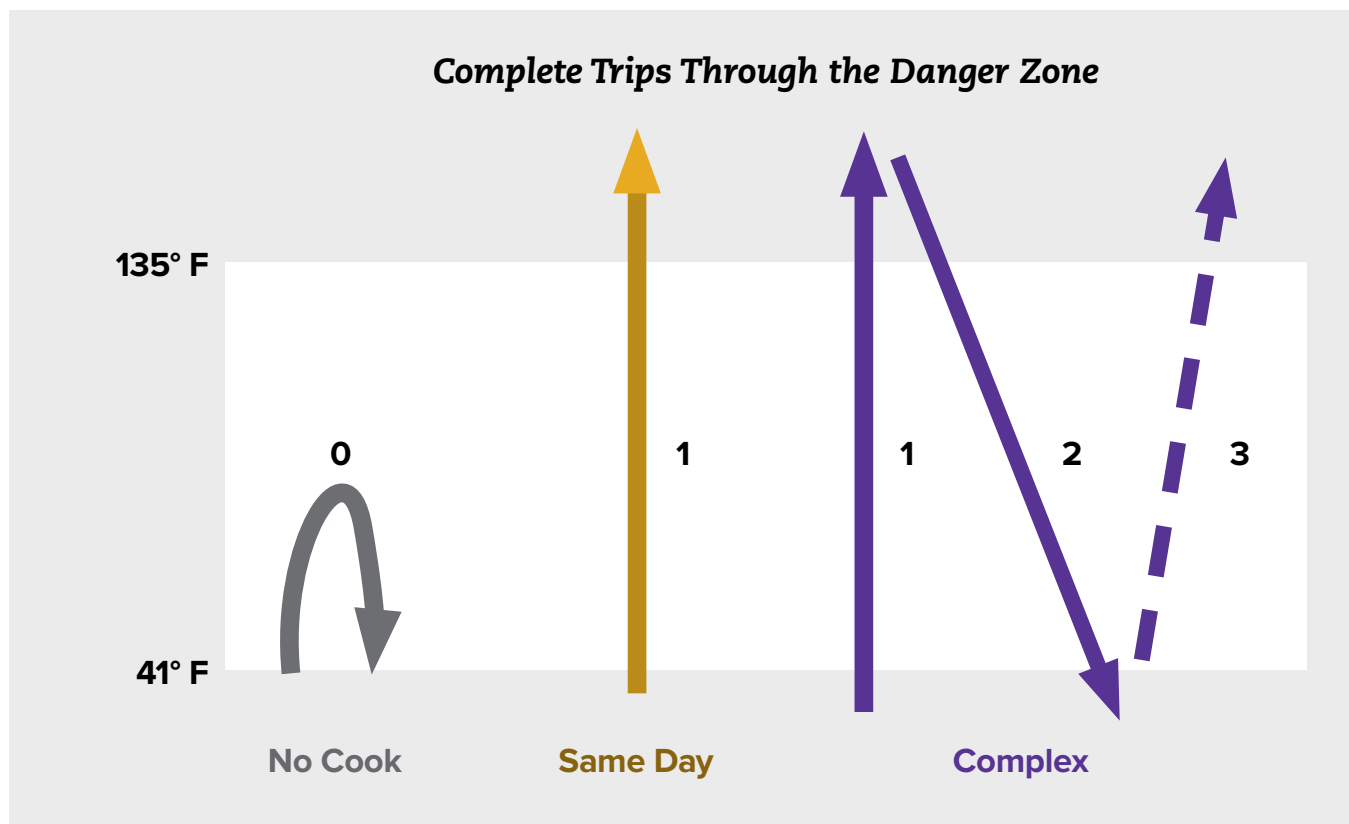
The ICN's Food Safety Resources web page (<https://theicn.org/icn-resources-a-z/food-safety-resources/>) has many resources developed to provide assistance in ensuring food safety in your program. These resources include food safety logs, food safety standard operating procedures (SOPs), fact sheets, and more, including some resources in Spanish. Additionally, the ICN offers a Writing, Updating, and Revising a HACCP-Based Food Safety Plan for Schools workshop (<https://theicn.org/icn-resources-a-z/writing-a-haccp-based-food-safety-plan-for-schools>) to assist Program operators with updating their own HACCP-based food safety plan. Use the resources listed in the Action Guide and at the ICN website as you develop your food safety program.

