

# Foods most frequently consumed by fifth grade children on Guam

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## Abstract

This study was conducted to describe the food intake of fifth grade children on Guam based on 940 one-day food records. Files for each subject were merged resulting in a file with 9,036 lines of data consisting of 1,006 individual foods which were condensed by grouping similar food items. The foods reported were aggregated into 194 groups according to food type and nutrient content. Frequency distributions for the 194 aggregated food groups were determined and the top 85 foods, representing 89.9% of all foods listed, were identified. Major findings are that non-nutritive beverages are consumed at a high frequency and that fruits and vegetables are consumed at a low frequency. This study implies that many of the common foods in the diet of children on Guam are not traditional choices, lack nutrient density, and supply excess energy, fat, and sugar in the diet. Now that the foods being consumed have been identified, health professionals can perform better nutrition assessment and create culturally appropriate education materials. Research to assess nutritional adequacy of the diet of children of all ages on Guam is recommended.

## Introduction

The frequency that certain food items are consumed in a population and the importance of particular foods in the diet are meaningful information to many professionals in the nutrition field, including dietitians, public health officials, and epidemiologists<sup>1</sup>. Dietary intake patterns during childhood may be especially important because of their

potential to predict not only the occurrence of obesity in childhood but also, later, adult cardiovascular disease and certain diet-related cancers occurring in adults<sup>2-4</sup>. Early intervention and education on eating habits and behaviors can have a positive effect by reducing chronic disease risk factors and encouraging healthy behaviors in children<sup>5</sup>. This issue has particular relevance on Guam where the incidence of diseases such as diabetes mellitus, certain types of cancer, and cardiovascular disease are prevalent and increasing<sup>6</sup>. At the same time, a general marked change in diet is occurring on Guam, involving a decrease in the consumption of traditional foods high in vitamins, minerals, and fiber, a decrease in the amount of fresh fruits and vegetables included in the diet, and an increased reliance on imported and processed foods high in fat, sugar, and sodium<sup>6-11</sup>.

When children make food choices, they are usually not aware of the nutrients that a specific food provides, or important functions the nutrients perform in the body. Tasks such as formulating children's diets, performing nutrition assessment on children, and developing nutrition education materials for children, all may be improved by focusing on foods that children like and commonly consume, as well as which foods constitute good sources of a specific nutrient. Unfortunately, while general trends in diet on Guam have been noted, information about the diet of Guamanian children is very limited<sup>12,13</sup>. Education materials and diet assessment instruments utilized in the United States may be less useful on Guam due to cultural differences. The objective of the present study was to develop a list of foods most frequently consumed by fifth grade children on Guam based on self-report of diet. It is hoped that such a list will prove useful in providing a foundation for nutrition education, further nutritional assessment, and in an effort to reverse these health trends.

## Methods

### Design

Dietary data were collected from a sample of fifth grade school children, aged 9 through 13, on Guam during the 1993 - 1994 academic school year using a one day food record. The method was pilot tested with 50 students and revised prior to use. The study began with an orientation presentation at district meetings for the school principals to explain the focus and the objectives of the research. Next, regional training sessions were conducted for the fifth

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grade teachers and the school nurses from north, central and southern Guam. These 2-3 hour training sessions informed the teachers and nurses about the one day food record and prepared them to teach the students about the food record including food descriptions and quantification. The training program was presented by the principle investigator and included written protocols, modeling and role-playing. The role-playing was used to practice how to complete the forms, and the teachers completed the food records as if they were being surveyed. In some cases, one teacher, after training, explained the process and delivered the materials to other teachers in their school. The teachers or nurses from each school then administered the food records to the children. The teachers were asked to collect food records twice, once during the rainy season and once again during the dry season. A total of 1,727 food records were collected.

### Subjects

Fifteen schools, or 71% of the public elementary schools on Guam, participated in the study. During the rainy season, 1,264, or 54% of the all fifth grade children submitted one-day food records. Since different foods are available in the rainy and dry seasons, during the dry season food records were collected from 463 students. A total of 1,727 food records were collected. The schools and children that participated in the study are spread throughout the island and are representative of the different villages and ethnic groups on Guam. The study was limited to fifth graders. While the diet of these children is probably somewhat similar to children of other ages, it remains unclear how generalizable these data are to other age groups (e.g., to preschoolers, teenagers) and such generalizations should be limited.

