Exploring School Nutrition Professionals' Preferences of USDA Recipes and R4HK Competition Recipes for Meeting USDA Meal Pattern Requirements

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National Food Service Management Institute
The University of Mississippi

Building the Future Through Child Nutrition

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The purpose of the National Food Service Management Institute is to improve the operation of child nutrition programs through research, education and training, and information dissemination.

MISSION
The mission of the National Food Service Management Institute is to provide information and services that promote the continuous improvement of child nutrition programs.

VISION
The vision of the National Food Service Management Institute is to be the leader in providing education, research, and resources to promote excellence in child nutrition programs.

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EXECUTIVE SUMMARY

The federal government has been involved in the development of standardized recipes for school lunch since 1936 (United States Department of Agriculture [USDA], 1936). In 2007, the *USDA Recipes for Schools* was modified to reflect the 2001 revisions to the USDA's *Food Buying Guide for Child Nutrition Programs*. In 2010, new regulations for meal patterns and nutrition standards for the National School Lunch Program (NSLP) and School Breakfast Program (SBP) were finalized (USDA Food and Nutrition Service, 2012). To support the new meal patterns and nutrition standards, the USDA launched the Recipes for Healthy Kids (R4HK) competition, challenging school nutrition (SN) professionals and stakeholders to develop creative, nutritious, kid-friendly recipes for schools participating in the NSLP and SBP. The top recipes in each category (whole grains, dark green/orange vegetables, and dry beans and peas) were standardized for use in child nutrition programs. The current file of the *USDA Recipes for Schools*, which includes the R4HK, is online, and may be found at the National Food Service Management Institute (NFSMI) Web-site. This file consists of 226 recipes divided into nine categories: "Grains/Breads," "Desserts," "Main Dishes," "Salads and Salad Dressing," "Sandwiches," "Sauces, Gravies, and Seasoning Mixes," "Soups," "Vegetables," and "Breakfast" (NFSMI, 2014).

While there have been several studies throughout the years identifying and investigating factors that impact student participation and satisfaction with the NSLP (Asperin, Nettles, & Carr, 2008; Asperin, Nettles, & Carr, 2009; Fogleman, Dutcher, McProud, Nelken, & Lins 1992;

Gilmore, Hutchinson, & Brown, 2000; Hutchinson, Gilmore, & Brown, 1998; McConnell, Matta, & Shaw, 1997; Meyer & Conklin, 1998; Roseman & Niblock, 2006), there appears to be a dearth of research investigating the acceptability or satisfaction with USDA recipes by students or other SN stakeholders.

The purpose of this study was to explore SN professionals' perceptions, preferences, and needs pertaining to USDA recipes and R4HK competition recipes for meeting the 2012 USDA meal pattern requirements. To achieve this, the project was divided into two phases. In phase I, an expert panel of eight SN professionals convened to identify the major issues related to SN professionals' preferences of USDA and R4HK recipes for meeting the USDA meal pattern requirements. In phase II, findings from the expert panel were used to develop an online survey. The survey was sent to a random sample of 2,100 SN directors, representing the seven USDA regions, to achieve the study goals and objectives.

The response rate to the survey was 23.4% ($N = 511$). The majority (72.4%) of respondents indicated that 49% or less of the foods prepared at the SN program were from scratch. District enrollment appears to play a role in the level of food preparation/processing in a school district. As the size of the school district increased, the prevalence of scratch food preparation decreased significantly [Chi square value ($N = 551$, df = 15) = 44.06, p <.001].

The majority of SN directors (74.6%) indicated that they used USDA recipes, and most (64.4%) said they modified the USDA recipes to meet their needs. District enrollment appears to play a significant role in the usage of USDA recipes. As enrollment size increased, usage of USDA recipes significantly decreased [Chi square value ($N = 511$, df = 2) = 22.53, p <.001].

District enrollment size had a significant and inverse relationship with SN directors' perceived value of the USDA recipes regarding several operational issues. School nutrition

directors from the smallest school districts (district enrollment under 1,000) were significantly more likely to rate the USDA recipes as *excellent* or *good* for meeting their needs for participating in the Summer Food Service Program [$F(5, 99) = 3.28$, $p = .009$], the Fresh Fruit and Vegetable Program [$F(5, 83) = 3.89$, $p = .003$], and breakfast in the classroom [$F(5, 54) = 6.15$, $p < .001$], when compared to SN directors from the largest school districts (district enrollment of 25,000 or greater). Further, SN directors from the smallest school districts (district enrollment under 1,000) were significantly more likely to rate the USDA recipes as *excellent* or *good* for meeting their needs for complying with the USDA regulations for sodium [$F(5, 276) = 2.54$, $p = .036$] when compared to SN directors from the largest school districts (district enrollment of 25,000 or greater).

District enrollment size also played a significant role in SN directors' perceived value of the USDA recipes regarding the following customer service issues: trendiness, regional appropriateness, and cultural diversity. School nutrition directors from the smallest districts (district enrollment of less than 1,000) rated the "trendiness" of USDA recipes significantly higher than directors from districts with enrollments of 1,000 – 9,999 [$F(5, 286) = 3.51$, $p = .004$]. "Regional appropriateness" ratings for USDA recipes were significantly higher for school districts with enrollments of less than 1,000 compared to those with enrollments of 1,000 – 2,499 and 5,000 – 9,999 [$F(5, 280) = 3.28$, $p = .007$]. "Cultural diversity" ratings for USDA recipes were significantly higher for school districts with enrollments of less than 1,000 compared to those with enrollments of 1,000 – 4,499 and 25,000 or more. [$F(5,277) = 3.80$, $p = .002$].

Only 17.5% of respondents reported they used R4HK. The reason most often cited for not using R4HK was, "I did not know about R4HK" (60.1%).

The results of this study suggest the following conclusions: there is a strong need for USDA recipes; school district size has a significant effect on the usage of USDA recipes; the current USDA recipe file has several perceived strengths; and there are several potential opportunities for improving the USDA recipes. Based on these conclusions, the following recommendations are suggested:

- Develop a greater variety of breakfast recipes, especially recipes that support breakfast carts and breakfast in the classroom.

- Develop a greater variety of regional produce recipes to support local farm-to-school initiatives.

- Develop a greater variety of vegetable recipes to support the new meal pattern requirements pertaining to dark green and red/orange vegetables and legumes.

- Develop more fruit recipes to support the "no added sugar" and "no syrup" meal pattern restrictions that apply to fruit juice, canned fruit and frozen fruit.

- Conduct research studies to:

  o Evaluate stakeholder (student, parent, teacher, SN director, SN staff, and school administration) acceptability of the USDA recipes;

  o Identify ways of adapting the *USDA Recipes for Schools* to better meet the "trends of today;"

  o Identify ways of adapting the *USDA Recipes for Schools* to better meet the cultural and regional preferences of stakeholders in a variety of settings (i.e., metropolitan and rural areas, and districts with small, moderate, and large enrollments).

INTRODUCTION

The potential benefits of utilizing standardized recipes to institutional foodservice operations, such as school nutrition (SN) programs, are generally accepted by the foodservice industry, including: uniform quality of menu items, increased staff productivity, reduced waste, greater inventory control, and simplification of menu costing (Buchanan, 1993; Gregoire, 2013). However, utilization of standardized recipes does not guarantee these benefits. Staff training and supervision are essential to ensure recipes are followed consistently, and good food specifications are important to ensure quality ingredients (Mitani & Dutcher, 1992).

The federal government became involved in the development of standardized recipes for school lunch in 1936 (United States Department of Agriculture [USDA], 1936), the same year the commodity donation program was passed into law. A major objective of the commodity legislation was to remove price-depressing surplus foods from the market and make them available to needy school children who could not afford to pay for lunches (Gunderson, 2014). Since 1936, the USDA, along with other federal agencies and national associations, have produced many recipe guides for school feeding programs, and these guides have continued to evolve based on the needs of SN programs and nutritional guidelines established by the USDA (National Canner Association, 1946; National Food Service Management Institute [NFSMI], 2014; Oliver, 2014; USDA, 1940; USDA, 1943; USDA, 1948a; USDA, 1948b; USDA, 1949; USDA, 1953; USDA, 1971; USDA, 1988).

The earliest available-known set of school recipes, *Menus and Recipes for Lunches at Schools*, was published by the USDA in 1936. This circular contained four primary sections: "Foods Children Need," "The School Lunch," "Nursery-School Meals," and "Purchasing Suggestions." The section "Foods Children Need" identified five classes of foods needed by

children for a balanced diet (milk; vegetables and fruits; eggs, meats, poultry or fish; bread and cereals; and fats and sugars) and provided a recommended daily schedule of foods from each class for children. The "School Lunch" section contained three weeks of menus with corresponding recipes that served 50 students. The daily menus were built around one nutritious hot dish, while each weekly pattern provided a recipe made with eggs, a meat mixture, a milk-based soup, dried legumes, and two recipes made with tomatoes. The recipes were formatted with a title centered at the top, followed by a listing of wet and dry ingredients as either weights or measures in two columns, and a narrative paragraph containing preparation and cooking instructions, recipe yield, and a recommended serving size. The "Nursery-School Meals" section included two weeks of menus with corresponding recipes to serve 25 students and six teachers. The nursery-school recipes, which were formatted the same way as the school lunch recipes, were reported to supply one-half of a nursery school child's daily food requirement when provided with an afternoon snack of six to eight ounces of milk and one large graham cracker. The last section, "Purchasing Suggestions," provided practical food buying advice, such as "purchasing perishable items in smaller quantities frequently" and "buying staples in bulk when storage space allows" (Oliver, 2014; USDA, 1936).

In 2007, the *USDA Recipes for Schools* was modified to reflect the 2001 revisions to the USDA's *Food Buying Guide for Child Nutrition Programs* (NFSMI, 2014). The format for each recipe includes a title, the meal component of the recipe, the recipe category, and the following six columns of information: ingredients; weights and measures for 50 and 100 servings, directions, servings, yield, volume, and nutrients per serving. Within the ingredients column, options are sometimes given for using fresh, frozen, dried, or canned products. The directions column provides critical control points for all potentially hazardous recipes. The serving column

provides the serving size and the contribution of the recipe towards a meal component. The

volume column indicates the sizes of the serving pans and the quantity the recipe will produce.

The nutrients per serving column contains the following nutrients: calories, protein,

carbohydrates, total fat, saturated fat, cholesterol, vitamin A, vitamin C, iron, calcium, sodium,

and dietary fiber. Some of the recipes include a marketing guide and a variations/special tips

section. (NFSMI, 2014)

In 2010, new regulations for meal patterns and nutrition standards for the National School

Lunch program (NSLP) and School Breakfast program (SBP) were finalized, requiring most

schools to increase the availability of fruit, vegetables, whole grains, fat-free milk, and low-fat

milk in school meals; reduce sodium, saturated fat, and trans fat in school meals; and meet the

nutrition needs of children with calorie requirements (USDA Food and Nutrition Service, 2012).

To support the new meal patterns and nutrition standards, the USDA launched the Recipes for

Healthy Kids (R4HK) competition, challenging SN professionals and stakeholders to develop

creative, nutritious, kid-friendly recipes for schools participating in the NSLP and SBP. As part

of the submission process, participants were required to provide documentation demonstrating

that each recipe was served to a majority of the student body and that at least 30 students from

the participating school evaluated the recipe for taste. The final recipes were judged by an expert

panel that included USDA staff and volunteer professional chefs. The judging criteria included

student involvement, nutrition, creativity/originality, ease of use in schools, and recipe

presentation. The top recipes in each category (whole grains, dark green/orange vegetables, and

dry beans and peas) were standardized for use in child nutrition programs. Each of the R4HK,

which are incorporated in the *USDA Recipes for Schools* on the NFSMI Web site, includes a

picture of how the finished product should look, a description of the recipe, background

information on the school that developed the recipe, along with the same columns provided with

the *USDA Recipes for Schools*. The weights and measures column also includes data for 25

servings. Each of these recipes includes a marketing guide section, but instead of a

variations/special tips section, each recipe includes a notes section (R4HK, 2014; USDA, 2011).

The current *USDA Recipes for Schools*, which includes the R4HK, is available in print or

online at the NFSMI Web site. This file consists of 226 recipes divided into nine categories:

"Grains/Breads," "Desserts," "Main Dishes," "Salads and Salad Dressing," "Sandwiches,"

"Sauces, Gravies, and Seasoning Mixes," "Soups," "Vegetables," and "Breakfast"

(NFSMI, 2014).

While there have been several studies throughout the years identifying and investigating

factors that impact student participation and satisfaction with the NSLP (Asperin, Nettles, &

Carr, 2008; Asperin, Nettles, & Carr, 2009; Fogleman, Dutcher, McProud, Nelken, & Lins,

1992; Gilmore, Hutchinson, & Brown, 2000; Hutchinson, Gilmore, & Brown, 1998; McConnell,

Matta, & Shaw, 1997; Meyer & Conklin, 1998; Roseman & Niblock, 2006), there appears to be

a dearth of research investigating the acceptability of or satisfaction with USDA recipes by

students or other SN stakeholders. In 1996, Borja, Bordi, and Lambert compared childrens'

acceptance of four USDA dessert recipes (brownies, chocolate cake, spice cake, and oatmeal

raisin cookies) with four low-fat modifications of the same recipes. Results of the study indicated

the new recipes were well accepted by the children.

