VISUAL PLATE WASTE STUDY FOR A NORTHEAST GEORGIA SENIOR CENTER

By

SARAH E. PESKOE

(Under the Direction of Mary Ann Johnson)

ABSTRACT

The menu for the congregate meals is frequently evaluated; however, the intake of foods and nutrients by the participating older adults is understudied. The purpose of this study was to determine the vendor's compliance with selected state and federal congregate meal requirements and the participants' consumption of these meals. A visual plate waste study, conducted on six nonconsecutive Fridays in June, July, and August, 2009 at a local senior center, determined nutrient intake of calories, total fat, saturated fat, protein, fiber, calcium, vitamin D, sodium, fruits, and vegetables among the congregate meal participants. The results revealed low energy intake, as well as low intake of calcium and vitamin D among participants. Across days analyzed at the senior center, the percentage of participants who refused milk or consumed no milk at all ranged from 57% to 78%, raising serious concerns about the adequacy of senior center menus for meeting calcium needs.

INDEX WORDS: Visual Plate Waste Study, Older Americans Act Nutrition Program, Congregate Meals, Northeast Georgia Senior Center, Community-based Nutrition Services

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DEDICATION

This work is dedicated to my father, Dr. Stanley Thomas Peskoe.

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CHAPTER 1

INTRODUCTION

The increasing older adult population is changing the composition of the American population, and it is a trend that is expected to continue. The Department of Health and Human Services Administration on Aging predicts large increases in the population aged 65 and older, from 35 million in 2000 to a projected 72 million in 2030 (AOA, 2005). In the older adult population, the fastest growing age group is the "oldest-old," consisting of those aged 85 years and older (AOA, 2005). These demographics encourage researchers to focus on successful aging and assist target populations who are in the greatest need.

Research continues to investigate ways to improve this aging population's quality of life by reducing time spent coping with chronic illness. Many of the significant health problems in this population are illnesses related to nutrition, such as obesity, hypertension, cardiovascular disease, and diabetes mellitus. Eighty percent of older adults have at least one chronic disease, and 50% have at least two chronic diseases (CDC, 2007). These statistics signify that longer life does not necessarily denote better health. The potential, therefore, exists to lessen these health problems through nutrition education programs and general health promotion within vulnerable populations.

Adequate nutrition is a fundamental contributor to maintaining health, evidence recognized on a federal level through policy. The Older Americans Act Nutrition Program is a community-based program that provides partial funding for both congregate and home delivered

meals. Residents aged 60 and over are eligible to participate as well as their spouse, regardless of age. It is recognized that older adults are susceptible to nutrient deficiencies as a result of many reasons, including a reduced capacity to absorb and utilize nutrients, difficulty chewing, and loss of appetite (OAA, 2006). This program serves to improve the nutritional status of older adults by providing low-cost nutritious meals, social contact, nutrition screening, nutrition education, information on other services and sources of support, and transportation. Those at greatest risk are the same population that attends senior centers—low-income minorities and rural individuals who are socially and economically in need (AOA, 2005).

Although it is widely recognized that older adults are at risk of poor nutritional status, little is known about their intakes of food and nutrients from congregate meals served in community-based settings. Therefore, the purpose of this study was to determine the vendor's compliance with selected state and federal congregate meal requirements and the participants' consumption of these meals. The selected foods and nutrients were calories, total fat, saturated fat, protein, fiber, calcium, vitamin D, sodium, fruits, and vegetables. The major findings were that participants had low intake of foods and nutrients, low calcium intake, and even lower vitamin D intake from the congregate meal.

Although not a part of the hypothesis, other observations were made concerning the variability of food acceptability. It was found that acceptability of foods is extremely important in the senior centers when one food is served repeatedly as the primary source of a particular nutrient. It was concluded that properly chosen foods and/or a multivitamin supplement with calcium (at least 500 to 600 mg) and vitamin D (800 to 1000 IU) could markedly improve the target population's intake of these nutrients. Additional findings suggest that several simple menu changes could be easily implemented to increase fruit and vegetable consumption, such as

slicing certain fruits into manageable pieces rather than serving the fruit whole. Awareness of food preferences would assist the dietitians developing the menus to select better received vegetable choices.

CHAPTER 2

LITERATURE REVIEW

The Aging of Society

The world demographics are changing rapidly, and the aging of society is a pressing current issue. In 1950, adults aged sixty years or over totaled eight percent of the world population, but as of 2007, that figure had increased to eleven percent (UN, 2007). By the year 2050, researchers project 22% to 33% of the world's population will be aged sixty or older (UN, 2007). In developed countries such as the United States, it is projected that 21% of the population will be aged sixty or over, totaling 88.5 million individuals (UN, 2007). More specifically, the state of Georgia has the ninth fastest growing population of individuals over age 60 and the eighteenth fastest growing population of individuals over age 85 within the United States (DHR-DAS, 2008a). Between 1990 and 2010, Georgia's population of older adults aged 60 years or more is projected to increase by 62.5% from 893,049 to 1,450,968 (AOA, 2006; CDC, 2007). The population of Georgians over age 85 is expected to increase by 114.6% and total 122,818 by 2010 (AOA, 2005; CDC, 2007; DHR-DAS, 2008a). These staggering statistics of our expanding aged population cannot be ignored.

With increasing numbers of older Americans, it is imperative that states address the associated rising health care costs. The cost of health care is five times higher for an older adult than for individuals below age 65 (CDC, 2007). The reason for this cost discrepancy is that 80% of older adults have at least one chronic disease, and 50% have at least two chronic diseases, and

older adults spend 95% of health care expenditures on chronic illnesses (CDC, 2007). Over two-thirds of health care costs are designated for the treatment of chronic illnesses. Due to the combination of the increasing lifespan and the swell of baby boomers approaching older adulthood, 20% of the U.S. population, or 71 million older adults, will be living in the U.S. and increasing the nation's health care expenditures by 25% (Forum, 2008; CDC, 2007). Of this 80% of older adults, the prevalence of reported chronic illnesses is 41% hypertension, 31% heart disease, 22% cancer, and 18% diabetes (Wolff et al., 2002). Only 39.1% of participants report having "excellent" or "good" overall health (Wolff et al., 2002). Aside from the strong economic motivation to assist older adults in reducing their risk for chronic illnesses, there is a humanitarian incentive as well. Behind these national statistics are faces of grandmothers and grandfathers, their quality of life reduced by chronic disease. It is regrettable that modifiable behaviors like smoking, poor diet, and physical inactivity accounted for 35% of deaths in 2000 (CDC, 2007). These unhealthy behaviors contribute to the leading chronic diseases in the U.S.—heart disease, cancer, stroke, and diabetes (CDC, 2007). Those at greatest risk are the same population that attends senior centers—low-income minorities and rural individuals who are socially and economically in need (AOA, 2006b).

Senior Centers and Nutrition Quality Standards

Senior centers differ from nursing homes in that nursing homes are residential care facilities for the chronically ill or those recovering from illness. Nursing home patients do not require hospitalization, yet their illness might require a nurse to administer medication. Nursing homes are far more costly than the senior centers (Forum, 2008; AOA, 2008). Senior centers help older adults to continue to live at home, be independent, and remain self-sufficient. Community programs for older adults attending senior centers offer a variety of services that

keep these individuals engaged and active. The staff's presence provides general assistance for older adults as well as additional attention through education programs, information on topics ranging from voting to volunteer opportunities, social interaction with peers, regular recreational activities, and congregate meals (AACA, 2009). This assistance helps fulfill the needs of Georgia's elderly, providing them with effective and beneficial resources.

On a federal level, the Older Americans Act (OAA), passed by Congress in 1965 and most recently amended in 2006, addresses nutrition quality standards under Title III: Grants for State and Community Projects on Aging (AOA, 2006a). Included in Title III, Section 339 lists three required criteria for any State running a nutrition project. First, meals must meet the latest Dietary Guidelines for Americans, the purpose of which is health promotion and disease prevention (AOA, 2006b; USDHHS & USDA, 2005). It has been published jointly every five years since 1980 by the Department of Health and Human Services (USDHHS) and the Department of Agriculture (USDA). The current 2005 publication will be revised in 2010. Second, meals must also provide one-third of the Dietary Reference Intakes, as set by the National Academy of Sciences (AOA, 2006b). Third, the OAA mandates compliance with state and local food service laws (AOA, 2006b), which includes food safety regulations. One senior center is located in each of the twelve counties in Northeast Georgia, and lunch is served daily (AACA, 2009). Some centers prepare meals on-site, whereas others have food delivered from an area vendor such as Georgia Foodservice, Inc. The resources of the facility may dictate this distinction, as some senior centers are not equipped with full, functional kitchens. The dietitian hired as a consultant by the vendor prepares three-month cyclic menus that are expected to follow the above-mentioned criteria. In addition to nutrition standards, the senior centers also

host education and health programs that often target diet improvement related to illnesses common among older adults (OAA, 2006; AACA, 2009).

The menu recommendations include a total of eight foods and twenty-two nutrients (DHR-DAS, 2008b); however, only eleven were selected for the purposes of this study. The selection of these foods and nutrients were based on previous findings of low intake (Grieger & Nowson, 2007; Shatenstein et al., 2002), but these studies were conducted in long term care facilities. Since this study was conducted in an independently-living population, the selected nutrients were increased to capture a larger dietary picture. General nutrients of concern for a general healthful diet were selected such as total fat, saturated fat, and fiber as well as nutrients of concern for the older adult population such as protein, sodium, calcium, and vitamin D. Nutrient selection was limited to those meeting daily (rather than weekly) quantities, because the study was only conducted on Fridays.

Evaluation Methods for Food Waste

According to the OAA, a dietitian must approve the congregate meal menus (AOA, 2006b). Senior center menus are often assessed in-depth, yet the actual consumption of foods and nutrients is not. It is crucial that senior centers are knowledgeable about the effectiveness of its congregate meals. In 2007, the Home and Community-Based Services Program in Georgia served 36,277 seniors. Of that figure, 14,225 older adults received congregate meals in senior centers (DHR-DAS, 2008a). It would be prudent and sensible for senior centers to determine whether or not the food-allocated funding is truly reaching and benefitting its target audience.

A practical way to evaluate consumption is to gauge the amount of food discarded in the trash. Three types of plate waste studies are frequently applied in this manner. A 24-hour recall is commonly used in hospitals or long-term care facilities, because these institutions provide all of

the patients' food, including meals, snacks, and beverages (Carr et al., 1998). Weighed plate waste studies are used to determine consumption to the nearest gram. This method entails standardized recipes and standardized portion sizes. Each portion must be measured with scoops and ladles that ensure uniform rations. After the study participant has eaten, each item is weighed individually to determine its weight to the nearest gram. In this way, researchers can precisely determine nutrient intake based on serving sizes minus plate wastage. This method, although accurate, requires trained staff and labor compared to a 24-hour recall study. The daily routine of the foodservice establishment is interrupted, as researchers must weigh each component of the soiled tray prior to cleaning and sanitation. The weighed plate waste method is time consuming, and it is best applied for smaller case studies.

A visual plate waste study is less labor intensive than the weighed method, because it is not necessary to train as many staff members to aid in portion weighing (Carr et al., 1998). Fewer paid laborers also equates to reduced expenses. Overall, visual plate waste methods do not interfere with the daily goings-on of the foodservice establishment. Again, this aspect of a visual plate waste method reduces costs, because foodservice workers are not delayed in performing their daily duties. Additional shift time could potentially necessitate paid overtime for foodservice workers (Carr et al., 1998). Although visual plate waste does not provide the precision of a weighed plate waste method, it does provide adequate detail and is more appropriate for larger sample sizes (Shatenstein et al., 2002; Williamson et al., 2003).

Plate waste studies have been used to assess the lunch programs in school cafeterias. Problems with children's weight have become a national issue; it is reported by National Health and Nutrition Examination Survey that 30% of elementary school-aged children having a BMI in the 85th percentile or higher from 1999 to 2000 (Swanson, 2008). These data and developing

trends in such a young demographic has prompted researchers to implement different methods of measuring food consumption to determine caloric intakes in children. Researchers have used 24-hour recalls to study the diets of school age children, but this method has proven to be problematic. It requires parents to record and report consumption, but parents are not always present for each snack, meal, and beverage consumed. Other methods such as food frequency questionnaires and food records are also difficult to apply to small children. Plate waste studies have proven to be the most accurate method of evaluating meals, but they are also the most expensive to conduct. In the study conducted by Swanson (2008), digital photography was used as a tool to measure food intake. This method proved to work well in a sample size of college-aged students. Williamson et al. (2003) found a 0.92 correlation between the visual digital assessment and weighed food intake. Overall, observers yielded small overestimations (less than 6 grams) across all foods except for estimates of plate waste using the digital photography method, and the method proved to be valid. Researchers were concerned that its application with children might pose certain challenges, such as playing with food and food sharing. Swanson (2008) used digital cameras, positioned on tripods sixteen inches away at a set 45-degree angle, to photograph trays of food prior to lunch and after the meal. The schools selected were located in rural Kentucky in an area where over 80% of the school children qualified for free meals. With such a high percentage, the school decided to supply all student meals for free, and 95% of the students eat cafeteria lunches. After removing any 'before' or 'after' trays that were not documented, researchers analyzed a sample size of 826 lunches. Individual components of the meal were recorded by two evaluators, and inter-rater reliability was 92% within 10%, 97% within 20%, and 99% within 30% of each other (Swanson, 2008). The researcher concluded that

digital photography was an inexpensive but accurate means of assessment. Unlike Williamson et al. (2003), the researchers did not corroborate the visual evaluation with weighed foods.

The purpose of this study was to determine the vendor's compliance with selected state and federal congregate meal requirements and the participants' consumption of these meals. The selected foods and nutrients were calories, total fat, saturated fat, protein, fiber, calcium, vitamin D, sodium, fruits, and vegetables. Meals must also meet the latest Dietary Guidelines for Americans as well as provide one-third of the Dietary Reference Intakes. If the dietitian-approved menu does not match these standards, older adults are at risk for not receiving and not consuming the foods and nutrients required to be present in each meal. The vendor might not adhere to the dietitian-approved menu, and older adults might not be provided with the proper foods and nutrients recommended by the USDHHS and USDA. In this way, a plate waste study tests how closely each step of the menu approval, preparation, and consumption adheres to the Dietary References Intakes and the Dietary Guidelines recommendations.

Measureable objectives in proposed research study

These menu analysis guidelines translate into measureable requirements per meal. The following requirements per meal will be measured according to the menu analysis guidelines (DHR-DAS, 2008b):

Calories	650 kcal to700 kcal
Total fat	<26.6 grams
Saturated fat	<7.6 grams
Protein	≥19 grams
Fiber	≥8 grams
Calcium	≥400 mg
Vitamin D	≥100 IU
Sodium	<1200 mg
2 Vegetables + 1 fruit[a]	

[a]Two vegetables and one fruit must each be present on the plate and will serve as three separate criteria.

The eleven foods and nutrients listed above have been selected from the Northeast Georgia Regional Development Center (NEGRDC) and Area Agency on Aging (AAA) master menu for congregate meals (DHR-DAS, 2008b). This list includes total fat and saturated fat, because adequate nutrients within calorie needs mean choosing foods that limit saturated fat and added sugars (USDHHS & USDA, 2005). According to the standards developed for Georgia, this equates to less than 7.6 grams of saturated fat, less than 26.6 grams total fat per meal, and about 685 kcal (one-third) per meal (DHR-DAS, 2008b). The recipients of congregate meals are often low-income and/or minorities (AOA, 2006b), so it is important that the provided meal be nutrient dense, contributing to their daily nutrient intakes. Economics and financial hardship play a role in the well-being of older adults, because many living in poverty do not have the financial resources to afford food, health care, housing, and other essentials (OA, 2008). Additionally, older adults generally have decreased appetites, but proper nutrition and adequate calories each day are very important to one's health. Fiber aids in the gastrointestinal health of older Americans, and each lunchtime meal must contain eight or more grams (DHR-DAS, 2008b).

Protein is a macronutrient of concern for older adults (Chernoff, 2004), because many elderly individuals might avoid the fibrous texture of meats. Poor oral health often keeps older adults from eating animal protein; however, protein is needed for tissue replacement, a healthy immune system, and wound healing (Shiffman, 1997). Meals are required to contain ≥19 grams of protein (DHR-DAS, 2008b). Calcium is a key nutrient in optimal bone health, and each congregate meal must meet 400 mg or more (DHR-DAS, 2008b).

The adequate intake (AI) for sodium is 1500 mg. The tolerable upper limit (UL) for sodium is 2300 mg (NAS, 2004), but the congregate meal requirements are <1200 mg/day to

improve palatability of meals. Diets lower in sodium help reduce blood pressure, which, in turn, reduces risk of stroke, heart disease, heart failure, and kidney disease (USDHHS & USDA, 2005). The senior centers are required to serve lunches with less than 1200 mg of sodium (DHR-DAS, 2008b). Similarly, vitamin D recommendations for older adults are 1000 IU according to the 2005 Dietary Guidelines (USDHHS & USDA, 2005). This level is too difficult to achieve using the few foods that naturally contain vitamin D, so the meal standards in Georgia are set lower than the recommendations. Older adults are at risk for vitamin D deficiency because they often have limited sun exposure, less conversion to vitamin D in skin, and low intake of vitamin D-fortified dairy foods (Dawson-Hughes, 2004).

Increased fruit and vegetable consumption is associated with lower risk of cancer and chronic illness, and in compliance with its goals of health promotion and disease prevention, the 2005 Dietary Guidelines for American recommend two cups of fruits and two and a half cups of vegetables each day for those with energy needs of 2000 calories/day (USDHHS & USDA, 2005). Congregate meals in Georgia are required to include two vegetables and one fruit (DHR-DAS, 2008b). The selection of these eleven foods and nutrients is not only justified for health reasons, but the selection is also based on regulatory reasons. The selected foods and nutrients meet daily requirements, and since the study was conducted on one day of the week, foods and nutrients based on a weekly average were excluded.

Much nutritional information about a menu can be gleaned from a plate waste study. Food and nutrient intake of individuals and the senior center as a whole can be analyzed as well as daily average food waste. Acceptability of foods can also be determined through plate waste (Carr et al., 1998, Connors & Rozell, 2004). Like any other cafeteria or foodservice establishment, the menus and recipes are on a cyclic rotation and subject to change. Food

acceptability may differ according to the food preparation method or the recipe. Acceptability refers to whether the food has a good color, flavor, texture, size, form, and is served at the proper temperature. Food preference is similar to acceptability, but it refers more to the preference between items: orange juice with pulp versus without pulp or skim milk versus 2% milk. Data from a plate waste study can help to determine a wide range of averages, including food waste and nutritional intake. These averages could inform the senior center of average fruit and vegetable intake of individuals, average intakes of calcium-rich foods, average consumption different menus, or even average daily waste of the dining facility as a whole. These averages can help the facilities diminish waste and optimize nutrition among its congregate meal participants, ensuring that the money spent on its lunchtime meal is reaching its targeted audience. Groceries used for on-site preparation and vendors that deliver foods to senior centers both cost money. By diminishing waste, senior centers maximize their measure cost benefits.

Older adults also eat items not necessarily served by the senior center, because well-meaning and caring individuals want to make a kind gesture by delivering food. Church donations of surplus sweet treats, occasion desserts such as birthday cakes, and even home baked items from senior center workers are brought into the senior centers. Older adults can have diminished taste acuity (Shiffman, 1997), but sweets and fats usually remain palatable. When given the option to consume St. Valentine's Day cookies or a half-cup portion of green beans, some people might be more apt to forego the green vegetable. Plate waste can be influenced by these outside food sources, and this outside food component must be taken into consideration. Observations and inquiries of the staff regarding outside food sources provides a more comprehensive picture of actual food intake.

Preliminary Studies

Previous plate waste studies have primarily focused on school-age children or elderly individuals in 24-hour care nursing home facilities. Grieger and Nowson (2007) conducted a cross-sectional visual plate waste study to determine nutrient intake of elderly populations in both high-level care facilities and low-level care facilities. This study's design employed plate waste surveys over 24-hour periods during a six-month time span. All foods and drinks were monitored, including main meals, beverages, and mid-morning snacks using a validated seven point Comstock scale ('all left,' mouthful eaten,' '3/4 left,' '1/2 left,' '1/4 left,' 'mouthful left,' and 'none left') (Comstock et al., 1981). The trays were tagged with individual codes, and digital photographs were taken of the soiled trays. Mean nutrient intake was calculated for protein, calcium, vitamin D, and folate (Grieger & Nowson, 2007).

Shatenstein et al. (2002) researched the plate waste and energy intake of elderly patients in long-term care facilities. In this study, one facility provided high-level care of older adults while the other facility provided low-level care. Researchers further explored the accuracy of visual observation versus the weighed plate waste method. This study took place in a long-term care facility with a sample size of twenty-two nursing home residents. After one rater visually evaluated the amount of each item on a plate, another rater determined the percentage eaten. Finally, a third researcher weighed plated waste and also determined the percentage eaten. A total of 756 food items were evaluated, and the results correlating the weighed and visual intake percentages were highly statistically significant ($p<.001$) for all but four pairs. Researchers noted the difficulty in estimating food items that staff had altered. Mixed foods such as cereal and milk were more difficult to assess visually. To cool hot items, sometimes cold milk was

added to reduce the temperature of hot items such as soup or mashed potatoes, and this addition made the volume appear larger. Despite these challenges, researchers concluded that a visual plate waste study with trained evaluators can accurately monitor elderly residents' dietary intakes.

These preliminary studies demonstrate the accuracy and success in nutrition analysis using the visual plate waste method, but such a study has yet to be applied to congregate meal participants in a senior center. Both preliminary studies mention that in long-term care facilities, food and nutrient intake is increased by staff members' assistance in feeding patients (Grieger & Nowson, 2007; Shatenstein et al., 2002). Such feeding assistance in not implemented in senior centers, and individual consumption is less monitored. In reviewing the available literature, national aging service programs like the Administration on Aging provide reports and data on the number of meals served and the dollar value spent, but no information is available regarding actual consumption (Shaughnessy, 2008). Information gathered in individual senior centers can be used to help guide menu planning at the local level.

Rationale and Hypothesis

Senior center menus are often assessed in-depth, yet the actual consumption of foods and nutrients is not. It is crucial that senior centers are knowledgeable about the effectiveness of its congregate meals. In 2007, 14,225 older adults received congregate meals in senior centers (DHR-DAS, 2008). It would be prudent for senior centers to determine whether or not the food from allocated funding is truly reaching its target audience. This study was undertaken to use a visual plate waste analysis to estimate food intake at the Athens-Clarke County Senior Center.

It is hypothesized that older adults eating lunchtime meals at a local senior center are consuming less than the state and federal recommendations for foods and nutrients.

Research Questions

1. Are the vendor-delivered meals in compliance with the state and federal recommendations for foods and nutrients?
2. Are 75% of the foods and nutrients in the meals consumed?

CHAPTER 3

VISUAL PLATE WASTE STUDY FOR A NORTHEAST GEORGIA SENIOR CENTER[1]

[1] Peskoe, S.E., Johnson, M.A, Manuscript to be submitted to Journal of the American Dietetic Association

Abstract

The menu for the congregate meals is frequently evaluated and assessed for its compliance with state and federal recommendations; however, the intake of foods and nutrients by the participating older adults is an understudied area. The purpose of this study was to determine the vendor's compliance with selected state and federal congregate meal requirements and the participants' consumption of these meals. The selected foods and nutrients were calories, total fat, saturated fat, protein, fiber, calcium, vitamin D, sodium, fruits, and vegetables. Using the USDA Food Database and, when available, food label-specific nutrition information, the nutrient contents of foods were assessed. Additionally, a visual plate waste study, conducted on six nonconsecutive Fridays in June, July, and August, 2009 at a local senior center, determined nutrient intake among congregate meal participants. The results revealed low energy intake, as well as low intake of calcium and vitamin D among participants. Although not a part of the hypothesis, other observations were made concerning the variability of food acceptability. For the congregate meals, low-fat milk is the primary source of vitamin D and a good source of calcium; however, across days analyzed at the senior center, the percentage of participants who refused milk or consumed no milk at all ranged from 57% on day one to 78% on both day two and day five. Acceptability of foods is extremely important in the senior centers when one food is served repeatedly as the primary source of a particular nutrient. It was concluded that a properly chosen foods and/or a multivitamin supplement with calcium and vitamin D could markedly improve the target population's intake of these nutrients. Additional findings suggest that several simple menu changes could be easily implemented to increase fruit and vegetable consumption, such as slicing certain fruits into manageable pieces rather than serving the fruit

whole. Awareness of food preferences would assist the dietitians developing the menus to select better received vegetable choices.

Introduction

A variety of community-based services are available to help older people remain living independently in the community. Section 339 of the Older Americans Act has established nutrition quality criteria for community-based nutrition programs that are delivered in local settings such as senior centers (AOA, 2006b). More than 94.2 million total meals were served in Congregate Nutrition Services to about 1.7 million total participants in the OAA Nutrition Program (AOA, 2009).

Although congregate meals are an important part of community-based services, available studies comprehensively assess neither the compliance of the vendor-delivered meals with applicable regulations nor the consumption of the meals by the target population. Visual plate waste studies have been used in a variety of settings, including elementary schools, university settings, and long-term care facilities (Swanson, 2008; Williamson et al., 2003; Grieger & Nowson, 2007; Nowson et al., 2003; Shatenstein et al., 2002). Studies in long-term care facilities found that residents had low intakes of foods and nutrients and that many residents needed additional staff assistance with eating (Nowson et al., 2003; Shatenstein et al., 2002). One goal of the congregate meal program is to promote independent living and delay nursing home placement. Thus, it seems reasonable that the visual plate method might provide valuable information about the congregate meal program.

In the United States and across the world, the population of older adults is rapidly increasing. Projections for the year 2050 propose that as much as 33% of the world's population will be aged sixty or older (UN, 2007). Older adults have higher health care costs than those under the age of 65, and many of these chronic illnesses could be offset by proper nutrition and physical activity (CDC, 2007; McCamey, 2003). A cross-sectional study was performed on six

nonconsecutive days in a two-month time span. A visual plate waste study was conducted to determine if older adults are consuming less than the recommended foods and nutrients by measuring the approval, preparation, and consumption of lunchtime meals.

The menus provided for senior centers are often assessed in-depth, yet little is known about the actual consumption of the foods and nutrients by the target population. It is essential that senior centers and staff involved with congregate meals are aware of the food and nutrient content and consumption of its congregate meals. In 2007, more than 14,000 older adults received congregate meals in senior centers in Georgia (DHR-DAS, 2008a). Thus, the purpose of this study was to determine the vendor's compliance with selected state and federal congregate meal requirements and the participants' consumption of these meals. The selected foods and nutrients were calories, total fat, saturated fat, protein, fiber, calcium, vitamin D, sodium, fruits, and vegetables. It is hypothesized that older adults eating lunchtime meals at a local senior center are consuming less than the state and federal recommendations for these selected foods and nutrients. The specific research questions are: 1) Are the vendor-delivered meals in compliance with the state and federal recommendations for foods and nutrients? and 2) Are 75% of the foods and nutrients in the meals consumed?