### Data collection

A one-day food record was distributed to each child, who then filled in their name, school, teacher's name, room number, sex, age, and ethnic group. The fifth grade children began the food records in class by recording what they consumed during lunch with help from the teacher. Recording intake for the remaining twenty-four hours was assigned as homework. Teachers were instructed to make sure that the children included breakfast the next day before handing in the food records and to allow time for the children to complete that section if they had not done so.

Drawings of glasses, mugs, spoons, circles, rectangles, and squares of different sizes from the Food Intake Analysis System version 2.3 (FIAS, 1993, University of Texas Health Science Center, Houston, Texas) were used by the teachers to help the children describe serving sizes. Children also described food in standard measurements (cups, teaspoons), and portions (chicken drumstick, whole orange).

Of the 1,727 food records collected, approximately 180 were discarded due to lack of information or illegibility.

Food records were discarded if the amount consumed was not specified, or if the child neglected to record their gender or ethnicity. Of the remaining diet records, 954 or 55% of the total number submitted, were randomly selected for the database. An additional 14 records were omitted after problems with food amounts were identified. Of the 940 food records utilized, approximately half were from the rainy season and half from the dry season. The sample is representative of all the participating elementary schools and both genders.

### Data analysis

Each food item recorded on the 940 food records was entered into the FIASO for nutrient analysis. To assist with culturally appropriate nutrient analysis, 67 traditional local recipes were added to the data base. In addition, Calrose rice is commonly consumed on Guam and was added to the data base as an individual food item. The program made it possible to create one file per person, with one line of data per food item. Files for each subject were merged resulting in a file with 9,036 lines of data consisting of 1,006 individual foods.

The 1,006 individual food items in this subset were condensed by grouping similar food items. For example, seven different codes for corn were grouped together, without concentrating on brand names, packaging, or preparation. Other groups were formed on the basis of food type and nutrient content. For example, fried rice with different types of meat and vegetables was grouped together and included pancit and other similar dishes as well. In most cases, the item in each group that was consumed in the largest quantity was used to represent the entire group. Specific fruits and vegetables were listed individually. This resulted in 194 food aggregations for the present study. Examples of food aggregates are illustrated in Table 1. The procedure for the food grouping was modeled after the aggregations done for the Total Diet Study and the Nationwide Food Consumption Survey (NFCS), which were revised in 1990<sup>14</sup>. The data was analyzed using the Statistical Analysis System, (SAS for Windows Version 6.09, 1989 - 1996; SAS Institute, Cary, NC).

### Results

Frequency distributions of the foods most frequently consumed in the diet of Guamanian fifth graders for the 194 aggregated food groups were determined and are reported in Table 2, including the percent contribution to the total diet, the cumulative percent to the diet, the number of times that food was reported, and the percent of the sample that consumed the food item. Note that this list of the 85 most frequently consumed foods accounts for 89.6% of the foods reported by the children. All other foods not listed account for the other approximately 10% of children's diet and will not be discussed here.

As can be seen, the item most frequently reported was white or red rice (95.4% of the sample). Whole milk was consumed slightly less than twice as often as lowfat (2% fat) milk, and about 37 times more often than skim milk. Fried chicken was the most frequently reported meat item. Canned yellow corn was the most frequently reported vegetable, and apples were the most commonly consumed fruit. Four of the top 15 most frequently consumed foods in the diet of children on Guam consist of beverages with low nutritional quality, including canned fruit drink, fruit drink from powder, carbonated cola, and fruit-flavored carbonated beverages. In general, fresh fruits and vegetables are almost negligible on this list of the top 85 foods. They represent approximately 10.8% of the foods consumed, although some vegetables would be included in the fried rice and mixed dishes as well. Most of the fruits listed are canned in heavy syrup.

## Discussion

One of the public health implications of this research is to improve the beverage choices of fifth grade children on Guam. The high contribution of sweetened drinks, 8.4% of all foods, to the diet indicates an overemphasis on drinks with low nutrient density. For example, orange drink contains less fiber, vitamin A, vitamin C, B vitamins, and calcium, along with more sodium than orange juice. Coconut water, a more traditional beverage choice, provides less energy (calories) per serving and more calcium than these beverages choices. In addition, these sweetened beverages were consumed more frequently than whole and low fat milk combined (7.1% of all foods). Milk is an excellent source of calcium and is well represented in the food frequency in part because of the school system's participation in the United States Department of Agriculture School Lunch and Breakfast Program. Although children and their parents may not always consider the dietary contribution of beverages, this research shows that given their high consumption, improved choices could have an important health impact.