When the USDA began developing recipes for schools in the 1930s, the availability of

pre-prepared menu items that did not require recipes was non-existent (Martini, 2009). Today,

there is vast array of pre-made menu items available to SN operations that do not require recipes.

Additionally, societal changes in the United States throughout the years have altered students'

expectations and desires regarding school foodservice (Bevans, Sanchez, Teneralli, & Forrest, 2011; de Vet, de Ridder, & de Wit, 2010; French, Story, & Jeffery, 2001). While the USDA quantity recipes for schools have continued to evolve, it is unclear if this evolution has kept pace with the needs of SN operations. Therefore, the purpose of this study was to explore SN professionals' perceptions, preferences, and needs pertaining to USDA recipes and R4HK competition recipes for meeting the 2012 USDA meal pattern requirements.

Research Objectives

The specific objectives of the project were to:

- Assess the usage of USDA recipes and R4HK competition recipes in SN programs;

- Identify SN professionals' preferences for standardized recipes needed to meet new meal pattern requirements; and

- Determine SN professionals' needs (e.g., operational and menu planning) to increase the adoption of USDA recipes.

METHODOLOGY

Research Plan

The purpose of this study was to explore school nutrition (SN) professionals' perceptions, preferences, and needs pertaining to United States Department of Agriculture (USDA) recipes and Recipes for Healthy Kids (R4HK) competition recipes for meeting the 2012 USDA meal pattern requirements. To achieve this, the project was divided into two phases. In Phase I, an expert panel of eight SN professionals convened to identify the major issues related to SN professionals' preferences of USDA and R4HK recipes for meeting the USDA meal pattern requirements. In Phase II, findings from the expert panel were used to develop an online survey. The survey was sent to a random sample of 2,100 SN directors, representing the seven USDA regions, to achieve the study goals and objectives.

Phase I: Expert Panel

Phase I of the study consisted of a one-and-a-half day expert panel session with SN professionals. State agency directors were contacted to recommend SN directors and state agency staff with knowledge and experience utilizing and modifying USDA recipes to meet the new menu planning standards. From this pool, seven SN directors and one state agency representative were invited, and all agreed to participate. The invitations included an explanation of the study, the specific objectives of the expert panel session, contact information for questions and concerns, and an informed consent statement further outlining details of study participation. Confirmation letters including additional information regarding the upcoming session, and travel arrangements were mailed to participants.

Prior to conducting the expert panel, discussion topics for the meeting were developed based on research objectives and previous research. A listing of those discussion topics is

provided in Figure 1 on the next page. Approximately two weeks before the expert panel

meeting, participants were e-mailed a list of the first eight topics from Figure 1, and asked to

consider their professional experiences based on these topics before attending the meeting.

Figure 1

Expert Panel Discussion Topics

1. What USDA recipes do you use in your SN program? How often? Why?

2. What USDA recipes have you tried, but do not use in your SN program? Why?

3. What USDA recipes have you not tried? Why?

4. Is there a category of USDA recipe you use most often (Grains/Breads, Desserts, Main Dishes, Salads/Salad Dressings, Sandwiches, Sauces/Gravies/Seasoning Mixes, Soups, Vegetables, and Breakfast)?

5. Is there a category of USDA recipe you use least often (Grains/Breads, Desserts, Main Dishes, Salads/Salad Dressings, Sandwiches, Sauces/Gravies/Seasoning Mixes, Soups, Vegetables, and Breakfast)?

6. What R4HK do you use in your SN program? How often? Why?

7. What R4HK have you tried, but do not use in your SN program? Why?

8. What R4HK have you not tried? Why?

9. How do you feel the current file of USDA recipes and R4HK meets your needs for the new meal pattern requirements? What changes or additions need to be made to better meet these needs?

10. Each of you were selected because you use USDA recipes, but not all SN programs use USDA recipes. How does the current file of USDA recipes and R4HK meet the vast majority of SN programs' needs for the new meal pattern requirements? Why? What changes need to be made to increase usage of USDA recipes?

11. What standardized recipes have you developed in your SN program to meet the new meal pattern requirements? Why?

12. What organizational changes need to be made to the USDA standardized recipes/recipe data base to improve adoption by SN programs? Why?

13. What other changes need to be made to the USDA standardized recipes/recipe data base to improve adoption by SN programs? Why?

14. If you could give the USDA advice on any aspect of USDA recipes from development, to testing, to ingredients, to formatting, to rolling out the final product, what advice would you give? Why?

15. How do the USDA recipes and the R4HK meet the needs of SN programs participating in farm-to-school?

The expert panel session was conducted at the National Food Service Management Institute, Applied Research Division (NFSMI, ARD) located on the campus of The University of Southern Mississippi in Hattiesburg, Mississippi. The agenda established for the expert panel was designed to address the issues outlined in the research objectives so that discussion supported the development of a survey to be utilized in Phase II of the study. Throughout the session, participants were asked semi-structured, open-ended questions related to the research objectives. A structured approach was employed to keep the discussion focused on the selected topics. The expert panel was moderated by one researcher, while an additional researcher captured participant comments on a computer. Toward the end of the session, after all questions were discussed, the moderator summarized responses, and participants were asked to verify the accuracy of the depiction of the discussion summation. The responses recorded during the expert panel were incorporated into statements that were utilized to develop the quantitative survey instrument.

Phase II: National Survey Development and Administration

Information gathered from the Phase I discussions was used to develop an online survey in Survey Monkey. An invitation with the URL of the survey was sent electronically to a review panel consisting of the individuals who participated in the expert panel and to other SN professionals previously recommended by state agency directors. These individuals were asked to complete the survey and provide comments on the readability, clarity, and flow of the survey instrument.

A final draft of the survey, which was revised based on review panel suggestions, contained 46 questions distributed between the following four sections: USDA Recipes, Recipes for Healthy Kids, School Nutrition Program Food Preparation Characteristics, and

Demographics. The first section, "USDA Recipes," contained 15 multiple choice style questions

pertaining to the usage of USDA recipes. Question one, in the USDA recipe section, asked "Do

you use USDA recipes in your SN program?" If respondents answered *no* to question one, the

survey automatically skipped to the last question in the USDA section, which asked respondents

to select from a list provided, all the reasons they do not use USDA recipes at their school

district. Section two, "Recipes for Healthy Kids," contained 15 questions, similar to those in

section one, except these questions dealt with the usage of R4HK. The first question in section

two asked "Do you use R4HK in your SN program?" As with section one, if respondents

answered *no* to this question, the survey automatically skipped to the last question in the R4HK

section, which asked respondents to select from a list provided, all the reasons they do not use

R4HK at their school district. Section three, "School Nutrition Program Food Preparation

Characteristics," contained 11 questions pertaining to the preparation level of different foods

purchased by their SN program. Section four contained five questions associated with the

demographics of SN programs.

  A random sample of 2,100 SN directors representing the seven USDA regions was sent a

letter inviting them to participate in the online survey. The sample was selected from a data base

of school districts maintained by Market Data Retrieval, a company that specializes in the school

market. The invitation letter included the following information: the research objectives,

instructions for locating and completing the survey (including the URL), a confidentiality

statement, and contact information for the Human Subjects Protection Review Committee. A

follow-up postcard was sent approximately one week after initial mailing to encourage directors

to complete the survey if they had not already done so.

Data Analysis

The statistical package SPSS Version 21.0 for Windows was utilized to analyze survey data. Descriptive statistics included means, standard deviations, and frequencies of total responses. Chi Square and one-way ANOVA with Tukey's post hoc tests were conducted to determine the relationship between research variables.

RESULTS

School Nutrition Program Characteristics

The response rate to the survey was 23.4% ($N = 511$). School nutrition (SN) program demographics for survey respondents are provided in Table 1. Approximately one-half of respondents (51.1%) were from school districts with enrollment of less than 2,500 students, and the overwhelming majority of respondents were from "self-operated" SN programs (92.5%). The Midwest and the Southeast were the most heavily represented United States Department of Agriculture (USDA) regions, making up 25.3% and 23.9% of the total number of respondents, respectively, while the Mid-Atlantic was the least represented USDA region, consisting of 8.4% of the total respondents.

Table 1

School Nutrition Program Demographics

Question	Frequency	%
What is the student enrollment in your school district?		
Under 1,000	91	21.9
1,000 – 2,499	121	29.2
2,500 – 4,999	80	19.3
5,000 – 9,999	55	13.3
10,000 – 24,999	32	7.7
25,000 or greater	36	8.6
How is your school nutrition program managed?		
Self-operated	384	92.5
Contract management company	31	7.5
What USDA region is your school district located?		
Midwest	105	25.3
Southeast	99	23.9
Northeast	66	15.9
Southwest	59	14.2
Western	51	12.3
Mid-Atlantic	35	8.4
What percent of students are approved for free and reduced priced meals in your school district?		
0% – 29%	56	13.5
30% – 39%	50	12.0
40% – 49%	65	15.7
50% – 59%	73	17.6
60% – 69%	64	15.4
70% – 79%	57	13.7
80% – 100%	50	12.0
What is the percent average daily participation (% ADP) of students in the National School Lunch Program at your school district?		
0% – 59%	112	26.4
60% – 69%	97	23.4
70% – 79%	97	23.4
80% – 100%	111	26.7

In the survey section titled "School Nutrition Program Food Preparation Characteristics," respondents were asked to identify the preparation level of different foods at their SN program. The responses to these questions are listed in Table 2. The majority (72.4%) of respondents indicated that 49% or less of the foods prepared at the SN program were from scratch. Less than one-half of SN directors (48.2%) reported that raw animal proteins were processed at their programs, with beef identified as the most common raw animal protein processed (81.3%). Among the food categories of soup, bread, baked desserts, and sauces, soups were the category most often prepared from scratch (58.7%) and bread was the category most purchased "ready-made" (54.4%). Most respondents indicated their school district does not participate in a farm-to-school initiative (65.6%); however, the largest percentage of respondents (60.8%) indicated their school district buys 50% or more of the produce fresh.

Table 2

School Nutrition Program Food Preparation Characteristics

Question	Frequency	%
What percentage of the foods served in your school district are prepared from scratch?		
0 – 24%	153	36.3
25% – 49%	152	36.1
50% – 74%	90	21.4
75% – 100%	26	6.2
Do you process any raw meats/animal proteins (beef, pork, poultry, seafood, eggs, etc.) in your school district?		
Yes	203	48.2
No	218	51.8
Please indicate which of the following raw meats/animal proteins are used in your school district.*		
Beef	165	81.3
Poultry	134	66.0
Eggs	115	56.7
Pork	86	42.4
Seafood	20	9.9
Other	7	3.4
Please indicate the most common method of soup preparation in your school district.		
Dry package mix	20	4.8
Canned soup or packaged (ready-to-serve)	153	36.5
Scratch	246	58.7
Please indicate the most common method of bread preparation in your school district.		
Packaged (ready-to-serve)	228	54.4
Frozen dough	90	21.5
Scratch	101	24.1

*This is a multiple response question; therefore, the sum percentage of responses for this question may be greater than 100%.

(Table 2 continues)

(Table 2 continued)

School Nutrition Program Food Preparation Characteristics

Question	Frequency	%
Please indicate the most common method of preparing baked desserts in your school district.		
Packaged (ready-to-serve)	94	22.4
Dry package mix	56	13.4
Frozen	70	16.7
Scratch	199	47.5
Please indicate the most common method of preparing sauces in your school district.		
Canned or packaged (ready-to-serve)	122	29.1
Dry package mixes	199	47.5
Scratch	98	23.4
Does your school district participate in a farm-to-school initiative?		
Yes	144	34.4
No	275	65.6
Please indicate what percentage of produce (fruit and vegetables) your school district buys fresh.		
75 – 100%	59	14.1
50 – 74%	195	46.7
25 – 49%	137	32.8
0 – 24%	27	6.4
Please indicate what percentage of produce (fruit and vegetables) your school district buys frozen.		
75 – 100%	7	1.7
50 – 74%	50	12.0
25 – 49%	157	37.6
0 – 24%	204	48.8
Please indicate what percentage of produce (fruit and vegetables) your school district buys canned.		
75 – 100%	12	2.9
50 – 74%	67	16.0
25 – 49%	170	40.7
0 – 24%	169	40.4

*This is a multiple response question; therefore, the sum percentage of responses for this question may be greater than 100%.

District enrollment appears to play a role in the level of food preparation/processing in a school district. As demonstrated in Table 3, as school district size increased, the prevalence of scratch food preparation decreased significantly [Chi square value ($N = 551$, df = 15) = 44.06, p<.001]. Further, as school district size increased, participation in farm-to-school initiatives decreased significantly (Table 4) [Chi square value ($N = 511$, df = 5) = 25.96, p<.001]. This is relevant, because food products received through a farm-to-school program usually require more processing than foods purchased from regional distributors (Rushing, 2014). These results are consistent with findings reported by Lewi, Herndon, and Belmont (2009) that SN programs in smaller school districts are more likely than SN programs in larger districts to offer scratch prepared foods, including bakery products, entrees and side dishes.