Methods

Sample

The Institutional Review Boards of the Athens Community Council on Aging (ACCA), the Georgia Department of Human Services (formally the Georgia Department of Human Resources), and the University of Georgia approved all procedures and questionnaires. Participants were a convenience sample of people recruited from the Athens-Clarke County

Senior Center in Athens, Georgia in the summer of 2009. Procedures were explained, and consent forms were read to the participants. Informed consent was obtained from all participants.

Experimental design

The first specific aim asks if vendor-delivered meals were in compliance with the state and federal recommendations for foods and nutrients. The senior center menus are analyzed by a dietitian hired as a consultant by the vendor using Nutritionist Pro Software, and they are to comply with Georgia Department of Human Resources Division of Aging Services Nutrition Program Guidelines as outlined in the Home and Community Based Service Manual Transmittal 2005-2 (NEGRDC, 2008). For this study, nutrient contents of foods were assessed using the USDA Food Database and through food label-specific nutrition information. The goal was one hundred percent compliance.

For the second specific aim, the selected foods and nutrients were calories, total fat, saturated fat, protein, fiber, calcium, vitamin D, sodium, fruits, and vegetables. Consumption of 75% of the foods and nutrients was chosen, because it is unrealistic to expect all participants to consume all foods. Additionally, Kasavana and Smith (1982) developed the concept of menu engineering, which has been widely accepted by the National Restaurant Association, those in the restaurant industry, and those in the field of hospitality management. They established a popularity benchmark of 70% for menu items, and a food item that falls below this level is deemed "unpopular." Using this index as a guide, a slightly higher level of 75% was chosen, as the nutrients of interest are those of concern and important for the health of older adults. A visual plate waste study was conducted on six nonconsecutive Fridays in June, July, and August, 2009 at the senior center to determine nutrient intake among its congregate meal participants. By conducting the plate waste study on the same day of the week at the same time with the same

population, the menu remained the primary changing variable. Such uniformity added to the strength of the study design.

The researcher spent approximately one month observing prior to the study, so that the researcher's presence became one of familiarity and reduced the potential 'observer effect' and the researcher could determine the extent to which to plan for problems noted in previous studies of elementary school students such as the sharing, mixing and playing with food. It was observed that food mixing was a more popular practice when rice and chili were served. Fortunately, the five collection days that were selected did not include food items that the congregate meal participants tended to mix. If the whole monthly menu was analyzed, however, this would have been a challenging obstacle for visual assessment. Condiments were carefully assessed during the plate waste study, because a large number and type of condiments were noted during this observation period.

Proven successful techniques from previous studies were also applied in this study, although the design components were altered to suit the senior center facility (Grieger & Nowson, 2007). Materials for the plate waste study included standardized recipes, standardized portion sizes, data sheets, and digital camera. The local Athens-Clarke County Senior Center receives vendor-delivered meals to serve its congregate meal participants, so the recipes are already standardized. Additionally, the vendor standardizes portion sizes using specific labels and scoops to dispense food items according to the dietitian's menu. Data sheets utilizing the validated method known as a five-point 'Comstock scale' were completed for the soiled trays (Comstock et al., 1981). Figure 1 illustrates the descriptions for each rating.

For this study, one rater performed the visual plate waste evaluations using a five-point Comstock scale on all six days for all participants, so there was no concern for inter-rater

reliability. The rater's accuracy was tested by conducting a simulation day, using commonly provided foods on the Friday collection days from the senior center menu. Items chosen for the simulation day were barbecued pork, regular hamburger buns, succotash, coleslaw, and applesauce. The succotash and coleslaw were commercially prepared items, which provided uniformity and regularity throughout the product, and the applesauce purchased was the same brand provided by the senior center. The senior center graciously supplied the exact same divided Styrofoam plates used during the course of the study. An assistant prepared five plates with five items on each plate, ensuring that all five food items were present in all five Comstock portions. These plates were duplicated, requiring that the rater evaluate the same plate twice. Then, two trials were run where the assistant randomly selected a plate, placed it in front of the rater, and then removed the plate upon completion of the evaluation. The assistant recorded the order of the ten total plates presented, and the order of the plates in the second trial differed from the first trial. The rater visually evaluated a total of twenty plates (or one hundred food items).

Fifty-one different individuals were enrolled in the plate waste study. Participants were informed that their meals would be served on a tray, and that all food waste, food wrappers, and milk cartons were to remain on the tray. On each day of the study, the regular trash can was removed from the dining area so that participants would not throw away their foods, beverages, condiment packets, or food wrappers. Each person was given an index card with their name on it to place on their tray. The food was served on a divided plate with five compartments, instead of a dinner plate, and was transported to the dining tables on this tray. Participants were encouraged to keep all their beverages, condiment packets, and wrappers on their tray. Although, some participants took uneaten foods home, and this was recorded. Research assistants, foodservice employees, and volunteers were instructed to conduct themselves like restaurant

servers when removing trays. If it appeared that a participant was finished with his or her meal, a research assistant, foodservice employee, or volunteer would simply ask, "May I take your tray?" This approach prevented the older adults from carrying their own tray, as some need one or both hands to navigate canes or walkers. Additionally, the assistants could scan the table to ensure that all beverages and food wrappers were on the tray and not left behind on the dining table.

Each day as participants completed their meal, the soiled trays were tagged with a tray number alongside their index card, trash was removed from the tray that was non-caloric and non-nutritive (e.g., napkins, utensils, tea cups), and food parts were grouped (e.g., torn bread, foods spilling over into neighboring compartments). By grouping foods, it better represented the shape and size of the original food, allowing for more accurate portion-size estimations. Next, the trays were taken to a room adjoining the dining area and then visually assessed with the Comstock data sheet (None, 25%, 50%, 75%, or 100% consumed) and photographed for future reference to resolve any discrepancies (e.g., types of milk, consumption of chicken with bones, low-fat or regular mayonnaise, and amount of condiments). Digital photographs were taken of a purchased sample tray prior to lunch to help serve as a reference.

Participants who refused the congregate lunchtime meal were omitted from analysis. This refusal occurred once on days one, two, four, and five. Another circumstance that arose on day one where the cellophane wrapper from the whole wheat bread slice was missing; however, the butter indicated the bread was on the tray. From this evidence, it was deduced that the slice of whole wheat bread was fully consumed.

The most commonly requested extra foods and condiments were individually sized packets of salt, margarine, mayonnaise, and salad dressing. The use of additional salt packets (200 mg/packet) were accounted for on days two through five, but accidently were not included

on day one. However, the subsequent days illustrate a rather modest increase in sodium due to consumption of extra foods and condiments.

Additionally, some of the foods provided were portable in that they were a whole fruit or were individually wrapped or packaged. For example, some congregate meal participants found the portability of the cellophane wrapped whole wheat bread a convenient item to take home uneaten. Since participants took such care and time to take these food items with them, it was inferred that these foods would be eaten at a later time. To account for consumption of items that are taken to-go, both this behavior and the extra foods and condiments were included in the data analysis. The consumption was divided into three subgroups according to the meal provided at the senior center, the addition of extra foods and condiments consumed on-site at the senior center, and lastly, foods taken home. These three subgroups were tallied to determine the total intake of all foods and nutrients consumed at the senior center, including extra foods and condiments, and foods taken home.

Statistical Analyses

Descriptive statistics were calculated including means, standard deviations, and frequencies. Statistical analyses of the data were analyzed using SAS, Version 9.1 (SAS Institute, Cary, NC).

Results

All study participants were congregate meal participants at the Athens-Clarke County Senior Center. Fifty-one different participants enrolled in the study; however, daily attendance for each day of the study ranged from 28 to 36. The demographics of the participants were a mean age of 76-years-old, and 15.7% were male, 84.3% female, 27.5% white, 70.6% African American, and <2% Asian.

Research Question 1 – Vendor-delivered Meal Compliance

The data in Tables 1 through 7 show the selected USDA National Nutrient Database codes and the corresponding values for the eleven selected foods and nutrients. The USDA database strives to "develop authoritative food composition databases and state of the art methods to acquire, evaluate, compile and disseminate composition data on foods and dietary supplements available in the United States." To best match the mixed dishes such as coleslaw, it was necessary to add the values for both cabbage and coleslaw dressing to correspond with the side item provided. The appropriate mixed vegetables were chosen by consulting the digital photographs and matching the vendor-delivered food with the USDA food database listing that included those vegetables pictured in the photograph. For other mixed dishes where varying recipes affect the nutrition such as scalloped potatoes, the USDA database listing chosen was the lower fat version made with margarine. For day one, where real chicken was served with bones, the USDA nutrient database accounts for refuse to calculate nutrition information. Based on the digital photographs, not all chicken breasts were identical in size. This inconsistency is unavoidable when serving natural chicken. For weights that were standardized, such as the gram weights of salt packets or the gram weight of individually sized applesauce containers, these values were plugged in directly to the USDA food database for accurate results.

Online nutrition information and data were available for foods eaten during the field trip to the quick-service restaurant. When available, this information was collected directly from the website, but information on other nutrients that were not listed such as vitamin D were researched using the USDA nutrient database. By compiling information from both sources, the nutrient analysis most accurately reflects the meal served.

The data in Table 8 show the number of items served on days one through five that were in compliance compared to the total number of items listed in the dietitian-approved menu. Two of the five days were in absolute compliance with all food items from the dietitian-approved menu. It can be noted that on Table 4, the meal contained only one of the two vegetables required. The nutritional significance of several of the noncompliant items is noted in Table 8, such as substitutions or additions (margarine) to the dietitian-approved meal that alter the nutrient content. For example, extra margarine adds three grams of fat, which increases the fat content of the meals by approximately 10%.

Table 9 lists the eleven foods and nutrients selected for analysis, with a column delineating the meal requirements as interpreted by the Georgia Division of Aging Services (based on the Older Americans Act) and the actual nutrient content of the meals served on days one through five. As shown in Table 9, protein, calcium, and fruits were in compliance for all meals during the five days. Based on the menu analysis using the USDA food database (2009, Appendix B); Table 9 shows that two of the five days were noncompliant for calories, one of five days for fat and saturated fat, one of five days for fiber, three of five days for sodium, and one of five days for providing both servings of vegetables. Additional margarine and individual salt packets were not included in the analysis of the total fat or sodium for these analyses.

The older adults are offered milk as a beverage, but they may choose iced tea or water as an alternative. The Georgia Division of Aging Services requires that the meals meet nutrient and food intakes as outlined in the Dietary Reference Intakes and the Dietary Guidelines for Americans (AOA, 2006; USDHHS & USDA, 2005); however, an individual may refuse the food. The older adults have three options for low-fat milk: 1% low-fat milk, chocolate 1% low-fat milk, and cultured fat free buttermilk. The analyses for Tables 1 through 5 were conducted

assuming that the congregate meal participant selected 1% low-fat milk as his or her beverage. The nutrient variations of the chocolate milk (158 calories, 108 IU vitamin D) and buttermilk (98 calories, 2 IU vitamin D) may cause some meals to be noncompliant. If the congregate meal participant selected the low-fat chocolate milk, then the calorie content of the meal exceeded the meal requirement for calories in some cases; however, if the congregate meal participant selected buttermilk, then the vitamin D content of the meal did not meet the meal requirement in all cases.

Research Question 2 – Meals Served at the Senior Center

Individual participants' results of the visual plate waste study can be found in Appendix C. These data were summarized for each day (Tables 10-14).

The results of the simulation day ensured the accuracy of the rater. For the first trial, the rater correctly identified all food items on all ten plates. During the second trial, the rater correctly identified 48 of the 50 food items on the ten plates. The error occurred on tray 4 of the second trial. The rater categorized the succotash as 25% eaten, but it was actually none eaten, and the rater categorized the coleslaw as none eaten, but it was actually 25% eaten. The challenge for these food items are the deceiving volume of corn and lima beans as well as the fact that the food items were placed in different sections of the plate. The plate divisions were not uniform, so some food items appear to have a greater volume in a smaller space. The rater correctly categorized all twenty portions of barbecued pork, regular hamburger buns, and applesauce. Overall, the correct identification of 98 out of 100 food items confirmed high reliability of the rater.

The requirement for calories in the congregate meals ranges from 650 to 700 calories per meal. The mean intake of energy ranged from 303.7 ± 147.8 to 501.8 ± 156.5 calories (Tables 10-14). When total energy was examined for foods and nutrients consumed at the center in

addition to extra foods and condiments consumed and foods taken home on days one through five, the mean energy range increased to 311.7 ± 144.8 to 629.8 ± 149.2 calories. The mean intake of extra foods and condiments consumed at the senior center mildly increased energy intake per participant by 1.3 ± 1.5 to 17.4 ± 19.5 calories on days one through five, while the means for energy from foods taken home ranged from 12.0 ± 0.0 to 169.6 ± 77.5 calories. The percent of participants consuming at the senior center 75% or more of the energy provided on days one, two, three, four, and five was 28.6%, 15.6%, 27.8%, 38.2%, and 10.7%, respectively. After adding in the extra foods and condiments and foods taken home, these percentages increased to 42.9%, 59.4%, 38.9%, 52.9%, and 10.7%, respectively.

The requirement for total fat in the congregate meals is <26.6 grams per meal. The mean intake of total fat ranged from 7.5 ± 3.3 to 25.2 ± 5.9 grams (Tables 10-14). The requirement for saturated fat in the congregate meals is <7.6 grams per meal. The mean intake of saturated fat consumed ranged from 2.7 ± 1.0 to 10.8 ± 2.4 grams (Tables 10-14). The requirement for protein in the congregate meals is ≥19 grams per meal. The mean intake of protein consumed ranged from 18.4 ± 9.6 to 29.7 ± 10.1 grams (Tables 10-14). The requirement for fiber in the congregate meals is ≥8 grams per meal. The mean intake of fiber consumed ranged from 2.7 ± 1.0 to 10.8 ± 2.4 grams (Tables 10-14).

The requirement for calcium in the congregate meals is ≥400 mg per meal. The mean intake of calcium consumed at the senior center from the meal provided ranged from 140.8 ± 138.3 to 354.5 ± 184.2 mg (Tables 10-14). The percent of participants consuming at the senior center 75% or more of the calcium provided on days one, two, three, four, and five was 25.7%, 18.8%, 19.4%, 8.8%, and 14.3%, respectively. After adding in the extra foods and condiments and foods taken home, these percentages equaled 25.7%, 18.8%, 19.4%, 20.6%, and 14.3%,

respectively. The requirement for vitamin D in the congregate meals is ≥100 international units (IU) per meal. The mean intake of vitamin D consumed ranged from 22.0 ± 46.5 to 53.0 ± 53.0 IU. The percent of participants consuming at the senior center 75% or more of the vitamin D provided on days one, two, three, four, and five was 22.9%, 18.8%, 27.8%, 2.9%, and 21.4%, respectively. After adding in the extra foods and condiments and foods taken home, only the percentage from day four increased to 11.8%, and days one, two, three, and five remained unchanged. The requirement for sodium in the congregate meals is <1200 milligrams per meal. The mean intake of sodium consumed ranged from 668.8 ± 277.4 to 1547.7 ± 478.9 milligrams.

Although not a part of the hypothesis, several observations were made about the intakes of various foods and food groups, such as meat, milk, fruits, and vegetables. For example, analyses of day one showed that while about 90% of participants consumed at least some of the meat, only about 20% consumed at least some of the milk provided. Similarly, analyses of day five showed that while about 86% of participants consumed at least of some the meat, only about 20% consumed at least some of the milk provided, raising additional concerns about the adequacy of senior center menus for meeting calcium needs. Furthermore, since the primary source of vitamin D and a good source of calcium is milk, milk consumption across days one through five is illustrated in Figure 2. Across days one through five, the percentage of participants who refused milk or consumed no milk at all ranged from 57% on day one to 78% on both day two and day five. This acceptability of foods is extremely important in the senior centers when one food is served repeatedly as the primary source of a particular nutrient. The 115 IU of vitamin D in the 1% low-fat milk meets all of the meal requirement for this nutrient, while the 300 mg of calcium per cup of milk meets 75% of the required 400 mg of calcium in the meal.

Additionally, observations were made about fruit intake (Figure 3) and vegetable intake (Figure 4). There are distinct differences among the fruits regarding the onsite consumption and the items taken home. On day one, bananas were a popular fresh fruit; 54% of participants consumed the entire banana at the senior center, and 31% of participants chose to take it home. Only 6% of participants left the banana uneaten on the tray. On day three, only 14% of participants consumed the unpeeled fresh orange at the center, yet 81% of participants took the item home. In regards to the servings of vegetables, 74% of participants ate at least 75% of their green beans on day one, yet only 39% of participants ate at least 75% of their succotash on day five. Additionally, 32% of participants did not consume any of the succotash.

Research Question 2 – Meal Served at a Field Trip

A unique situation arose during this study to observe food intake outside of the senior center. Older adults participating in the Athens-Clarke County Senior Center are given the opportunity to participate in a monthly field trip on the final Friday of the month, where lunch is eaten not at the senior center but at a local restaurant. During the course of this study, the monthly field trip was to a Chick-fil-A® quick-service restaurant. With permission from the restaurant, the plate waste study was conducted for this Friday in order to observe any differences in consumption between lunchtime meals served at the senior center and those served at a local food establishment. The senior center director organized the field trip in advance, coordinating with the restaurant manager. The restaurant was paid in advance by the senior center, and each of the thirty-one participants received the same base meal: a Chick-fil-A® chicken sandwich, a medium-sized waffle fries, and a medium drink of their choice. Additional condiments were available at the restaurant, and the older adults were able to purchase any additional items they desired for the retail price. The meal provided at the restaurant totaled 810

calories (Table 7), higher in energy than all but one of the meals provided at the senior center. All meals were documented (Table 15), and the mean intake of energy consumed at the restaurant was 702.4 ± 186.6 calories (Table 16). This mean energy intake exceeded all other days observed at the senior center. In fact, the highest mean for consumption at the senior center was 501.8 ± 156.5 calories, approximately a 200-calorie difference. The percent of the meal consumed at the restaurant was 87%, which again exceeds even the highest percentage of the meal consumed at the senior center (71% on day four).

With such high percentages of consumption at the restaurant, it is equally compelling that the mean energy intake of extra foods and condiments was 92.4 ± 115.2 calories, and the mean energy intake for foods taken home was 2.7 ± 8.0 calories. The final percentage of participants consuming 75% or more of the total intake was 99%.

Discussion

The purpose of this study was to determine adherence of meals to state and federal guidelines and the participants' consumption of selected foods and nutrients. The main findings were that energy intakes were low, and low consumption of milk led to very low calcium intakes and even lower vitamin D intakes. Also, there was considerable variability in the acceptability of fruits and vegetables served. Lastly, the meal consumed at a quick-service restaurant was very well accepted.

Each of the nutrients selected for analysis are nutrients of concern for older adults. Overall energy balance is important for achieving and maintaining a healthy weight in all individuals. The older adult population specifically has lower energy requirements with increased nutrient needs, which can prove challenging for the dietitian planning the meal.

Total fat intake is important for achieving and maintaining both a healthy weight and cardiovascular health. A diet lower in saturated fat is important for achieving and maintaining cardiovascular health in all individuals, including older adults. Protein is important for tissue replacement, a healthy immune system, and wound healing. A diet that provides adequate fiber is important for gastrointestinal health. Calcium is important for maintain bone health in all individuals, especially older adults who are at greater risk for osteoporosis. Vitamin D is important for calcium absorption and bone health in all individuals, including older adults. The AI for sodium for older adults is 1500 mg (NAS, 2004). A diet that restricts sodium to less than 2400 milligrams is recommended by many health agencies such as the National Heart Lung and Blood Institute, American Heart Association, and National Kidney Foundation for achieving and maintaining healthy blood pressure. The eleven-item list of nutrients was not comprehensive, but was meant to highlight key nutrients for older adults.

The menus are planned and approved by two dietitians, and any additions, omissions, or subtractions to the lunchtime meal can alter these nutrient levels. The data in Table 8 show that even minor substitutions or additions (margarine) to the dietitian-approved meal alter the nutrient content. For example, extra margarine adds three grams of fat, which increases the fat content of the meals by around 10%. For this reason, the goal was 100% compliance. This population is at high risk of hypertension and obesity, so adherence to the state and federal recommendations for the calories, fat and saturated fat, fiber, and sodium in the provided foods and nutrients is of the utmost importance. Many older adults attend the senior center with weekday regularity, and consistent non-adherence could result in a less healthy diet overall.

The visual plate waste study allowed for analyses of the meal consumption. Observations during the previous month revealed that congregate meal participants requested additional foods

such as condiments. The most commonly requested extra foods and condiments were individually sized packets of salt, margarine, mayonnaise, and salad dressing. Many participants preferred to flavor or adjust the meal to their taste preference. In doing so, the nutrient content of the meal was subsequently altered. This modification most notably increased energy (calories) and sodium levels, but the increase was modest when calculated as a group mean.

Not only were extra foods and condiments added to the meal, but some items went missing from the tray. The trashcans were removed from the dining area so that congregate meal participants would not accidently discard any wrappers or packaging. If the tray did not have any of these remnants on it, it was deduced that the participant took the item with them. Some of the foods provided were portable in that they were individually wrapped or packaged. For example, some congregate meal participants found the portability of the cellophane wrapped whole wheat bread a convenient item to take home uneaten. The foodservice workers and the senior center director were very careful to discourage congregate meal participants from taking anything with them that posed a food safety danger.

To account for consumption of items that are taken to-go, both this behavior and the extra foods and condiments were included in the data analysis. The consumption was divided into three subgroups according to the meal provided at the senior center, the addition of extra foods and condiments consumed on-site at the senior center, and lastly, foods taken home. These three subgroups were tallied to determine the total intake of all foods consumed at the senior center, including extra foods and condiments, and foods taken home.

Despite the fact that total intake calculated as many calories as possibly consumed, the total intake remained low. The total intake of all foods consumed at senior center, extra foods and condiments, and foods taken home computed the highest possible consumption, but this may

not have been the reality. Older adults may have taken home an orange to feed to a grandchild, let it spoil on the kitchen countertop, or eat half and thrown away the rest. The reasoning behind the total intake of all foods was that if older adults are taking the time and making the effort to take these items home, then it was consumed. Some congregate meal participants are food insecure, and it is speculated that some older adults may be spreading out the energy from the congregate meal to eat at other times of the day. Several individuals mentioned taking home the cellophane wrapped whole wheat bread and margarine to toast for breakfast the following morning. Qualitative and quantitative data surrounding the topic of taking food home would be a valuable follow-up to this study.

The lowest intakes were observed for the meal served on day five, which duplicates the meal served on day three. The menu is cyclic; therefore, this duplicity was observed for the days spaced one month apart. The caloric intake for day three was the second lowest in the study. The intake and acceptability appeared to drop even further with repetition. The lowest vegetable consumption was for the succotash (Figure 4). Whereas the Comstock datasheet only recorded the succotash serving of an individual as "50% eaten," the pictures of soiled trays from day three reveal that the lima beans were consumed from the succotash, but the corn remained uneaten on the plate. Gastrointestinal conditions such as diverticulitis may deter older adults from consuming certain foods. By being sensitive to these conditions and having an awareness of food preferences, the dietitians preparing the menus can select better received vegetable choices.

With so many low values, some may argue that older adults have reduced appetites or poor oral health that restricts intake. It might be argued that with the range of youngest-old men and oldest-old women with varying heights and weights participating in the congregate meal program, there is likely to be waste. Conversely, the field trip to Chick-fil-A® did not adhere to

the consumption trends observed during the five collection days of the plate waste study at the senior center. The participants remarkably consumed 99% of the total intake for all foods (Table 16).

Eight participants took part in all five congregate meals served at the senior center as well as the meal served at Chick-fil-A®. The caloric intakes of these participants vary by day, and there are evident trends for lower and higher consumption based on what is provided (Figure 5). For day two, it is unknown whether the congregate meal participants simply enjoyed this meal and, therefore, consumed more, or if they ate more because more food was served than on the other days. Previous studies have found that larger portion sizes affect how much individuals consume during a meal (Rolls et al., 2002; Rolls et al., 2004). Six of the eight individuals consumed less of the congregate meal served on day five than the congregate meal served on day three. The results here replicated the overall findings that a poorly received meal, when duplicated on a cyclic menu, generates more plate waste. Seven of the eight participants that were present for all five congregate days and the meal at Chick-fil-A® consumed the most calories at the quick-service restaurant. Again, the results of these individuals replicated the overall findings that this population can enjoy a large percentage of the provided meal.

For the congregate meal participants in the Athens-Clarke County Senior Center, overall consumption is low, as demonstrated by the low mean energy intakes across all five days. Thus, it followed that the consumption of the nutrients within those foods is also low. This trend was particularly evident for both calcium and vitamin D. The primary source for vitamin D in the congregate meals is milk; however, many individuals choose tea or water as an alternative beverage. This refusal detracts from the caloric content of the meal provided and, consistent with the trend, eliminates not only a good source of calcium but the primary food source for vitamin

D as well. The problem with vitamin D is further compounded by offering buttermilk without vitamin D fortification. The concluding trend across all days revealed low energy intake, low calcium consumption, and even lower vitamin D intake.

Low-fat milk was only consumed by 22% to 43% of the congregate meal population during the course of this study. Calcium was found in other foods such as breads, cheese, fortified orange juice, and the potato casseroles that contained milk, cheese, or both. Vitamin D, however, was not. Low-fat milk is served repeatedly as the primary nutrient source for vitamin D, and a link exists between this specific food and intake of a specified nutrient. Unfortunately, many older adults are lactose intolerant, so they avoid ingesting milk. About 71% of the participants in this study were African American, a racial/ethnic group known to have a high prevalence of lactose intolerance (Elbon et al., 1998). Simple surveys could determine the acceptability of milk. Lactose-reduced, low-lactose milk, and calcium-fortified soy milk, as well as calcium-rich vegetables and calcium- and vitamin D-supplements could serve as other sources of these key nutrients. It is challenging for older adults to reach the 1000 IU daily of vitamin D as recommended by the 2005 Dietary Guidelines for Americans through food intake (USDHHS & USDA, 2005). The benefits of vitamin D have been evidenced in randomized control trials that indicate calcium and vitamin D supplementation to decrease one's risk of bone fractures and falls (Dawson-Hughes, 2004; Fosnight et al., 2008).