A second important finding of this research is the low fruit and vegetable consumption of fifth grade children on Guam. The Healthy People 2000 objectives recommend that adults and children consume at least five servings of fruits and vegetables each day<sup>15</sup>, or approximately 20-30% of the food children eat<sup>16</sup>. Fruits and vegetables are excellent sources of complex carbohydrates, dietary fiber, and many important vitamins and minerals. While the traditional foods of Guam include many fresh fruits and vegetables<sup>17</sup>, data from this study indicate that only 10.8% of the foods consumed were fruits and vegetables (including juices), and many of these were processed. Bananas, mangos, papaya, and other traditional fruits and vegetables available on Guam were reported infrequently. The results support earlier studies that indicate decreased consumption of fresh fruits and vegetables, and an increased dependency on imported foods in Pacific peoples<sup>8,11</sup>.

Of course, the concern about low fruit and vegetable intake is not limited to Guam. Children in the United States may consume as little as one serving of fruit per day, and slightly over two servings of vegetables per day when vegetables like french fried potatoes and tomato sauce on pizza are included. When 3,148 children in the United States, aged 2 through 18 were surveyed, only 7% consumed two servings of fruit and three servings of vegetables per day<sup>18</sup>. A diet high in fruits and vegetables has been associated with a decreased risk of many types of cancer, including colon, breast, lung, oral cavity, larynx, esophagus, stomach, bladder, uterine cervix, and pancreas<sup>19</sup>. Research has shown that the fruit and vegetable consumption of children is a reliable measure to predict fruit and vegetable intake in adulthood<sup>18</sup>. The results of the present study show a lack of fruit and vegetable consumption in the diet of children on Guam, and support the idea that promotion of fruits and vegetables is needed.

Another noteworthy finding is that a number of foods which should be eaten only in moderation such as candy, chips, desserts, gravy, processed meats, fried foods, and sweetened cereal are included on the list of the top 85 foods consumed by children on Guam. Traditionally, the Guamanian diet was predominantly vegetarian and included rice, taro, yams, breadfruit, cassava, bananas, and coconut<sup>17</sup>. This study provides evidence that the diet on Guam has become similar to Western societies. Of course, not all of the food choice by the children on Guam are poor. There are many very nutritious foods appearing on the list including: rice, milk, roasted chicken, bread, apples, orange juice, green beans, carrots, eggs, salads and fish, among others.

It is important to note that the data presented here are influenced by the specific foods placed in each aggregated group. For example, when milk was reported without specification of fat content, it was labeled as "*milk, not further specified*" and placed in the aggregated group with whole milk. Chicken was grouped in a similar fashion. When chicken was reported with no further specification concerning cooking method or skin, it was placed in the aggregated group with roasted chicken. The degree that food items are grouped also influences the present data. For example, if the milk was grouped together, it would be the second most important contributor of calories and protein. In the same fashion, Spam - sandwich, Spam - fried in oil, Spam- fried rice, and Spam - stew were placed in different aggregated groups due to type of food and nutrient content.

The data may also have been influenced by the school lunch. The food records were collected on one day during the week. Therefore, some of the children may have consumed the same entree for lunch. For example, if chicken nuggets or beef stew were served for lunch, it may have influenced the amount of times these foods were reported. The food records were collected from 69 fifth grade classes in 15 different elementary schools on various