Table 3

Enrollment Compared to Percentage of Foods Prepared from Scratch[*]

Student Enrollment	Percentage of the Foods Served that are Prepared from Scratch							
	0 – 24%,		25 – 49%		50 – 74%		75 – 100%	
	N	%	N	%	N	%	N	%
Under 1,000	23	25.3%	26	28.6%	31	34.1%	11	12.1%
1,000 – 2,499	35	28.9%	57	47.1%	23	19.0%	6	5.0%
2,500 – 4,999	32	40.0%	57	30.0%	20	25.0%	4	5.0%
5,000 – 9,999	25	45.5%	22	40.0%	7	12.7%	1	1.8%
10,000 – 24,999	19	59.4%	8	25.0%	5	15.6%	0	0.0%
25,000 or greater	19	52.8%	12	33.3%	3	8.3%	2	5.6%

[*]Chi square value ($N = 551$, df = 15) = 44.06, p<.001.

Table 4

Enrollment Compared to Participation in a Farm-to-School Initiative[*]

Student Enrollment	Participation in a Farm-to-School Initiative	
	N	%
Under 1,000	16	82.4
1,000 – 2,499	41	66.1
2,500 – 4,999	26	67.5
5,000 – 9,999	22	60.0
10,000 – 24,999	15	53.1
25,000 or greater	22	38.9

[*]Chi square value ($N = 511$, df = 5) = 25.96, p<.001.

Respondents were asked a series of questions regarding the usage of USDA recipes in their SN programs. The majority of SN directors (74.6%) indicated they used USDA recipes, and most (64.4%) said they modified the USDA recipes to meet their needs (Table 5). Respondents indicated that USDA recipes associated with the following food categories were used one or more times per month: "main dishes" (82.9%), "vegetables" (56.8%) and "grains/breads" (55.4%). The food categories utilized the least often (less than once per year) were "breakfast" (53.2%); "sauces, gravies and seasonings" (37.5%) and "desserts" (37.3%) (Table 6).

Table 5

USDA Recipes Usage

Question	Frequency	%
Do you use USDA recipes in your school nutrition program?		
Yes	381	74.6
No	130	25.4
Which of the following statements most accurately represents how your school nutrition program uses USDA recipes?		
We use USDA recipes as they are written.	116	35.6
We modify the USDA recipes as necessary to meet our needs.	210	64.4

Table 6

USDA Recipes: Preparation by Category

Question	Frequency	%
On average, how often does your school nutrition program prepare recipes from each category of the USDA recipes?		
Grains/Breads		
One or more times per week	104	32.0
1 – 3 times per month	76	23.4
2 or more times per year	42	12.9
Once a year	17	5.2
Less than once a year	25	7.7
Never/Not applicable	61	18.8
Desserts		
One or more times per week	18	5.6
1 – 3 times per month	79	24.8
2 or more times per year	84	26.3
Once a year	19	6.0
Less than once a year	37	11.6
Never/Not applicable	82	25.7

District enrollment appears to play a significant role in the usage of USDA recipes. As demonstrated in Table 7, as enrollment size increased, usage of USDA recipes significantly decreased [Chi square value ($N = 511$, df $=2$) $= 22.53$, $p<.001$]. Additionally, the majority of respondents from districts with enrollment of less than 10,000 reported using USDA recipes, while less than half of those with enrollments of 10,000 or greater did the same. Since usage of USDA recipes indicates some degree of scratch food production, these results are consistent with the finding of Lewi et al. (2009) and those reported above that smaller school districts are more likely than larger school districts to serve scratch-prepared foods.

Table 7

Enrollment Compared to Usage of USDA Recipes[*]

Student Enrollment	Usage of USDA Recipes	
	N	%
Under 2,499	166	78.3
2,500 – 9,999	98	72.6
10,000 – or greater	33	48.5

[*]Chi square value ($N = 511$, df $=2$) $= 22.53$, p<.001.

Next, respondents were asked to rate the USDA recipes for meeting their needs related to

a variety of operational and customer service issues including: participating in specific

programs/activities; menu planning based on individual meal components; compliance with

multiple USDA meal pattern specifications, and other miscellaneous issues. The specific

programs/activities for which the USDA recipes received the most ratings of good or excellent

were the "National School Lunch Program" (71.4%) and the "Summer Food Service Program"

(59.3%). The programs/activities for which the USDA recipes received the most ratings of fair or

poor were: "grab n' go breakfast" (51.8%), "breakfast carts" (48.7%), and "breakfast in the

classroom" (46.2%) (Table 8). With regards to menu planning, meat was the meal component for

which USDA recipes received the most ratings of *good* or *excellent* (71.2%); while dark green

vegetables was the meal component for which USDA recipes received the most ratings of *fair* or

poor (52.4%) (Table 9). "No added sugar" and "no syrup" were the only meal pattern

specifications for which USDA recipes were rated *fair* or *poor* by the majority of respondents

(58.2% and 53.5%; respectively) (Table 10). The miscellaneous issues for which the USDA

recipes received the most ratings of *good* or *excellent* were "availability of food preparation equipment at the SN program" (78.0%), "skill level of SN staff in your district" (75.5%) and "simplicity of recipes" (74.0%); while "meets the trends of today," "cultural diversity" and "regional appropriateness" were the miscellaneous issues for which the USDA recipes received the most ratings of *fair* or *poor* (55.6%, 52.0%, and 52.0%; respectively) (Table 11).

Table 8

USDA Recipes: Ratings for Participation in Programs/Activities

Question		Frequency	%
Please rate how well the USDA recipes meet your needs for participating in each the following programs or activities.			
National School Lunch Program			
	Excellent	73	21.9
	Good	165	49.5
	Undecided	20	6.0
	Fair	60	18.0
	Poor	15	4.6
School Breakfast Program			
	Excellent	32	13.8
	Good	77	33.2
	Undecided	50	21.6
	Fair	40	17.2
	Poor	33	14.2
Farm-to-School			
	Excellent	8	7.8
	Good	20	19.4
	Undecided	39	37.9
	Fair	15	14.6
	Poor	21	20.3

(Table 8 continues)

(Table 8 continued)

USDA Recipes: Ratings for Participation in Programs/Activities

Question		Frequency	%
Please rate how well the USDA recipes meet your needs for participating in each the following programs or activities.			
Fresh Fruit and Vegetable Program			
	Excellent	15	15.0
	Good	34	34.0
	Undecided	30	30.0
	Fair	9	9.0
	Poor	12	12.0
Summer Food Service Program			
	Excellent	18	15.9
	Good	49	43.4
	Undecided	16	14.2
	Fair	20	17.7
	Poor	10	8.8
Child and Adult Care Food Program			
	Excellent	6	18.8
	Good	13	40.6
	Undecided	8	25.0
	Fair	2	6.3
	Poor	3	9.3
HealthierUS School Challenge			
	Excellent	21	15.9
	Good	44	33.3
	Undecided	37	28.0
	Fair	17	12.9
	Poor	13	9.9

(Table 8 continues)

(Table 8 continued)

USDA Recipes: Ratings for Participation in Programs/Activities

Question		Frequency	%
Please rate how well the USDA recipes meet your needs for participating in each the following programs or activities.			
Healthier School Day (Smart Snacks in School)			
	Excellent	7	10.8
	Good	17	26.2
	Undecided	24	36.9
	Fair	7	10.8
	Poor	10	15.3
Salad Bars			
	Excellent	19	13.7
	Good	47	33.8
	Undecided	34	24.5
	Fair	23	16.5
	Poor	16	11.5
Breakfast in the Classroom			
	Excellent	5	7.5
	Good	14	20.9
	Undecided	17	25.4
	Fair	7	10.4
	Poor	24	35.8
Breakfast after First Period (Mid-Morning Nutrition Break)			
	Excellent	6	17.1
	Good	8	22.9
	Undecided	9	25.7
	Fair	1	2.9
	Poor	11	31.4

(Table 8 continues)

(Table 8 continued)

USDA Recipes: Ratings for Participation in Programs/Activities

Question	Frequency	%
Please rate how well the USDA recipes meet your needs for participating in each the following programs or activities.		
Grab n' Go Breakfast		
Excellent	5	6.2
Good	22	27.2
Undecided	12	14.8
Fair	13	16.0
Poor	29	35.8
Breakfast Carts		
Excellent	1	2.6
Good	7	17.9
Undecided	12	30.8
Fair	2	5.1
Poor	17	43.6

Table 9

USDA Recipes: Ratings for Menu Planning

Question		Frequency	%
Please rate how well the USDA meet your overall menu planning needs for each of the following meal components.			
Fruit			
	Excellent	48	14.5
	Good	139	42.1
	Fair	96	29.1
	Poor	47	14.3
Dark Green Vegetables			
	Excellent	43	13.1
	Good	114	34.5
	Fair	114	34.5
	Poor	59	17.9
Red/Orange Vegetables			
	Excellent	44	13.6
	Good	118	36.4
	Fair	114	35.2
	Poor	48	14.8
Legumes			
	Excellent	44	13.3
	Good	134	40.4
	Fair	111	33.3
	Poor	43	13.0
Starch Vegetables			
	Excellent	42	12.8
	Good	128	39.0
	Fair	120	36.6
	Poor	38	11.6

(Table 9 continues)

(Table 9 continued)

USDA Recipes: Ratings for Menu Planning

Question		Frequency	%
Please rate how well the USDA recipes meet your overall menu planning needs for each of the following meal components.			
Whole Grains			
	Excellent	44	13.2
	Good	130	39.0
	Fair	105	31.5
	Poor	54	16.3
Meat			
	Excellent	67	20.3
	Good	168	50.9
	Fair	79	23.9
	Poor	16	4.9
Meat Alternatives			
	Excellent	50	15.1
	Good	146	44.1
	Fair	94	28.4
	Poor	41	12.4

Table 10

USDA Recipes: Ratings for Compliance with USDA Meal Pattern Specifications

Question		Frequency	%
Please rate how well the USDA recipes support your compliance with the USDA meal pattern specifications for each of the following areas.			
Food Based Menu Planning			
	Excellent	61	20.7
	Good	133	45.1
	Fair	77	26.1
	Poor	24	8.1
Offer Versus Serve			
	Excellent	64	20.3
	Good	145	45.9
	Fair	81	25.6
	Poor	26	8.2
Grades K – 5			
	Excellent	52	16.1
	Good	143	44.4
	Fair	88	27.3
	Poor	39	12.2
Grades 6 – 8			
	Excellent	48	15.4
	Good	139	44.7
	Fair	86	27.7
	Poor	38	12.2
Grades 9 – 12			
	Excellent	45	15.1
	Good	140	46.8
	Fair	79	26.4
	Poor	35	11.7

(Table 10 continues)

(Table 10 continued)

USDA Recipes: Ratings for Compliance with USDA Meal Pattern Specifications

Question		Frequency	%
Please rate how well the USDA recipes support your compliance with the USDA meal pattern specifications for each of the following areas.			
No Added Sugar			
	Excellent	26	9.9
	Good	84	31.9
	Fair	90	34.2
	Poor	63	24.0
No Syrup			
	Excellent	23	9.5
	Good	90	37.0
	Fair	81	33.3
	Poor	49	20.2
Calories			
	Excellent	33	10.7
	Good	149	48.2
	Fair	92	29.8
	Poor	35	11.3
Saturated Fat			
	Excellent	38	12.3
	Good	149	48.2
	Fair	88	28.5
	Poor	34	11.0
Sodium			
	Excellent	30	9.7
	Good	124	40.3
	Fair	105	34.1
	Poor	49	15.9

(Table 10 continues)

(Table 10 continued)

USDA Recipes: Ratings for Compliance with USDA Meal Pattern Specifications

Question		Frequency	%
Please rate how well the USDA recipes support your compliance with the USDA meal pattern specifications for each of the following areas.			
Trans Fat			
	Excellent	48	15.7
	Good	143	46.7
	Fair	83	27.1
	Poor	32	10.5

Table 11

USDA Recipes: Ratings for Miscellaneous Issues

Question		Frequency	%
Please rate how well the USDA recipes meet your needs in each of the following areas.			
Simplicity of recipes			
	Excellent	54	16.3
	Good	191	57.7
	Undecided	19	5.7
	Fair	62	18.7
	Poor	5	1.6
Skill level of school nutrition staff in your school district			
	Excellent	57	17.2
	Good	193	58.3
	Undecided	15	4.5
	Fair	58	17.5
	Poor	8	2.4
Available food preparation equipment and appliances at your school nutrition program			
	Excellent	56	16.9
	Good	203	61.1
	Undecided	14	4.2
	Fair	49	14.8
	Poor	10	3.0
Ease of quantity modification			
	Excellent	39	11.7
	Good	193	58.1
	Undecided	26	7.8
	Fair	61	18.5
	Poor	13	3.9

(Table 11 continues)

(Table 11 continued)

USDA Recipes: Ratings for Miscellaneous Issues

Question		Frequency	%
Please rate how well the USDA recipes meet your needs in each of the following areas.			
Ease of costing recipes			
	Excellent	25	7.7
	Good	153	47.4
	Undecided	53	16.4
	Fair	73	22.6
	Poor	19	5.9
Taste of recipes			
	Excellent	30	9.0
	Good	157	47.0
	Undecided	26	7.8
	Fair	112	33.5
	Poor	9	2.7
Visual appeal of recipes			
	Excellent	27	8.1
	Good	162	48.6
	Undecided	34	10.3
	Fair	103	30.9
	Poor	7	2.1
Student friendliness of recipes			
	Excellent	18	5.5
	Good	107	32.9
	Undecided	58	17.8
	Fair	114	35.1
	Poor	28	8.7
Variety of recipes			
	Excellent	25	7.6
	Good	122	37.3
	Undecided	31	9.5
	Fair	115	35.2

(Table 11 continued)

USDA Recipes: Ratings for Miscellaneous Issues

Question		Frequency	%
Please rate how well the USDA recipes meet your needs in each of the following areas.			
Meets the trends of today			
	Excellent	17	5.2
	Good	75	22.8
	Undecided	54	16.4
	Fair	107	32.5
	Poor	76	23.1
Regional appropriateness of recipes			
	Excellent	17	5.3
	Good	83	25.9
	Undecided	54	16.8
	Fair	108	33.6
	Poor	59	18.4
Cultural diversity of recipes			
	Excellent	13	4.1
	Good	78	24.5
	Undecided	62	19.4
	Fair	109	34.2
	Poor	57	17.8

In the next series of questions, SN directors were asked to rate the USDA recipes related to the following issues: impact on cost, accessibility, and format. The USDA recipes received a rating of *reasonable* or *very reasonable* regarding food cost and labor cost by the majority of respondents (94.7% and 86.9%; respectively) (Table 12). Most SN directors reported that USDA recipes were *easy* or *very easy* to locate (86.9%); and the overall format of USDA recipes was rated *good* or *excellent* by 87.9% of respondents (Table 13).