The field trip to Chick-fil-A® demonstrated that this population, even though at higher risk for decreased appetite, could and did enjoy a large percentage of the provided meal (Table 16). The meal itself did not abide by all of the meal requirements; however, this fast food fried chicken sandwich combo meal can be modified to more closely meet requirements. Simply replacing the regular hamburger bun, which is buttered, with the available wheat bread option

eliminates 5 grams of fat (Chick-fil-A®, 2010). For example, the meal might have contained a Chick-fil-A® chargrilled chicken sandwich, a small carrot raisin salad (substituted for waffle fries at no additional cost), a small fruit cup, and milk to drink. This meal provides 720 calories, 19.5 grams of total fat, 5 grams of saturated fat, 1395 milligrams of sodium, 8 grams of fiber, and 38 grams of protein (Chick-fil-A®, 2010).

Obesity is a problem on a national level as well as a state level, and it is no exception with this older adult population. It might be construed that lower energy consumption is beneficial for an overweight or obese population; however, outside foods that are calorically dense and nutrient poor are often eaten in the senior center throughout the day. Not all outside food could be monitored, but staff reports and daily observations aided in reporting such frequency. Encouraging morning activities would keep congregate meal participants from snacking on outside foods and promote a healthy appetite at lunchtime. A better understanding of how many calories total are consumed at the senior center during the course of the day would be an area of future research that may aid in better understanding the paradox of an overweight and obese population that has low energy consumption during the congregate lunchtime meals.

This study is not without limitations. This research project measured six nonconsecutive days of dietary intakes of congregate meal participants. These six days are a "snapshot" of the entire month, but entailed six Friday meals served at the same time, on the same day, to many of the same individuals. By controlling for variables, this "snapshot" reflects a more complete picture of the menu cycle. The entire three-month menu cycle was not evaluated, because the costs and time required were beyond the scope of this study. The USDA data base provides estimation, because there was no weighing or chemical nutrient analysis of the food. Even analyzing the menus and standardized recipes from the vendor would not match the accuracy of

weighing or chemical nutrient analysis; however, the costs and time required were beyond the scope of this study.

There were several strengths to this study. The observation period proved to be very helpful in helping prepare for the many complexities of a plate waste study, including using disposable divided plates rather than dinner plates, taking into account the frequent request for extra foods and condiments, preparing ahead of time how to document and code foods taken home, and removing the trashcan from the dining area to prevent participants from accidently throwing away items from their tray. Digital photography, a relatively new tool used in visual plate waste studies, allowed researchers to capture an image of each soiled tray for later evaluation to resolve any discrepancies. The photographs were also helpful in determining the composition of some foods, such as succotash and mixed vegetables (Figure 6). This documentation diminished error, as any incomplete or outlying data was later checked against the corresponding tray number. For example, type of salt packets, specific nutritional wording on food packaging, and types or brands of candy wrappers could be rechecked and verified against the photographs. Also, this study design gathers accurate and significant data without interfering greatly with the food service establishment. The senior center's ability to serve the needs of area elderly residents is most important. The visual plate waste method gives less accurate nutrient intake than the weighed plate waste method; however, previous studies demonstrate adequate accuracy (Grieger & Nowson, 2007; Shatenstein et al., 2002; Williamson et al., 2003).

Summary and Conclusions

Low milk consumption appeared to greatly limit the intake of calcium and vitamin D. Properly chosen foods and/or a multivitamin supplement with calcium (at least 500 to 600 mg) and vitamin D (800 to 1000 IU) could markedly improve the target population's intake of these

nutrients (Johnson et al., 2006). As stated in the Older Americans Act under the "Sense of Congress Recognizing the Contribution of Nutrition to the Health of Older Adults," the current findings of Congress are that "multivitamin-mineral supplements may be useful when they fill a specific identified nutrient gap that cannot be or is not otherwise being met by the individual's intake of food" (2006). It further states that "use of single, daily multivitamin-mineral supplement can be a safe and inexpensive strategy to help ensure the nutrition health of older adults" (OAA, 2006). Studies such as this visual plate waste study operate to identify specific nutrient gaps, and, in accordance with these policies, both vitamin D and calcium warrant further investigation for potential supplementation. In this way, the identification of nutritional needs may be coordinated with available funding.

Additional findings suggest that several simple menu changes could be easily implemented to increase fruit and vegetable consumption, such as slicing certain fruits into manageable pieces rather than serving the fruit whole (Figure 6). Awareness of food preferences and the prevalence of gastrointestinal conditions would assist the dietitians developing the menus to select better received vegetable choices.

This study presents information about meal compliance, acceptability of specific foods, averages for the facility, and mean food and nutrient intake that may be useful to those providing congregate meals to the elderly as well as providing a solid foundation for future research (Figure 7). Simple surveys could address participants' food preferences and the suitability of foods and food form for this older adult population. Expanding the collection days to an entire month could yield even more detailed results. Although noncompliance such as substitutions appears minor, they alter the food and nutrient contents of the meals. The menus are designed and evaluated by two dietitians, and these data from this study contain valuable information

concerning both the compliance and acceptability of foods. Harmonizing the efforts of the dietitians, the food vendors, and the foodservice staff at local senior centers could help to improve the congregate meal program and food and nutrient intake.

Table 1. Nutritional analysis of day one for the eleven selected foods and nutrients

Food	NDB number[b]	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)	Vegetable	Fruit
Lemon chicken	5060	167	6.61	1.861	25.33	0	12	4	60	0	0
Green beans	11054	18	0.12	0.028	0.96	1.8	29	0	311	1	0
Potato gratin	11843	162	9.3	4.324	6.2	2.2	146	0	530	1	0
Whole wheat bread	18075	69	0.94	0.209	3.63	1.9	30	0	132	0	0
Banana	9040	112	0.42	0.141	1.37	3.3	6	0	1	0	1
Margarine	4614	25	2.84	0.482	0.03	0	1	0	38	0	0
Skim milk[a]	1085	83	0.2	0.137	8.25	0	299	115	103	0	0
Total for day one[a]		636	20.43	7.182	45.77	9.2	523	119	1175	2	1

[a]Total is calculated using skim milk as the beverage, but chocolate milk and buttermilk are also available options.
[b] NDB number is the USDA 5-digit Nutrient Databank identifier

Table 2. Nutritional analysis of day two for the eleven selected foods and nutrients

Food	NDB number[b]	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)	Vegetable	Fruit
Chopped steak	13342	263	22.95	9.807	14.03	0	10	0	58	0	0
Scalloped potatoes	11844	108	4.51	1.687	3.52	2.3	70	0	410	1	0
Mixed vegetables	11581	40	0.2	0.042	2.11	2.4	22	0	121	1	0
Corn muffin	18279	201	5.54	0.894	3.89	2.2	49	0	344	0	0
Applesauce	9401	51	0.12	0.01	0.21	1.3	5	0	2	0	1
Skim milk[a]	1085	83	0.2	0.137	8.25	0	299	115	103	0	0
Whole wheat bread	18075	69	0.94	0.209	3.63	1.9	30	0	132	0	0
Margarine	4614	25	2.84	0.482	0.03	0	1	0	38	0	0
Total for day two[a]		840	37.3	13.268	35.67	10.1	486	115	1208	2	1

[a]Total is calculated using skim milk as the beverage, but chocolate milk and buttermilk are also available options.
[b] NDB number is the USDA 5-digit Nutrient Databank identifier

Table 3. Nutritional analysis of day three for the eleven selected foods and nutrients

Food	NDB number[b]	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)	Vegetable	Fruit
BBQ beef	13358	112	3.71	1.52	16.96	0	7	2	1057	0	0
Coleslaw	42230	112	6.8	1.013	0	0.1	12	0	544	0	0
Cabbage	11109	9	0.04	0.012	0.45	0.9	14	0	6	1	0
Orange	9202	75	0.23	0.026	1.4	3.4	66	0	2	0	1
Succotash	11496	110	0.77	0.142	4.87	4.3	16	0	16	1	0
Regular hamburger bun	18069	151	1.87	0.407	4.33	1.4	86	0	386	0	0
Skim milk[a]	1085	83	0.2	0.137	8.25	0	299	115	103	0	0
Total for day three[a]		652	13.62	3.257	36.26	10.1	500	117	2114	2	1

[a]Total is calculated using skim milk as the beverage, but chocolate milk and buttermilk are also available options.
[b] NDB number is the USDA 5-digit Nutrient Databank identifier

Table 4. Nutritional analysis of day four for the eleven selected foods and nutrients

Food	NDB number[b]	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)	Vegetable	Fruit
OJ	9210	58	0.15	0.017	0.85	0.4	250	68	2	0	1
Ham	10905	33	1.41	0.422	3.98	0	2	7	371	0	0
Turkey	7046	28	0.25	0.056	6.5	0.1	2	1	220	0	0
Cheese	43275	38	1.47	0.926	5.17	0	144	1	300	0	0
Whole wheat bread	18075	69	0.94	0.209	3.63	1.9	30	0	132	0	0
Whole wheat bread	18075	69	0.94	0.209	3.63	1.9	30	0	132	0	0
Mayo	43598	103	11.67	1.618	0	0	1	0	73	0	0
Lettuce	11252	4	0.01	0.005	0.26	0.3	5	0	3	1	0
Pears	9439	58	0.21	0	0.38	2.5	10	0	5	0	1
Skim milk[a]	1085	83	0.2	0.137	8.25	0	299	115	103	0	0
Italian dressing	4114	43	4.17	0.658	0.06	0	1	0	243	0	0
Total for day four[a]		586	21.42	4.257	32.71	7.1	774	192	1584	1	2

[a]Total is calculated using skim milk as the beverage, but chocolate milk and buttermilk are also available options.
[b]NDB number is the USDA 5-digit Nutrient Databank identifier

Table 5. Nutritional analysis of day five for the eleven selected foods and nutrients

Food	NDB number[b]	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)	Vegetable	Fruit
BBQ beef	13358	112	3.71	1.52	16.96	0	7	2	1057	0	0
Regular hamburger bun	18069	151	1.87	0.407	4.33	1.4	86	0	386	0	0
Coleslaw	42230	112	6.8	1.013	0	0.1	12	0	544	0	0
Cabbage	11109	9	0.04	0.012	0.45	0.9	14	0	6	1	0
Skim milk[a]	1085	83	0.2	0.137	8.25	0	299	115	103	0	0
Succotash	11496	110	0.77	0.142	4.87	4.3	16	0	16	1	0
Orange	9202	75	0.23	0.026	1.4	3.4	66	0	2	0	1
Total for day five[a]		652	13.62	3.257	36.26	10.1	500	117	2114	2	1

[a]Total is calculated using skim milk as the beverage, but chocolate milk and buttermilk are also available options.
[b]NDB number is the USDA 5-digit Nutrient Databank identifier

Table 6. Nutritional analysis of alternative low-fat milk options

Food	NDB number[b]	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)	Vegetable	Fruit
Chocolate milk	1104	158	2.5	1.54	8.1	1.2	290	108	152	0	0
Buttermilk	1088	98	2.15	1.342	8.1	0	284	2	257	0	0

[a]Total is calculated using skim milk as the beverage, but chocolate milk and buttermilk are also available options.
[b]NDB number is the USDA 5-digit Nutrient Databank identifier

Table 7. Nutritional analysis for the eleven selected foods and nutrients of the base meal served at the quick-service restaurant

Food	NDB number[b]	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)	Vegetable	Fruit
Chicken filet	21102	250	12	3.5	26	1	0	7	970	0	0
Hamburger bun	18069	180	5	1	5	2	59	0	400	0	0
Waffle fries	21238	380	21	4	4	4	20	0	190	1	0
Total for restaurant		810	38	8.5	35	7	79	7	1560	1	0

[a]Total is calculated using skim milk as the beverage, but chocolate milk and buttermilk are also available options.
[b]NDB number is the USDA 5-digit Nutrient Databank identifier

Table 8. The number of food items in compliance out of the total number of food items during the congregate meal at the senior center and the corresponding nutritional significance of the noncompliant items

	# Items in compliance/ Total # of items	**Nutritional significance**
Day 1	6/7	One additional margarine (adding 3 g of fat)
Day 2	8/8	
Day 3	7/8	One additional margarine (adding 3 g of fat)
Day 4	3/8	Five noncompliant items were three substitutions (pears for pineapple, different type of salad dressing, and different form of bread), omission of one mayonnaise packet, one additional margarine
Day 5	7/7	

Table 9. Actual nutrient content of served congregate meals against the state and federal recommendations for foods and nutrients

	Meal requirements	**Day 1**	**Day 2**	**Day 3**	**Day 4**	**Day 5**
Calories (kcal)	650-700	636[b]	840	652[b]	586	652[b]
Total fat[a] (grams)	<26.6	20	37	14	21	14
Saturated fat (grams)	<7.6	7	13	3	4	3
Protein (grams)	≥19	46	36	36	33	36
Fiber (grams)	≥8	9	10	10	7	10
Calcium (mg)	≥400	523	486	500	774	500
Vitamin D[c] (IU)	≥100	119	115	117	192	117
Sodium* (mg)	<1200	1175	1208	2114	1584	2114
2 Vegetables + 1 fruit		Yes	Yes	Yes	No (1 vegetable, 2 fruits)	Yes

[a]Additional margarine and individual salt packets not included.
[b]If the congregate meal participant selected the low-fat chocolate milk, then the calorie content of the meal exceeded the meal requirement for calories in some cases.
[c]If the congregate meal participant selected butter milk, then the vitamin D content of the meal did not meet the meal requirement in all cases.

Table 10. Day one means and percentages for nutrients consumed at the senior center, foods taken home, extra foods and condiments consumed, and total intake[a]

	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)
Meal requirements	650-700	<26.6	<7.6	≥19	≥8	≥400	≥100	<1200
Meal provided at senior center	636	20.4	7.2	45.8	9.2	523	119	1175
Consumed at senior center								
Mean ± SD	397.5 ± 130.8	13.6 ± 5.0	5.1 ± 2.0	29.7 ± 10.1	5.8 ± 2.0	241.5 ± 162.0	32.9 ± 47.7	755.5 ± 342.6
Average percent consumed (%)	62.5	66.4	70.7	64.9	63.2	46.2	27.6	64.3
Percent of participants meeting goal of 75% for intake (%)	28.6	54.3	57.1	34.3	31.4	25.7	22.9	54.3
Extra foods and condiments consumed at senior center								
Mean ± SD	2.1	0.0	0.0	0.0	0.1	1.9	0	0.1
Foods taken home								
Mean ± SD	40.6 ± 2.5	0.3 ± 0.5	0.1 ± 0.1	0.6 ± 0.3	1.1 ± 0.2	3.7 ± 3.5	0.0 ± 0.0	10.0 ± 23.6
Total intake[a]								
Mean ± SD	440.2 ± 131.0	13.9 ± 5.0	5.2 ± 2.0	30.4 ± 10.1	7.1 ± 1.9	247.0 ± 159.6	32.9 ± 47.7	765.6 ± 337.8
Average percent consumed (%)	69	68	72	66	77	47	28	65
Percent of participants meeting goal of 75% for intake (%)	42.9	57.1	60.0	37.1	60.0	25.7	22.9	54.3

Sample size n = 35

[a]Total intake is all foods consumed at senior center, extra foods and condiments, and foods taken home.

Table 11. Day two means and percentages for nutrients consumed at the senior center, foods taken home, extra foods and condiments consumed, and total intake[a]

	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)
Meal requirements	650-700	<26.6	<7.6	≥19	≥8	≥400	≥100	<1200
Meal provided at senior center	840	37.3	13.3	35.7	10.1	486	115	1208
Consumed at senior center								
Mean ± SD	501.8 ± 156.5	25.2 ± 5.9	10.8 ±2.4	21.2 ± 6.2	5.3 ± 2.4	167.9 ±131.5	22.0 ± 46.5	668.8 ± 277.4
Average percent consumed (%)	59.7	67.6	81.2	59.4	52.8	34.5	19.1	55.4
Percent of participants meeting goal of 75% for intake (%)	15.6	25	75	21.9	15.6	18.8	18.8	18.8
Extra foods and condiments consumed at senior center								
Mean ± SD	3.9 ± 6.9	0.4 ± 0.8	0.1 ± 0.1	0.0 ± 0.0	0.0 ± 0.0	0.2 ± 0.3	0.0 ± 0.0	27.8 ± 16.9
Foods taken home								
Mean ± SD	169.6 ± 77.5	3.8 ± 2.8	0.7 ± 0.5	3.6 ± 2.1	3.2 ± 1.3	34.0 ± 23.5	0.0 ± 0.0	198.6 ± 160.6
Total intake[a]								
Mean ± SD	629.8 ± 149.2	28.2 ± 7.1	11.3 ± 2.5	23.9 ± 6.5	7.8 ± 2.2	193.4 ± 135.0	22.0 ± 46.5	823.8 ± 269.0
Average percent consumed (%)	75	76	85	67	77	40	19	68
Percent of participants meeting goal of 75% for intake (%)	59.4	65.6	81.25	21.9	53.13	18.8	18.8	46.9

Sample size n = 32

[a]Total intake is all foods consumed at senior center, extra foods and condiments, and foods taken home.

Table 12. Day three means and percentages for nutrients consumed at the senior center, foods taken home, extra foods and condiments consumed, and total intake[a]

	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)
Meal requirements	650-700	<26.6	<7.6	≥19	≥8	≥400	≥100	<1200
Meal provided at senior center	652	13.6	3.3	36.3	10.1	500	117	2114
Consumed at senior center								
Mean ± SD	382.2 ± 134.2	10.8 ± 3.3	2.7 ± 1.0	21.8 ± 8.3	4.6 ± 2.4	183.3 ± 140.6	35.1 ± 51.6	1547.7 ± 478.9
Percent consumed (%)	59	79.4	84.1	60.2	45.9	36.7	30	73.20
Percent of participants meeting goal of 75% for intake (%)	27.8	58.3	66.7	25	11.1	19.4	27.8	52.8
Extra foods and condiments consumed at senior center								
Mean ± SD	17.4 ± 19.5	0.9 ± 1.0	0.3 ± 0.3	0.2 ± 0.3	0.1 ± 0.2	6.1 ± 13.1	0.0 ± 0.0	63.7 ± 50.0
Foods taken home								
Mean ± SD	90.2 ± 0.0	0.3 ± 0.0	0.1 ± 0.0	1.1 ± 0.0	2.7 ± 0.0	4.8 ± 0.0	0.0 ± 0.0	0.8 ± 0.0
Total intakea								
Mean ± SD	464.1 ± 135.3	11.6 ± 3.7	3.0 ± 1.1	22.8 ± 8.2	6.8 ± 2.2	190.4 ± 140.8	35.1 ± 51.6	1582.0 ± 489.9
Percent consumed (%)	71	85	91	63	68	38	30	75
Percent of participants meeting goal of 75% for intake (%)	38.9	66.7	75	38.9	41.67	19.4	27.8	52.8

Sample size n = 36

[a]Total intake is all foods consumed at senior center, extra foods and condiments, and foods taken home.

Table 13. Day four means and percentages for nutrients consumed at the senior center, foods taken home, extra foods and condiments consumed, and total intake[a]

	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)
Meal requirements	650-700	<26.6	<7.6	≥19	≥8	≥400	≥100	<1200
Meal provided at senior center	586	21.4	4.3	32.7	7.1	774	192	1584
Consumed at senior center								
Mean ± SD	414.1 ± 130.5	13.3 ± 6.3	3.0 ± 1.2	27.8 ± 10.2	6.9 ± 2.3	354.5 ± 184.2	53.0 ± 53.0	1273.8 ± 466.6
Percent consumed (%)	70.7	61.9	70.4	85.1	96.8	45.8	27.6	80.4
Percent of participants meeting goal of 75% for intake (%)	38.2	38.2	38.2	64.7	79.4	8.8	2.9	64.7
Extra foods and condiments consumed at senior center								
Mean ± SD	1.3 ± 1.5	0.1 ± 0.2	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	4.5 ±3.4
Foods taken home								
Mean ± SD	36.6 ± 15.5	0.1 ± 0.1	0.0 ± 0.0	0.5 ± 0.2	0.7 ± 0.5	66.2 ± 23.7	17.7 ± 6.5	0.7 ± 0.2
Total intakea								
Mean ± SD	442.5 ± 128.9	13.4 ± 6.4	3.0 ± 1.2	28.2 ± 10.3	7.4 ± 2.2	405.1 ± 173.1	66.6 ± 50.9	1275.6 ± 467.3
Percent consumed (%)	76	63	71	86	105	52	35	81
Percent of participants meeting goal of 75% for intake (%)	52.9	38.2	38.2	64.7	79.4	20.6	11.8	64.7

Sample size n = 34

[a]Total intake is all foods consumed at senior center, extra foods and condiments, and foods taken home.

Table 14. Day five means and percentages for nutrients consumed at the senior center, foods taken home, extra foods and condiments consumed, and total intake[a]

	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)
Meal requirements	650-700	<26.6	<7.6	≥19	≥8	≥400	≥100	<1200
Meal provided at senior center	652	13.6	3.3	36.3	10.1	500	117	2114
Consumed at senior center								
Mean ± SD	303.7 ± 147.8	7.5 ± 3.3	2.0 ± 1.0	18.4 ± 9.6	4.0 ± 2.9	140.8 ± 138.3	25.3 ± 46.7	1217.2 ± 526.3
Percent consumed (%)	46.6	55.1	62.5	50.7	39.3	28.2	21.6	57.6
Percent of participants meeting goal of 75% for intake (%)	10.71	28.57	35.71	14.3	14.3	14.3	21.4	28.6
Extra foods and condiments consumed at senior center								
Mean ± SD	2.7 ± 2.4	0.1 ± 0.1	0.0 ± 0.0	0.1 ± 0.1	0.0 ± 0.0	1.1 ± 1.7	0.0 ± 0.0	6.0 ± 6.8
Foods taken home								
Mean ± SD	12.0 ± 0.0	0.0 ± 0.0	0.1 ± 0.0	0.1 ± 0.0	0.4 ± 0.0	0.6 ± 0.0	0.0 ± 0.0	0.1 ± 0.0
Total intakea								
Mean ± SD	311.7 ± 144.8	7.5 ± 3.3	2.1 ± 1.0	18.5 ± 9.6	4.2 ± 2.8	141.3 ± 138.2	25.3 ± 46.7	1217.9 ± 526.8
Percent consumed (%)	48	55	66	51	42	28	22	58
Percent of participants meeting goal of 75% for intake (%)	10.7	28.6	35.7	14.3	14.3	14.3	21.4	28.6

Sample size n = 28

[a]Total intake is all foods consumed at senior center, extra foods and condiments, and foods taken home.

Table 15. Total intake of all foods consumed at restaurant, extra foods and condiments, and foods taken home

Chicken Filet	Hamburger Bun	Waffle Fries	Sugar Packet	Mayo	Honey Packet	Light Mayo	Lemon Pie	Cheesecake	Fudge Nut Brownie
100	100	100	0	200	0	0	0	0	0
100	100	100	0	0	0	0	0	100	0
100	100	100	0	50	0	0	0	0	0
100	75	50	0	0	0	0	0	0	0
100	100	100	0	0	0	0	0	0	0
75	50	75	0	0	0	0	0	75	0
100	100	100	0	100	0	0	0	0	0
100	100	25	0	0	0	0	100	0	0
100	50	50	0	0	0	25	0	0	0
100	100	100	0	0	0	0	0	0	0
100	100	100	0	0	0	0	0	0	0
100	100	100	0	100	0	0	0	0	0
100	100	.	0	0	0	0	0	0	0
200	100	100	0	100	0	0	0	0	100
100	100	75	0	0	0	0	0	0	0
75	50	.	0	100	0	0	0	0	0
100	50	100	0	0	0	0	0	0	0
75	75	75	0	100	0	0	0	0	0
100	100	75	600	0	100	0	0	0	0
25	25	0	0	0	0	0	0	0	0
100	100	100	0	0	0	0	0	0	0
100	100	75	0	0	0	0	0	0	0
100	50	75	0	0	0	0	0	0	0
50	50	100	0	0	0	0	0	0	0
100	100	100	0	0	0	0	0	0	0
100	100	75	0	0	0	0	0	0	0
100	100	100	0	100	0	0	0	0	0
100	100	50	0	0	0	0	0	0	0
75	50	75	0	0	0	0	0	0	0
100	100	100	0	0	0	0	0	0	0
100	75	100	0	0	0	0	0	0	0

Table 15. Total intake of all foods consumed at restaurant, extra foods and condiments, and foods taken home

Chicken Noodle Soup	Mustard Packet	Ice Dream Home	Carrot Salad Home	Ice Dream With Peach Topping	Fruit Cup Home	Ketchup	Drink Type	Oz Of Drink Consumed
0	0	0	0	0	0	400	2	15.3
0	0	0	0	0	0	200	.	.
0	0	0	0	0	0	300	6	25.6
0	100	0	0	0	0	100	1	15.3
0	0	0	0	0	0	0	5	14.3
0	0	0	0	0	0	100	4	14.3
0	0	0	0	0	0	300	5	11.3
0	0	0	0	0	0	0	5	11.3
0	0	0	0	0	0	100	7	15.3
0	100	0	0	0	0	0	8	15.3
0	100	0	0	0	0	300	1	11.3
0	100	0	0	0	0	200	2	14.3
0	100	100	0	0	0	100	4	15.3
0	0	0	0	0	0	400	7	29.6
0	0	0	0	0	0	200	5	14.3
0	0	0	100	0	0	100	5	9.3
0	0	0	0	0	0	100	3	15.3
0	0	0	0	0	0	300	1	14.3
0	0	0	100	0	0	0	5	13.3
0	0	0	0	0	0	0	1	9.3
0	0	0	0	0	0	100	7	15.3
0	0	0	0	0	0	0	5	13.3
0	0	0	0	0	0	200	1	19.95
100	0	0	0	0	0	400	10	14.3
0	200	0	0	0	0	0	8	15.3
0	200	0	0	0	0	0	9	14.3
100	0	0	0	0	0	300	5	15.3
0	0	0	0	100	0	100	5	29.6
0	200	0	0	0	0	0	1	8.3
0	0	0	0	0	0	0	1	10.3
0	0	0	0	0	100	200	1	8.3

Table 16. Means and percentages for nutrients consumed at the quick-service restaurant, foods taken home, extra foods and condiments consumed, and total intake[a]

	Energy (kcal)	Total fat (g)	Saturated fat (g)	Protein (g)	Fiber (g)	Calcium (mg)	Vitamin D (IU)	Sodium (mg)
Meal requirements	650-700	<26.6	<7.6	≥19	≥8	≥400	≥100	<1200
Meal provided at restaurant	810	38	8.5	35	7	79	7	1560
Consumed at restaurant								
Mean ± SD	702.4 ± 186.6	31.8 ± 9.1	7.3 ± 2.0	32.2 ± 8.1	5.7 ± 1.7	64.8 ± 17.6	6.7 ± 1.8	1413.7 ± 3448
Percent consumed (%)	86.7 ± 23.0	83.7 ± 23.9	96.8 ± 26.2	92.0 ± 23.0	81.5 ± 23.9	82.0 ± 22.2	96.0 ± 25.9	90.6 ± 22.1
Percent of participants meeting goal of 75% for intake (%)	74.2	70.97	87.1	83.87	67.74	67.7	93.6	83.87
Extra foods and condiments consumed at restaurant								
Mean ± SD	92.4 ± 115.2	5.4 ± 7.6	1.4 ± 2.8	1.1 ± 2.1	0.3 ± 0.7	12.7 ± 35.7	0.2 ± 1.3	262.0 ± 318.5
Foods taken home								
Mean ± SD	2.7 ± 8.0	0.1 ± 0.3	0.0 ± 0.1	0.0 ± 0.1	0.0 ± 0.1	1.0 ± 4.9	0.0 ± 0.0	1.2 ± 4.5
Total intake[a]								
Mean ± SD	797.5 ± 243.0	37.3 ± 13.1	8.7 ± 3.7	33.3 ± 8.5	6.0 ± 1.9	78.5 ± 40.6	6.9 ± 2.2	1676.9 ± 483.4
Percent consumed (%)	99	98	116	95	86	99	99	108
Percent of participants meeting goal of 75% for intake (%)	83.9	80.7	90.32	87.1	74.2	77.4	93.6	93.6

Sample size n = 31

[a]Total intake is all foods consumed at restaurant, extra foods and condiments, and foods taken home.