Process Approach to HACCP

One of the ways to build HACCP-based food safety practices into your school nutrition operations is to use the Process Approach to HACCP (Process Approach). Just like it sounds, the Process Approach centers around processes or procedures that ensure safe food-handling practices. USDA recommends that schools use the Process Approach.

With the Process Approach, your menu items/recipes are categorized by the appropriate process and supported by SOPs in your food safety program. Together the SOPs and recipes guide your staff through daily production and service.

Danger Zone Diagram



All recipes have CCPs and critical limits, and the SOPs direct when to monitor, where to log food temperatures, and when and how to take corrective actions. Because the same steps or processes are used for all foods in the same category, staff training is focused on daily work habits. So, the Process Approach is another way to incorporate a culture of food safety in your program.

The Process Approach focuses on the number of times a food moves through the temperature danger zone (41 °F to 135 °F). Foods are grouped into one of three process categories (see Appendix 4.C for details on each process):

- Process #1 – No Cook

The menu item does not go through the entire danger zone at any time.

Example: Melon is washed, peeled, cut, and held for service at 41 °F or lower.

- Process #2 – Same Day Service

The menu item goes through the danger zone once during cooking.

Example: Pizza is cooked to 165 °F; held for service at 135 °F or higher; leftovers discarded.

- Process #3 – Complex Food Preparation

The menu item goes through the temperature danger zone at least twice, first heating (cooking) and then proper cooling for future use. These menu items may go through the temperature danger zone a third time if they are reheated and then hot-held.

Example: Lasagna ingredients prepared in advance

- Day 1: The noodles are cooked, rinsed, and cooled to 41 °F or less; meat sauce is cooked to 165 °F and cooled to 41 °F or less; ingredients are held at 41 °F or less for further preparation the next day.
- Day 2: The lasagna ingredients are layered in the baking pan – cooked noodles, meat sauce, and cheese all at 41 °F or less; cooked to 165 °F for 15 seconds; held for service at 135 °F or higher.

Here is how to build the Process Approach into your recipes. Start with a review to determine which process is correct for each recipe or menu item. Make sure CCPs and critical limits are part of the instructions on all of your standardized recipes. Identify where staff will record temperatures, whether on production records or logs. When you have a new or revised menu item, categorize that item in the appropriate process group. Verify the recipe has proper CCPs and critical limits listed.

Train your staff on the Process Approach including how and when to take corrective action and how to document steps taken. Training helps your staff understand the importance of changes on production records, standardized recipes, and other records to incorporate and document your food safety program. Food safety is one of the training topics identified for Professional Standards requirements. *Food Safety in Schools* from ICN, available in English and Spanish (<https://theicn.org/icn-resources-a-z/food-safety-in-schools>), includes training materials on the Process Approach. Establish a monitoring system to confirm that menu items are in the correct process group and that staff members follow established CCPs. Maintain monitoring records to confirm food is safely prepared and served.

The USDA Bok Choy Wrappers recipe mentioned earlier in this chapter includes CCPs in the preparation steps. Preparation step 7 states to bake the bok choy filling to an internal temperature of 165 °F or higher for at least 15 seconds, and step 8 states to hold hot for service at 135 °F or higher. Your recipes should include CCPs if preparation requires foods to move through the temperature danger zone. Any time recipes are modified, include CCPs to maintain food safety.