Table 12

USDA Recipes: Ratings on Cost and Accessibility

Question	Frequency	%
Please rate the impact of the USDA recipes on food cost.		
Very Reasonable	33	9.8
Reasonable	286	84.9
Unreasonable	16	4.7
Very Unreasonable	2	0.6
Please rate the impact of the USDA recipes on labor cost.		
Very Reasonable	22	6.5
Reasonable	271	80.4
Unreasonable	43	12.8
Very Unreasonable	1	0.3
Have you tried to locate the USDA recipes on the National Food Service Management Institute Web site?		
Yes	229	68.0
No	108	32.0
Please rate how easy it is to find the USDA recipes online.		
Very Easy	88	28.2
Easy	183	58.7
Difficult	39	12.5
Very Difficult	2	0.6

Table 13

USDA Recipes: Ratings on Format

Question	Frequency	%

Please rate the usefulness of each section of the USDA recipes.

		Frequency	%
Overall Format			
	Excellent	71	23.1
	Good	199	64.8
	Undecided	13	4.2
	Fair	21	6.8
	Poor	3	1.1
Contribution towards meal components (fruit, vegetables, grains, whole grains, meat/meat alternative)			
	Excellent	85	27.8
	Good	161	52.6
	Undecided	18	5.9
	Fair	32	10.5
	Poor	10	3.2
Ingredients			
	Excellent	76	24.9
	Good	177	58.0
	Undecided	14	4.6
	Fair	34	11.1
	Poor	4	1.4
Weight and measures for 50 and 100 servings			
	Excellent	88	28.5
	Good	190	61.5
	Undecided	10	3.2
	Fair	19	6.1
	Poor	2	0.7

(Table 13 continues)

(Table 13 continued)

USDA Recipes: Ratings on Format

Question		Frequency	%

Please rate the usefulness of each section of the USDA recipes.

Directions			
	Excellent	84	27.2
	Good	196	63.4
	Undecided	11	3.6
	Fair	18	5.8
	Poor	0	0
Critical Control Points (when provided)			
	Excellent	77	25.0
	Good	179	58.1
	Undecided	31	10.1
	Fair	16	5.2
	Poor	5	1.6
Marketing Guide (when provided)			
	Excellent	55	17.9
	Good	134	43.5
	Undecided	85	27.6
	Fair	28	9.1
	Poor	6	1.9
Serving			
	Excellent	80	26.0
	Good	189	61.4
	Undecided	17	5.5
	Fair	19	6.1
	Poor	3	1.0

(Table 13 continues)

(Table 13 continued)

USDA Recipes: Ratings on Format

Question	Frequency	%

Please rate the usefulness of each section of the USDA recipes.

		Frequency	%
Yield			
	Excellent	76	24.8
	Good	177	57.8
	Undecided	25	8.2
	Fair	23	7.5
	Poor	5	1.7
Volume			
	Excellent	70	22.9
	Good	177	57.8
	Undecided	32	10.5
	Fair	22	7.2
	Poor	5	1.6
Variations/Special Tips (when provided)			
	Excellent	60	19.6
	Good	173	56.5
	Undecided	45	14.7
	Fair	24	7.8
	Poor	4	1.4
Nutrient Content			
	Excellent	82	26.5
	Good	177	57.1
	Undecided	21	6.8
	Fair	26	8.4
	Poor	4	1.2

The last series of questions pertaining to USDA recipes asked respondents to rate their level of agreement with multiple potential formatting changes, to indicate if there is a need for the development of any new recipes, and to indicate why, if they do not, use USDA recipes at their SN program. The potential formatting change that received the highest level of agreement (*strongly agree* or *agree*) by the majority of respondents was "indicate on each recipe the contribution the recipe makes towards all meal components" (98.7%) (Table 14). Most SN directors indicated there was a need for the development of new USDA recipes regarding the following meal pattern components: "beans and peas" (63.2%), "dark green vegetables" (61.1%), "red/orange vegetables" (59.5%), "meat" (51.4%) and "whole grains" (50.9%) (Table 15). Sample comments regarding recipes that respondents would like to see added included the following: "add fruit recipes that do not contain grains;" "include more sweet potato recipes;" "develop creative ways to serve beans and peas;" "add different potato recipes;" and "update recipes to include new whole grain requirements." (Appendix). The reasons most often cited for not using USDA recipes were "We have other recipes we prefer" (47.2%) and "The USDA recipes are not current with today's trends" (40.4%) (Table 16).

Table 14

USDA Recipes: Ratings of Potential Format Changes

Question		Frequency	%
Please indicate your level of agreement with each of the potential recipe formatting changes for improving usage of USDA recipes by school nutrition directors.			
Add photographs of the final product to each recipe.			
	Strongly Agree	142	45.5
	Agree	125	40.1
	Undecided	33	10.6
	Disagree	11	3.5
	Strongly Disagree	1	0.3
Add regional produce variation instructions to produce recipes (include how to handle fresh produce).			
	Strongly Agree	117	37.5
	Agree	151	48.4
	Undecided	38	12.2
	Disagree	4	1.3
	Strongly Disagree	2	0.6
Add seasoning variation section to recipes.			
	Strongly Agree	138	44.8
	Agree	147	47.7
	Undecided	20	6.5
	Disagree	3	1.0
	Strongly Disagree	0	0.0

(Table 14 continued)

USDA Recipes: Ratings of Potential Format Changes

Question		**Frequency**	**%**
Please indicate your level of agreement with each of the potential recipe formatting changes for improving usage of USDA recipes by school nutrition directors.			
Indicate on recipes when cooks should wash hands and change gloves.			
	Strongly Agree	76	24.5
	Agree	109	35.2
	Undecided	52	16.8
	Disagree	64	20.6
	Strongly Disagree	9	2.9
Indicate on each recipe the contribution the recipe makes towards all meal components (fruit, dark green vegetable, red/orange vegetable, whole grain, meat, and meat alternative).			
	Strongly Agree	238	76.5
	Agree	69	22.2
	Undecided	4	1.3
	Disagree	0	0.0
	Strongly Disagree	0	0.0

Table 15

USDA Recipes: Need for the Development of New Recipes

Question	Frequency	%
Is there a need for the development of any new USDA recipes to support any of the following meal pattern components?		
Fruit		
Yes	121	41.3
No	172	58.7
Dark Green Vegetables		
Yes	182	61.1
No	116	38.9
Red/Orange Vegetables		
Yes	176	59.5
No	120	40.5
Beans and Peas (Legumes)		
Yes	187	63.2
No	109	36.8
Starch Vegetables		
Yes	87	30.6
No	197	69.4
Whole Grains		
Yes	147	50.9
No	142	49.1
Meat		
Yes	149	51.4
No	141	48.6
Meat Alternatives		
Yes	135	47.9
No	147	52.1

Table 16

USDA Recipes: Reasons for Not Using USDA Recipes

Question	Frequency[a]	%
What is the reason(s) you do not use USDA recipes at your school nutrition program?		
We have other recipes we prefer.	195	47.2
The USDA recipes are not current with today's trends.	167	40.4
There is not enough variety in the selection of USDA recipes.	121	29.3
We use mainly pre-processed and ready-made foods.	119	28.8
The USDA recipes are not student friendly.	98	23.7
We do not have adequate staffing to prepare USDA recipes.	91	22.0
The USDA recipes require too much time to process.	87	21.1
There are not enough USDA recipes that are appropriate for our region of the country.	69	16.7
Our students do not like USDA recipes.	60	14.5
Our staff does not have the necessary skills to prepare USDA recipes.	45	10.9
Most of the ingredients in the USDA recipes are not on the state bid.	33	8.0
I did not know there were USDA recipes.	20	4.8
I did not know how to find access to the USDA recipes.	16	3.9

[a]Participants were allowed to selected multiple answers.

Application of one-way between subjects ANOVA and Tukey's post hoc comparisons revealed that district enrollment size had a significant and inverse relationship with SN directors' perceived value of the USDA recipes regarding several issues (Tables 17 and 18). The SN directors from the smallest school districts (district enrollment under 1,000) were significantly more likely to rate the USDA recipes *excellent* or *good* for meeting their needs for participating in the Summer Food Service Program [$F(5, 99) = 3.28$, $p = .009$], the Fresh Fruit and Vegetable Program [$F(5, 83) = 3.89$, $p = .003$], and breakfast in the classroom [$F(5, 54) = 6.15$, $p < .001$] when compared to SN directors from the largest school districts (district enrollment of 25,000 or greater). The SN directors from the largest school districts were significantly more likely to rate the USDA recipes as *fair* or *poor* regarding these issues (Table 17). Further, SN directors from the smallest school districts (district enrollment under 1,000) were significantly more likely to rate the USDA recipes *excellent* or *good* for meeting their needs for complying with the USDA regulations for sodium [$F(5, 276) = 2.54$, $p = .036$] when compared to SN directors from the largest school districts (district enrollment of 25,000 or greater) (Table 18). In each of these situations, the general pattern was an increase in perceived value of the USDA recipes as district enrollment size decreased. However, in none of these situations was the relationship perfectly linear. These results may indicate that SN directors from the smallest districts have a greater operational need for the USDA menu files to support their efforts when compared to SN directors from the largest districts. Additionally, SN directors from the more moderate-sized districts (district enrollment between 1,000 and 24,999) may have a greater diversity of operational needs regarding the USDA recipes files, with some districts needing more operational support and other districts needing less operational support.

Table 17

Enrollment Compared to Ratings of USDA Recipes for Meeting the Needs of Participating in Specific Program Activities

Program Activity	Enrollment[a]	N	Mean[d]	SD
Fresh Fruit and Vegetable Program	Under 1,000[a]	22	3.86	0.89
	1,000 – 2,499	28	3.69	1.06
	2,500 – 4,999[a]	15	2.67	1.18
	5,000 – 9,999	12	3.00	1.21
	10,000 – 24,999	6	3.67	1.37
	25,000 or greater[a]	6	2.33	1.51
Summer Food Service	Under 1,000[b]	17	3.94	
	1,000 – 2,499[b]	31	3.71	0.90
	2,500 – 4,999	21	3.10	1.13
	5,000 – 9,999	17	3.41	1.22
	10,000 – 24,999	9	3.56	1.18
	25,000 or greater[b]	10	2.30	1.33
Breakfast in the Classroom	Under 1,000[c]	9	4.11	0.60
	1,000 – 2,499[c]	13	2.08	1.38
	2,500 – 4,999[c]	16	2.00	1.15
	5,000 – 9,999	12	2.75	1.29
	10,000 – 24,999	4	4.00	0.82
	25,000 or greater[c]	6	1.83	1.17

[a] $F(5, 99) = 3.28$, $p = .009$ Comparison of enrollment to ratings of USDA Recipes for meeting SN needs for participating in the Fresh Fruit and Vegetable Program using one-way ANOVA and Tukey's post hoc comparisons

[b] $F(5, 83) = 3.89$, $p = .003$ Comparison of enrollment to ratings of USDA Recipes for meeting SN needs for participating in the Summer Food Service Program using one-way ANOVA and Tukey's post hoc comparisons

[c] $F(5, 54) = 6.15$, $p < .001$ Comparison of enrollment to ratings of USDA Recipes for meeting SN needs for participating in Breakfast in the Classroom using one-way ANOVA and Tukey's post hoc comparisons

[d] The rating scale was a 5-point Likert-type ranging from 1 (poor) to 5 (excellent).

Table 18

Enrollment Compared to Ratings of USDA Recipes for Supporting Compliance with USDA Regulation for Sodium

Enrollment[a]	N	Mean[b]	SD
Under 1,000[a]	67	3.43	1.25
1,000 – 2,499[a]	89	2.80	1.32
2,500 – 4,999	51	2.89	1.29
5,000 – 9,999	38	2.71	1.35
10,000 – 24,999	12	3.0	1.48
25,000 or greater	16	2.69	1.54

[a] $F_{(5, 276)} = 2.54$, $p = .036$ Comparison of enrollment to ratings of USDA Recipes for supporting compliance with USDA regulation for sodium using one-way ANOVA and Tukey's post hoc comparisons
[b] The rating scale was a 5-point Likert-type ranging from 1 (poor) to 5 (excellent).