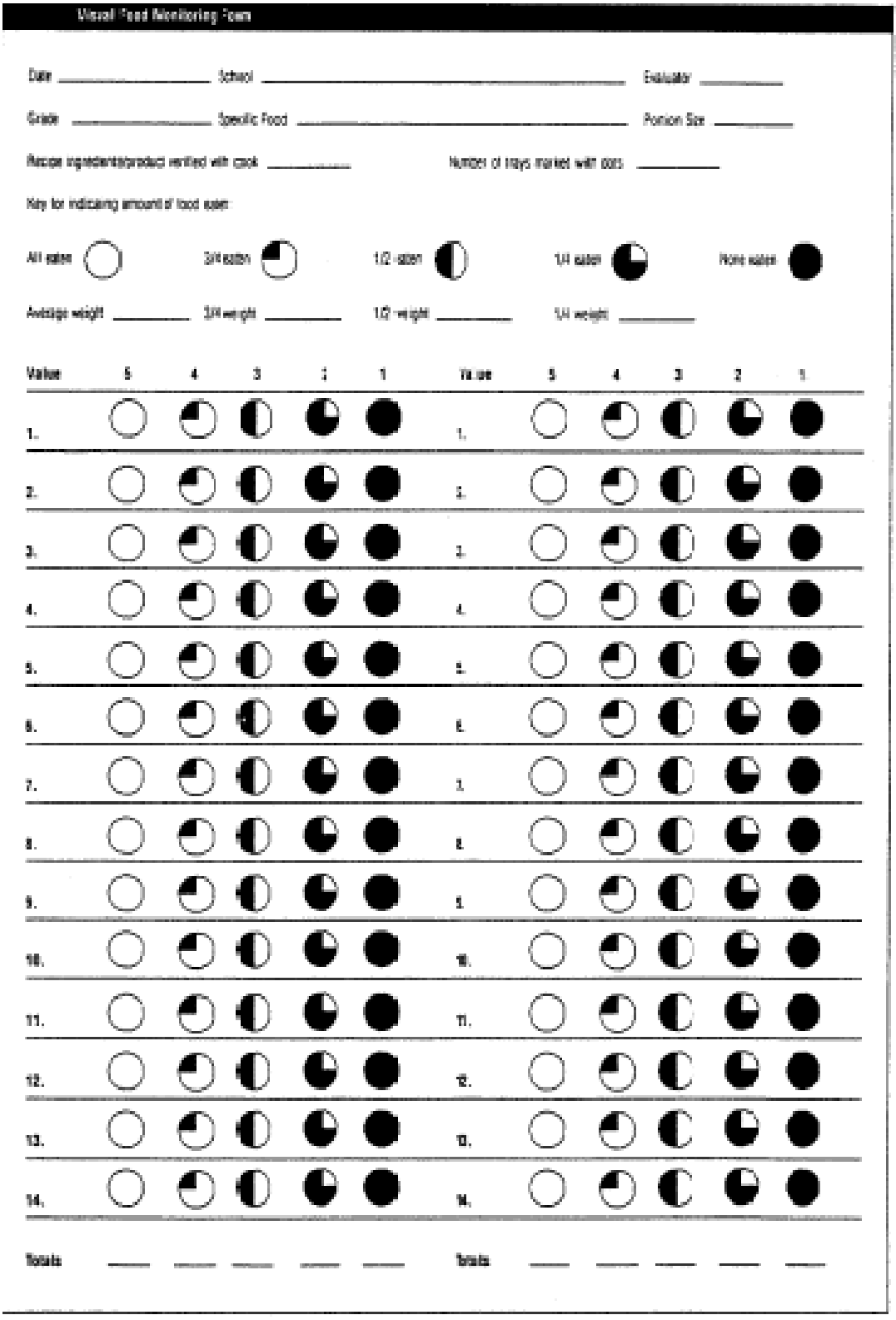

Figure 1. Comstock scale data sheet illustrating the description for each rating

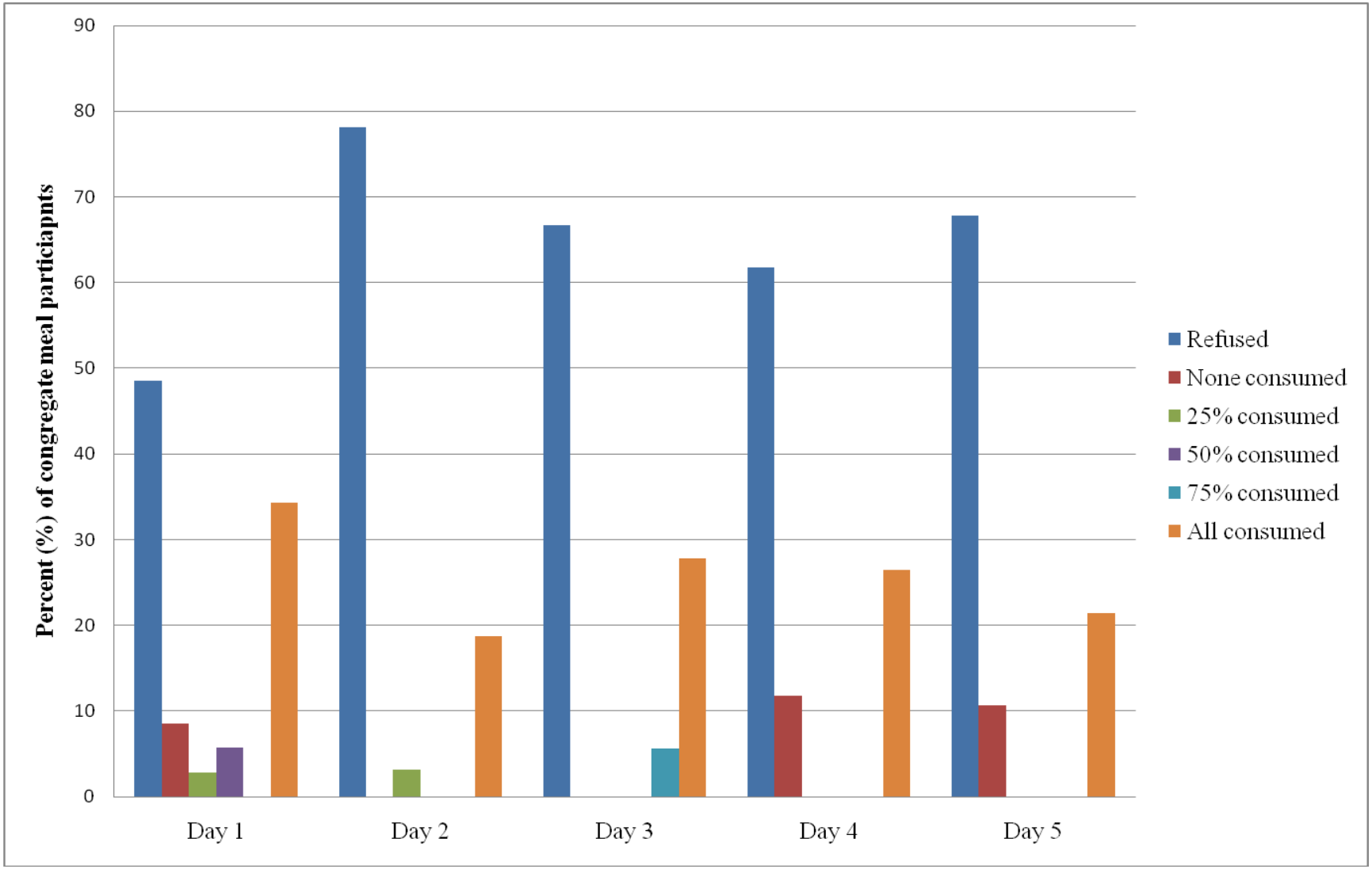

Figure 2. Percent of congregate meal participants that refused or accepted the milk offered and consumed none, 25%, 50%, 75%, or all of the milk provided at the senior center

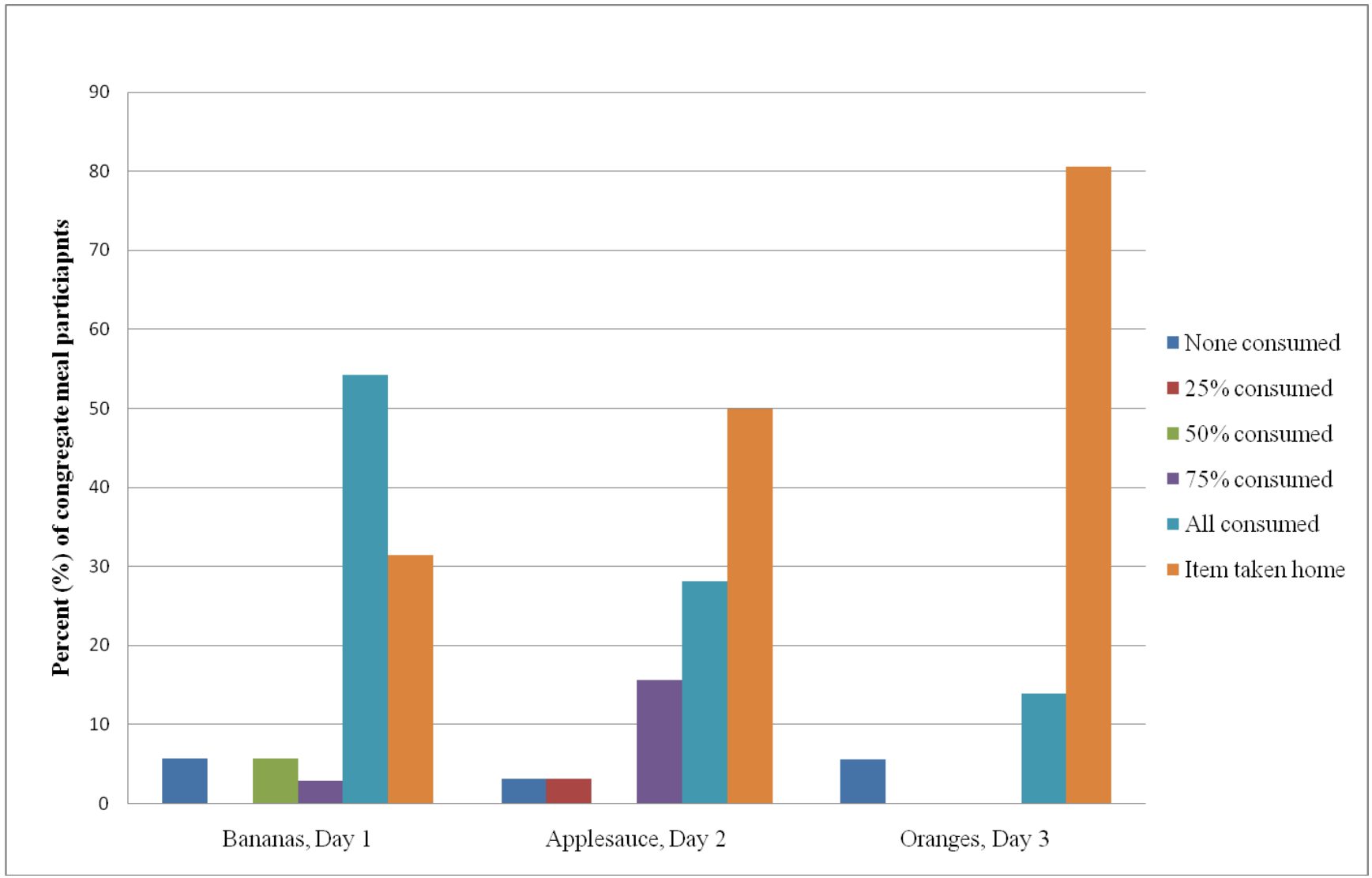

Figure 3. Percent of congregate meal participants that consumed none, 25%, 50%, 75%, or all of the servings of bananas, applesauce, and oranges provided at the senior center

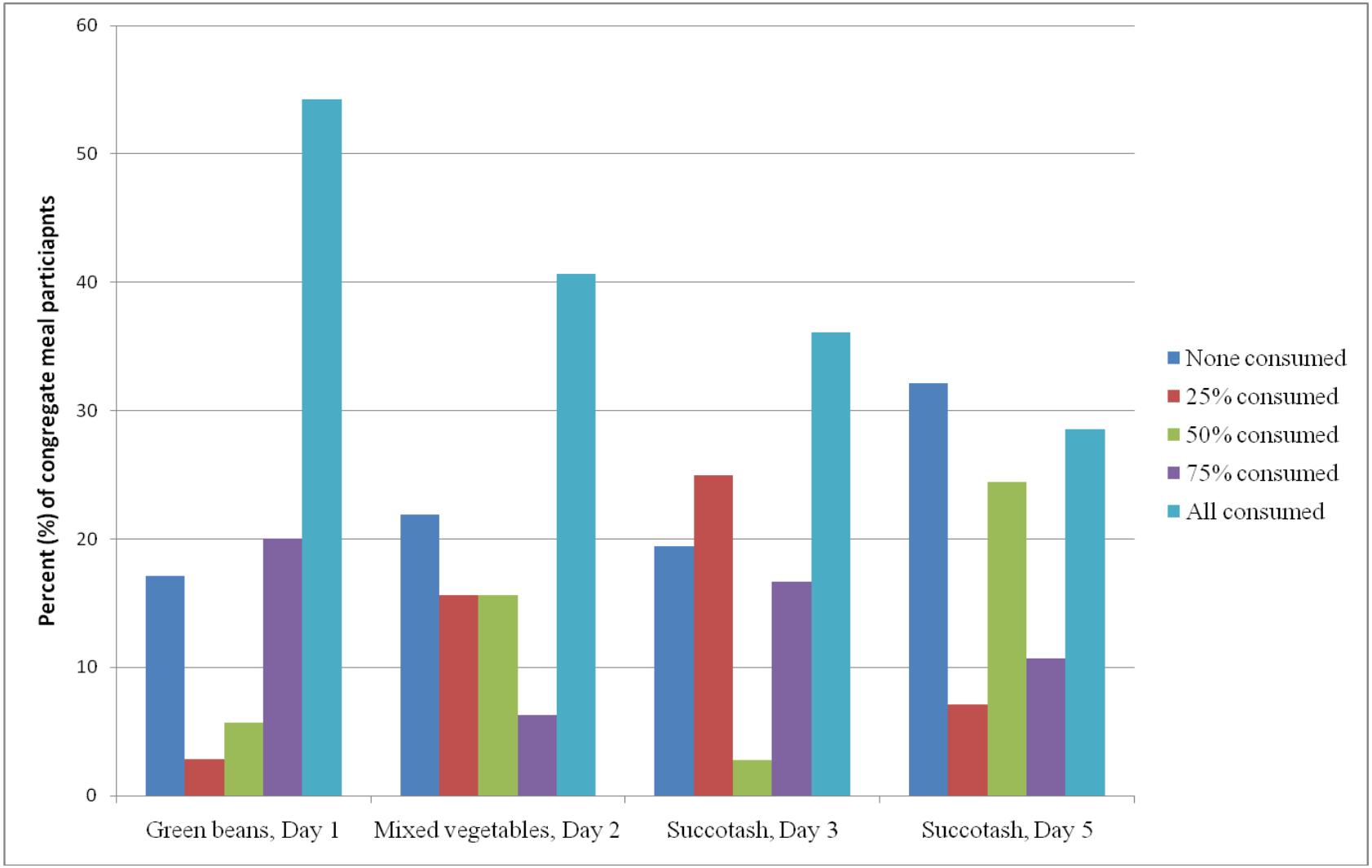

Figure 4. Percent of congregate meal participants that consumed none, 25%, 50%, 75%, or all of the servings of green beans, mixed vegetables, and succotash provided at the senior center

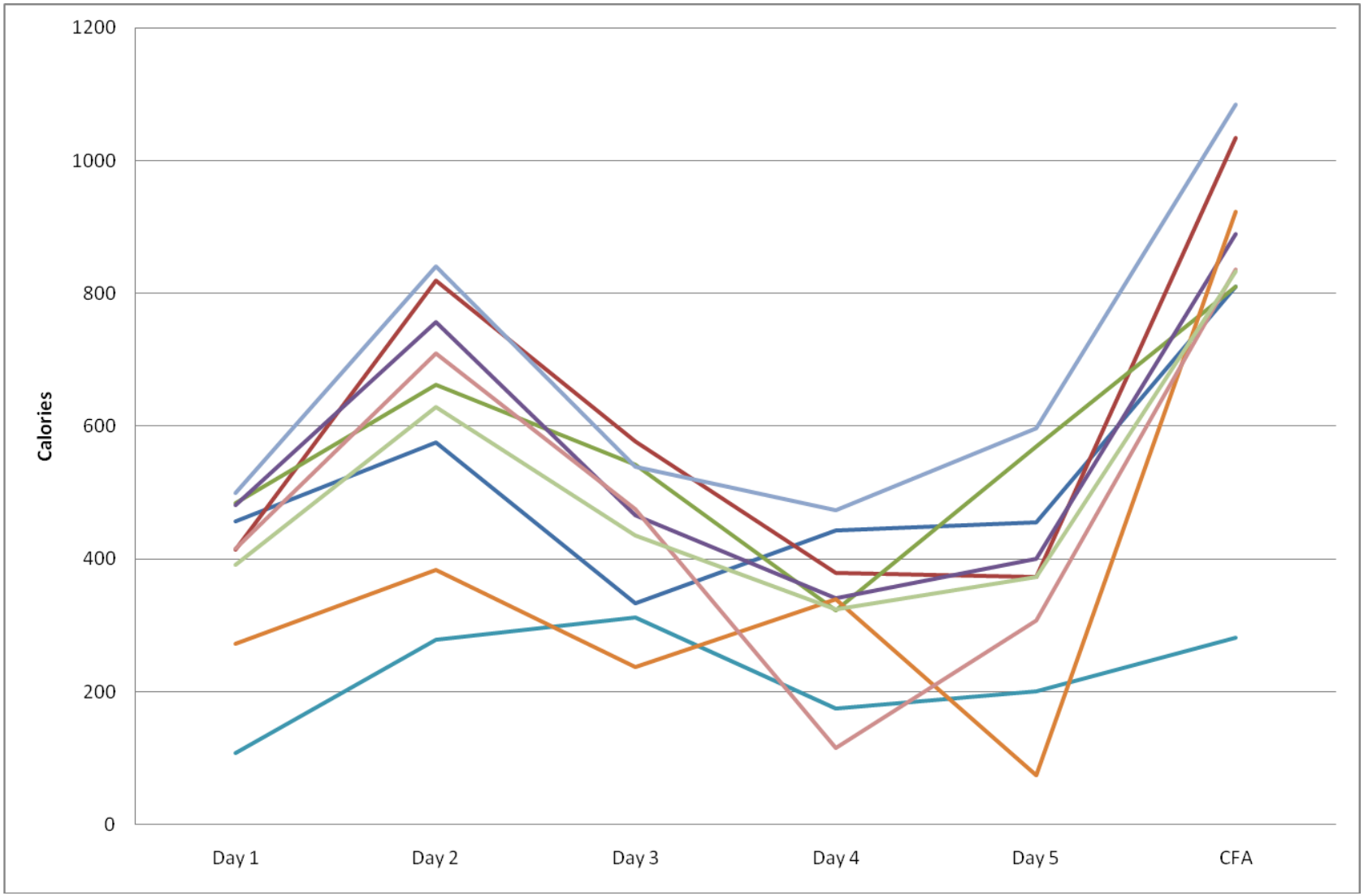

Figure 5. Calorie consumption by the eight individuals who participated in all five congregate meals served at the senior center and the meal served at the field trip to Chick-fil-A®

Figure 6. Clockwise, photographs show a sample tray, uneaten milk and orange, uneaten milk and orange, and uneaten corn

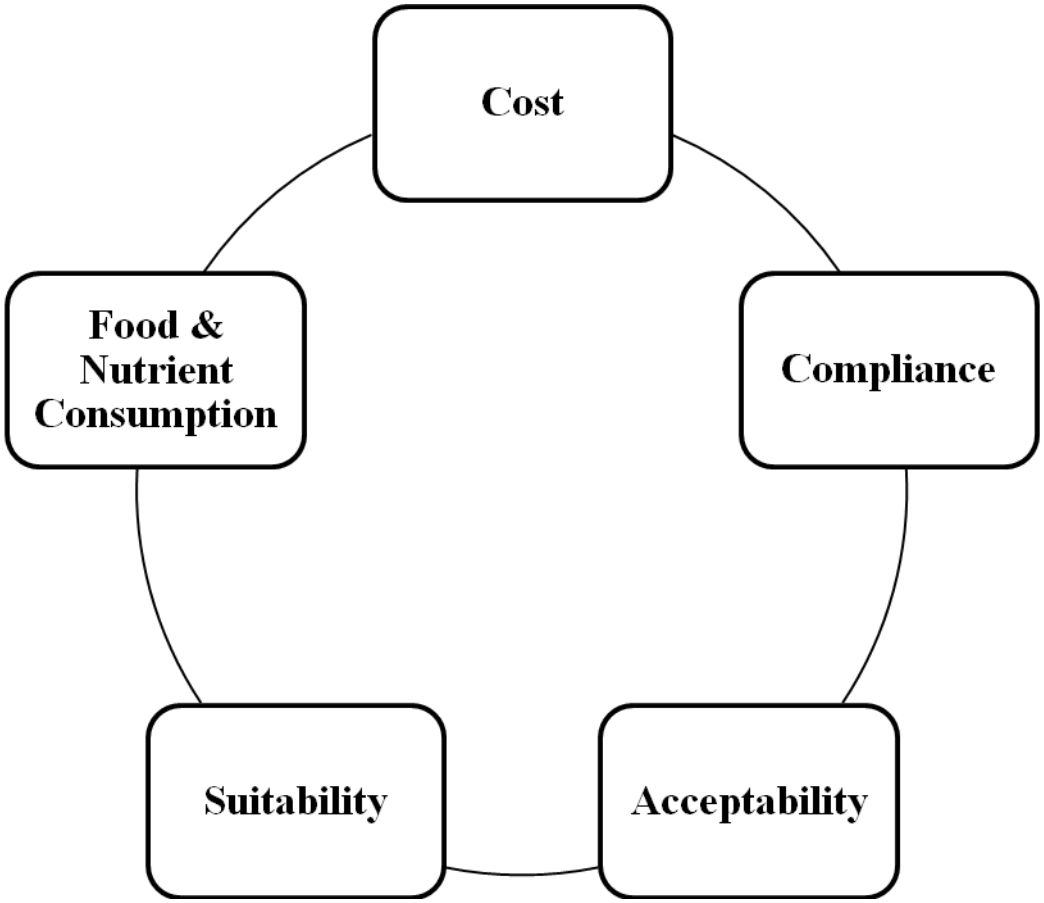

Figure 7. A model of conceptions that can be learned from a visual plate waste study

CHAPTER 4

CONCLUSION

Georgia senior centers provide meal programs that target those at high risk such as low-income minorities (AOA, 2006), and it was expected that seniors eating lunchtime meals at a local senior center were consuming less than the recommended foods and nutrients. It was also expected that inappropriate intakes of nutrients of concern on a national level would be reflected at the local level as well. Older adults have higher micronutrient requirements for calcium and vitamin D, but meeting micronutrient recommendations is even more challenging when energy intake is low. This area is an understudied, but important, topic in aging and nutrition.

The plate waste study detected a clear trend of low energy intake, low calcium intake, and even lower vitamin D intake at this one meal, which is similar to the findings from a previous study in Georgia senior centers in which the overall daily intake of calcium and vitamin D were well below the AI and blood concentrations were low as well (36.7% had serum 5-hydroxyvitamin D concentrations < 50 nmol/L, considered "insufficient," Johnson et al., 2008). This research could be used to document the low nutrient levels of two micronutrients essential to bone health. Those at increased risk for lower than optimal vitamin D status (serum 25-hydroxyvitamin D < 80 nmol/L) include older adults, individuals with darker skin pigmentation, habitual sunscreen users, and those who are obese (USDHHS & USDA, 2005). Calcium and vitamin D supplementation has been studied in randomized control trials to reduce one's risk for bone fractures and/or falls with convincing results (USDHHS, 2004).

Properly chosen foods and/or a multivitamin supplement with calcium (at least 500 to 600 mg) and vitamin D (800 to 1000 IU) could markedly improve the target population's intake of these nutrients. As stated in the Older Americans Act under the "Sense of Congress Recognizing the Contribution of Nutrition to the Health of Older Adults," the current findings of Congress are that "multivitamin-mineral supplements may be useful when they fill a specific identified nutrient gap that cannot be or is not otherwise being met by the individual's intake of food" (2006). It further states that "use of single, daily multivitamin-mineral supplement can be a safe and inexpensive strategy to help ensure the nutrition health of older adults" (OAA, 2006). Studies such as this visual plate waste study operate to identify specific nutrient gaps, and, in accordance with these policies, both vitamin D and calcium warrant further investigation for potential supplementation. In this way, the identification of nutritional needs may be coordinated with available funding.