**Table 1. Food group aggregate examples**

Code	Food name	No. of times reported	Code	Food name	No. of times reported
C04	Corned beef, canned			Turkey ham	1
	Corned beef, canned, ready to eat	41		Ham, deviled or potted	1
	Meat, NFS	27	G54	Yellow corn, canned	
	BBQ spareribs (marinated)	14		Corn, yellow, canned, low na, fat not added	30
	Corned beef, cooked, lean & fat	9		Corn, yellow, cooked, fat added	16
	Beef w/soy-based sauce (mixture)	8		Corn, yellow, cooked, NS as to added fat	12
	Beef roast, roasted, lean & fat	8		Corn, yellow, cooked, fat not added	10
	BBQ spareribs (marinated): chamorro	7		Corn, yellow, canned, low na, fat added	8
	Beef, NS as to cut, cooked, lean & fat	7		Corn, yellow, canned, to na, NS as to added fat	3
	Beef, stew meat, cooked, NS as to fat	6		Corn w/peppers, red or green, cooked, no fat added	1
	Beef roast, roasted, NS as to fat	6	H01	Beef stew with potatoes and vegetables	
	Beef, NS as to cut, fried, NS as to fat eaten	4		Beef stew w/pot, tomato-based sauce	63
	Beef, NS as to cut, cooked, NS as to fat	4		Beef stew w/pot & veg (w/car/dk grn), tomato sauce	6
	BBQ beef shortribs (marinated)	3		Corned beef hash	4
	BBQ beef shortribs (marinated): chamorro/filipino	3		Spam stew w/tomato sauce and veg. (chamorro)	3
	Beef w/gravy (mixture) (incl country style)	3		Beef w/mixed veg & pot	2
	Beef roast, roasted, lean only	2		Corned beef w/tomato sauce & onion, pr style	1
	Beef shortribs sinigang (beef in tamarind soup): filipino	1		Corned beef w/vegetables	1
	Beef kelaguen	1		Beef stew w/pot, gravy	1
	Swiss steak	1		Stew, NFS	1
Beef, shortribs, cooked, NS as to fat	1	Beef stew w/pot & veg (w/car, dk grn), gravy		1	
Beef, roast, canned	1	Beef, pot, & veg (w/car/dk grn), no sauce		1	
Beef w/cream or white sauce (mixture)	1	Lamb stew w/pot & veg (incl car/dk grn), gravy		1	
Beef & mushroom soup, canned, low sodium	1	Beef & veg (w/car/dk grn, no pot), no sauce		1	
		Sausage, pot & veg (incl car/broc/dk grn), gravy		1	
C24	Spam fried in oil			H20	Chicken adobo
	Spam fried in oil	15	Chicken adobo/estufao (guamanian)		20
	Bologna, NFS	13	Chicken adobo (chic w/soy sauce) wh/dk meat: filipino		14
	Vienna sausage, canned	3	Chicken kelaguen with coconut (chamorro)		9
	Vienna sausage, chicken, canned	2	Chicken, corn, and coconut milk		7
	Chicken loaf or roll, luncheon meat	2	Turkey w/gravy (mixture)		5
	Luncheon slice, meatless-beef, chicken, salami/turkey	2	Pork & rice w/tomato-based sauce (mixture)		4
	Thuringer (incl summer sausage)	2	Chicken & rice, no sauce (mixture)		2
	Bologna, pork & beef	1	Chicken, corn and coconut milk (chamorro)		1
Salt pork, cooked	1	Chicken, noodles, veg (incl car, dk grn), cream sauce	1		
C25	Ham luncheon meat, canned (including spam)		Chicken cacciatore (incl chicken w/tomato sauce)		1
	Ham, luncheon meat, chopped, canned (include spam)	33	Chicken & veg (incl car/dk grn)(no pot), cheese sauce		1
	Ham, sliced, prepackaged or deli-sliced	20			