Utilization of one-way between subjects ANOVA and Tukey's post hoc tests demonstrated that district enrollment size also plays a significant role in SN directors' perceived value of the USDA recipes regarding some customer service issues, including trendiness, regional appropriateness, and cultural diversity (Table 19). School nutrition directors from the smallest districts (district enrollment of less than 1,000) rated the "trendiness" of USDA recipes significantly higher than directors from districts with enrollments of 1,000 – 9,999; however, there was no significant difference between districts with enrollments of less than 1,000 and those with enrollments greater than 9,999 [$F_{(5, 286)} = 3.51$, $p = .004$].

Table 19

*Enrollment Compared to Ratings of USDA Recipes for Meeting Today's Trends and Diverse
Customer Needs*

Program Activity	Enrollment[a]	N	Mean[d]	SD
Meets trends of today	Under 1,000[a]	71	3.01	1.30
	1,000 – 2,499 [a]	91	2.46	1.22
	2,500 – 4,999[a]	55	2.27	1.03
	5,000 – 9,999 [a]	42	2.33	1.18
	10,000 – 24,999	15	2.53	1.36
	25,000 or greater	18	2.39	1.20
Regional appropriateness	Under 1,000[b]	69	3.16	1.24
	1,000 – 2,499[b]	91	2.56	1.19
	2,500 – 4,999 [b]	53	2.58	1.08
	5,000 – 9,999	41	2.44	1.16
	10,000 – 24,999 [b]	14	2.79	1.25
	25,000 or greater	18	2.28	1.23
Cultural diversity	Under 1,000[c]	69	3.16	1.16
	1,000 – 2,499[c]	89	2.46	1.13
	2,500 – 4,999[c]	53	2.53	1.14
	5,000 – 9,999	39	2.61	1.14
	10,000 – 24,999	15	2.53	0.10
	25,000 or greater[c]	18	2.28	1.23

[a] $F(5, 286) = 3.51$, p = .004 Comparison of enrollment to ratings of USDA Recipes for "meeting today's trends" using one-way ANOVA and Tukey's post hoc comparisons
[b] $F(5, 280) = 3.28$, p = .007 Comparison of enrollment to ratings of USDA Recipes for "regional appropriateness" using one-way ANOVA and Tukey's post hoc comparisons
[c] $F(5, 277) = 3.80$, p = .002 Comparison of enrollment to ratings of USDA Recipes for "cultural diversity" using one-way ANOVA and Tukey's post hoc comparisons
[d] The rating scale was a 5-point Likert-type ranging from 5 (excellent) to 1 (poor).

"Regional appropriateness" ratings for USDA recipes were significantly higher for school

districts with enrollments of less than 1,000 when compared to those with enrollments of

1,000 – 2,499 and 5,000 – 9,999. Yet, there was no significant difference between districts with

enrollments of less than 1,000 and those with enrollments of 2,500 – 4,999 and 10,000 or greater

[$F(5, 280) = 3.28$, $p = .007$].

"Cultural diversity" ratings for USDA recipes were significantly higher for school

districts with enrollments of less than 1,000 when compared to those with enrollments of

1,000 – 4,499 and 25,000 or more. However, there was no significant difference between

districts with enrollments of less than 1,000 and those with enrollments of 5,000 – 24,999

[$F(5, 277) = 3.80$, $p = .002$].

The general pattern that was observed with all three of these customer service issues was

an increase in perceived value of the USDA recipes as district enrollment size decreased. Yet, in

none of these situations was the relationship completely linear. Overall, these results may

indicate that SN directors from the smallest districts have a greater operational need for the

USDA menu files to support their customer service efforts when compared to SN directors from

larger districts. Additionally, SN directors from larger-sized districts (district enrollment of 5,000

or greater), may have a greater diversity of customer service needs, and therefore place differing

values on the USDA recipes regarding some customer service issues.

Recipes for Healthy Kids

Only 17.5% of respondents reported they used Recipes for Healthy Kids (R4HK) (Table

20). It was observed that the following R4HK meal components were used one or more times per

month: "dark green and orange vegetables" (50.7%), "dry beans and peas" (47.7%) and

"grain/breads" (45.4%) (Table 21). When respondents were asked to rate the R4HK for meeting

their needs for participating in specific programs/activities, the programs/activities that received

the most ratings of *good* or *excellent* were the "HealthierUS School Challenge" (78.1%) and

"National School Lunch Program" (75.8%) (Table 22). The meal components that received the

most ratings of *good* or *excellent* for meeting SN directors' menu planning needs were "meat"

(70.8%), "whole grains" (67.7%), "red/orange vegetables" (65.7%) and "beans and peas"

(65.1%) (Table 23). Most SN directors rated the R4HK as *good* or *excellent* for supporting their

compliance with a variety of meal pattern specifications (Table 24), such as "trans-fat" (80%),

"food based menu planning" (79%), "saturated fat" (79%), and "calories" (78%). The majority of

respondents rated the R4HK as *good* or *excellent* for the following areas: "availability of food

preparation equipment at the SN program" (71.7%), "ease of modification" (69.7%) and "taste"

(67.1%) (Table 25). Conversely, most respondents rated the R4HK *fair* or *poor* with regard to

"cultural diversity" (56.9%) (Table 25). Food cost and labor cost associated with R4HK were

rated *reasonable* or *very reasonable* by the majority of SN directors 86.6% and 82.1%,

respectively (Table 26). "Overall format" of the R4HK was rated *good* or *excellent* by most

respondents (80.0%) (Table 27). As indicated in Table 28, the potential recipe formatting

change that received the highest level of agreement (*agree* or *strongly agree*) for improving

usage of R4HK by most SN directors was "add seasoning variation section to recipes" (90.3%).

The majority of respondents reported there was a need for the development of new R4HK for the

meal pattern component "beans and peas" (51.7%) (Table 29). When asked to identify what

R4HK they would like to see added, the SN directors provided many suggestions (Table 30);

examples of these suggestions included: "mixed fruit salad," "roasted vegetables," "less labor

intensive recipes," and more "variety." The reason most often cited for not using R4HK was "I

did not know about R4HK" (60.1%) (Table 31).

Table 20

Recipes for Healthy Kids: Usage

Question	Frequency	%
Do you use Recipes for Healthy Kids in your school nutrition program?		
Yes	77	17.5
No	362	82.5

Table 21

Recipes for Healthy Kids: Preparation by Category

Question	Frequency	%
On average, how often does your school nutrition program prepare recipes from each category of the Recipes for Healthy Kids?		
Grains/Breads		
One or more times per week	15	22.7
1 – 3 times per month	15	22.7
2 or more times per year	17	25.8
Once a year	4	6.1
Less than once a year	2	3.0
Never/Not applicable	13	19.7
Dark Green and Orange Vegetables		
One or more times per week	14	21.5
1 – 3 times per month	19	29.2
2 or more times per year	12	18.5
Once a year	5	7.7
Less than once a year	2	3.1
Never/Not applicable	13	20.0
Dry Beans and Peas		
One or more times per week	11	16.9
1 – 3 times per month	20	30.8
2 or more times per year	14	21.5
Once a year	3	4.6
Less than once a year	3	46
Never/Not applicable	14	21.6

Table 22

Recipes for Healthy Kids: Ratings for Participation in Programs/Activities

Question **Please rate how well the Recipes for Healthy Kids meets your needs for participating in each of the following programs or activities.**		Frequency	%
National School Lunch Program			
	Excellent	13	21.0
	Good	34	54.8
	Undecided	7	11.3
	Fair	6	9.7
	Poor	2	3.2
School Breakfast Program			
	Excellent	5	10.2
	Good	23	46.9
	Undecided	12	24.5
	Fair	6	12.2
	Poor	3	6.2
Farm-to-School			
	Excellent	2	7.4
	Good	10	37.0
	Undecided	9	33.4
	Fair	3	11.1
	Poor	3	11.1
Fresh Fruit and Vegetable Program			
	Excellent	3	14.3
	Good	9	42.9
	Undecided	4	19.0
	Fair	2	9.5
	Poor	3	14.3

(Table 22 continues)

(Table 22 continued)

Recipes for Healthy Kids: Ratings for Participation in Programs/Activities

Question		Frequency	%
Please rate how well the Recipes for Healthy Kids meet your needs for participating in each of the following programs or activities.			
Summer Food Service Program			
	Excellent	4	25.0
	Good	5	31.3
	Undecided	3	18.7
	Fair	1	6.3
	Poor	3	18.7
Child and Adult Care Food Program			
	Excellent	2	33.3
	Good	2	33.3
	Undecided	2	33.4
	Fair	0	0.0
	Poor	0	0.0
HealthierUS School Challenge			
	Excellent	5	15.6
	Good	20	62.5
	Undecided	4	12.5
	Fair	3	9.4
	Poor	0	0.0
Healthier School Day (Smart Snacks in School)			
	Excellent	2	20
	Good	5	50
	Undecided	2	20
	Fair	1	10
	Poor	0	0

(Table 22 continues)

(Table 22 continued)

Recipes for Healthy Kids: Ratings for Participation in Programs/Activities

Question		Frequency	%
Please rate how well the Recipes for Healthy Kids meets your needs for participating in each the following programs or activities.			
Salad Bars			
	Excellent	3	11.1
	Good	16	59.3
	Undecided	6	22.2
	Fair	1	3.7
	Poor	1	3.7
Breakfast in the Classroom			
	Excellent	1	14.3
	Good	3	42.9
	Undecided	1	14.3
	Fair	1	14.3
	Poor	1	14.2
Breakfast after First Period (Mid-Morning Nutrition Break)			
	Excellent	1	50.0
	Good	0	0.0
	Undecided	0	0.0
	Fair	0	0.0
	Poor	1	50.0
Grab n' Go Breakfast			
	Excellent	0	0.0
	Good	4	44.4
	Undecided	2	22.2
	Fair	2	22.3
	Poor	1	11.1

Table 23

Recipes for Healthy Kids: Ratings for Menu Planning

Question	Frequency	%
Please rate how well the USDA meets your overall menu planning needs for each of the following meal components.		
Fruit		
Excellent	7	10.8
Good	34	52.2
Fair	20	30.8
Poor	4	6.2
Dark Green Vegetables		
Excellent	9	13.8
Good	34	52.3
Fair	19	29.2
Poor	3	4.7
Red/Orange Vegetables		
Excellent	9	14.1
Good	33	51.6
Fair	19	29.7
Poor	3	4.6
Beans Peas (Legumes)		
Excellent	7	10.6
Good	36	54.5
Fair	18	27.3
Poor	5	7.6
Starch Vegetables		
Excellent	6	9.4
Good	31	48.4
Fair	24	37.5
Poor	3	4.7

(Table 23 continues)

(Table 23 continued)

Recipes for Healthy Kids: Ratings for Menu Planning

Question	Frequency	%
Please rate how well the USDA meets your overall menu planning needs for each of the following meal components.		
Whole Grains		
Excellent	11	16.9
Good	33	50.8
Fair	18	27.7
Poor	3	4.6
Meat		
Excellent	13	20.0
Good	33	50.8
Fair	16	24.6
Poor	3	4.6
Meat Alternatives		
Excellent	10	16.1
Good	28	45.2
Fair	19	30.6
Poor	5	8.1

Table 24

Recipes for Healthy Kids: Ratings for Compliance with USDA Meal Pattern Specifications

Question		**Frequency**	**%**
Please rate how well the Recipes for Healthy Kids support your compliance with the USDA meal pattern specifications for each of the following areas.			
Food Based Menu Planning			
	Excellent	12	21.4
	Good	32	57.1
	Fair	12	21.5
	Poor	0	0.0
Offer Versus Serve			
	Excellent	10	16.7
	Good	35	58.3
	Fair	15	25.0
	Poor	0	0.0
Grades K – 5			
	Excellent	10	16.9
	Good	33	55.9
	Fair	15	25.4
	Poor	1	1.8
Grades 6 – 8			
	Excellent	7	12.3
	Good	34	59.6
	Fair	14	24.6
	Poor	2	3.5
Grades 9 – 12			
	Excellent	9	16.4
	Good	32	58.2
	Fair	13	23.6
	Poor	1	1.8

(Table 24 continues)

(Table 24 continued)

Recipes for Healthy Kids: Ratings for Compliance with USDA Meal Pattern Specifications

Question		Frequency	%
Please rate how well the Recipes for Healthy Kids support your compliance with the USDA meal pattern specifications for each of the following areas.			
No Added Sugar			
	Excellent	7	13.7
	Good	26	51.0
	Fair	16	31.4
	Poor	2	3.9
No Syrup			
	Excellent	6	12.2
	Good	25	51.0
	Fair	16	32.7
	Poor	2	4.1
Calories			
	Excellent	6	10.3
	Good	39	67.2
	Fair	13	22.1
	Poor	0	0.0
Saturated Fat			
	Excellent	7	11.7
	Good	40	66.7
	Fair	12	20.0
	Poor	1	1.6
Sodium			
	Excellent	7	11.9
	Good	37	62.7
	Fair	14	23.7
	Poor	1	1.7
Trans Fat			
	Excellent	7	12.7
	Good	37	67.3
	Fair	11	20.0
	Poor	0	0.0