Additional findings suggest that several simple menu changes could be easily implemented to increase fruit and vegetable consumption, such as slicing fruit into manageable pieces rather than serving whole fruit. Arthritic hands and plastic utensils are two barriers to peeling a whole orange. Many congregate meal participants did not eat the corn from their servings of mixed vegetables and succotash, and gastrointestinal conditions such as diverticulitis may deter older adults from consuming certain foods. By being sensitive to these conditions and having an awareness of food preferences, the dietitians developing the menus can select better received vegetable choices.

Several congregate meal participants chose to take uneaten food items home with them. Whether that item is eaten or partially eaten by the participant, a family member, or allowed to spoil is unknown. The foodservice staff was very mindful of food safety, and only pre-packaged

items that did not pose a food safety danger were allowed to leave the senior center. This behavior of taking food home might warrant further investigation, because the origin could be the result of many differing scenarios. Perhaps the congregate meal participants would prefer more shelf-stable items to take with them rather than consuming all the foods at one sitting. Then again, the participants might have an improved appetite if more physical activity and lively activities were encouraged in the midmorning. Snacking by some participants may diminish their appetite prior to lunch, or participants may be purposefully snacking if they know they do not like the meal served that day. Further study is needed to determine the basis of these behaviors.

Sometimes behavior can be triggered by environment. The dining area doubles as an area for morning activities, such as sittercise, painting, bingo, and other arts and crafts. The participants often stay in that one room throughout the morning until after the lunchtime meal, and there is little distinction in location between breakfast, midmorning, and lunchtime. Even though the bingo cards might be brought out for the midmorning activity, food may remain on the table, and some participants may nibble and snack until lunchtime. Perhaps just moving away from that table and utilizing the adjoining rooms would help to signal times for eating and times for other activities. Preparing a well-designed survey or even asking participants open-ended questions regarding their thoughts on these topics could reveal ways to improve the congregate meal program.

Other areas of future research include comparisons of vendor-delivered meals to meals prepared on-site. Additional understudied areas include comparisons of different forms of food (food packaged to take home versus not packaged) and comparisons of different serving methods (dinner plates versus divided plates). The recipes and food preparation methods could be explored, because it was noted in this study that the servings of meat generally have sauces and

are well-received by congregate meal participants. The vegetables, however, are generally served without any sauce, and consumption is low for menu items such as succotash. A straightforward modification to this simple discrepancy could increase vegetable consumption.

This study presents information about meal compliance, acceptability of specific foods, averages for the facility, and mean food and nutrient intake that may be useful to those providing congregate meals to the elderly as well as providing a solid foundation for future research. Simple surveys could explore food preferences and the suitability of foods for this older adult population, and expanding the collection days to an entire month could yield even more detailed results. Although noncompliance such as substitutions appears minor, they alter the food and nutrient contents of these meals. The menus are designed and evaluated by two dietitians, and both acceptability and compliance are essential. Harmonizing the efforts of the dietitians, the food vendors, and the foodservice staff at local senior centers could help to improve the congregate meal program and food and nutrient intake.

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APPENDICES

APPENDIX A

LIVE HEALTHY GEORGIA! CONSENT FORM

I, _____, agree to participate in the research study titled "Live Healthy Georgia!" conducted by Dr. Mary Ann Johnson in the Department of Foods and Nutrition at the University of Georgia and at my local Senior Center. I understand that participation is voluntary and I do not have to take part if I do not want to. I can refuse to participate and stop taking part anytime without giving any reason and without penalty. I can ask to have all information concerning me removed from the research records, returned to me, or destroyed. My decision to participate will not affect the services that I am entitled to receive at the Senior Center.

By participating in this study, I may improve my nutrition and physical activity habits and self-management of diabetes and other chronic conditions. This study will also help the investigators learn more about good ways to help older adults improve their nutrition and physical activity habits and self-management of diabetes and other chronic conditions. This study will be conducted at my local Senior Center. If I volunteer to take part in this study, I will be asked to do the following things:

1) Answer questions about my health, nutrition and physical activity.

2) Obtain medical clearance to participate in a physical activity program.

3) Provide information about my health, nutrition, and physical activity and complete a physical measurement of weight and waist circumference in a pre-test and post-test. The pre-test will last up to 60 minutes that may be divided into two sessions. The post-test will last up to 30 minutes that also may be divided into two sessions.

4) Attend up to 12 health, nutrition and physical activity programs that will last about 30 to 60 minutes each over a twelve-month period.

5) Take part in a physical activity program of chair exercises and walking to improve my strength, balance, endurance, and flexibility.

6) Answer questions about my appetite and allow the researchers to see how much of the meals I eat at the senior center. This will happen up to five times and take 5 minutes each time.

7) Someone from the study may contact me to clarify my information throughout the study.

The instructor may provide food to taste. Mild to no risk is expected by tasting food. However, I will not taste foods that I should not eat because of swallowing difficulties, allergic reactions, dietary restrictions, or other food-related problems.

There is minimal risk to participation in this study. I may experience some discomfort or stress when the researchers ask me questions about my nutrition, health, and physical activity habits. There is a possibility that I could temporarily injure a muscle or be sore from physical exertion. This risk is minimized by ability to rest at any time. The leaders will advise me to stop exercising if I experience any discomfort or chest pains. If additional care is needed, then my insurance company or myself will be responsible for any expense that may be incurred. As a participant, I assume certain risks of physical injury. The researchers will exercise all reasonable care to protect me from harm as a result of my participation. However, I do not give up or waive any of my rights to file a claim with the University of Georgia's insurer (Department of Administrative Services) or pursue legal action by signing this form.

In case of a research-related injury, please contact Dr. Mary Ann Johnson at 706-542-2292.

No information concerning myself or provided by myself during this study will be shared with others without my written permission, unless law requires it. I may choose not to answer any question or questions that may make me uncomfortable. I will be assigned an identifying number and this number will be used on all of the questionnaires I fill out. Data will be stored in locked file cabinets under the supervision of Dr. Mary Ann Johnson at the University of Georgia; only the staff involved in the study will have access to these data and only for the purpose of data analyses and interpretation of results. My identity will not be revealed in any

reports or published materials that might result from this study. All research records will be retained for three years after completion of the study.

If I have any further questions about the study, now or during the course of the study I can call Dr. Mary Ann Johnson (706-542-2292). I will sign two copies of this form. I understand that I am agreeing by my signature on this form to take part in this study. I will receive a signed copy of this consent form for my records.

_____	_____	_____
Signature of Participant	Participant's Printed Name	Date

_____

Participant Address and Phone

_____	Mary Ann Johnson	June 22, 2009
Signature of Investigator	Printed Name of Investigator	Date

Email: DrMaryAnnJohnson@gmail.com

_____	_____	_____
Signature of Staff who Reads Consent Form to Participant	Printed Name of Staff	Date

For questions or problems about your rights as a research participant please call or write: The Chairperson, Institutional Review Board, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu. (DHR IRB # 070702, UGA IRB # 2006-10842)

APPENDIX B

MENU ANNALYSIS USING USDA FOOD DATABASE

Chicken, broilers or fryers, breast, meat and skin, cooked, roasted
Refuse: 19% (Bone)
NDB No: 05060 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 85 grams	Number of Data Points
Proximates			
Water	g	53.07	16
Energy	kcal	167	0
Energy	kJ	700	0
Protein	g	25.33	16
Total lipid (fat)	g	6.61	16
Ash	g	0.84	16
Carbohydrate, by difference	g	0.00	0
Fiber, total dietary	g	0.0	0
Sugars, total	g	0.00	0
Minerals			
Calcium, Ca	mg	12	17
Iron, Fe	mg	0.91	17
Magnesium, Mg	mg	23	17
Phosphorus, P	mg	182	17
Potassium, K	mg	208	17
Sodium, Na	mg	60	17
Zinc, Zn	mg	0.87	17
Copper, Cu	mg	0.043	17
Manganese, Mn	mg	0.015	16
Selenium, Se	mcg	21.0	0
Vitamins			
Vitamin C, total ascorbic acid	mg	0.0	0
Thiamin	mg	0.056	9
Riboflavin	mg	0.101	9
Niacin	mg	10.803	9
Pantothenic acid	mg	0.796	0
Vitamin B-6	mg	0.476	11
Folate, total	mcg	3	0

Folic acid	mcg	0	0
Folate, food	mcg	3	0
Folate, DFE	mcg_DFE	3	0
Choline, total	mg	61.9	0
Betaine	mg	5.3	0
Vitamin B-12	mcg	0.27	0
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	24	0
Retinol	mcg	24	0
Carotene, beta	mcg	0	0
Carotene, alpha	mcg	0	0
Cryptoxanthin, beta	mcg	0	0
Vitamin A, IU	IU	79	0
Lycopene	mcg	0	0
Lutein + zeaxanthin	mcg	0	0
Vitamin E (alpha-tocopherol)	mg	0.23	0
Vitamin E, added	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.1	0
Vitamin D3 (cholecalciferol)	mcg	0.1	0
Vitamin D	IU	4	0
Vitamin K (phylloquinone)	mcg	0.3	0
Lipids			
Fatty acids, total saturated	g	1.861	0
4:0	g	0.000	0
6:0	g	0.000	0
8:0	g	0.000	0
10:0	g	0.000	0
12:0	g	0.009	0
14:0	g	0.051	0
16:0	g	1.368	0
18:0	g	0.383	0
Fatty acids, total monounsaturated	g	2.575	0
16:1 undifferentiated	g	0.340	0
18:1 undifferentiated	g	2.133	0
20:1	g	0.068	0

22:1 undifferentiated	g	0.000	0
Fatty acids, total polyunsaturated	g	1.411	0
18:2 undifferentiated	g	1.198	0
18:3 undifferentiated	g	0.051	0
18:4	g	0.000	0
20:4 undifferentiated	g	0.060	0
20:5 n-3 (EPA)	g	0.009	0
22:5 n-3 (DPA)	g	0.009	0
22:6 n-3 (DHA)	g	0.025	0
Cholesterol	mg	71	0
Amino acids			
Tryptophan	g	0.289	0
Threonine	g	1.057	0
Isoleucine	g	1.296	0
Leucine	g	1.868	0
Lysine	g	2.102	0
Methionine	g	0.686	0
Cystine	g	0.332	0
Phenylalanine	g	0.994	0
Tyrosine	g	0.833	0
Valine	g	1.242	0
Arginine	g	1.561	0
Histidine	g	0.762	0
Alanine	g	1.435	0
Aspartic acid	g	2.258	0
Glutamic acid	g	3.743	0
Glycine	g	1.462	0
Proline	g	1.145	0
Serine	g	0.884	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Chicken, broilers or fryers, breast, meat and skin, cooked, roasted

Refuse: 19% (Bone)
NDB No: 05060 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 100 grams	Number of Data Points	Std. Error
Proximates				
Water	g	62.44	16	0.300
Energy	kcal	197	110	
Energy	kJ	824	0	
Protein	g	29.80	16	0.355
Total lipid (fat)	g	7.78	16	0.300
Ash	g	0.99	16	0.034
Carbohydrate, by difference	g	0.00	0	
Fiber, total dietary	g	0.0	0	
Sugars, total	g	0.00	0	
Minerals				
Calcium, Ca	mg	14	17	0.802
Iron, Fe	mg	1.07	17	0.065
Magnesium, Mg	mg	27	17	0.540
Phosphorus, P	mg	214	17	6.940
Potassium, K	mg	245	17	7.020
Sodium, Na	mg	71	17	3.327
Zinc, Zn	mg	1.02	17	0.026
Copper, Cu	mg	0.050	17	0.002
Manganese, Mn	mg	0.018	16	0.001
Selenium, Se	mcg	24.7	0	
Vitamins				
Vitamin C, total ascorbic acid	mg	0.0	0	
Thiamin	mg	0.066	9	0.005
Riboflavin	mg	0.119	9	0.007
Niacin	mg	12.710	9	0.574
Pantothenic acid	mg	0.936	0	
Vitamin B-6	mg	0.560	11	0.018
Folate, total	mcg	4	0	
Folic acid	mcg	0	0	
Folate, food	mcg	4	0	

Folate, DFE	mcg_DFE	4	0	
Choline, total	mg	72.8	0	
Betaine	mg	6.2	0	
Vitamin B-12	mcg	0.32	0	
Vitamin B-12, added	mcg	0.00	0	
Vitamin A, RAE	mcg_RAE	28	0	
Retinol	mcg	28	0	
Carotene, beta	mcg	0	0	
Carotene, alpha	mcg	0	0	
Cryptoxanthin, beta	mcg	0	0	
Vitamin A, IU	IU	93	0	
Lycopene	mcg	0	0	
Lutein + zeaxanthin	mcg	0	0	
Vitamin E (alpha-tocopherol)	mg	0.27	0	
Vitamin E, added	mg	0.00	0	
Vitamin D (D2 + D3)	mcg	0.1	0	
Vitamin D3 (cholecalciferol)	mcg	0.1	0	
Vitamin D	IU	5	0	
Vitamin K (phylloquinone)	mcg	0.3	0	
Lipids				
Fatty acids, total saturated	g	2.190	0	
4:0	g	0.000	0	
6:0	g	0.000	0	
8:0	g	0.000	0	
10:0	g	0.000	0	
12:0	g	0.010	0	
14:0	g	0.060	0	
16:0	g	1.610	0	
18:0	g	0.450	0	
Fatty acids, total monounsaturated	g	3.030	0	
16:1 undifferentiated	g	0.400	0	
18:1 undifferentiated	g	2.510	0	
20:1	g	0.080	0	
22:1 undifferentiated	g	0.000	0	
Fatty acids, total polyunsaturated	g	1.660	0	

18:2 undifferentiated	g	1.410	0	
18:3 undifferentiated	g	0.060	0	
18:4	g	0.000	0	
20:4 undifferentiated	g	0.070	0	
20:5 n-3 (EPA)	g	0.010	0	
22:5 n-3 (DPA)	g	0.010	0	
22:6 n-3 (DHA)	g	0.030	0	
Cholesterol	mg	84	0	
Amino acids				
Tryptophan	g	0.340	0	
Threonine	g	1.244	0	
Isoleucine	g	1.525	0	
Leucine	g	2.198	0	
Lysine	g	2.473	0	
Methionine	g	0.807	0	
Cystine	g	0.390	0	
Phenylalanine	g	1.169	0	
Tyrosine	g	0.980	0	
Valine	g	1.461	0	
Arginine	g	1.837	0	
Histidine	g	0.897	0	
Alanine	g	1.688	0	
Aspartic acid	g	2.657	0	
Glutamic acid	g	4.404	0	
Glycine	g	1.720	0	
Proline	g	1.347	0	
Serine	g	1.040	0	
Other				
Alcohol, ethyl	g	0.0	0	
Caffeine	mg	0	0	
Theobromine	mg	0	0	

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Beans, snap, green variety, canned, regular pack, solids and liquids

Refuse: 0%
NDB No: 11054 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 0.5 cup ------- 120g
Proximates		
Water	g	113.62
Energy	kcal	18
Energy	kJ	76
Protein	g	0.96
Total lipid (fat)	g	0.12
Ash	g	1.10
Carbohydrate, by difference	g	4.20
Fiber, total dietary	g	1.8
Minerals		
Calcium, Ca	mg	29
Iron, Fe	mg	1.08
Magnesium, Mg	mg	16
Phosphorus, P	mg	23
Potassium, K	mg	110
Sodium, Na	mg	311
Zinc, Zn	mg	0.24
Copper, Cu	mg	0.084
Manganese, Mn	mg	0.402
Selenium, Se	mcg	0.2
Vitamins		
Vitamin C, total ascorbic acid	mg	4.1
Thiamin	mg	0.030
Riboflavin	mg	0.061
Niacin	mg	0.240
Pantothenic acid	mg	0.127
Vitamin B-6	mg	0.036
Folate, total	mcg	22
Folic acid	mcg	0
Folate, food	mcg	22
Folate, DFE	mcg_DFE	22

Vitamin B-12	mcg	0.00
Vitamin A, RAE	mcg_RAE	19
Retinol	mcg	0
Vitamin A, IU	IU	385
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Lipids		
Fatty acids, total saturated	g	0.028
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.000
16:0	g	0.023
18:0	g	0.004
Fatty acids, total monounsaturated	g	0.005
16:1 undifferentiated	g	0.000
18:1 undifferentiated	g	0.005
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.062
18:2 undifferentiated	g	0.024
18:3 undifferentiated	g	0.038
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0
Amino acids		
Tryptophan	g	0.010
Threonine	g	0.042
Isoleucine	g	0.035
Leucine	g	0.059

Lysine	g	0.047
Methionine	g	0.011
Cystine	g	0.010
Phenylalanine	g	0.035
Tyrosine	g	0.023
Valine	g	0.048
Arginine	g	0.038
Histidine	g	0.018
Alanine	g	0.044
Aspartic acid	g	0.133
Glutamic acid	g	0.098
Glycine	g	0.034
Proline	g	0.035
Serine	g	0.052
Other		
Alcohol, ethyl	g	0.0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Potatoes, au gratin, home-prepared from recipe using margarine (1)
Refuse: 0%
NDB No: 11843 (Nutrient values and weights are for edible portion)

Nutrient	Units	0.5 X 1 cup ------- 122.5g
Proximates		
Water	g	90.65
Energy	kcal	162
Energy	kJ	676
Protein	g	6.20
Total lipid (fat)	g	9.30
Ash	g	2.56
Carbohydrate, by difference	g	13.81
Fiber, total dietary	g	2.2
Minerals		
Calcium, Ca	mg	146
Iron, Fe	mg	0.78

Magnesium, Mg	mg	24
Phosphorus, P	mg	138
Potassium, K	mg	485
Sodium, Na	mg	530
Zinc, Zn	mg	0.85
Copper, Cu	mg	0.196
Manganese, Mn	mg	0.197
Selenium, Se	mcg	3.3
Vitamins		
Vitamin C, total ascorbic acid	mg	12.1
Thiamin	mg	0.078
Riboflavin	mg	0.142
Niacin	mg	1.216
Pantothenic acid	mg	0.474
Vitamin B-6	mg	0.213
Folate, total	mcg	13
Folic acid	mcg	4
Folate, food	mcg	10
Folate, DFE	mcg_DFE	16
Vitamin B-12	mcg	0.00
Vitamin A, RAE	mcg_RAE	78
Retinol	mcg	74
Carotene, beta	mcg	59
Vitamin A, IU	IU	343
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Lipids		
Fatty acids, total saturated	g	4.324
4:0	g	0.184
6:0	g	0.094
8:0	g	0.053
10:0	g	0.113
12:0	g	0.111
14:0	g	0.587
16:0	g	2.080

18:0	g	0.947
Fatty acids, total monounsaturated	g	3.169
16:1 undifferentiated	g	0.165
18:1 undifferentiated	g	2.925
Fatty acids, total polyunsaturated	g	1.318
18:2 undifferentiated	g	1.198
18:3 undifferentiated	g	0.125
Cholesterol	mg	18
Amino acids		
Tryptophan	g	0.086
Threonine	g	0.235
Isoleucine	g	0.348
Leucine	g	0.543
Lysine	g	0.467
Methionine	g	0.143
Cystine	g	0.054
Phenylalanine	g	0.311
Tyrosine	g	0.282
Valine	g	0.398
Arginine	g	0.249
Histidine	g	0.185
Alanine	g	0.191
Aspartic acid	g	0.697
Glutamic acid	g	1.398
Glycine	g	0.138
Proline	g	0.567
Serine	g	0.337

Footnotes:
1 Recipe: Potatoes, 55%; whole milk, 30%; cheddar cheese, 9%; margarine, 3%; flour , 2%; and salt, 1%.

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Bananas, raw
Refuse: 36% (Skin)
Scientific Name: *Musa acuminata Colla*
NDB No: 09040 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 NLEA serving ------- 126g
Proximates		
Water	g	94.39
Energy	kcal	112
Energy	kJ	467
Protein	g	1.37
Total lipid (fat)	g	0.42
Ash	g	1.03
Carbohydrate, by difference	g	28.78
Fiber, total dietary	g	3.3
Sugars, total	g	15.41
Sucrose	g	3.01
Glucose (dextrose)	g	6.27
Fructose	g	6.11
Lactose	g	0.00
Maltose	g	0.01
Galactose	g	0.00
Starch	g	6.78
Minerals		
Calcium, Ca	mg	6
Iron, Fe	mg	0.33
Magnesium, Mg	mg	34
Phosphorus, P	mg	28
Potassium, K	mg	451
Sodium, Na	mg	1
Zinc, Zn	mg	0.19
Copper, Cu	mg	0.098
Manganese, Mn	mg	0.340
Fluoride, F	mcg	2.8
Selenium, Se	mcg	1.3
Vitamins		
Vitamin C, total ascorbic acid	mg	11.0

Thiamin	mg	0.039
Riboflavin	mg	0.092
Niacin	mg	0.838
Pantothenic acid	mg	0.421
Vitamin B-6	mg	0.462
Folate, total	mcg	25
Folic acid	mcg	0
Folate, food	mcg	25
Folate, DFE	mcg_DFE	25
Choline, total	mg	12.3
Betaine	mg	0.1
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	4
Retinol	mcg	0
Carotene, beta	mcg	33
Carotene, alpha	mcg	32
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	81
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	28
Vitamin E (alpha-tocopherol)	mg	0.13
Vitamin E, added	mg	0.00
Tocopherol, beta	mg	0.00
Tocopherol, gamma	mg	0.03
Tocopherol, delta	mg	0.01
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	0.6
Lipids		
Fatty acids, total saturated	g	0.141
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.001

12:0	g	0.003
14:0	g	0.003
16:0	g	0.129
18:0	g	0.006
Fatty acids, total monounsaturated	g	0.040
16:1 undifferentiated	g	0.013
18:1 undifferentiated	g	0.028
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.092
18:2 undifferentiated	g	0.058
18:3 undifferentiated	g	0.034
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0
Phytosterols	mg	20
Amino acids		
Tryptophan	g	0.011
Threonine	g	0.035
Isoleucine	g	0.035
Leucine	g	0.086
Lysine	g	0.063
Methionine	g	0.010
Cystine	g	0.011
Phenylalanine	g	0.062
Tyrosine	g	0.011
Valine	g	0.059
Arginine	g	0.062
Histidine	g	0.097
Alanine	g	0.050
Aspartic acid	g	0.156
Glutamic acid	g	0.192

Glycine	g	0.048
Proline	g	0.035
Serine	g	0.050
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Bread, whole-wheat, commercially prepared
Refuse: 0%
NDB No: 18075 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 slice ------- 28g
Proximates		
Water	g	10.80
Energy	kcal	69
Energy	kJ	290
Protein	g	3.63
Total lipid (fat)	g	0.94
Ash	g	1.07
Carbohydrate, by difference	g	11.56
Fiber, total dietary	g	1.9
Sugars, total	g	1.56
Minerals		
Calcium, Ca	mg	30
Iron, Fe	mg	0.68
Magnesium, Mg	mg	23
Phosphorus, P	mg	57
Potassium, K	mg	69
Sodium, Na	mg	132
Zinc, Zn	mg	0.50
Copper, Cu	mg	0.106
Manganese, Mn	mg	0.598

Selenium, Se	mcg	11.3
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.099
Riboflavin	mg	0.060
Niacin	mg	1.320
Pantothenic acid	mg	0.192
Vitamin B-6	mg	0.059
Folate, total	mcg	14
Folic acid	mcg	0
Folate, food	mcg	14
Folate, DFE	mcg_DFE	14
Choline, total	mg	7.4
Betaine	mg	63.5
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	0
Retinol	mcg	0
Carotene, beta	mcg	1
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	1
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	24
Vitamin E (alpha-tocopherol)	mg	0.15
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	2.2
Lipids		
Fatty acids, total saturated	g	0.209
4:0	g	0.000
6:0	g	0.000
8:0	g	0.003
10:0	g	0.000

12:0	g	0.000
14:0	g	0.001
16:0	g	0.151
18:0	g	0.044
20:0	g	0.003
Fatty acids, total monounsaturated	g	0.447
16:1 undifferentiated	g	0.004
18:1 undifferentiated	g	0.439
20:1	g	0.004
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.168
18:2 undifferentiated	g	0.151
18:3 undifferentiated	g	0.017
18:4	g	0.000
20:2 n-6 c,c	g	0.000
20:3 undifferentiated	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0
Amino acids		
Tryptophan	g	0.026
Threonine	g	0.048
Isoleucine	g	0.062
Leucine	g	0.114
Lysine	g	0.046
Methionine	g	0.026
Cystine	g	0.039
Phenylalanine	g	0.079
Tyrosine	g	0.049
Valine	g	0.076
Histidine	g	0.039
Alanine	g	0.060
Aspartic acid	g	0.087

Glutamic acid	g	0.530
Glycine	g	0.068
Proline	g	0.175
Serine	g	0.079
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Margarine-like, vegetable oil spread, 60% fat, stick/tub/bottle, with salt
Refuse: 0%
NDB No: 04614 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 tsp ------- 4.8g
Proximates		
Water	g	1.86
Energy	kcal	25
Energy	kJ	106
Protein	g	0.03
Total lipid (fat)	g	2.84
Ash	g	0.08
Carbohydrate, by difference	g	0.00
Fiber, total dietary	g	0.0
Sugars, total	g	0.00
Minerals		
Calcium, Ca	mg	1
Iron, Fe	mg	0.00
Magnesium, Mg	mg	0
Phosphorus, P	mg	1
Potassium, K	mg	1
Sodium, Na	mg	38
Zinc, Zn	mg	0.00
Copper, Cu	mg	0.000

Selenium, Se	mcg	0.0
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.000
Riboflavin	mg	0.001
Niacin	mg	0.001
Pantothenic acid	mg	0.001
Vitamin B-6	mg	0.000
Folate, total	mcg	0
Folic acid	mcg	0
Folate, food	mcg	0
Folate, DFE	mcg_DFE	0
Choline, total	mg	0.6
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	39
Retinol	mcg	37
Carotene, beta	mcg	29
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	171
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	0.24
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	4.9
Lipids		
Fatty acids, total saturated	g	0.482
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000

14:0	g	0.002
15:0	g	0.000
16:0	g	0.279
17:0	g	0.003
18:0	g	0.174
20:0	g	0.009
22:0	g	0.011
24:0	g	0.004
Fatty acids, total monounsaturated	g	0.975
14:1	g	0.000
16:1 undifferentiated	g	0.002
16:1 c	g	0.002
16:1 t	g	0.000
18:1 undifferentiated	g	0.969
18:1 c	g	0.639
18:1 t	g	0.330
20:1	g	0.004
22:1 undifferentiated	g	0.000
24:1 c	g	0.000
Fatty acids, total polyunsaturated	g	1.185
18:2 undifferentiated	g	1.037
18:2 n-6 c,c	g	1.014
18:2 i	g	0.023
18:3 undifferentiated	g	0.127
18:3 n-3 c,c,c (ALA)	g	0.127
18:4	g	0.000
20:2 n-6 c,c	g	0.021
20:3 undifferentiated	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Fatty acids, total trans	g	0.354
Fatty acids, total trans-monoenoic	g	0.330
Cholesterol	mg	0