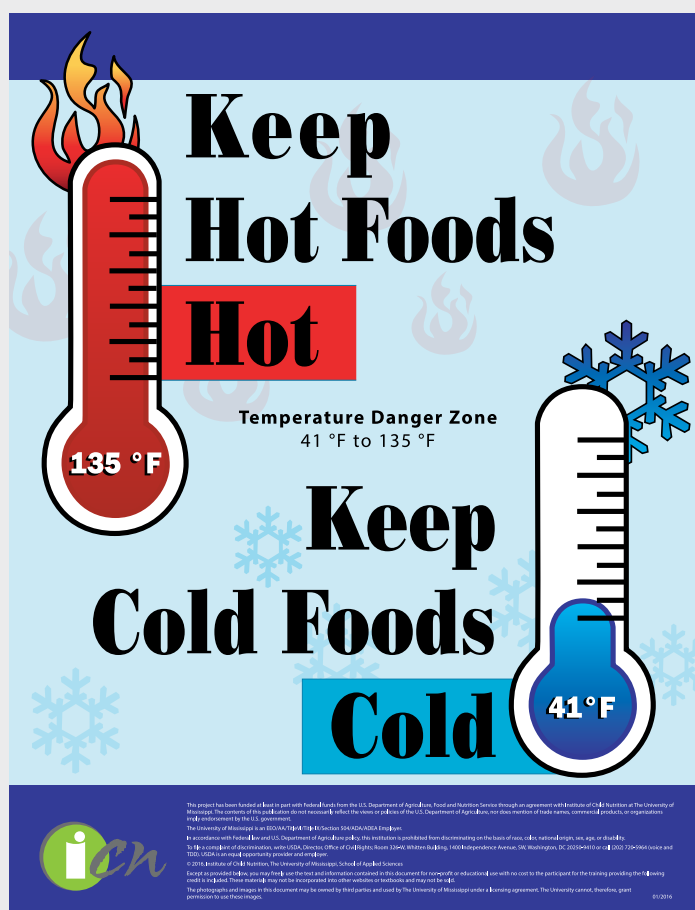
The SA will review your program for food safety practices and HACCP principles. Recordkeeping and SOPs are critical to adhering to food safety regulations.



Time and temperature controls are critical to food safety. All items on your menu should be evaluated to determine those that require time and temperature control for safety. The abbreviation TCS means Time/Temperature Control for Safety. TCS foods require special controls because these foods support the growth of bacterial pathogens and the formation of toxins. Examples include meat and poultry, sliced melons or tomatoes, or reheated combination foods such as chili. Time and temperature controls are important to limit the growth of microorganisms or formation of toxins. School nutrition staff must follow established guidelines to meet and maintain food safety standards, which require:

- Maintaining food temperatures above or below the temperature danger zone
- Monitoring foods that pass through the temperature danger zone
- Tracking total time a food is in the temperature danger zone
- Discarding food held in the temperature danger zone more than 4 hours.

Your staff practices food safety with time and temperature controls for foods during preparation, holding, service, cooling, and storage. You can learn more about TCS and time and temperature control in *Food Safety Basics 2nd ed.* (<https://theicn.org/icn-resources-a-z/food-safety-basics>) from the Institute of Child Nutrition.



Preparation and Service During the Administrative Review

The SA must observe meal preparation and service on the day of review at the selected schools to determine whether the SFA follows the food safety program and HACCP principles.

To make this determination, the SA should use the statements below as a guide:

- Proper personal hygiene is evident (hair restraints, gloved hands, appropriate hand washing).
- Cross-contamination is prevented.
- Food temperatures are monitored and recorded.
- Refrigerator and freezer temperatures are monitored and recorded.
- Food preparation and service areas are clean.
- Clean utensils and equipment are used for food preparation and meal service.
- No obvious evidence of pests is present.

Note: These statements are not exhaustive, and the SA should use discretion regarding any observations related to improper food handling. For example, if the SFA Onsite Monitoring form for a selected school noted a particular food safety violation, then the SA should ensure that the same violation does not occur during the day of review. Furthermore, the SA should ensure that a copy of the food safety program is available and easily accessible to food service staff at each selected school.

Excerpted from U.S. Department of Agriculture, Food and Nutrition Service, Child Nutrition Programs. Administrative Review Manual.



CONCLUSION

Production records, standardized recipes, and HACCP food safety procedures are critical to the success of your school nutrition program. The production record provides the planned and actual menu items produced and served. The standardized recipe provides a quality product consistent with the menu. Follow HACCP-based SOPs to ensure your food safety program applies to every food item and meal prepared.