Table 25

Recipes for Healthy Kids: Ratings for Miscellaneous Issues

Question	Frequency	%
Please rate how well the Recipes for Healthy Kids meet your needs in each of the following areas.		
Complexity of recipes		
Excellent	5	7.5
Good	39	58.2
Fair	22	32.8
Poor	1	1.5
Skill level of school nutrition staff in your school district		
Excellent	5	7.5
Good	38	56.7
Fair	22	32.8
Poor	2	3.0
Available food preparation equipment and appliances at your school nutrition program		
Excellent	6	9.0
Good	42	62.7
Fair	17	25.3
Poor	2	3.0
Ease of quantity modification		
Excellent	7	10.6
Good	39	59.1
Fair	19	28.8
Poor	4	1.5
Ease of costing recipes		
Excellent	5	7.6
Good	38	57.6
Fair	19	28.8
Poor	4	6.0

(Table 25 continues)

(Table 25 continued)

Recipes for Healthy Kids: Ratings for Miscellaneous Issues

Question	Frequency	%
Please rate how well the Recipes for Healthy Kids meet your needs in each of the following areas.		
Taste of recipes		
Excellent	7	10.4
Good	38	56.7
Fair	19	28.4
Poor	3	4.5
Visual appeal of recipes		
Excellent	8	12.1
Good	35	53.0
Fair	21	31.8
Poor	2	3.1
Student friendliness of recipes		
Excellent	6	9.0
Good	27	40.3
Fair	29	43.3
Poor	5	7.4
Variety of recipes		
Excellent	6	9.1
Good	33	50.0
Fair	24	36.4
Poor	3	4.5
Meets the trends of today		
Excellent	5	7.7
Good	28	43.1
Fair	30	46.2
Poor	2	3.0

(Table 25 continues)

(Table 25 continued)

Recipes for Healthy Kids: Ratings for Miscellaneous Issues

Question	Frequency	%
Please rate how well the Recipes for Healthy Kids meet your needs in each of the following areas.		
Regional appropriateness of recipes		
Excellent	4	6.1
Good	29	43.9
Fair	29	43.9
Poor	4	6.1
Cultural diversity of recipes		
Excellent	4	6.2
Good	24	36.9
Fair	34	52.3
Poor	3	4.6

Table 26

Recipes for Healthy Kids: Ratings on Cost and Accessibility

Question	Frequency	%
Please rate the impact of the Recipes for Healthy Kids on food cost.		
Very Reasonable	3	4.5
Reasonable	55	82.1
Unreasonable	9	13.4
Very Unreasonable	0	0.0
Please rate the impact of the Recipes for Healthy Kids on labor cost.		
Very Reasonable	3	4.5
Reasonable	52	77.6
Unreasonable	12	17.9
Very Unreasonable	0	0.0
Have you tried to locate the Recipes for Healthy Kids on the National Food Service Management Institute Web site?		
Yes	45	67.2
No	22	32.8
Please rate accessibility of the Recipes for Healthy Kids on the USDA Team Nutrition Web site.		
Very Easy	12	18.5
Easy	41	63.1
Difficult	11	16.9
Very Difficult	1	1.5

Table 27

Recipes for Healthy Kids: Ratings on Format

Question	Frequency	%
Please rate the usefulness of each section of the Recipes for Healthy Kids.		
Overall Format		
Excellent	22	33.8
Good	30	46.2
Fair	10	15.4
Poor	3	4.6
Contribution towards meal components (fruit, vegetables, grains, whole grains, meat/meat alternative)		
Excellent	19	29.2
Good	33	50.8
Fair	10	15.4
Poor	3	4.6
Ingredients		
Excellent	16	25.0
Good	30	46.9
Fair	15	23.4
Poor	3	4.7
Weight and measures for 50 and 100 servings		
Excellent	15	23.1
Good	37	56.9
Fair	10	15.4
Poor	3	4.6
Directions		
Excellent	17	26.2
Good	36	55.4
Fair	10	15.4
Poor	2	3.1

(Table 27 continues)

(Table 27 continued)

Recipes for Healthy Kids: Ratings on Format

Question		Frequency	%
Please rate the usefulness of each section of the Recipes for Healthy Kids.			
Notes			
	Excellent	12	18.8
	Good	37	57.8
	Fair	13	20.3
	Poor	2	3.1
Servings			
	Excellent	14	21.5
	Good	40	61.5
	Fair	9	13.8
	Poor	2	3.2
Yield			
	Excellent	14	21.5
	Good	39	60.0
	Fair	10	15.4
	Poor	2	3.1
Volume			
	Excellent	13	20.0
	Good	41	63.1
	Fair	9	13.8
	Poor	2	3.1
Marketing Guide			
	Excellent	12	19.0
	Good	34	54.0
	Fair	15	23.8
	Poor	2	3.2
Nutrients per Serving			
	Excellent	15	23.4
	Good	37	57.8
	Fair	10	15.6
	Poor	2	3.2

Table 28

Recipes for Healthy Kids: Ratings of Potential Format Changes

Question		Frequency	%
Please indicate your level of agreement with each of the potential recipe formatting changes for improving usage of Recipes for Healthy Kids by school nutrition directors.			
Add photographs of the final product to each recipe.			
	Strongly Agree	29	46.8
	Agree	24	38.7
	Undecided	4	6.5
	Disagree	4	6.5
	Strongly Disagree	1	1.5
Add regional produce variation instructions to produce recipes. Include how to handle fresh produce).			
	Strongly Agree	19	30.6
	Agree	34	54.8
	Undecided	4	6.5
	Disagree	4	6.5
	Strongly Disagree	1	1.6
Add seasoning variation section to recipes.			
	Strongly Agree	22	35.5
	Agree	34	54.8
	Undecided	3	4.8
	Disagree	2	3.2
	Strongly Disagree	1	1.7
Indicate on recipes when cooks should wash hands and change gloves.			
	Strongly Agree	15	24.2
	Agree	20	32.3
	Undecided	14	22.6
	Disagree	10	16.1
	Strongly Disagree	3	4.8

Table 29

Recipes for Healthy Kids: Need for the Development of New Recipes

Question		Frequency	%
Is there a need for the development of any new Recipes for Healthy Kids to support any of the following meal pattern components?			
Fruit			
	Yes	25	42.3
	No	34	57.7
Dark Green Vegetables			
	Yes	30	50.0
	No	30	50.0
Red/Orange Vegetables			
	Yes	27	45.0
	No	33	55.0
Beans and Peas (Legumes)			
	Yes	31	51.7
	No	29	48.3
Starch Vegetables			
	Yes	22	37.9
	No	36	62.1
Whole Grains			
	Yes	23	41.8
	No	32	58.2
Meat			
	Yes	27	45.8
	No	32	54.2
Meat Alternatives			
	Yes	29	50.0
	No	29	50.0

Table 30

Recipes for Healthy Kids: Suggestions for Developing New Recipes

Q29 Comments

Fruit
- Always a need to do more recipes
- Breakfast options that could be used for breakfast in the classroom
- Fruit dessert fruit breakfast items
- Less labor intensive more kid friendly
- Mixed fruit salads
- More selections
- More variety
- Non-grain fruit recipes, simple to prepare
- There was not a fruit group
- We need more colorful inexpensive fruit options

Dark Green Vegetables
- Any recipes that I could change my offerings with
- Less labor intensive more kid friendly
- More options for the K-5 grade group
- More selections
- Need for other vegetables that are kid friendly and accepted
- Regional recipes using a variety of greens
- Roasted veggies
- Simple recipes using fresh herbs and spices
- We can always use new recipes

Red/Orange Vegetables
- Any recipes that I could change my offerings with
- As above
- Chicken philly subs
- Less labor intensive more kid friendly
- More selections
- More variety
- We can always use new recipes

(Table 30 continues)

(Table 30 continued)

Recipes for Healthy Kids: Suggestions for Developing New Recipes

Q29 Comments

Beans and Peas (Legumes)
- Any recipes that I could change my offerings with
- Instead of "new" recipes, just redo old ones that kids like. Like chili, baked beans, etc.
- Kid friendly recipes
- Less labor intensive more kid friendly
- More selections
- More variety
- Something that could be used in grab n' go lunches
- Student acceptable recipes
- White bean turkey chili

Starch Vegetables
- Additional starchy vegetables
- Garlic mashed potatoes
- Less labor intensive more kid friendly
- More selections
- Need more potato recipes that present well, are easy to prepare and kid friendly
- Something that could be used in grab n' go lunches

Whole Grains
- Additional choices
- Easier products to produce that are not as time consuming
- Less labor intensive more kid friendly
- More selections

Meat
- Additional choices for the planner
- Kid friendly, kids eat what they know. They need items that they are familiar with.
- Less labor intensive more kid friendly
- More selections
- Spicy chicken burgers
- We can always use new recipes

(Table 30 continues)

(Table 30 continued)

Recipes for Healthy Kids: Suggestions for Developing New Recipes

Q29 Comments

<u>Meat Alternatives</u>
- Less labor intensive more kid friendly
- More choices
- More selections
- More variety for vegetarian options for all grade levels
- Recipes that new employees can understand and are kid friendly
- Something more for vegetarians
- Veggie burgers
- We can always use new recipes

Table 31

Recipes for Healthy Kids: Reasons for Not Using Recipes for Healthy Kids

Question **What is the reason(s) you do not use Recipes for Healthy Kids at your school nutrition program?**	Frequency[a]	%
I did not know about Recipes for Healthy Kids.	244	60.1
I did not know how to find access to the Recipes for Healthy Kids.	89	21.9
We have other recipes we prefer.	88	21.7
We use mainly pre-processed and ready-made foods.	50	12.3
We do not have adequate staffing to prepare Recipes for Healthy Kids.	40	9.9
The Recipes for Healthy Kids require too much time to process.	35	8.6
The Recipes for Healthy Kids are not student friendly.	26	6.4
Our staff does not have the necessary skills to prepare Recipes for Healthy Kids.	24	5.9
Our students do not like Recipes for Healthy Kids.	18	4.4
Most of the ingredients in the Recipes for Healthy Kids are not on the state bid.	16	3.9
There is not enough variety in the selection of Recipes for Healthy Kids.	15	3.7
The Recipes for Healthy Kids are not current with today's trends.	14	3.4
There are not enough Recipes for Healthy Kids that are appropriate for our region of the country.	13	3.2

[a] Participants were allowed to select multiple answers.

CONCLUSIONS AND APPLICATIONS

The results of this study suggest the following: There is a strong need for United States

Department of Agriculture (USDA) recipes; school district size has a significant effect on the

usage of USDA recipes; the current USDA recipe file has several perceived strengths; there are

several potential opportunities for improving the USDA recipes; and more efforts are needed to

increase awareness of the Recipes for Healthy Kids by school nutrition (SN) directors. The need

for standardized recipes in schools is apparent. It is generally accepted that utilization of

standardized recipes, with appropriate managerial supervision, promotes quality and cost control

in institutional foodservice operations. And, while most of SN programs rely heavily on

convenience foods (72% of SN programs prepare 49% or less of their foods from scratch), there

remains a significant quantity of scratch food production in schools. For example, 48% of

respondents reported processing raw meats at their operation; 59% reported preparing scratch

soup, and 48% reported preparing baked desserts from scratch. Additionally, 34.4% of SN

directors reported participating in a farm-to-school initiative, and 61% reported purchasing one

half or more of the produce they serve in the fresh form. Purchasing and/or receiving fresh

produce usually involves some degree of food processing, which further supports the need for

quantity produce recipes in schools.

Usage of USDA recipes is affected significantly by the size of the school district.

Specifically, small school districts with district enrollments of less than 10,000 are much more

likely to use USDA recipes when compared to larger school districts. Corresponding to this

finding, small school districts are more likely to prepare foods from scratch. District enrollment

size does not appear to affect the usage of USDA recipes by food category. The categories of

USDA recipes used the most are "main dishes," "vegetables," and "bread," while the categories

used the least often are "breakfast," "sauces/gravies/seasonings," and "desserts."

Regardless of school district size, there are several areas where the USDA recipes are

highly valued for meeting the vast majority of SN director's operational needs. These

areas include:

- Participating in the National School Lunch Program, the summer feeding program,

  and the Child and Adult Care Feeding Program;

- Menu planning for entrees (specifically meats);

- Complying with the USDA regulations regarding offer vs. serve and food-based

  menu planning;

- Meeting foodservice equipment constraints and skill level of SN staff;

- Meeting cost constraints with regards to food and labor; and

- Ease of utilization of the recipes with regard to finding the recipes, simplicity of

  recipes, and the format of recipes.

It is important to note that, although format is seen as a strength of the USDA recipes,

there is always room for improvement. The overwhelming majority of SN directors *agreed* or

strongly agreed with the following potential formatting changes: "indicate on the recipe the

contribution the recipe makes toward all meal components;" "add seasoning variation section to

recipes;" "add regional produce variation instructions to produce recipes;" and "add photographs

of the final product to each recipe."

Regardless of the size of a school district, there are several areas where the USDA recipes

can be improved to better meet the operational needs of SN directors. Breakfast appears to be a

major area of opportunity, as breakfast was the recipe category with the lowest usage, and

because breakfast carts and breakfast in the classroom were the program activities for which

USDA recipes received the lowest ratings. The development of a greater variety of breakfast

recipes, especially recipes that support breakfast carts and breakfast in the classroom,

is recommended.