Stigmasterol	mg	1
Campesterol	mg	1
Beta-sitosterol	mg	4
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Beef, sandwich steaks, flaked, chopped, formed and thinly sliced, raw
Refuse: 0%
NDB No: 13342 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 85 grams	Number of Data Points
Proximates			
Water	g	47.60	1
Energy	kcal	263	0
Energy	kJ	1099	0
Protein	g	14.03	1
Total lipid (fat)	g	22.95	1
Ash	g	0.68	1
Carbohydrate, by difference	g	0.00	0
Fiber, total dietary	g	0.0	0
Sugars, total	g	0.00	0
Minerals			
Calcium, Ca	mg	10	1
Iron, Fe	mg	1.58	1
Magnesium, Mg	mg	14	0
Phosphorus, P	mg	113	0
Potassium, K	mg	198	0
Sodium, Na	mg	58	1
Zinc, Zn	mg	3.09	0
Copper, Cu	mg	0.054	0
Manganese, Mn	mg	0.014	0
Selenium, Se	mcg	11.0	0

Vitamins			
Vitamin C, total ascorbic acid	mg	0.0	0
Thiamin	mg	0.033	0
Riboflavin	mg	0.131	0
Niacin	mg	3.896	0
Pantothenic acid	mg	0.301	0
Vitamin B-6	mg	0.209	0
Folate, total	mcg	6	0
Folic acid	mcg	0	0
Folate, food	mcg	6	0
Folate, DFE	mcg_DFE	6	0
Choline, total	mg	58.6	0
Betaine	mg	8.6	0
Vitamin B-12	mcg	2.30	0
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	0	0
Retinol	mcg	0	0
Carotene, beta	mcg	0	0
Carotene, alpha	mcg	0	0
Cryptoxanthin, beta	mcg	0	0
Vitamin A, IU	IU	0	1
Lycopene	mcg	0	0
Lutein + zeaxanthin	mcg	0	0
Vitamin E (alpha-tocopherol)	mg	0.18	0
Vitamin E, added	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.3	0
Vitamin D3 (cholecalciferol)	mcg	0.3	0
Vitamin D	IU	13	0
Vitamin K (phylloquinone)	mcg	1.4	0
Lipids			
Fatty acids, total saturated	g	9.807	0
4:0	g	0.000	0
6:0	g	0.000	0
8:0	g	0.000	0
10:0	g	0.000	1

12:0	g	0.000	1
14:0	g	0.697	2
15:0	g	0.117	2
16:0	g	5.391	2
17:0	g	0.256	2
18:0	g	3.320	2
20:0	g	0.028	2
22:0	g	0.000	1
24:0	g	0.000	1
Fatty acids, total monounsaturated	g	9.382	0
14:1	g	0.177	2
16:1 undifferentiated	g	0.834	2
18:1 undifferentiated	g	8.257	2
20:1	g	0.115	2
22:1 undifferentiated	g	0.000	1
Fatty acids, total polyunsaturated	g	0.415	0
18:2 undifferentiated	g	0.313	2
18:3 undifferentiated	g	0.102	2
18:4	g	0.000	0
20:4 undifferentiated	g	0.000	1
20:5 n-3 (EPA)	g	0.000	1
22:5 n-3 (DPA)	g	0.000	0
22:6 n-3 (DHA)	g	0.000	1
Cholesterol	mg	60	1
Amino acids			
Tryptophan	g	0.175	0
Threonine	g	0.597	0
Isoleucine	g	0.610	0
Leucine	g	1.141	0
Lysine	g	1.188	0
Methionine	g	0.332	0
Cystine	g	0.137	0
Phenylalanine	g	0.540	0
Tyrosine	g	0.445	0
Valine	g	0.690	0

Arginine	g	0.960	0
Histidine	g	0.453	0
Alanine	g	0.929	0
Aspartic acid	g	1.300	0
Glutamic acid	g	2.238	0
Glycine	g	1.057	0
Proline	g	0.722	0
Serine	g	0.551	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Vegetables, mixed, canned, drained solids
Refuse: 0%
NDB No: 11581 (Nutrient values and weights are for edible portion)

Nutrient	Units	.5 X 1 cup ------- 81.5g
Proximates		
Water	g	70.91
Energy	kcal	40
Energy	kJ	166
Protein	g	2.11
Total lipid (fat)	g	0.20
Ash	g	0.73
Carbohydrate, by difference	g	7.55
Fiber, total dietary	g	2.4
Sugars, total	g	1.96
Minerals		
Calcium, Ca	mg	22
Iron, Fe	mg	0.86
Magnesium, Mg	mg	13
Phosphorus, P	mg	34
Potassium, K	mg	237
Sodium, Na	mg	121

Zinc, Zn	mg	0.33
Copper, Cu	mg	0.059
Manganese, Mn	mg	0.463
Fluoride, F	mcg	30.2
Selenium, Se	mcg	0.2
Vitamins		
Vitamin C, total ascorbic acid	mg	4.1
Thiamin	mg	0.037
Riboflavin	mg	0.039
Niacin	mg	0.470
Pantothenic acid	mg	0.117
Vitamin B-6	mg	0.064
Folate, total	mcg	20
Folic acid	mcg	0
Folate, food	mcg	20
Folate, DFE	mcg_DFE	20
Choline, total	mg	15.2
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	475
Retinol	mcg	0
Carotene, beta	mcg	4621
Carotene, alpha	mcg	2148
Cryptoxanthin, beta	mcg	4
Vitamin A, IU	IU	9496
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	402
Vitamin E (alpha-tocopherol)	mg	0.24
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	14.8
Lipids		
Fatty acids, total saturated	g	0.042
4:0	g	0.000

6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.001
16:0	g	0.036
18:0	g	0.004
Fatty acids, total monounsaturated	g	0.013
16:1 undifferentiated	g	0.001
18:1 undifferentiated	g	0.012
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.097
18:2 undifferentiated	g	0.071
18:3 undifferentiated	g	0.026
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0
Amino acids		
Tryptophan	g	0.021
Threonine	g	0.085
Isoleucine	g	0.103
Leucine	g	0.140
Lysine	g	0.126
Methionine	g	0.025
Cystine	g	0.020
Phenylalanine	g	0.088
Tyrosine	g	0.055
Valine	g	0.110
Arginine	g	0.142
Histidine	g	0.054
Alanine	g	0.090

Aspartic acid	g	0.223
Glutamic acid	g	0.288
Glycine	g	0.077
Proline	g	0.051
Serine	g	0.100
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Potatoes, scalloped, home-prepared with margarine
Refuse: 0%
NDB No: 11844 (Nutrient values and weights are for edible portion)

Nutrient	Units	0.5 X 1 cup ------- 122.5g
Proximates		
Water	g	99.15
Energy	kcal	108
Energy	kJ	450
Protein	g	3.52
Total lipid (fat)	g	4.51
Ash	g	2.12
Carbohydrate, by difference	g	13.21
Fiber, total dietary	g	2.3
Minerals		
Calcium, Ca	mg	70
Iron, Fe	mg	0.70
Magnesium, Mg	mg	23
Phosphorus, P	mg	77
Potassium, K	mg	463
Sodium, Na	mg	410
Zinc, Zn	mg	0.49
Copper, Cu	mg	0.200
Manganese, Mn	mg	0.203

Fluoride, F	mcg	38.6
Selenium, Se	mcg	2.0
Vitamins		
Vitamin C, total ascorbic acid	mg	13.0
Thiamin	mg	0.085
Riboflavin	mg	0.113
Niacin	mg	1.290
Pantothenic acid	mg	0.630
Vitamin B-6	mg	0.218
Folate, total	mcg	13
Folic acid	mcg	2
Folate, food	mcg	11
Folate, DFE	mcg_DFE	16
Vitamin B-12	mcg	0.00
Vitamin A, RAE	mcg_RAE	40
Retinol	mcg	37
Carotene, beta	mcg	37
Vitamin A, IU	IU	184
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Lipids		
Fatty acids, total saturated	g	1.687
4:0	g	0.062
6:0	g	0.034
8:0	g	0.022
10:0	g	0.047
12:0	g	0.053
14:0	g	0.197
16:0	g	0.815
18:0	g	0.410
Fatty acids, total monounsaturated	g	1.656
16:1 undifferentiated	g	0.047
18:1 undifferentiated	g	1.588
Fatty acids, total polyunsaturated	g	0.914
18:2 undifferentiated	g	0.849

18:3 undifferentiated	g	0.073
Cholesterol	mg	7
Amino acids		
Tryptophan	g	0.051
Threonine	g	0.141
Isoleucine	g	0.176
Leucine	g	0.276
Lysine	g	0.235
Methionine	g	0.071
Cystine	g	0.042
Phenylalanine	g	0.165
Tyrosine	g	0.148
Valine	g	0.213
Arginine	g	0.145
Histidine	g	0.086
Alanine	g	0.115
Aspartic acid	g	0.541
Glutamic acid	g	0.709
Glycine	g	0.093
Proline	g	0.247
Serine	g	0.174

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Bread, whole-wheat, commercially prepared
Refuse: 0%
NDB No: 18075 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 slice ------- 28g
Proximates		
Water	g	10.80
Energy	kcal	69
Energy	kJ	290
Protein	g	3.63
Total lipid (fat)	g	0.94

Ash	g	1.07
Carbohydrate, by difference	g	11.56
Fiber, total dietary	g	1.9
Sugars, total	g	1.56
Minerals		
Calcium, Ca	mg	30
Iron, Fe	mg	0.68
Magnesium, Mg	mg	23
Phosphorus, P	mg	57
Potassium, K	mg	69
Sodium, Na	mg	132
Zinc, Zn	mg	0.50
Copper, Cu	mg	0.106
Manganese, Mn	mg	0.598
Selenium, Se	mcg	11.3
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.099
Riboflavin	mg	0.060
Niacin	mg	1.320
Pantothenic acid	mg	0.192
Vitamin B-6	mg	0.059
Folate, total	mcg	14
Folic acid	mcg	0
Folate, food	mcg	14
Folate, DFE	mcg_DFE	14
Choline, total	mg	7.4
Betaine	mg	63.5
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	0
Retinol	mcg	0
Carotene, beta	mcg	1
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0

Vitamin A, IU	IU	1
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	24
Vitamin E (alpha-tocopherol)	mg	0.15
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	2.2
Lipids		
Fatty acids, total saturated	g	0.209
4:0	g	0.000
6:0	g	0.000
8:0	g	0.003
10:0	g	0.000
12:0	g	0.000
14:0	g	0.001
16:0	g	0.151
18:0	g	0.044
20:0	g	0.003
Fatty acids, total monounsaturated	g	0.447
16:1 undifferentiated	g	0.004
18:1 undifferentiated	g	0.439
20:1	g	0.004
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.168
18:2 undifferentiated	g	0.151
18:3 undifferentiated	g	0.017
18:4	g	0.000
20:2 n-6 c,c	g	0.000
20:3 undifferentiated	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0

Amino acids		
Tryptophan	g	0.026
Threonine	g	0.048
Isoleucine	g	0.062
Leucine	g	0.114
Lysine	g	0.046
Methionine	g	0.026
Cystine	g	0.039
Phenylalanine	g	0.079
Tyrosine	g	0.049
Valine	g	0.076
Histidine	g	0.039
Alanine	g	0.060
Aspartic acid	g	0.087
Glutamic acid	g	0.530
Glycine	g	0.068
Proline	g	0.175
Serine	g	0.079
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Muffins, corn, commercially prepared

Refuse: 0%
NDB No: 18279 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 small ------- 66g
Proximates		
Water	g	21.52
Energy	kcal	201
Energy	kJ	842
Protein	g	3.89

Total lipid (fat)	g	5.54
Ash	g	1.39
Carbohydrate, by difference	g	33.59
Fiber, total dietary	g	2.2
Sugars, total	g	4.95
Minerals		
Calcium, Ca	mg	49
Iron, Fe	mg	1.85
Magnesium, Mg	mg	21
Phosphorus, P	mg	187
Potassium, K	mg	46
Sodium, Na	mg	344
Zinc, Zn	mg	0.36
Copper, Cu	mg	0.197
Manganese, Mn	mg	0.234
Selenium, Se	mcg	10.0
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.180
Riboflavin	mg	0.215
Niacin	mg	1.344
Pantothenic acid	mg	0.293
Vitamin B-6	mg	0.055
Folate, total	mcg	53
Folic acid	mcg	30
Folate, food	mcg	22
Folate, DFE	mcg_DFE	74
Choline, total	mg	34.1
Vitamin B-12	mcg	0.06
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	34
Retinol	mcg	32
Carotene, beta	mcg	13
Carotene, alpha	mcg	8
Cryptoxanthin, beta	mcg	0

Vitamin A, IU	IU	137
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	174
Vitamin E (alpha-tocopherol)	mg	0.53
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	1.5
Lipids		
Fatty acids, total saturated	g	0.894
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.014
16:0	g	0.692
18:0	g	0.183
Fatty acids, total monounsaturated	g	1.389
16:1 undifferentiated	g	0.020
18:1 undifferentiated	g	1.366
20:1	g	0.001
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	2.122
18:2 undifferentiated	g	1.994
18:3 undifferentiated	g	0.120
18:4	g	0.000
20:4 undifferentiated	g	0.006
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.001
Cholesterol	mg	17
Amino acids		
Tryptophan	g	0.045
Threonine	g	0.149

Isoleucine	g	0.170
Leucine	g	0.341
Lysine	g	0.184
Methionine	g	0.077
Cystine	g	0.073
Phenylalanine	g	0.196
Tyrosine	g	0.144
Valine	g	0.194
Arginine	g	0.211
Histidine	g	0.100
Alanine	g	0.188
Aspartic acid	g	0.317
Glutamic acid	g	0.875
Glycine	g	0.148
Proline	g	0.315
Serine	g	0.214
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Applesauce, canned, unsweetened, with added ascorbic acid

Refuse: 0%
NDB No: 09401 (Nutrient values and weights are for edible portion)

Nutrient	Units	0.5 X 1 cup ------- 122g
Proximates		
Water	g	107.63
Energy	kcal	51
Energy	kJ	215
Protein	g	0.21
Total lipid (fat)	g	0.12
Ash	g	0.29

Carbohydrate, by difference	g	13.75
Fiber, total dietary	g	1.3
Sugars, total	g	11.46
Sucrose	g	1.38
Glucose (dextrose)	g	2.81
Fructose	g	7.17
Lactose	g	0.00
Maltose	g	0.09
Galactose	g	0.00
Starch	g	0.00
Minerals		
Calcium, Ca	mg	5
Iron, Fe	mg	0.28
Magnesium, Mg	mg	4
Phosphorus, P	mg	6
Potassium, K	mg	90
Sodium, Na	mg	2
Zinc, Zn	mg	0.04
Copper, Cu	mg	0.033
Manganese, Mn	mg	0.031
Selenium, Se	mcg	0.4
Vitamins		
Vitamin C, total ascorbic acid	mg	25.9
Thiamin	mg	0.032
Riboflavin	mg	0.037
Niacin	mg	0.102
Pantothenic acid	mg	0.050
Vitamin B-6	mg	0.033
Folate, total	mcg	4
Folic acid	mcg	0
Folate, food	mcg	4
Folate, DFE	mcg_DFE	4
Choline, total	mg	2.7
Betaine	mg	0.5
Vitamin B-12	mcg	0.00

Vitamin A, RAE	mcg_RAE	1
Retinol	mcg	0
Vitamin A, IU	IU	35
Vitamin E (alpha-tocopherol)	mg	0.20
Tocopherol, beta	mg	0.00
Tocopherol, gamma	mg	0.00
Tocopherol, delta	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	0.6
Lipids		
Fatty acids, total saturated	g	0.010
16:0	g	0.009
18:0	g	0.001
Fatty acids, total monounsaturated	g	0.002
18:1 undifferentiated	g	0.002
Fatty acids, total polyunsaturated	g	0.017
18:2 undifferentiated	g	0.015
18:3 undifferentiated	g	0.004
Cholesterol	mg	0
Amino acids		
Tryptophan	g	0.002
Threonine	g	0.007
Isoleucine	g	0.007
Leucine	g	0.012
Lysine	g	0.012
Methionine	g	0.002
Cystine	g	0.002
Phenylalanine	g	0.006
Tyrosine	g	0.004
Valine	g	0.010
Arginine	g	0.006
Histidine	g	0.004
Alanine	g	0.007
Aspartic acid	g	0.034

Glutamic acid	g	0.021
Glycine	g	0.007
Proline	g	0.007
Serine	g	0.009

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)

Refuse: 0%
NDB No: 01085 (Nutrient values and weights are for edible portion)

Nutrient	Units	8 X 1 fl oz ------- 244.8g
Proximates		
Water	g	222.38
Energy	kcal	83
Energy	kJ	350
Protein	g	8.25
Total lipid (fat)	g	0.20
Ash	g	1.84
Carbohydrate, by difference	g	12.14
Fiber, total dietary	g	0.0
Sugars, total	g	12.46
Sucrose	g	0.00
Glucose (dextrose)	g	0.00
Fructose	g	0.00
Lactose	g	12.46
Maltose	g	0.00
Galactose	g	0.00
Minerals		
Calcium, Ca	mg	299
Iron, Fe	mg	0.07
Magnesium, Mg	mg	27
Phosphorus, P	mg	247
Potassium, K	mg	382
Sodium, Na	mg	103
Zinc, Zn	mg	1.03

Copper, Cu	mg	0.032
Manganese, Mn	mg	0.007
Fluoride, F	mcg	7.6
Selenium, Se	mcg	7.6
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.110
Riboflavin	mg	0.446
Niacin	mg	0.230
Pantothenic acid	mg	0.874
Vitamin B-6	mg	0.091
Folate, total	mcg	12
Folic acid	mcg	0
Folate, food	mcg	12
Folate, DFE	mcg_DFE	12
Choline, total	mg	38.2
Betaine	mg	4.7
Vitamin B-12	mcg	1.22
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	149
Retinol	mcg	149
Carotene, beta	mcg	0
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	499
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	0.02
Vitamin E, added	mg	0.00
Tocopherol, beta	mg	0.00
Tocopherol, gamma	mg	0.00
Tocopherol, delta	mg	0.00
Vitamin D (D2 + D3)	mcg	2.9
Vitamin D3 (cholecalciferol)	mcg	2.9
Vitamin D	IU	115

Vitamin K (phylloquinone)	mcg	0.0
Lipids		
Fatty acids, total saturated	g	0.137
4:0	g	0.010
6:0	g	0.000
8:0	g	0.002
10:0	g	0.005
12:0	g	0.002
14:0	g	0.020
16:0	g	0.061
18:0	g	0.022
Fatty acids, total monounsaturated	g	0.054
16:1 undifferentiated	g	0.007
18:1 undifferentiated	g	0.044
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.007
18:2 undifferentiated	g	0.005
18:3 undifferentiated	g	0.002
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	5
Amino acids		
Tryptophan	g	0.098
Threonine	g	0.201
Isoleucine	g	0.367
Leucine	g	0.800
Lysine	g	0.617
Methionine	g	0.152
Cystine	g	0.301
Phenylalanine	g	0.355
Tyrosine	g	0.362

Valine	g	0.441
Arginine	g	0.176
Histidine	g	0.184
Alanine	g	0.245
Aspartic acid	g	0.595
Glutamic acid	g	1.648
Glycine	g	0.122
Proline	g	0.840
Serine	g	0.411
Hydroxyproline	g	0.000
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Milk, chocolate, fluid, commercial, lowfat, with added vitamin A and vitamin D

Refuse: 0%
NDB No: 01104 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 cup ------- 250g
Proximates		
Water	g	205.85
Energy	kcal	158
Energy	kJ	660
Protein	g	8.10
Total lipid (fat)	g	2.50
Ash	g	2.05
Carbohydrate, by difference	g	26.10
Fiber, total dietary	g	1.2
Sugars, total	g	24.85
Minerals		
Calcium, Ca	mg	290
Iron, Fe	mg	0.68

Magnesium, Mg	mg	32
Phosphorus, P	mg	258
Potassium, K	mg	425
Sodium, Na	mg	152
Zinc, Zn	mg	1.02
Copper, Cu	mg	0.163
Manganese, Mn	mg	0.193
Fluoride, F	mcg	13.0
Selenium, Se	mcg	4.8
Vitamins		
Vitamin C, total ascorbic acid	mg	2.2
Thiamin	mg	0.095
Riboflavin	mg	0.415
Niacin	mg	0.318
Pantothenic acid	mg	0.755
Vitamin B-6	mg	0.102
Folate, total	mcg	12
Folic acid	mcg	0
Folate, food	mcg	12
Folate, DFE	mcg_DFE	12
Choline, total	mg	42.5
Vitamin B-12	mcg	0.80
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	145
Retinol	mcg	145
Carotene, beta	mcg	5
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	490
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	0.05
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	2.8
Vitamin D3 (cholecalciferol)	mcg	2.8

Vitamin D	IU	108
Vitamin K (phylloquinone)	mcg	0.2
Lipids		
Fatty acids, total saturated	g	1.540
4:0	g	0.060
6:0	g	0.035
8:0	g	0.020
10:0	g	0.048
12:0	g	0.052
14:0	g	0.188
16:0	g	0.652
18:0	g	0.440
Fatty acids, total monounsaturated	g	0.750
16:1 undifferentiated	g	0.045
18:1 undifferentiated	g	0.677
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.087
18:2 undifferentiated	g	0.060
18:3 undifferentiated	g	0.028
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	8
Amino acids		
Tryptophan	g	0.115
Threonine	g	0.365
Isoleucine	g	0.490
Leucine	g	0.792
Lysine	g	0.642
Methionine	g	0.203
Cystine	g	0.075
Phenylalanine	g	0.390

Tyrosine	g	0.390
Valine	g	0.542
Arginine	g	0.292
Histidine	g	0.220
Alanine	g	0.280
Aspartic acid	g	0.615
Glutamic acid	g	1.695
Glycine	g	0.172
Proline	g	0.785
Serine	g	0.440
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	5
Theobromine	mg	58

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Milk, buttermilk, fluid, cultured, lowfat

Refuse: 0%
NDB No: 01088 (Nutrient values and weights are for edible portion)

Nutrient	Units	8 X 1 fl oz ------- 244.8g
Proximates		
Water	g	220.64
Energy	kcal	98
Energy	kJ	414
Protein	g	8.10
Total lipid (fat)	g	2.15
Ash	g	2.18
Carbohydrate, by difference	g	11.73
Fiber, total dietary	g	0.0
Sugars, total	g	11.73
Minerals		
Calcium, Ca	mg	284
Iron, Fe	mg	0.12
Magnesium, Mg	mg	27
Phosphorus, P	mg	218

Potassium, K	mg	370
Sodium, Na	mg	257
Zinc, Zn	mg	1.03
Copper, Cu	mg	0.027
Manganese, Mn	mg	0.005
Fluoride, F	mcg	9.8
Selenium, Se	mcg	4.9
Vitamins		
Vitamin C, total ascorbic acid	mg	2.4
Thiamin	mg	0.083
Riboflavin	mg	0.377
Niacin	mg	0.142
Pantothenic acid	mg	0.673
Vitamin B-6	mg	0.083
Folate, total	mcg	12
Folic acid	mcg	0
Folate, food	mcg	12
Folate, DFE	mcg_DFE	12
Choline, total	mg	43.3
Vitamin B-12	mcg	0.54
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	34
Retinol	mcg	32
Carotene, beta	mcg	2
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	115
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	0.12
Vitamin E, added	mg	0.00
Tocopherol, beta	mg	0.05
Tocopherol, gamma	mg	0.07
Tocopherol, delta	mg	0.05
Vitamin D (D2 + D3)	mcg	0.0

Vitamin D3 (cholecalciferol)	mcg	0.0
Vitamin D	IU	2
Vitamin K (phylloquinone)	mcg	0.2
Lipids		
Fatty acids, total saturated	g	1.342
4:0	g	0.071
6:0	g	0.042
8:0	g	0.024
10:0	g	0.054
12:0	g	0.061
14:0	g	0.218
16:0	g	0.565
18:0	g	0.262
Fatty acids, total monounsaturated	g	0.622
16:1 undifferentiated	g	0.049
18:1 undifferentiated	g	0.541
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.081
18:2 undifferentiated	g	0.049
18:3 undifferentiated	g	0.032
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	10
Amino acids		
Tryptophan	g	0.088
Threonine	g	0.387
Isoleucine	g	0.499
Leucine	g	0.805
Lysine	g	0.678
Methionine	g	0.198
Cystine	g	0.076

Phenylalanine	g	0.426
Tyrosine	g	0.340
Valine	g	0.595
Arginine	g	0.308
Histidine	g	0.233
Alanine	g	0.291
Aspartic acid	g	0.646
Glutamic acid	g	1.574
Glycine	g	0.179
Proline	g	0.818
Serine	g	0.421
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Succotash, (corn and limas), cooked, boiled, drained, without salt
NDB No: 11496 (Nutrient values and weights are for edible portion)

Nutrient	Units	0.5 X 1 cup ------- 96g
Proximates		
Water	g	65.64
Energy	kcal	110
Energy	kJ	462
Protein	g	4.87
Total lipid (fat)	g	0.77
Ash	g	1.33
Carbohydrate, by difference	g	23.40
Fiber, total dietary	g	4.3
Minerals		
Calcium, Ca	mg	16
Iron, Fe	mg	1.46
Magnesium, Mg	mg	51
Phosphorus, P	mg	112

Potassium, K	mg	394
Sodium, Na	mg	16
Zinc, Zn	mg	0.60
Copper, Cu	mg	0.172
Manganese, Mn	mg	0.738
Selenium, Se	mcg	0.6
Vitamins		
Vitamin C, total ascorbic acid	mg	7.9
Thiamin	mg	0.161
Riboflavin	mg	0.092
Niacin	mg	1.274
Pantothenic acid	mg	0.544
Vitamin B-6	mg	0.111
Folate, total	mcg	32
Folic acid	mcg	0
Folate, food	mcg	32
Folate, DFE	mcg_DFE	32
Vitamin B-12	mcg	0.00
Vitamin A, RAE	mcg_RAE	14
Retinol	mcg	0
Vitamin A, IU	IU	282
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Lipids		
Fatty acids, total saturated	g	0.142
14:0	g	0.001
16:0	g	0.129
18:0	g	0.012
Fatty acids, total monounsaturated	g	0.149
18:1 undifferentiated	g	0.149
Fatty acids, total polyunsaturated	g	0.366
18:2 undifferentiated	g	0.308
18:3 undifferentiated	g	0.058
Cholesterol	mg	0
Amino acids		