Abbreviations: NSF = Not Further Specified. w/ = With. NS = Not Specified

**Table 1. (cont) Food group aggregate examples**

Code	Food name	No. of times reported	Code	Food name	No. of times reported
H34	Rice, fried			Doughnut, cake type, chocolate covered	6
	Rice, fried, w/meat	61		Doughnut, NS as to cake or yeast	4
	Fried rice w/ham and vegetables	30		Banana lumpia	3
	Rice, fried, meatless	20		Doughnut, raised/yeast	2
	Pancit gisado/bijon (bean thread/glass/transparent)	12		Bonelos aga (ripe banana doughnut): chamorro	2
	Spam fried rice	10		Doughnut, jelly	1
	Egg roll, w/beef, w/pork	9	K18	Pickled papaya	
	Beef chow mein or chop suey w/noodles	6		Pickled papaya	12
	Pancit gisado (bean thread/glass/transparent): filipino	6		Cucumber pickles, dill	2
	Sushi, w/vegetables, rolled in seaweed	6		Pickled papaya (chamorro)	4
	Rice, fried, w/shrimp	3		Mango, pickled	3
	Empanada (chamorro)	2		Radishes, pickled, hawaiian	2
	Empanada (gr. Beef & veg wrapped in pastry & fried)	2		Cucumber pickles, reduced salt	1
	Kung pao pork	2	M20	Fruit drink, canned	
	Shrimp & veg (w/car/dk grn, no pot), soy sauce)	1		Fruit drink (incl fruit punch & fruit ade)	83
	Dumpling, fried, pork	1		Orange drink (incl orangeade, yaba daba dew)	41
	Tamale, sweet	1		Fruit punch/drink/ade w/vit c added (incl hi-c)	37
H38	Noodle soup			Pineapple-orange juice drink	25
	Soup, mostly noodles (incl spaghetti soup, top ramen)	46		Grape juice drink	18
	Chicken kadu (chamorro chicken soup)	20		Apple juice drink	15
	Chicken noodle soup (incl chicken & stars soup)	12		Fruit juice drink, NFS	12
	Instant soup, noodle (incl meat & veg flavors)	8		Citrus juice drink w/vit c added	12
	Oxtail soup	6		Fruit-flavored beverage, low sugar	9
	Chicken soup, w/veg (broc, car, celery, pots), oriental	5		Cranberry-apple juice drink w/vit c added	8
	Chicken soup	4		Strawberry-flavored drink	4
	Chalakiles (ch., Chicken soup w/achote and cr. Of rice)	4		Strawberry-flavored drink w/vitamin c added	4
	Soup, NFS	3		Grape drink w/vitamin c added	2
	Chicken noodle soup, chunky	2		Apple-orange-pineapple juice drink	2
	Chicken rice soup (incl turkey rice soup)	1		Cherry drink w/vit c added	2
	Beef noodle soup	1		Citrus juice drink, low calorie	2
	Instant soup, NFS	1		Tangerine juice, canned w/sugar	1
	Instant soup, noodle, w/egg, shrimp, or chicken	1		Grapeade & grape drink	1
	Noodle soup, NFS	1		Fruit punch, made w/fruit juice & soda	1
	Noodle soup w/fish ball, shrimp & dk grn veg	1		Orange-grape-banana juice drink	1
I26	Cake doughnut with icing			Orange drink & orangeade w/vit c added	1
	Doughnut, cake type	6			

Abbreviations: NSF = Not Further Specified. w/ = With. NS = Not Specified

**Table 2** The foods most frequently consumed in the diets of fifth grade children on Guam

Rank	Description	% of total diet (a)	Cumulative % of total diet	Number of times reported (b)	% of sample reporting (c)
1	White or red rice	10.1	10.1	897	95.4
2	Whole milk	4.6	14.7	408	43.4
3	Chicken, white or dark meat, fried	3.2	17.9	281	29.9
4	Fruit drink, canned	3.1	21.0	275	29.3
5	Lowfat (2% fat) milk	2.5	23.5	226	24.0
6	Chili con carne with beans	2.5	26.0	220	23.4
7	Fruit drink from powder	2.2	28.2	195	20.7
8	Potato chips	2.2	30.4	192	20.4
9	Fried rice	2.0	32.4	180	19.1
10	White bread	2.0	34.4	176	18.7
11	Hard candy	1.9	36.3	167	17.8
12	Corned beef, canned	1.7	38.0	147	15.6
13	Cola, carbonated beverage	1.6	39.6	144	15.3
14	Chicken, white or dark meat, roasted	1.6	41.2	141	15.0
15	Fruit-flavored carbonated beverage	1.5	42.7	135	14.4
16	Frankfurter on a bun	1.5	44.2	130	13.8
17	Tortilla chips	1.4	45.6	124	13.2
18	Apple, raw	1.4	47.0	120	12.8
19	Noodle soup	1.3	48.3	113	12.0
20	Ice cream	1.1	49.4	97	10.3
21	Peach, canned in heavy syrup	1.1	50.5	97	10.3
22	Tomato catsup	1.1	51.6	96	10.2
23	Butter (salted)	1.1	52.7	95	10.1
24	Milk chocolate candy bar	1.0	53.7	90	9.6
25	Chocolate chip cookie	1.0	54.7	90	9.6
26	Corn flakes	1.0	55.7	88	9.4
27	Beef stew with potatoes and vegetables	1.0	56.7	86	9.1
28	Cheeseburger on a bun	0.9	57.6	84	8.9
29	Apple juice	0.9	58.5	83	8.8
30	Orange juice	0.9	59.4	83	8.8
31	Brown gravy	0.9	60.3	81	8.6
32	Yellow corn, canned	0.9	61.2	78	8.3
33	Pork chop, fried	0.9	62.1	78	8.3
34	Chocolate milk	0.9	63.0	78	8.3
35	Beef steak	0.8	63.8	75	8.0
36	Chicken adobo	0.8	64.6	73	7.8
37	Chicken nuggets	0.8	65.4	73	7.8
38	French fries	0.8	66.2	72	7.7
39	Fruit-flavored, sweetened cereal	0.8	67.0	71	7.6
40	Green beans, cooked	0.8	67.8	69	7.3
41	Hamburger on a bun	0.8	68.6	68	7.2
42	Pineapple, canned in heavy syrup	0.7	69.3	64	6.8
43	Carrots, raw or cooked	0.7	70.0	63	6.7
44	Egg, fried	0.7	70.7	61	6.5