Another area of opportunity is the development of a greater variety of regional produce

recipes. This would help support SN program participation in local farm-to-school initiatives

around the country. A greater variety of vegetable recipes are needed to support the new meal

pattern requirements pertaining to dark green and red/orange vegetables and legumes. More fruit

recipes are needed, especially those that support the "no added sugar" and "no syrup" meal

pattern restrictions that apply to fruit juice, canned fruit and frozen fruit.

Menu planning issues related to customer service is a major area of opportunity,

especially regarding the largest school districts. When asked why they do not use USDA recipes,

one of the most common responses by SN directors was "the USDA recipes are not current with

today's trends." The majority of SN directors rated the USDA recipes *fair* to *poor* regarding the

following customer service issues: "meet the trends of today," "regional appropriateness," and

"cultural diversity." School nutrition directors from the largest school districts, those with

district enrollment 25,000 or greater, were more likely to rate the USDA recipes low regarding

these issues. As pointed out in the literature review, there is an absence of research investigating

acceptability or satisfaction of USDA recipes by students or other SN stakeholders. Therefore, it

is recommended that research be conducted to meet the following objectives:

- Evaluate stakeholder (student, parent, teacher, SN director, SN staff, and school
  administration) acceptability of the USDA recipes;

- Identify ways of adapting the *USDA Recipes for Schools* to better meet the "trends of today;" and

- Identify ways of adapting the *USDA Recipes for Schools* to better meet the cultural and regional preferences of stakeholders in a variety of settings (metropolitan and rural areas; districts with small, moderate, and large enrollments).

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Appendix

Survey User Comments, Sorted by Topic, and Presented as Written by Respondents

Fruit Recipes You Would Like to See Added

- Fresh apples and grapes (1/2 cup) using apple slices and red grapes off of stem together in a cup. Watermelon wedges with rind on to meet 1/2 cup. The food buying guide includes watermelon diced without the rind.

- A dessert

- Add a fruit section and recipes to the USDA recipes.

- Always looking for new recipes

- Apple salad

- As an example, our district loved the tomato and basil salad and the pear and spinach salad.

- Baked apple working with oatmeal topping

- Baked fruits

- Be more practical.

- Berry mix recipes

- Breakfast fruit recipes to get ready for new regulations next year

- Combination dishes

- Combination of fruits and possible variation on different spices to change flavor or enhance

- Cooked fruit recipes with lower sugar and 0 grain contribution

- Dessert recipes with fresh fruit being used to count as part of the meal pattern

- Desserts

- Do survey with children to see what they would like and make menus more kid friendly.

- Fresh fruit mix varieties

- Fresh fruit recipes, fruit infused into main dish

- Fresh fruit serving specifications

- Fresh fruits--all or most common

- Fresh local fruit without sugar

- Fruit based desserts

- Frozen chocolate covered banana on a stick = 1/2 cup

- Fruit and veggie bars, fruit breakfast, seasonal availabilities, buying guides

- Fruit and yogurt parfait

- Fruit combination like pineapple banana cup

- Fruit menu items that don't contain grains

- Fruit parfaits, fruit smoothies

- Fruit salad options

- Fruit salads - how to use leftover fresh fruit; canned fruit mixtures that include nutritionals for drained fruit

- Fruit variations e.g. Berry Medley

- Fruit with yogurt

- Fruit/grain combinations, fruit salads

- I am not aware of any fruit recipes. Would like one on cut up fruit salad.

- I am stuck on a canned fruit and a fresh fruit menu daily.

- I would like to see more simple recipes that would resemble a dessert with the use of canned fruit and break down the contribution to the meal.

- It would be nice to include visuals that quantify what a 1/2 cup of fruit looks like to make it easier to order - maybe a 'cheat sheet'. For example, a picture of 5 medium strawberries or 3 large strawberries, a small orange vs. a large orange, orange wedges, apple wedges, and how to correctly measure the portions.

- Meet new standards

- Mixed fruit salad - melon variety plus pineapple

- More calorie friendly fruit desserts

- More healthy breakfast options that include fruit

- More options

- More salads, main entrees

- New fruit recipes would be welcome

- Non-dessert item, like apple and squash bake

- Please develop recipes with a sodium content that is reasonable as far as the guidelines for sodium.

- Please develop some appealing fruit recipes. There are no recipes for fruits.

- Recipes using locally available fruits - seasonal availability

- Recipes without fats and less sugar. More recipes that could be used as dessert.

- Revised fruit dessert recipes with contribution and whole grain products being used

- Something kids will eat

- The cherry crisp is too sweet. Need to add peach crisp. Baked apple slices.

- Trail mix and new fruit salad options.

- Update ingredients for zero sugar on frozen or packed in juice or water.

- Variations that do not add many calories

- Varieties and recipes besides fruit cup

- We are using more different fruits

- Yes to meet the needs of lower sodium, fewer calories, and still taste good.

- Yogurt/fruit/granola cup

Dark Green Vegetable Recipes You Would Like to See Added

- 100 % romaine green salad (1 cup serving to meet 1/2 dark green vegetable) with 1 oz. salad dressing.

- Add dark green vegetables to tomato sauces or in casseroles.

- Always looking for new recipes

- Any- It is hard to come up with something different besides broccoli and salads.

- Anything

- Anything that would give more variety in serving

- Anything they will actually eat

- Basic vegetable recipes, such as how to prepare fresh vegetables with seasoning

- Bok choy, mustard greens - how to prepare

- Broccoli and cheese stuffed bakers

- Broccoli, spinach, and kale recipes that would meet the needs of all ages

- Broccoli slaw, romaine salad, spinach salad

- Cheesy broccoli

- Chef salad with a variety of meats/meat alternatives

- Collards, turnip greens and steamed kale

- Cooked recipes. Not all raw. Different applications, including in a casserole, or seasonings to make it taste better - also presentation

- Different ways to prepare

- Do survey with children to see what they would like and make menus more kid friendly.

- Fresh combination vegetable cups (variety) (i.e., broccoli florets w/cauliflower and red pepper slices)

- Green bean casserole

- Greens

- Greens, kale chips

- Guacamole Caesar style salad, made with romaine

- Hot broccoli and other dark green recipes would be helpful.

- I would like some recipes using kale and spinach.

- Ideas and recipes. The kids are getting tired of broccoli and salads.

- Kale chips, diced kale, seasoned greens

- Kale chips

- Kale-slaw

- Kale

- Kale, spinach, squash, etc.

- Kid-friendly options needed-both in salads and cooked veggies. Soups and combination items to list contribution information.

- Limited here....would like to see more kale recipes.

- Low fat low sodium broccoli recipes, different ""tossed"" salads with and without proteins included

- Many more, please!

- Meet new standards

- More dark green recipes

- More kid friendly

- More options

- More options other than broccoli and turnip greens

- More recipe using broccoli, spinach salads

- More recipes needed using a wide variety of all the vegetable groups

- More recipes using green and red/orange vegetables, and how they credit into each component.

- More roasted options, more recipes

- More salad and hot food recipes, also more trendy. Ways to get these items into recipes that students will eat.

- More than just broccoli, please!

- More variations and K-5 friendly recipes

- More variety

- Need more recipes and use of low-sodium seasonings to make them appealing

- Need more variations

- Need more variety in this area

- Only dark green vegetable with recipes is broccoli - What about the other dark greens, such as spinach and kale? Need good tasting recipes to give us ideas on how to include in our menus.

- Oven-grilled vegetables

- Please develop recipes with a sodium content that is reasonable as far as the guidelines for sodium.

- Please develop some recipes for dark green veggies that are kid-friendly. There are no current USDA recipes for dark green vegetables.

- Recipes for dark green veggies kids will eat, not kale

- Recipes for spinach, turnip greens, etc.

- Recipes that add fresh herbs and spices but are not labor intense

- Regionalized green recipes

- Salad or cooked

- Sandwich trim, Mexican garnish-need garden salad recipe

- Seasoning/preparation suggestions for dark leafy greens

- Something different for spinach and broccoli, getting boring...

- Something kids will eat

- Spinach pizza

- Spinach salad

- Spinach, turnip greens

- Student acceptable side salads

- Soup and vegetable recipes using different dark green vegetables.

- There need to be more ideas. Kids tend to get tired of the same thing from romaine to broccoli to brussel sprouts. How to add in bok choy or other veggie to meet this category would be helpful.

- Turnip greens

- USDA formatted recipe for steaming and preparing dark green vegetables

- Using greens

- Variations of preparations that do not add much calories

- Variety

- Variety of dark green vegetable recipes using different dark greens

- Variety of green vegetables and ways to season

- Veggies need to be specified in their color group now. This should be noted on the recipes.

- Very simple- cost for product high. We need labor cost down

- Ways to cook and serve on cold salads

- Ways to offer more dark greens in general

- We are in the south so more regional recipes (collard greens, kale, etc.) Recipes without using meat to flavor

- We are using more different veggies and trying different flavors.

- We need veggies from this component that kids will actually eat in our area of the country.

- Yes, to provide a greater variety of dark green vegetables.

- Yes, please! Other ways to prepare broccoli and kale.

Red/Orange Vegetable Recipes You Would Like to See Added

- Fresh tomato salad (1/2 cup) with 1 oz. salad dressing, using sliced or chopped fresh tomatoes and salad dressing drizzled over the top.

- A variety of different red/orange vegetables

- All kinds and variety

- Alternate seasoning or use of red/orange vegetables

- Always looking for new recipes...

- Any recipes that increase the ways that we can serve these that are student friendly

- Any, recipes that contain these ingredients, some more variety.

- Anything

- Anything

- Anything new

- Anything that would give more variety in serving

- Anything without a lot of added fat

- As an example, the farm to school turkey and squash soup was great!

- Basic vegetables recipes, such as how to prepare fresh vegetables with seasoning

- Carrots

- Carrots with celery, peanut butter, etc.

- Carrots, sweet potatoes

- Contribution of pizza sauce - vegetable recipes that contribute to at least 1/2 servings

- Different applications...included in a casserole or seasonings to make it taste better... also presentation

- Different ways to prepare

- Do a survey with children to see what they would like and make the menus more kid friendly.

- Fresh combination vegetable cups (variety) (i.e., grape tomatoes and baby carrots)

- Glazed carrots

- Honey roasted carrots, sweet potatoes

- I like the tortilla pie with the butternut squash, but the kids weren't crazy about it the first time they had it. Other ways to get a full serving of tomatoes in using stewed tomatoes would be great.

- I struggle with finding good choices that qualify for red/orange that the students will consume and is cost effective for the plate. We use sweet potatoes and carrots. I would like to have fresh ideas or choices to add to the menu.

- Ideas and recipes

- Ideas on combinations and different flavors

- Kid-friendly options needed for both salads and cooked veggies. Soups and combination items to list contribution information.

- Less sugar recipes. Stop hiding the taste of the vegetable.

- List specific products names. If we use a different brand of product than was used to calculate calories, how do we know what is correct? Is it a general recipe that we just use our products?

- Low fat baked sweet potato recipes

- Meet new standards

- More current recipes and casseroles. Ways to get these items into recipes that students will eat it.

- More kid friendly

- More options

- More recipes with herbs and spices to show cooking without fat

- More recipes with sweet potatoes and pumpkin

- More roasted options and more recipes

- More sweet potato recipes

- More variety

- More ways to include these items in soups and vegetable dishes

- More red/ orange recipes

- Need cooked vegetable recipes

- Need more recipes and use of low sodium seasonings to make them more appealing and flavorful

- Need more variety in this area.

- On some of the recipes it states that you need to serve 2/3 cup to equal 1/2 cup. I would prefer for the recipes to meet the requirements and for my staff to not have recalculate everything to equal what the requirement is.

- Orange vegetables is one of my challenges.

- Oven roasting methods for the various squash

- Pizza sauce

- Please develop more recipes for red/orange veggies that are kid-friendly. There are very few USDA recipes for red/orange vegetables.

- Please develop recipes with a sodium content that is reasonable as far as the guidelines for sodium.

- Recipes that tomatoes and sweet potatoes can be used in

- Recipes with red/orange vegetables mixed with pasta - any new ways to offer these

- Roasted red/yellow/orange pepper soup, carrot soup

- Seasoning/preparation suggestions for red/orange to provide variety

- Something kids will eat

- Something other than carrots, squash, sweet potatoes, any that we might get from commodity

- Soups, spaghetti, chili - the use of tomato sauce broken down into the meal contribution along with the other veggies

- Squash

- Squash (acorn, spaghetti etc.)

- Squash recipes

- Sweet potato casserole

- Sweet potato soufflé

- Sweet potatoes, carrots, tomatoes

- Sweet potatoes

- Sweet potatoes, pumpkin, and carrots could use some more choices

- Sweet potatoes, squash

- There are not enough red/orange varieties.

- Tomato salads, winter squash, recipes using USDA mashed sweet potatoes

- USDA formatted recipe for steaming and preparing red/orange vegetables

- Variations of preparations that does not add much calories

- Variety

- Variety of squashes

- Various recipes for carrots, beets, etc.

- Very simple- cost for product high. We need labor cost down.

- We are using more different veggies.

- Yes - Red orange varieties other than carrots and tomatoes - prefer hot recipes.

- Yes to provide a greater variety of red/orange vegetables.