Tryptophan	g	0.055
Threonine	g	0.203
Isoleucine	g	0.275
Leucine	g	0.428
Lysine	g	0.285
Methionine	g	0.065
Cystine	g	0.053
Phenylalanine	g	0.235
Tyrosine	g	0.166
Valine	g	0.296
Arginine	g	0.284
Histidine	g	0.155
Alanine	g	0.268
Aspartic acid	g	0.473
Glutamic acid	g	0.733
Glycine	g	0.194
Proline	g	0.190
Serine	g	0.280

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Bread, white, commercially prepared (includes soft bread crumbs)
Refuse: 0%
NDB No: 18069 (Nutrient values and weights are for edible portion)

Nutrient	Units	2 X 1 oz ------- 56.7g
Proximates		
Water	g	20.66
Energy	kcal	151
Energy	kJ	631
Protein	g	4.33
Total lipid (fat)	g	1.87
Ash	g	1.15
Carbohydrate, by difference	g	28.70
Fiber, total dietary	g	1.4
Sugars, total	g	2.44
Sucrose	g	0.00

Glucose (dextrose)	g	0.78
Fructose	g	1.04
Lactose	g	0.00
Maltose	g	0.62
Galactose	g	0.00
Starch	g	23.03
Minerals		
Calcium, Ca	mg	86
Iron, Fe	mg	2.12
Magnesium, Mg	mg	13
Phosphorus, P	mg	56
Potassium, K	mg	57
Sodium, Na	mg	386
Zinc, Zn	mg	0.42
Copper, Cu	mg	0.143
Manganese, Mn	mg	0.271
Fluoride, F	mcg	27.7
Selenium, Se	mcg	9.8
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.258
Riboflavin	mg	0.188
Niacin	mg	2.486
Pantothenic acid	mg	0.115
Vitamin B-6	mg	0.048
Folate, total	mcg	63
Folic acid	mcg	49
Folate, food	mcg	14
Folate, DFE	mcg_DFE	97
Choline, total	mg	8.3
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	0
Retinol	mcg	0
Carotene, beta	mcg	0

Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	0
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	25
Vitamin E (alpha-tocopherol)	mg	0.12
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	1.8
Lipids		
Fatty acids, total saturated	g	0.407
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.000
15:0	g	0.000
16:0	g	0.215
17:0	g	0.000
18:0	g	0.192
20:0	g	0.000
22:0	g	0.000
24:0	g	0.000
Fatty acids, total monounsaturated	g	0.386
14:1	g	0.000
15:1	g	0.000
16:1 undifferentiated	g	0.000
17:1	g	0.000
18:1 undifferentiated	g	0.386
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.768
18:2 undifferentiated	g	0.689

18:3 undifferentiated	g	0.079
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0
Phytosterols	mg	0
Amino acids		
Tryptophan	g	0.050
Threonine	g	0.128
Isoleucine	g	0.169
Leucine	g	0.302
Lysine	g	0.115
Methionine	g	0.077
Cystine	g	0.092
Phenylalanine	g	0.211
Tyrosine	g	0.125
Valine	g	0.190
Arginine	g	0.159
Histidine	g	0.094
Alanine	g	0.149
Aspartic acid	g	0.205
Glutamic acid	g	1.400
Glycine	g	0.154
Proline	g	0.467
Serine	g	0.208
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Oranges, raw, navels

Refuse: 32% (Peel and navel)
Scientific Name: *Citrus sinensis*
NDB No: 09202 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 NLEA serving ------- 154g
Proximates		
Water	g	132.39
Energy	kcal	75
Energy	kJ	319
Protein	g	1.40
Total lipid (fat)	g	0.23
Ash	g	0.66
Carbohydrate, by difference	g	19.31
Fiber, total dietary	g	3.4
Sugars, total	g	13.09
Sucrose	g	6.59
Glucose (dextrose)	g	3.03
Fructose	g	3.46
Lactose	g	0.00
Maltose	g	0.00
Galactose	g	0.00
Starch	g	0.00
Minerals		
Calcium, Ca	mg	66
Iron, Fe	mg	0.20
Magnesium, Mg	mg	17
Phosphorus, P	mg	35
Potassium, K	mg	256
Sodium, Na	mg	2
Zinc, Zn	mg	0.12
Copper, Cu	mg	0.060
Manganese, Mn	mg	0.045
Selenium, Se	mcg	0.0

Vitamins		
Vitamin C, total ascorbic acid	mg	91.0
Thiamin	mg	0.105
Riboflavin	mg	0.079
Niacin	mg	0.655
Pantothenic acid	mg	0.402
Vitamin B-6	mg	0.122
Folate, total	mcg	52
Folic acid	mcg	0
Folate, food	mcg	52
Folate, DFE	mcg_DFE	52
Choline, total	mg	12.9
Betaine	mg	0.2
Vitamin B-12	mcg	0.00
Vitamin A, RAE	mcg_RAE	18
Retinol	mcg	0
Carotene, beta	mcg	134
Carotene, alpha	mcg	11
Cryptoxanthin, beta	mcg	179
Vitamin A, IU	IU	380
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	199
Vitamin E (alpha-tocopherol)	mg	0.23
Tocopherol, beta	mg	0.00
Tocopherol, gamma	mg	0.00
Tocopherol, delta	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	0.0
Lipids		
Fatty acids, total saturated	g	0.026
16:0	g	0.026
Fatty acids, total monounsaturated	g	0.046
16:1 undifferentiated	g	0.005
18:1 undifferentiated	g	0.040

Fatty acids, total polyunsaturated	g	0.048
18:2 undifferentiated	g	0.035
18:3 undifferentiated	g	0.014
Cholesterol	mg	0
Phytosterols	mg	37
Amino acids		
Tryptophan	g	0.014
Threonine	g	0.028
Isoleucine	g	0.026
Leucine	g	0.045
Lysine	g	0.059
Methionine	g	0.014
Cystine	g	0.015
Phenylalanine	g	0.082
Tyrosine	g	0.020
Valine	g	0.040
Arginine	g	0.177
Histidine	g	0.020
Alanine	g	0.049
Aspartic acid	g	0.214
Glutamic acid	g	0.380
Glycine	g	0.035
Proline	g	0.279
Serine	g	0.057

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Beef, cured, smoked, chopped beef

Refuse: 0%
NDB No: 13358 (Nutrient values and weights are for edible portion)

Nutrient	Units	3 X 1 slice (1 oz) ------- 84g
Proximates		
Water	g	57.90

Energy	kcal	112
Energy	kJ	467
Protein	g	16.96
Total lipid (fat)	g	3.71
Ash	g	3.86
Carbohydrate, by difference	g	1.56
Fiber, total dietary	g	0.0
Minerals		
Calcium, Ca	mg	7
Iron, Fe	mg	2.39
Magnesium, Mg	mg	18
Phosphorus, P	mg	152
Potassium, K	mg	317
Sodium, Na	mg	1057
Zinc, Zn	mg	3.30
Copper, Cu	mg	0.022
Manganese, Mn	mg	0.024
Selenium, Se	mcg	16.5
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.070
Riboflavin	mg	0.147
Niacin	mg	3.845
Pantothenic acid	mg	0.496
Vitamin B-6	mg	0.294
Folate, total	mcg	7
Folic acid	mcg	0
Folate, food	mcg	7
Folate, DFE	mcg_DFE	7
Vitamin B-12	mcg	1.45
Vitamin A, RAE	mcg_RAE	0
Retinol	mcg	0
Vitamin A, IU	IU	0
Lipids		
Fatty acids, total saturated	g	1.520

4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.017
12:0	g	0.017
14:0	g	0.092
16:0	g	0.790
18:0	g	0.554
Fatty acids, total monounsaturated	g	1.537
16:1 undifferentiated	g	0.218
18:1 undifferentiated	g	1.319
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.193
18:2 undifferentiated	g	0.160
18:3 undifferentiated	g	0.034
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	39
Phytosterols	mg	0
Amino acids		
Tryptophan	g	0.139
Threonine	g	0.711
Isoleucine	g	0.695
Leucine	g	1.267
Lysine	g	1.383
Methionine	g	0.410
Cystine	g	0.201
Phenylalanine	g	0.635
Tyrosine	g	0.512
Valine	g	0.779
Arginine	g	1.145

Histidine	g	0.491
Alanine	g	1.121
Aspartic acid	g	1.506
Glutamic acid	g	2.444
Glycine	g	1.259
Proline	g	0.922
Serine	g	0.692

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Salad dressing, italian dressing, commercial, regular

Refuse: 0%
NDB No: 04114 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 tbsp ------- 14.7g
Proximates		
Water	g	8.29
Energy	kcal	43
Energy	kJ	179
Protein	g	0.06
Total lipid (fat)	g	4.17
Ash	g	0.65
Carbohydrate, by difference	g	1.53
Fiber, total dietary	g	0.0
Sugars, total	g	1.22
Sucrose	g	0.00
Glucose (dextrose)	g	0.69
Fructose	g	0.54
Lactose	g	0.00
Maltose	g	0.00

Galactose	g	0.00
Starch	g	0.00
Minerals		
Calcium, Ca	mg	1
Iron, Fe	mg	0.09
Magnesium, Mg	mg	0
Phosphorus, P	mg	1
Potassium, K	mg	7
Sodium, Na	mg	243
Zinc, Zn	mg	0.02
Copper, Cu	mg	0.000
Manganese, Mn	mg	0.002
Selenium, Se	mcg	0.3
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.002
Riboflavin	mg	0.003
Niacin	mg	0.000
Pantothenic acid	mg	0.000
Vitamin B-6	mg	0.009
Folate, total	mcg	0
Folic acid	mcg	0
Folate, food	mcg	0
Folate, DFE	mcg_DFE	0
Choline, total	mg	0.4
Betaine	mg	0.0
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	0
Retinol	mcg	0
Carotene, beta	mcg	3
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	5
Lycopene	mcg	2

Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	0.73
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	8.2
Lipids		
Fatty acids, total saturated	g	0.658
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.000
16:0	g	0.485
17:0	g	0.000
18:0	g	0.140
20:0	g	0.011
22:0	g	0.022
24:0	g	0.000
Fatty acids, total monounsaturated	g	0.928
14:1	g	0.000
15:1	g	0.000
16:1 undifferentiated	g	0.000
17:1	g	0.000
18:1 undifferentiated	g	0.928
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	1.902
18:2 undifferentiated	g	1.694
18:3 undifferentiated	g	0.208
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000

22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0
Amino acids		
Tryptophan	g	0.000
Threonine	g	0.000
Isoleucine	g	0.000
Leucine	g	0.000
Lysine	g	0.000
Methionine	g	0.000
Cystine	g	0.000
Phenylalanine	g	0.000
Tyrosine	g	0.000
Valine	g	0.000
Arginine	g	0.000
Histidine	g	0.000
Alanine	g	0.000
Aspartic acid	g	0.000
Glutamic acid	g	0.008
Glycine	g	0.000
Proline	g	0.000
Serine	g	0.000
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Mayonnaise dressing, no cholesterol

Refuse: 0%
NDB No: 43598 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 tbsp ------- 15g
Proximates		

Water	g	3.25
Energy	kcal	103
Energy	kJ	432
Protein	g	0.00
Total lipid (fat)	g	11.67
Ash	g	0.06
Carbohydrate, by difference	g	0.04
Fiber, total dietary	g	0.0
Sugars, total	g	0.04
Minerals		
Calcium, Ca	mg	1
Iron, Fe	mg	0.03
Magnesium, Mg	mg	0
Phosphorus, P	mg	4
Potassium, K	mg	2
Sodium, Na	mg	73
Zinc, Zn	mg	0.02
Copper, Cu	mg	0.000
Selenium, Se	mcg	0.2
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.002
Riboflavin	mg	0.009
Niacin	mg	0.002
Vitamin B-6	mg	0.002
Folate, total	mcg	0
Folic acid	mcg	0
Folate, food	mcg	0
Folate, DFE	mcg_DFE	0
Choline, total	mg	0.1
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	0
Retinol	mcg	0
Carotene, beta	mcg	0

Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	0
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	1.77
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	3.7
Lipids		
Fatty acids, total saturated	g	1.618
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.000
16:0	g	1.104
18:0	g	0.443
Fatty acids, total monounsaturated	g	2.704
16:1 undifferentiated	g	0.000
18:1 undifferentiated	g	2.704
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	6.831
18:2 undifferentiated	g	6.085
18:3 undifferentiated	g	0.745
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0
Other		

Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Lettuce, iceberg (includes crisphead types), raw

Refuse: 5% (Core)
Scientific Name: *Lactuca sativa var. capitata*
NDB No: 11252 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 100 grams	Number of Data Points	Std. Error	0.5 X 1 cup, chopped (1/2" pieces, loosely packed) ------- 28.5g
Proximates					
Water	g	95.64	44	0.110	27.26
Energy	kcal	14	0		4
Energy	kJ	58	0		17
Protein	g	0.90	23	0.034	0.26
Total lipid (fat)	g	0.14	30	0.010	0.04
Ash	g	0.36	23	0.018	0.10
Carbohydrate, by difference	g	2.97	0		0.85
Fiber, total dietary	g	1.2	14	0.052	0.3
Sugars, total	g	1.97	0		0.56
Sucrose	g	0.05	8	0.013	0.01
Glucose (dextrose)	g	0.91	8	0.061	0.26
Fructose	g	1.00	8	0.060	0.28
Lactose	g	0.00	5	0.000	0.00
Maltose	g	0.00	5	0.000	0.00
Galactose	g	0.00	4	0.000	0.00
Minerals					
Calcium, Ca	mg	18	98	0.430	5
Iron, Fe	mg	0.41	97	0.041	0.12

Magnesium, Mg	mg	7	99	0.173	2
Phosphorus, P	mg	20	98	0.404	6
Potassium, K	mg	141	98	3.016	40
Sodium, Na	mg	10	91	0.544	3
Zinc, Zn	mg	0.15	93	0.004	0.04
Copper, Cu	mg	0.025	86	0.002	0.007
Manganese, Mn	mg	0.125	89	0.004	0.036
Selenium, Se	mcg	0.1	63	0.025	0.0
Vitamins					
Vitamin C, total ascorbic acid	mg	2.8	23	0.167	0.8
Thiamin	mg	0.041	23	0.003	0.012
Riboflavin	mg	0.025	23	0.001	0.007
Niacin	mg	0.123	13	0.015	0.035
Pantothenic acid	mg	0.091	13	0.015	0.026
Vitamin B-6	mg	0.042	23	0.002	0.012
Folate, total	mcg	29	23	3.832	8
Folic acid	mcg	0	0		0
Folate, food	mcg	29	23	3.832	8
Folate, DFE	mcg_DFE	29	0		8
Choline, total	mg	6.7	0		1.9
Betaine	mg	0.1	2		0.0
Vitamin B-12	mcg	0.00	0		0.00
Vitamin B-12, added	mcg	0.00	0		0.00
Vitamin A, RAE	mcg_RAE	25	0		7
Retinol	mcg	0	0		0
Carotene, beta	mcg	299	53	4.178	85
Carotene, alpha	mcg	4	51	0.000	1
Cryptoxanthin, beta	mcg	0	51	0.000	0
Vitamin A, IU	IU	502	0		143
Lycopene	mcg	0	9	0.000	0
Lutein + zeaxanthin	mcg	277	9	25.027	79
Vitamin E (alpha-tocopherol)	mg	0.18	13	0.016	0.05
Vitamin E, added	mg	0.00	0		0.00
Tocopherol, beta	mg	0.00	13	0.000	0.00
Tocopherol, gamma	mg	0.09	13	0.013	0.03

Tocopherol, delta	mg	0.00	13	0.002	0.00
Vitamin D (D2 + D3)	mcg	0.0	0		0.0
Vitamin D	IU	0	0		0
Vitamin K (phylloquinone)	mcg	24.1	8	2.330	6.9
Lipids					
Fatty acids, total saturated	g	0.018	0		0.005
4:0	g	0.000	0		0.000
6:0	g	0.000	0		0.000
8:0	g	0.000	0		0.000
10:0	g	0.000	0		0.000
12:0	g	0.000	0		0.000
14:0	g	0.000	0		0.000
16:0	g	0.016	0		0.005
18:0	g	0.002	0		0.001
Fatty acids, total monounsaturated	g	0.006	0		0.002
16:1 undifferentiated	g	0.001	0		0.000
18:1 undifferentiated	g	0.004	0		0.001
20:1	g	0.000	0		0.000
22:1 undifferentiated	g	0.000	0		0.000
Fatty acids, total polyunsaturated	g	0.074	0		0.021
18:2 undifferentiated	g	0.021	0		0.006
18:3 undifferentiated	g	0.052	0		0.015
18:4	g	0.000	0		0.000
20:4 undifferentiated	g	0.000	0		0.000
20:5 n-3 (EPA)	g	0.000	0		0.000
22:5 n-3 (DPA)	g	0.000	0		0.000
22:6 n-3 (DHA)	g	0.000	0		0.000
Cholesterol	mg	0	0		0
Phytosterols	mg	10	0		3
Amino acids					
Tryptophan	g	0.009	0		0.003
Threonine	g	0.025	0		0.007
Isoleucine	g	0.018	0		0.005
Leucine	g	0.025	0		0.007
Lysine	g	0.024	0		0.007

Methionine	g	0.005	0		0.001
Cystine	g	0.005	0		0.001
Phenylalanine	g	0.023	0		0.007
Tyrosine	g	0.007	0		0.002
Valine	g	0.024	0		0.007
Arginine	g	0.015	0		0.004
Histidine	g	0.009	0		0.003
Alanine	g	0.025	0		0.007
Aspartic acid	g	0.125	0		0.036
Glutamic acid	g	0.194	0		0.055
Glycine	g	0.015	0		0.004
Proline	g	0.010	0		0.003
Serine	g	0.025	0		0.007
Other					
Alcohol, ethyl	g	0.0	0		0.0
Caffeine	mg	0	0		0
Theobromine	mg	0	0		0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Orange juice, chilled, includes from concentrate, fortified with calcium and vitamin D

Refuse: 0%
NDB No: 09210 (Nutrient values and weights are for edible portion)

Nutrient	Units	4 X 1 fl oz ------- 124.4g
Proximates		
Water	g	108.50
Energy	kcal	58
Energy	kJ	248
Protein	g	0.85
Total lipid (fat)	g	0.15
Ash	g	0.88
Carbohydrate, by difference	g	14.02
Fiber, total dietary	g	0.4
Sugars, total	g	10.34

Sucrose	g	4.99
Glucose (dextrose)	g	2.59
Fructose	g	2.77
Lactose	g	0.00
Maltose	g	0.00
Galactose	g	0.00
Minerals		
Calcium, Ca	mg	250
Iron, Fe	mg	0.16
Magnesium, Mg	mg	14
Phosphorus, P **(1)**	mg	58
Potassium, K	mg	221
Sodium, Na	mg	2
Zinc, Zn	mg	0.09
Copper, Cu	mg	0.052
Manganese, Mn	mg	0.029
Selenium, Se	mcg	0.1
Vitamins		
Vitamin C, total ascorbic acid	mg	41.8
Thiamin	mg	0.057
Riboflavin	mg	0.049
Niacin	mg	0.348
Pantothenic acid	mg	0.243
Vitamin B-6	mg	0.095
Folate, total	mcg	24
Folic acid	mcg	0
Folate, food	mcg	24
Folate, DFE	mcg_DFE	24
Choline, total	mg	7.7
Betaine	mg	0.2
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	2
Retinol	mcg	0
Carotene, beta	mcg	10

Carotene, alpha	mcg	10
Cryptoxanthin, beta	mcg	34
Vitamin A, IU	IU	52
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	34
Vitamin E (alpha-tocopherol)	mg	0.25
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	1.7
Vitamin D3 (cholecalciferol)	mcg	1.7
Vitamin D	IU	68
Vitamin K (phylloquinone)	mcg	0.0
Lipids		
Fatty acids, total saturated	g	0.017
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.000
16:0	g	0.017
18:0	g	0.000
Fatty acids, total monounsaturated	g	0.027
16:1 undifferentiated	g	0.004
18:1 undifferentiated	g	0.022
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.037
18:2 undifferentiated	g	0.029
18:3 undifferentiated	g	0.009
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0

Amino acids		
Tryptophan	g	0.002
Threonine	g	0.011
Isoleucine	g	0.005
Leucine	g	0.019
Lysine	g	0.025
Methionine	g	0.002
Cystine	g	0.002
Phenylalanine	g	0.014
Tyrosine	g	0.005
Valine	g	0.016
Arginine	g	0.100
Histidine	g	0.004
Alanine	g	0.022
Aspartic acid	g	0.132
Glutamic acid	g	0.051
Glycine	g	0.015
Proline	g	0.098
Serine	g	0.027
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

Footnotes:
1 Phosphorus content varies among brands depending upon the calcium compound used (calcium phosphate, calcium citrate, etc.).
USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Cheese, pasteurized process, american, low fat

Refuse: 0%
NDB No: 43275 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 slice (3/4 oz) -------

		21g
Proximates		
Water	g	12.37
Energy	kcal	38
Energy	kJ	158
Protein	g	5.17
Total lipid (fat)	g	1.47
Ash	g	1.26
Carbohydrate, by difference	g	0.73
Fiber, total dietary	g	0.0
Sugars, total	g	0.12
Minerals		
Calcium, Ca	mg	144
Iron, Fe	mg	0.09
Magnesium, Mg	mg	5
Phosphorus, P	mg	174
Potassium, K	mg	38
Sodium, Na	mg	300
Zinc, Zn	mg	0.70
Copper, Cu	mg	0.007
Selenium, Se	mcg	3.5
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.006
Riboflavin	mg	0.082
Niacin	mg	0.017
Vitamin B-6	mg	0.017
Folate, total	mcg	2
Folic acid	mcg	0
Folate, food	mcg	2
Folate, DFE	mcg_DFE	2
Choline, total	mg	7.6
Vitamin B-12	mcg	0.16
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	12

Retinol	mcg	12
Carotene, beta	mcg	4
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	45
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	0.06
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D3 (cholecalciferol)	mcg	0.0
Vitamin D	IU	1
Vitamin K (phylloquinone)	mcg	0.6
Lipids		
Fatty acids, total saturated	g	0.926
4:0	g	0.049
6:0	g	0.017
8:0	g	0.018
10:0	g	0.030
12:0	g	0.023
14:0	g	0.151
16:0	g	0.428
18:0	g	0.179
Fatty acids, total monounsaturated	g	0.421
16:1 undifferentiated	g	0.049
18:1 undifferentiated	g	0.353
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.047
18:2 undifferentiated	g	0.029
18:3 undifferentiated	g	0.018
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000

22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	7
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Turkey breast, low salt, prepackaged or deli, luncheon meat

Refuse: 0%
NDB No: 07046 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 100 grams	Number of Data Points	Std. Error	0.5 X 2 oz ------- 28.5g
Proximates					
Water	g	74.07	0		21.11
Energy	kcal	99	0		28
Energy	kJ	415	0		118
Protein	g	22.81	1		6.50
Total lipid (fat)	g	0.88	1		0.25
Ash	g	2.99	0		0.85
Carbohydrate, by difference	g	0.00	0		0.00
Fiber, total dietary	g	0.5	0		0.1
Sugars, total	g	3.51	0		1.00
Minerals					
Calcium, Ca	mg	8	0		2
Iron, Fe	mg	0.63	1		0.18
Magnesium, Mg	mg	21	0		6
Phosphorus, P	mg	162	0		46
Potassium, K	mg	211	1		60
Sodium, Na	mg	772	1		220
Zinc, Zn	mg	1.33	0		0.38
Copper, Cu	mg	0.057	0		0.016
Manganese, Mn	mg	0.018	0		0.005

Selenium, Se	mcg	22.8	0		6.5
Vitamins					
Vitamin C, total ascorbic acid	mg	5.7	0		1.6
Thiamin	mg	0.130	0		0.037
Riboflavin	mg	0.320	0		0.091
Niacin	mg	0.110	0		0.031
Pantothenic acid	mg	0.166	0		0.047
Vitamin B-6	mg	0.128	0		0.036
Folate, total	mcg	4	0		1
Folic acid	mcg	0	0		0
Folate, food	mcg	4	0		1
Folate, DFE	mcg_DFE	4	0		1
Choline, total	mg	66.4	0		18.9
Betaine	mg	4.8	0		1.4
Vitamin B-12	mcg	0.09	0		0.03
Vitamin B-12, added	mcg	0.00	0		0.00
Vitamin A, RAE	mcg_RAE	10	0		3
Retinol	mcg	10	0		3
Carotene, beta	mcg	0	0		0
Carotene, alpha	mcg	0	0		0
Cryptoxanthin, beta	mcg	0	0		0
Vitamin A, IU	IU	33	0		9
Lycopene	mcg	0	0		0
Lutein + zeaxanthin	mcg	0	0		0
Vitamin E (alpha-tocopherol)	mg	0.09	0		0.03
Vitamin E, added	mg	0.00	0		0.00
Tocopherol, beta	mg	0.00	0		0.00
Tocopherol, gamma	mg	0.00	0		0.00
Tocopherol, delta	mg	0.00	0		0.00
Vitamin D (D2 + D3)	mcg	0.1	0		0.0
Vitamin D3 (cholecalciferol)	mcg	0.1	0		0.0
Vitamin D	IU	2	0		1
Vitamin K (phylloquinone)	mcg	0.0	0		0.0
Lipids					
Fatty acids, total saturated	g	0.198	0		0.056

4:0	g	0.000	0		0.000
6:0	g	0.000	0		0.000
8:0	g	0.000	0		0.000
10:0	g	0.000	0		0.000
12:0	g	0.000	0		0.000
14:0	g	0.005	0		0.001
16:0	g	0.146	0		0.042
18:0	g	0.048	0		0.014
Fatty acids, total monounsaturated	g	0.294	0		0.084
16:1 undifferentiated	g	0.050	0		0.014
18:1 undifferentiated	g	0.244	0		0.070
20:1	g	0.000	0		0.000
22:1 undifferentiated	g	0.000	0		0.000
Fatty acids, total polyunsaturated	g	0.186	0		0.053
18:2 undifferentiated	g	0.161	0		0.046
18:3 undifferentiated	g	0.010	0		0.003
18:4	g	0.000	0		0.000
20:4 undifferentiated	g	0.010	0		0.003
20:5 n-3 (EPA)	g	0.000	0		0.000
22:5 n-3 (DPA)	g	0.003	0		0.001
22:6 n-3 (DHA)	g	0.003	0		0.001
Fatty acids, total trans	g	0.000	0		0.000
Cholesterol	mg	44	1		13
Phytosterols	mg	0	0		0
Amino acids					
Tryptophan	g	0.194	0		0.055
Threonine	g	0.759	0		0.216
Isoleucine	g	0.888	0		0.253
Leucine	g	1.360	0		0.388
Lysine	g	1.609	0		0.459
Methionine	g	0.495	0		0.141
Cystine	g	0.178	0		0.051
Phenylalanine	g	0.678	0		0.193
Tyrosine	g	0.675	0		0.192
Valine	g	0.907	0		0.258