**Table 2. (cont.) The foods most frequently consumed in the diets of fifth grade children on Guam**

Rank	Description	% of total diet (a)	Cumulative % of total diet	Number of times reported (b)	% of sample reporting (c)
45	Spaghetti with tomato and meat sauce	0.7	71.4	60	6.4
46	Lettuce salad with assorted vegetables	0.7	72.1	60	6.4
47	Orange, raw	0.7	72.8	60	6.4
48	Fish, fried	0.6	73.4	56	6.0
49	Salad dressing	0.6	74.0	55	5.9
50	Pizza with cheese and meat	0.6	74.6	55	5.9
51	Fruit cocktail, canned in syrup	0.6	75.2	55	5.9
52	Pear, canned in heavy syrup	0.6	75.8	54	5.7
53	Pancakes from a mix	0.6	76.4	54	5.7
54	Mixed vegetables, canned	0.6	77.0	52	5.5
55	Ham luncheon meat, canned (including Spam)	0.6	77.6	52	5.5
56	Tuna salad sandwich	0.6	78.2	50	5.3
57	Beef sausage, smoked (including beef jerky)	0.6	78.8	50	5.3
58	Lemonade flavored drink	0.5	79.3	48	5.1
59	Shrimp, fried	0.5	79.8	47	5.0
60	Peanut butter and jelly sandwich	0.5	80.3	43	4.6
61	Pickled papaya	0.5	80.8	42	4.5
62	Spam fried in oil	0.5	81.3	41	4.4
63	Pancake syrup	0.5	81.8	40	4.3
64	Frankfurter or hot dog	0.5	82.3	40	4.3
65	Meatloaf	0.4	82.7	38	4.0
66	White potato, boiled without skin	0.4	83.1	38	4.0
67	Breakfast tart	0.4	83.5	36	3.8
68	Grilled cheese sandwich	0.4	83.9	36	3.8
69	Sandwich cookie with creme filling	0.4	84.3	34	3.6
70	Egg sandwich, fried	0.4	84.7	34	3.6
71	Banana, raw	0.4	85.1	33	3.5
72	Ground beef or patty	0.4	85.5	33	3.5
73	Pizza with cheese	0.4	85.9	32	3.4
74	Egg, boiled	0.4	86.3	32	3.4
75	Applesauce	0.3	86.6	31	3.3
76	Popsicle, any flavor	0.3	86.9	30	3.2
77	Onions, mature cooked	0.3	87.2	30	3.2
78	American, processed cheese	0.3	87.5	30	3.2
79	Popcorn, flavored	0.3	87.8	28	3.0
80	Oatmeal	0.3	88.1	27	2.9
81	Butter-type crackers	0.3	88.4	27	2.9
82	Pork bacon, pan-cooked	0.3	88.7	27	2.9
83	Butter or sugar cookie	0.3	89.0	26	2.8
84	Champulado	0.3	89.3	26	2.8
85	Egg omelet or scrambled egg	0.3	89.6	26	2.8

Notes: These data represent 940 food records.

(a) The values represent the presence of food in the diet.

(b) The values represent the number of times the food item was reported on the 940 food records.

(c) The values represent the percentage of the population surveyed that reported the particular food item.

days, creating diversity among the school lunches. The school lunch was presumably the most carefully recorded meal since this portion of the food record was completed in the classroom. In addition, children attending private schools were not surveyed and may make different food choices.

A food list has value for many health professionals examining individual diets and public health planners conducting dietary assessment<sup>1,20</sup>. The promotion of culturally relevant foods could play an important role in providing nutrition education on Guam<sup>11,21</sup>. Local dietitians and other public health planners can use information provided by this food list to adapt dietary assessment surveys for Guamanian children. Professionals can also provide this information to parents to serve as a wake up call. Many parents may believe that their children are eating fruits and vegetables and need to know how non-existent they actually are based on children's self-report. These findings indicate that the diet of Guamanian children may be inadequate and research assessing nutrient intake of children of all ages is recommended.

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