Bean/Pea (Legume) Recipes You Would Like to See Added

- Black eyed peas (1/2 cup)

- Additional salad type recipes utilizing beans and legumes would be helpful.

- Always looking for new recipes...

- Always need new bean recipes that are eye appealing.

- Any hot bean recipes.

- Any way we can get them to eat them.

- Anything

- Anything that would give more variety in serving

- Anything with these ingredients that will count toward the meat/meat alternate component.

- Student friendly recipes

- As with everyone I'm sure...We're really struggling with this!

- At least two different legume recipes for the following beans: black, pinto, kidney, pink, vegetarian, garbanzo, lentils; at least three different hummus flavors

- Bean recipes are okay but the pea recipes need to be improved for taste and flavor

- Bean salads

- Bean soup

- Black bean salsa

- Chili cheese fries, bean burritos, spicy roasted chick peas, black bean soup

- Chilled pea/bean salads, greater variety

- Cornbread salad. Kid-friendly options needed-both in salads and cooked veggies. Soups and combination items to list contribution information.

- Creative ways to serve these that students will like

- Crediting and use in main dishes

- Different ways to prepare

- Do a survey with the children to see what they would like and make menus more kid friendly

- Easy and simple, student tested

- Fresh pinto bean recipe

- Good tasting bean recipes other than pinto or baked beans

- Ground beef preparations with lentils or beans - we alter all recipes to include this, and it is a hassle, Also, would like simple inexpensive recipes for things like red beans and brown rice.

- Help!!! Some cold recipes that can be used on all lines

- How to flavor basic commodity canned beans and peas without adding sodium

- How to use lima beans other than in soup.

- Hummus

- I'm always on the lookout for good bean recipes.

- Ideas and recipes

- Ideas on how to get the students to eat them

- Include more recipes that utilize all types of legumes

- It is very difficult to get students to eat the beans and legumes. Anything kid friendly!

- Larger selection

- Lentils

- Like to have recipes that include black beans that are processed to go in desserts, i.e. brownies

- Meet new standards

- More dry bean recipes

- More legume recipes that the kids may like

- More options

- More recipes and how to prepares some products that are unfamiliar to our region

- More salads with dry beans and peas use whatever commodity legumes there might be

- More student friendly recipes

- More variety

- More variety including some bean/legume salads

- More variety of use of legumes

- Navy beans, lima beans

- Need hot and cold recipes

- Need more bean salad options - marinated salads, or soup options with beans

- Need more variety of recipes using beans as to keep kids interested

- Need more vegetable recipe ideas that meet the beans and peas (legumes) menu requirements. Not just ones that are included in the main dish.

- Need to target parents as students do not eat beans at school

- New innovative ideas for beans. Maybe training videos on how to prepare dry beans and season them so that they can be prepared and served by lunch time.

- Only so many to choose from that kids will eat

- Please develop more bean/pea recipes that are tried and true kid-friendly.

- Please develop recipes with a sodium content that is reasonable as far as the guidelines for sodium.

- Please! Hummus is too time consuming to make weekly and lentils are not yet popular. I like the SW bean salad.

- Putting beans and peas on the menu uses too many of our calories for the day.

- Really need help with this

- Recipes for different varieties of beans so we can offer several different kinds of dishes

- Recipes that are acceptable to younger students that are not complicated to prepare

- Revised bean salad recipes with contribution listings of the legumes

- Salads

- Seasoning/preparation suggestions to provide variety

- Something kids will eat

- Soups

- Spaghetti and meat sauce made with commercially prepared beef crumbles, macaroni and cheese made with whole grain pasta

- Student-friendly recipes that give a wider range of how to incorporate these into the menu

- Student acceptable vegetarian dishes

- The recipes need to give alternate options on the meal pattern components based on using canned beans, not just dry beans.

- This group also needs to be denoted as to what a recipe contributes towards either the legume or protein component.

- This is a need. It is hard to get them to eat these.

- Three bean salad- how much is the legume meeting? Maybe a three bean salad with all countable legumes

- Using lots of kinds of beans

- Variations of humus and salsa

- Variety of recipes for entrees and sides

- Variety of ways to prepare black beans

- Variety that may be more suitable for students to try

- Varity of recipes using beans and peas. We use the oven-baked beans weekly.

- Vegetarian beans

- Ways to get these items into recipes that students will eat

- We struggle with getting the kids to eat the beans. More kid friendly recipes would be helpful.

- Would be thankful for any so that I know how much of a combination recipe need to serve in order to be able to count as 1/2 c. legumes

Starch Vegetable Recipes You Would Like to See Added

- This is an "other" vegetable recipe that is needed. Fresh Cabbage Salad (1/2 cup) with 1 oz. salad dressing, using fresh shredded cabbage with 1 oz. of salad dressing drizzled over it.

- Baked potato bar

- Cooked sugar snaps

- Corn salsa

- Different potato recipes

- Do survey with children to see what they would like and make menus more kid friendly

- Eggplant, red potatoes

- Hash brown casserole

- Just make sure the current recipes have the correct serving information; Do we really want margarine or butter in these recipes? If an item such as margarine/butter is an option, then there should be nutrients per serving for this option, only because calories and fat are so important in menu planning.

- Less important, because tots/wedges/instant mashed potatoes/corn are so popular

- Meet new standards

- More options

- More roasted options, sweet potatoes, more whole grain rice recipes

- More variety

- Please develop recipes with a sodium content that is reasonable as far as the guidelines for sodium.

- Roasted potato medley--(purple, sweet, gold, etc.)

- Some recipes that could be used on all lines

- Something kids will eat

- Something other than corn or potato wedges

- Spicy oven roasted wedges

- Yes, preferably healthier ones

Whole Grain Recipes You Would Like to See Added

- 51% with yeast roll - tried and tested recipe

- A high quality, 100% whole wheat roll

- Add whole grains to recipes that have already been developed

- All items made with white flour - ingredients should be revised with whole grain contribution information

- All kinds and variety

- All pasta recipes need to be redone for whole grain and the new 16g requirements.

- All recipes must be up-dated to whole grain. Need recipes using the whole-grain rich flour (53%), recipes using whole wheat flour mixed with all-purpose flour, and using 100% white whole wheat flour. Or at least information on how to make changes between the different kinds of flours.

- All recipes to be adapted to at least 51% whole grain and to list the gram weights and contribution. Ability to alter/adapt the recipe to meet different portion sizes.

- The whole grain needs to be denoted in the recipe itself as well as that the recipe is considered a whole grain rich food item.

- Always looking for new recipes

- Anything to get them so students like them

- Baked or cooked oatmeal recipe

- Breakfast breads

- Chicken and brown rice

- Cookies

- Different grains and how to flavor them, such as quinoa

- Do survey with children to see what they would like and make menus more kid friendly

- Don't make breads.

- Ethnic side dishes

- Eye appealing different grain side dishes, with couscous and quinoa

- Hot rolls using oats

- How to make your grains 50% and greater without the strong grain taste.

- How to manipulate whole grain flour when preparing from scratch...whether you're using whole grain white or brown whole grain flour

- How to substitute whole grains in the recipes to create an acceptable product - for example, update the cookie recipes so they are whole grain rich

- I noticed the cinnamon roll recipes isn't whole grain rich. Going through the existing recipes and revising them would be nice.

- I would like if more of the bread/grain recipes were adjusted to include whole grain.

- I would like to see recipes that aren't so dry in texture when they are turned into a whole grain recipe. I have noticed that most of the recipes I am using ask only for white flour. When you try to make it mostly whole grain the product is very dry and difficult to work with.

- It is very hard to use a high amount of whole wheat flour and get a product the kids will actually eat. It is very heavy and has a much different texture that the kids are not using to. We need recipes that will provide kids with a whole grain item that is happily edible.

- Meet HUSSC

- More and updated recipes

- More breakfast whole grain recipes, cinnamon rolls, biscuits, etc.

- More healthy breakfast options

- More options

- More recipes for rolls, cinnamon rolls using whole grain flour

- More recipes using white wheat flour

- More variety of whole grain

- Need kid friendly recipes for our area of the country.

- Need more guidance how to prepare whole grain with a palatable, softer texture. I am doing something wrong.

- Need more recipes made with whole grains

- Need recipes and also a flour that does not look like wheat. Need a whiter flour.

- Please develop recipes with a sodium content that is reasonable as far as the guidelines for sodium.

- Put 50 % whole wheat flour into yeast rolls/cinnamon rolls (although I found these with the Iowa Gold Star Recipes)

- Recipes for bread based products should meet the 51% whole grain requirement and be reworked to give an acceptable product. Just changing the flour from white to 50/50 wheat/white does not usually produce an acceptable product to students.

- Recipes that contain whole grains and regular g rains. How to mix pasta (regular and whole grain to meet requirement) Pasta salads kids like.

- Revise recipes based on the new 16g requirement.

- Revise recipes to whole grain flour which meets the 51% use by weight of flour

- Rice dishes that incorporate the vegetable requirements.

- Scratch pizza dough, dinner rolls, cookies, and cornbread

- Sides and salad bar recipes. Use more variety of grains

- The recipes all need to be updated and include whole grain recipes

- There are many recipes that are not considered whole grain. These need to be updated to meet the new meal pattern.

- We don't bake.

- We need a USDA cornbread recipe that is whole grain.

- We use rolls to make hot dog and hamburger buns

- Whole grain pasta does not work with low sodium, low fat cheese. It will not stick to the pasta.

- Whole grain breads

- Whole grain cheese zombie

- Whole grain desserts that meet new standards

- Whole grain rolls, biscuits

- Will try quinoa this year on the line. We do a lot of brown rice. Like the pilaf recipe--other ideas for whole grains would be welcome.

- Yes to meet new guidelines.

Meat Recipes That You Would Like to See Added

- A variety of baked chicken options

- All beef recipes using beef crumbles

- Always looking for new recipes...

- BBQ pulled pork, BBQ chicken strips, teriyaki chicken

- Beef stroganoff sauce over pasta

- Chef salad with a variety of meats/meat alternatives

- Cooked products instead of raw products

- Could use more variety- some new ones

- Current-trendy-new ideas

- Do survey with children to see what they would like and make menus more kid friendly

- Entrée recipes that appeal to student appetites that are fairly easy to prepare using USDA ingredients

- Ground beef recipes using pre-cooked crumbles, USDA turkey or pork (fresh ham) roasts

- Ground beef, bone in chicken

- Ground turkey

- How to use safely raw meat products such as pork, poultry and fish

- Ideas for "speed-scratch" or "almost home-made" utilizing some processed foods as a base. Labor efficiency recipes--cook roast pork, serve as pork roast day one; day two shred cooked pork for caritas or fajitas; day three use chopped pork in sandwich or as meat in vegetable soup.

- Looking for simple dishes - not a lot of ingredients or steps

- I love the idea of ethnic and culture dishes and a variety of offerings, such as casseroles.

- Low-fat, low-sodium, tasty, trendy food items

- Many, many more options needed

- Mashed potato bowls (mashed potatoes, chicken chunks, corn, gravy, cheddar cheese-similar to KFC), grilled chicken pasta salad

- Meet new standards

- More chicken dishes

- More options

- More recipes that include both meat and beans together to reduce the amount of total meat but maintain protein requirements - helps with expense and health of the meal.

- More recipes using ground beef

- More recipes using processed commodities, such as beef crumbles, chicken fajita meat, etc.

- More regional soup recipes

- More up-to-date recipes, because some recipes have been around for many years before new policies were put in to place.

- More uses for commodities that will bring them current with the trends in a severe need area

- More variety

- Nacho meat made with commercially prepared beef crumbles.

- Need more recipes that meet today's eating trends.

- We need to be able to provide a variety that students will accept. This is a real issue, and meal counts are not rising.

- New ideas

- New options that meet the requirements

- New pork recipes that are less labor intensive, and more variety of all meat entrees offered.

- New recipes. Students are tired of the old ones. We need recipes that look like those served by restaurants.

- Newer variety

- Not sure

- Please develop recipes with a sodium content that is reasonable as far as the guidelines for sodium.

- Portion sizes are unreasonable for 7-8

- Quality pork recipes

- Recipes for new options we are getting from commodities (roasted chicken, diced chicken, turkey roast).

- Recipes for the new age, new regulations.

- Recipes kids recognize and want to eat

- Recipes that mimic restaurant fare.

- Recipes using beef crumbles

- Recipes using commodity foods

- The recipes need to give alternate options on the meal pattern components based on using cooked meat instead of raw. Very few districts use raw meet. I really like the USDA recipes, because it gives you the serving and the components based on the serving size but it's in on raw. I get my meat from the processor already cooked. It is safer by far.

- Training on how to make your meat leaner, like washing your meat to take the fat out so the food is not as greasy.

- Turkey alfredo, pepperoni pizza

- Turkey roast, beef patties

- Turkey, chicken

- Update recipes using cooked ground beef/turkey instead of raw ground beef/turkey

- Update to more popular selections

- Use more seasoning. More ethnic flavors in recipes. Use the amount of beef crumbles and not raw beef. Raw beef is seldom to never used in school food service. Also, cooked chicken not raw. We never get raw product in the kitchen.

- We don't use raw ground beef anymore. Would like to see recipes with crumbles.

- We need meat dishes that do not take up two-thirds of our calorie count for the day.

- Whole meat items

- Would be good to include a variety of recipes that use the chicken fajitas, taco meats etc.

- Yes more options with ground turkey or chicken.

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