Production records, standardized recipes, and written HACCP-based food safety SOPs ensure your customers receive nutritious, safe, high-quality meals that not only meet regulations, but also taste good! Let's summarize the key points of this chapter:

- Production records provide:
 - Preparation and service information
 - Actual daily counts of meals produced and served for reimbursement
 - Records for forecasting, procurement, and inventory management
 - Records for the AR.
- Standardized recipes:
 - Are tested for use in your kitchen(s) and produce consistent good results and yields every time when using the same procedures, equipment, and quality and quantity of ingredients
 - Help provide:
 - Reliable nutrition content
 - Food-safe practices
 - Product quality and quantity management
 - Reliable production forecasting
 - Cost control
 - Consistent results that students expect
 - Are not standardized *until* they are modified to meet your specific school nutrition program

- Are developed in three phases:
 - Recipe verification
 - Product evaluation
 - Quantity adjustment.
- HACCP-based food safety programs:
 - Are required in your school nutrition program
 - Use written food safety SOPs that include:
 - Instructions
 - Monitoring procedures
 - Corrective actions
 - Verification procedures
 - Recordkeeping procedures
 - Often use standardized recipes that incorporate the Process Approach to HACCP
 - Include staff training and AMC.

Production records, standardized recipes, and HACCP-based food safety procedures are vital to your school nutrition program. They help ensure your operations meet NSLP and SBP guidelines and food safety regulations as well as satisfy your customers. Your entire school nutrition team will rely on the information provided by production, recipe, and HACCP documentation to prepare and serve nutritious, safe foods. That is a formula for success and increased student participation. In the next chapter, you will learn how to procure food and supplies.



Review and answer each of these questions. You will find the answer key at the end of the Menu Planner.



1. What are the two steps for completing production records?
2. What are three advantages of standardized recipes?
3. What are the three phases of recipe standardization?
4. HACCP-based SOPs include what five steps?
5. What is the Process Approach to HACCP?

If you got the answers right, great job! You are ready for the next chapter.

If you missed any, review that section of the chapter before moving on to the next chapter.

LINKS TO ADDITIONAL RESOURCES

Institute of Child Nutrition, Basics at a Glance, University, MS (<https://theicn.org/icn-resources-a-z/basics-at-a-glance/>).

Institute of Child Nutrition, Child Nutrition Recipe Box, University, MS (<https://theicn.org/cnrb/>).

Institute of Child Nutrition, Food Safety Basics 2nd ed., University, MS (<https://theicn.org/icn-resources-a-z/food-safety-basics>).

Institute of Child Nutrition, Food Safety in Schools, 2015, University, MS. (<https://theicn.org/icn-resources-a-z/food-safety-in-schools>).

Institute of Child Nutrition, Seguridad de alimentos en las escuelas, 2016, University, MS. (<https://theicn.org/icn-resources-a-z/seguridad-de-alimentos-en-las-escuelas-spanish-version-food-safety-in-schools/>).

Institute of Child Nutrition, HACCP-Based Standard Operating Procedures, 2016, University, MS (<https://theicn.org/resources/600/food-safety-sop-resources/105656/complete-manual.doc>).

Institute of Child Nutrition, Production Records, University, MS (<https://www.theicn.org>).

U.S. Department of Agriculture, Food and Nutrition Service, Food Buying Guide for Child Nutrition Programs, Alexandria, VA (<https://www.fns.usda.gov/tn/food-buying-guide-for-child-nutrition-programs>).

U.S. Department of Agriculture, Food and Nutrition Service, Food-Safe Schools Action Guide, Alexandria, VA (<https://www.fns.usda.gov/sites/default/files/Food-Safe-Schools-Action-Guide.pdf>).

U.S. Department of Agriculture, Food and Nutrition Service, Guidance for School Food Authorities: Developing a School Food Safety Program Based on The Process Approach to HACCP Principles, 2005, Alexandria, VA (https://fns.usda.gov/sites/default/files/Food_Safety_HACCPGuidance.pdf).

U.S. Department of Agriculture, Food and Nutrition Service, Child Nutrition Programs, Administrative Review Manual (contact your State agency for the most current version).

U.S. Department of Agriculture, Food and Nutrition Service, Team Nutrition, Recipes for Healthy Kids Cookbook for Schools, Alexandria, VA (<https://www.fns.usda.gov/tn/recipes-healthy-kids-cookbook-schools>).

U.S. Department of Agriculture, Food and Nutrition Service, USDA Recipe Standardization Guide for School Nutrition Programs, Alexandria, VA (<https://theicn.org/cicn/usda-recipe-standardization-guide-for-school-nutrition-programs/>).

APPENDIX ITEMS

Appendix 4.A Production Record Samples

Appendix 4.B Basics at a Glance

Appendix 4.C The Process Approach to HACCP
for No Cook, Same Day Service, and Complex
Food Preparation