Arginine	g	1.191	0		0.339
Histidine	g	0.533	0		0.152
Alanine	g	1.057	0		0.301
Aspartic acid	g	1.658	0		0.473
Glutamic acid	g	2.786	0		0.794
Glycine	g	0.847	0		0.241
Proline	g	0.711	0		0.203
Serine	g	0.759	0		0.216
Hydroxyproline	g	0.000	0		0.000
Other					
Alcohol, ethyl	g	0.0	0		0.0
Caffeine	mg	0	0		0
Theobromine	mg	0	0		0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Pork, cured, ham and water product, whole, boneless, separable lean and fat, unheated

Refuse: 0%
NDB No: 10905 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 oz whole ------- 28.35g
Proximates		
Water	g	20.68
Energy	kcal	33
Energy	kJ	139
Protein	g	3.98
Total lipid (fat)	g	1.41
Ash	g	1.13
Carbohydrate, by difference	g	1.13
Fiber, total dietary	g	0.0
Sugars, total	g	1.19
Sucrose	g	0.00
Glucose (dextrose)	g	1.03

Fructose	g	0.12
Lactose	g	0.00
Maltose	g	0.04
Galactose	g	0.00
Minerals		
Calcium, Ca	mg	2
Iron, Fe	mg	0.22
Magnesium, Mg	mg	5
Phosphorus, P	mg	65
Potassium, K	mg	76
Sodium, Na	mg	371
Zinc, Zn	mg	0.45
Copper, Cu	mg	0.030
Manganese, Mn	mg	0.011
Selenium, Se	mcg	8.3
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.081
Riboflavin	mg	0.041
Niacin	mg	1.096
Pantothenic acid	mg	0.187
Vitamin B-6	mg	0.083
Folate, total	mcg	1
Folic acid	mcg	0
Folate, food	mcg	1
Folate, DFE	mcg_DFE	1
Choline, total	mg	18.4
Betaine	mg	0.9
Vitamin B-12	mcg	0.10
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	4
Retinol	mcg	4
Carotene, beta	mcg	0
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0

Vitamin A, IU	IU	13
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	0.04
Vitamin E, added	mg	0.00
Tocopherol, beta	mg	0.01
Tocopherol, gamma	mg	0.01
Tocopherol, delta	mg	0.00
Vitamin D (D2 + D3)	mcg	0.2
Vitamin D3 (cholecalciferol)	mcg	0.2
Vitamin D	IU	7
Vitamin K (phylloquinone)	mcg	0.0
Lipids		
Fatty acids, total saturated	g	0.422
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.016
15:0	g	0.000
16:0	g	0.270
17:0	g	0.003
18:0	g	0.130
20:0	g	0.000
22:0	g	0.003
Fatty acids, total monounsaturated	g	0.595
14:1	g	0.000
15:1	g	0.000
16:1 undifferentiated	g	0.035
17:1	g	0.000
18:1 undifferentiated	g	0.551
18:1 c	g	0.544
18:1 t	g	0.007
20:1	g	0.010

22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.187
18:2 undifferentiated	g	0.161
18:2 n-6 c,c	g	0.157
18:2 t,t	g	0.004
18:3 undifferentiated	g	0.007
18:3 n-3 c,c,c (ALA)	g	0.007
18:3 n-6 c,c,c	g	0.000
18:4	g	0.000
20:2 n-6 c,c	g	0.007
20:3 undifferentiated	g	0.000
20:4 undifferentiated	g	0.013
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Fatty acids, total trans	g	0.000
Fatty acids, total trans-monoenoic	g	0.000
Cholesterol	mg	12
Amino acids		
Tryptophan	g	0.037
Threonine	g	0.178
Isoleucine	g	0.180
Leucine	g	0.319
Lysine	g	0.337
Methionine	g	0.095
Cystine	g	0.045
Phenylalanine	g	0.159
Tyrosine	g	0.129
Valine	g	0.202
Arginine	g	0.255
Histidine	g	0.174
Alanine	g	0.235
Aspartic acid	g	0.348
Glutamic acid	g	0.570
Glycine	g	0.208

Proline	g	0.171
Serine	g	0.156
Hydroxyproline	g	0.026
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

USDA Commodity pears, canned, juice pack, drained

Refuse: 0%
Common Name: *Commodity codes A437, A434, A431, A433*
NDB No: 09439 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 113 grams	Number of Data Points
Proximates			
Water	g	97.47	4
Energy	kcal	58	0
Energy	kJ	238	0
Protein	g	0.38	4
Total lipid (fat)	g	0.21	4
Ash	g	0.33	4
Carbohydrate, by difference	g	14.59	0
Fiber, total dietary	g	2.5	4
Sugars, total	g	9.35	4
Sucrose	g	0.76	4
Glucose (dextrose)	g	2.27	4
Fructose	g	6.10	4
Lactose	g	0.00	4
Maltose	g	0.23	4
Galactose	g	0.00	4
Minerals			
Calcium, Ca	mg	10	4

Iron, Fe	mg	0.38	4
Magnesium, Mg	mg	8	4
Phosphorus, P	mg	10	4
Potassium, K	mg	112	4
Sodium, Na	mg	5	4
Zinc, Zn	mg	0.16	4
Copper, Cu	mg	0.034	4
Manganese, Mn	mg	0.047	4
Vitamins			
Vitamin C, total ascorbic acid	mg	0.3	4
Thiamin	mg	0.023	4
Riboflavin	mg	0.052	4
Niacin	mg	0.246	4
Pantothenic acid	mg	0.046	4
Vitamin B-6	mg	0.018	4
Folate, total	mcg	1	4
Folic acid	mcg	0	0
Folate, food	mcg	1	4
Folate, DFE	mcg_DFE	1	0
Vitamin E (alpha-tocopherol)	mg	0.23	4
Tocopherol, beta	mg	0.01	4
Tocopherol, gamma	mg	0.00	4
Tocopherol, delta	mg	0.00	4
Vitamin K (phylloquinone)	mcg	0.3	4
Lipids			

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Salad dressing, coleslaw

Refuse: 0%
NDB No: 43016 (Nutrient values and weights are for edible portion)

Nutrient	Units	2 X 1 tbsp ------- 32g
Proximates		
Water	g	12.77

Energy	kcal	125
Energy	kJ	522
Protein	g	0.29
Total lipid (fat)	g	10.69
Ash	g	0.64
Carbohydrate, by difference	g	7.62
Fiber, total dietary	g	0.0
Sugars, total	g	6.44
Minerals		
Calcium, Ca	mg	4
Iron, Fe	mg	0.06
Magnesium, Mg	mg	1
Phosphorus, P	mg	8
Potassium, K	mg	3
Sodium, Na	mg	227
Zinc, Zn	mg	0.06
Copper, Cu	mg	0.004
Manganese, Mn	mg	0.035
Selenium, Se	mcg	0.5
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.003
Riboflavin	mg	0.006
Niacin	mg	0.000
Pantothenic acid	mg	0.042
Vitamin B-6	mg	0.006
Folate, total	mcg	4
Folic acid	mcg	0
Folate, food	mcg	4
Folate, DFE	mcg_DFE	4
Choline, total	mg	4.9
Vitamin B-12	mcg	0.07
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	5
Retinol	mcg	5

Carotene, beta	mcg	1
Carotene, alpha	mcg	1
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	20
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	15
Vitamin E (alpha-tocopherol)	mg	0.99
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	1
Vitamin K (phylloquinone)	mcg	20.4
Lipids		
Fatty acids, total saturated	g	1.568
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.032
14:0	g	0.000
16:0	g	1.120
18:0	g	0.448
Fatty acids, total monounsaturated	g	2.880
16:1 undifferentiated	g	0.000
18:1 undifferentiated	g	2.880
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	5.760
18:2 undifferentiated	g	5.120
18:3 undifferentiated	g	0.640
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	8

Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Salad Dressing, coleslaw dressing, reduced fat

Refuse: 0%
NDB No: 42230 (Nutrient values and weights are for edible portion)

Nutrient	Units	2 X 1 tbsp ------- 34g
Proximates		
Water	g	12.58
Energy	kcal	112
Energy	kJ	468
Protein	g	0.00
Total lipid (fat)	g	6.80
Ash	g	1.02
Carbohydrate, by difference	g	13.60
Fiber, total dietary	g	0.1
Sugars, total	g	13.17
Minerals		
Calcium, Ca	mg	12
Iron, Fe	mg	0.09
Magnesium, Mg	mg	2
Phosphorus, P	mg	10
Potassium, K	mg	17
Sodium, Na	mg	544
Zinc, Zn	mg	0.06
Copper, Cu	mg	0.000
Manganese, Mn	mg	0.001
Selenium, Se	mcg	0.5
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.003

Riboflavin	mg	0.003
Niacin	mg	0.085
Pantothenic acid	mg	0.000
Vitamin B-6	mg	0.007
Folate, total	mcg	0
Folic acid	mcg	0
Folate, food	mcg	0
Folate, DFE	mcg_DFE	0
Choline, total	mg	5.2
Vitamin B-12	mcg	0.03
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	0
Retinol	mcg	0
Carotene, beta	mcg	0
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	0
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	0.63
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	13.4
Lipids		
Fatty acids, total saturated	g	1.013
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.007
16:0	g	0.666
18:0	g	0.340
Fatty acids, total monounsaturated	g	2.924

16:1 undifferentiated	g	0.027
18:1 undifferentiated	g	2.890
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	2.557
18:2 undifferentiated	g	2.373
18:3 undifferentiated	g	0.177
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	8
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)
Cabbage, raw

Refuse: 20% (Outer leaves and core)
Scientific Name: *Brassica oleracea (Capitata Group)*
NDB No: 11109 (Nutrient values and weights are for edible portion)

Nutrient	Units	0.5 X 1 cup, shredded ------- 35g
Proximates		
Water	g	32.26
Energy	kcal	9
Energy	kJ	36
Protein	g	0.45
Total lipid (fat)	g	0.04
Ash	g	0.22
Carbohydrate, by difference	g	2.03
Fiber, total dietary	g	0.9

Sugars, total	g	1.12
Sucrose	g	0.03
Glucose (dextrose)	g	0.58
Fructose	g	0.51
Lactose	g	0.00
Maltose	g	0.00
Galactose	g	0.00
Starch	g	0.00
Minerals		
Calcium, Ca	mg	14
Iron, Fe	mg	0.16
Magnesium, Mg	mg	4
Phosphorus, P	mg	9
Potassium, K	mg	60
Sodium, Na	mg	6
Zinc, Zn	mg	0.06
Copper, Cu	mg	0.007
Manganese, Mn	mg	0.056
Fluoride, F	mcg	0.3
Selenium, Se	mcg	0.1
Vitamins		
Vitamin C, total ascorbic acid	mg	12.8
Thiamin	mg	0.021
Riboflavin	mg	0.014
Niacin	mg	0.082
Pantothenic acid	mg	0.074
Vitamin B-6	mg	0.043
Folate, total	mcg	15
Folic acid	mcg	0
Folate, food	mcg	15
Folate, DFE	mcg_DFE	15
Choline, total	mg	3.7
Betaine	mg	0.1
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00

Vitamin A, RAE	mcg_RAE	2
Retinol	mcg	0
Carotene, beta	mcg	15
Carotene, alpha	mcg	12
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	34
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	10
Vitamin E (alpha-tocopherol)	mg	0.05
Vitamin E, added	mg	0.00
Tocopherol, beta	mg	0.00
Tocopherol, gamma	mg	0.00
Tocopherol, delta	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	26.6
Lipids		
Fatty acids, total saturated	g	0.012
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.000
15:0	g	0.000
16:0	g	0.012
17:0	g	0.000
18:0	g	0.000
20:0	g	0.000
22:0	g	0.000
24:0	g	0.000
Fatty acids, total monounsaturated	g	0.006
14:1	g	0.000
15:1	g	0.000
16:1 undifferentiated	g	0.000

17:1	g	0.000
18:1 undifferentiated	g	0.006
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.006
18:2 undifferentiated	g	0.006
18:3 undifferentiated	g	0.000
18:4	g	0.000
20:2 n-6 c,c	g	0.000
20:3 undifferentiated	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0
Phytosterols	mg	4
Amino acids		
Tryptophan	g	0.004
Threonine	g	0.012
Isoleucine	g	0.011
Leucine	g	0.014
Lysine	g	0.015
Methionine	g	0.004
Cystine	g	0.004
Phenylalanine	g	0.011
Tyrosine	g	0.007
Valine	g	0.015
Arginine	g	0.026
Histidine	g	0.008
Alanine	g	0.015
Aspartic acid	g	0.043
Glutamic acid	g	0.103
Glycine	g	0.011
Proline	g	0.017
Serine	g	0.019

Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Candies, MARS SNACKFOOD US, SNICKERS Bar

Refuse: 0%
NDB No: 19155 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 bar, fun size ------- 15g
Proximates		
Water	g	0.83
Energy	kcal	74
Energy	kJ	308
Protein	g	1.13
Total lipid (fat)	g	3.58
Ash	g	0.24
Carbohydrate, by difference	g	9.23
Fiber, total dietary	g	0.3
Sugars, total	g	7.57
Minerals		
Calcium, Ca	mg	14
Iron, Fe	mg	0.11
Magnesium, Mg	mg	11
Phosphorus, P	mg	28
Potassium, K	mg	48
Sodium, Na	mg	37
Zinc, Zn	mg	0.38
Copper, Cu	mg	0.041
Manganese, Mn	mg	0.052
Fluoride, F	mcg	5.5

Selenium, Se	mcg	1.2
Vitamins		
Vitamin C, total ascorbic acid	mg	0.1
Thiamin	mg	0.009
Riboflavin	mg	0.020
Niacin	mg	0.540
Pantothenic acid	mg	0.088
Vitamin B-6	mg	0.013
Folate, total	mcg	4
Folic acid	mcg	1
Folate, food	mcg	3
Folate, DFE	mcg_DFE	5
Choline, total	mg	5.8
Betaine	mg	0.1
Vitamin B-12	mcg	0.02
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	7
Retinol	mcg	7
Carotene, beta	mcg	1
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	24
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	2
Vitamin E (alpha-tocopherol)	mg	0.23
Vitamin E, added	mg	0.00
Tocopherol, beta	mg	0.00
Tocopherol, gamma	mg	0.59
Tocopherol, delta	mg	0.06
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	0.3
Lipids		
Fatty acids, total saturated	g	1.360
4:0	g	0.048

6:0	g	0.021
8:0	g	0.012
10:0	g	0.025
12:0	g	0.027
13:0	g	0.000
14:0	g	0.086
15:0	g	0.004
16:0	g	0.627
17:0	g	0.006
18:0	g	0.472
20:0	g	0.011
22:0	g	0.002
24:0	g	0.000
Fatty acids, total monounsaturated	g	1.181
14:1	g	0.004
15:1	g	0.000
16:1 undifferentiated	g	0.016
17:1	g	0.001
18:1 undifferentiated	g	1.144
20:1	g	0.017
22:1 undifferentiated	g	0.000
24:1 c	g	0.000
Fatty acids, total polyunsaturated	g	0.452
18:2 undifferentiated	g	0.445
18:3 undifferentiated	g	0.007
18:3 n-6 c,c,c	g	0.000
18:4	g	0.000
20:2 n-6 c,c	g	0.000
20:3 undifferentiated	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Fatty acids, total trans	g	0.065
Cholesterol	mg	2

Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	1
Theobromine	mg	13

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Candies, REESE'S Peanut Butter Cups

Refuse: 0%
NDB No: 19150 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 package 0.6 oz 1 cup ------- 17g
Proximates		
Water	g	0.24
Energy	kcal	88
Energy	kJ	366
Protein	g	1.74
Total lipid (fat)	g	5.19
Ash	g	0.39
Carbohydrate, by difference	g	9.41
Fiber, total dietary	g	0.6
Sugars, total	g	8.02
Minerals		
Calcium, Ca	mg	13
Iron, Fe	mg	0.21
Magnesium, Mg	mg	11
Phosphorus, P	mg	27
Potassium, K	mg	58
Sodium, Na	mg	53
Zinc, Zn	mg	0.22
Copper, Cu	mg	0.041
Manganese, Mn	mg	0.000

Selenium, Se	mcg	0.2
Vitamins		
Vitamin C, total ascorbic acid	mg	0.1
Thiamin	mg	0.027
Riboflavin	mg	0.019
Niacin	mg	0.763
Pantothenic acid	mg	0.105
Vitamin B-6	mg	0.017
Folate, total	mcg	8
Folic acid	mcg	0
Folate, food	mcg	8
Folate, DFE	mcg_DFE	8
Choline, total	mg	6.0
Vitamin B-12	mcg	0.04
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	3
Retinol	mcg	3
Carotene, beta	mcg	0
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	10
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	0.03
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	0.3
Lipids		
Fatty acids, total saturated	g	1.824
4:0	g	0.048
6:0	g	0.017
8:0	g	0.010
10:0	g	0.019
12:0	g	0.021

13:0	g	0.000
14:0	g	0.065
15:0	g	0.006
16:0	g	0.919
17:0	g	0.006
18:0	g	0.657
20:0	g	0.016
22:0	g	0.002
24:0	g	0.000
Fatty acids, total monounsaturated	g	2.227
14:1	g	0.005
15:1	g	0.000
16:1 undifferentiated	g	0.009
17:1	g	0.001
18:1 undifferentiated	g	1.475
20:1	g	0.033
22:1 undifferentiated	g	0.000
24:1 c	g	0.000
Fatty acids, total polyunsaturated	g	0.935
18:2 undifferentiated	g	0.924
18:3 undifferentiated	g	0.004
18:4	g	0.000
20:2 n-6 c,c	g	0.000
20:3 undifferentiated	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Fatty acids, total trans	g	0.000
Cholesterol	mg	1
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	1
Theobromine	mg	12

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Snacks, granola bars, soft, uncoated, chocolate chip

Refuse: 0%
NDB No: 19404 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 1 bar (1 oz) ------- 28g
Proximates		
Water	g	1.81
Energy	kcal	117
Energy	kJ	490
Protein	g	1.58
Total lipid (fat)	g	4.64
Ash	g	0.32
Carbohydrate, by difference	g	19.66
Fiber, total dietary	g	1.1
Sugars, total	g	8.10
Sucrose	g	4.62
Glucose (dextrose)	g	1.44
Fructose	g	0.56
Lactose	g	0.14
Maltose	g	1.32
Galactose	g	0.00
Starch	g	6.15
Minerals		
Calcium, Ca	mg	11
Iron, Fe	mg	0.61
Magnesium, Mg	mg	18
Phosphorus, P	mg	49
Potassium, K	mg	66
Sodium, Na	mg	50
Zinc, Zn	mg	0.36
Copper, Cu	mg	0.076

Manganese, Mn	mg	0.354
Selenium, Se	mcg	3.1
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.047
Riboflavin	mg	0.023
Niacin	mg	0.214
Pantothenic acid	mg	0.095
Vitamin B-6	mg	0.018
Folate, total	mcg	4
Folic acid	mcg	0
Folate, food	mcg	4
Folate, DFE	mcg_DFE	4
Choline, total	mg	4.7
Betaine	mg	6.0
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	0
Retinol	mcg	0
Vitamin A, IU	IU	0
Vitamin E (alpha-tocopherol)	mg	0.09
Vitamin E, added	mg	0.00
Tocopherol, beta	mg	0.01
Tocopherol, gamma	mg	0.62
Tocopherol, delta	mg	0.25
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	4.6
Lipids		
Fatty acids, total saturated	g	1.697
8:0	g	0.055
10:0	g	0.043
12:0	g	0.324
14:0	g	0.120
16:0	g	0.609

18:0	g	0.514
20:0	g	0.018
22:0	g	0.009
Fatty acids, total monounsaturated	g	1.951
14:1	g	0.000
15:1	g	0.000
16:1 undifferentiated	g	0.005
18:1 undifferentiated	g	1.936
20:1	g	0.009
Fatty acids, total polyunsaturated	g	0.441
18:2 undifferentiated	g	0.423
18:3 undifferentiated	g	0.018
18:3 n-3 c,c,c (ALA)	g	0.017
18:3 n-6 c,c,c	g	0.001
20:2 n-6 c,c	g	0.000
20:3 undifferentiated	g	0.000
20:4 undifferentiated	g	0.000
Cholesterol	mg	0
Amino acids		
Tryptophan	g	0.016
Threonine	g	0.053
Isoleucine	g	0.062
Leucine	g	0.122
Lysine	g	0.060
Methionine	g	0.029
Cystine	g	0.040
Phenylalanine	g	0.082
Tyrosine	g	0.053
Valine	g	0.085
Arginine	g	0.108
Histidine	g	0.039
Alanine	g	0.073
Aspartic acid	g	0.129
Glutamic acid	g	0.348
Glycine	g	0.076

Proline	g	0.098
Serine	g	0.083
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Salt, table

200 mg per packet

Refuse: 0%
NDB No: 02047 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 0.7 grams	Number of Data Points
Proximates			
Water	g	0.00	1
Energy	kcal	0	0
Energy	kJ	0	0
Protein	g	0.00	1
Total lipid (fat)	g	0.00	1
Ash	g	0.70	0
Carbohydrate, by difference	g	0.00	0
Fiber, total dietary	g	0.0	0
Sugars, total	g	0.00	0
Minerals			
Calcium, Ca	mg	0	3
Iron, Fe	mg	0.00	3
Magnesium, Mg	mg	0	3
Phosphorus, P	mg	0	1
Potassium, K	mg	0	3
Sodium, Na	mg	271	1
Zinc, Zn	mg	0.00	1

Copper, Cu	mg	0.000	1
Manganese, Mn	mg	0.001	1
Fluoride, F	mcg	0.0	1
Selenium, Se	mcg	0.0	2
Vitamins			
Vitamin C, total ascorbic acid	mg	0.0	1
Thiamin	mg	0.000	1
Riboflavin	mg	0.000	1
Niacin	mg	0.000	1
Pantothenic acid	mg	0.000	0
Vitamin B-6	mg	0.000	0
Folate, total	mcg	0	0
Folic acid	mcg	0	0
Folate, food	mcg	0	0
Folate, DFE	mcg_DFE	0	0
Choline, total	mg	0.0	0
Vitamin B-12	mcg	0.00	0
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	0	0
Retinol	mcg	0	0
Carotene, beta	mcg	0	0
Carotene, alpha	mcg	0	0
Cryptoxanthin, beta	mcg	0	0
Vitamin A, IU	IU	0	1
Lycopene	mcg	0	0
Lutein + zeaxanthin	mcg	0	0
Vitamin E (alpha-tocopherol)	mg	0.00	0
Vitamin E, added	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.0	0
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	mcg	0.0	0
Lipids			
Fatty acids, total saturated	g	0.000	1
4:0	g	0.000	0
6:0	g	0.000	0

8:0	g	0.000	0
10:0	g	0.000	0
12:0	g	0.000	0
14:0	g	0.000	0
16:0	g	0.000	0
18:0	g	0.000	0
Fatty acids, total monounsaturated	g	0.000	0
16:1 undifferentiated	g	0.000	0
18:1 undifferentiated	g	0.000	0
20:1	g	0.000	0
22:1 undifferentiated	g	0.000	0
Fatty acids, total polyunsaturated	g	0.000	0
18:2 undifferentiated	g	0.000	0
18:3 undifferentiated	g	0.000	0
18:4	g	0.000	0
20:4 undifferentiated	g	0.000	0
20:5 n-3 (EPA)	g	0.000	0
22:5 n-3 (DPA)	g	0.000	0
22:6 n-3 (DHA)	g	0.000	0
Cholesterol	mg	0	0
Phytosterols	mg	0	0
Amino acids			
Tryptophan	g	0.000	0
Threonine	g	0.000	0
Isoleucine	g	0.000	0
Leucine	g	0.000	0
Lysine	g	0.000	0
Methionine	g	0.000	0
Cystine	g	0.000	0
Phenylalanine	g	0.000	0
Tyrosine	g	0.000	0
Valine	g	0.000	0
Arginine	g	0.000	0
Histidine	g	0.000	0
Alanine	g	0.000	0

Aspartic acid	g	0.000	0
Glutamic acid	g	0.000	0
Glycine	g	0.000	0
Proline	g	0.000	0
Serine	g	0.000	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Sugars, granulated

Refuse: 0%
Common Name: *sucrose*
NDB No: 19335 (Nutrient values and weights are for edible portion)

Nutrient	**Units**	**1.00 X 1 serving packet ------- 2.8g**
Proximates		
Water	g	0.00
Energy	kcal	11
Energy	kJ	45
Protein	g	0.00
Total lipid (fat)	g	0.00
Ash	g	0.00
Carbohydrate, by difference	g	2.80
Fiber, total dietary	g	0.0
Sugars, total	g	2.79
Sucrose	g	2.79
Glucose (dextrose)	g	0.00
Fructose	g	0.00
Lactose	g	0.00
Maltose	g	0.00
Galactose	g	0.00

Minerals		
Calcium, Ca	mg	0
Iron, Fe	mg	0.00
Magnesium, Mg	mg	0
Phosphorus, P	mg	0
Potassium, K	mg	0
Sodium, Na	mg	0
Zinc, Zn	mg	0.00
Copper, Cu	mg	0.000
Manganese, Mn	mg	0.000
Fluoride, F	mcg	0.0
Selenium, Se	mcg	0.0
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.000
Riboflavin	mg	0.001
Niacin	mg	0.000
Pantothenic acid	mg	0.000
Vitamin B-6	mg	0.000
Folate, total	mcg	0
Folic acid	mcg	0
Folate, food	mcg	0
Folate, DFE	mcg_DFE	0
Choline, total	mg	0.0
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	0
Retinol	mcg	0
Carotene, beta	mcg	0
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	0
Vitamin A, IU	IU	0
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	0
Vitamin E (alpha-tocopherol)	mg	0.00

Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	0.0
Lipids		
Fatty acids, total saturated	g	0.000
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.000
16:0	g	0.000
18:0	g	0.000
Fatty acids, total monounsaturated	g	0.000
16:1 undifferentiated	g	0.000
18:1 undifferentiated	g	0.000
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.000
18:2 undifferentiated	g	0.000
18:3 undifferentiated	g	0.000
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Salad dressing, italian dressing, commercial, regular

Refuse: 0%
NDB No: 04114 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 14 grams	Number of Data Points
Proximates			
Water	g	7.90	6
Energy	kcal	41	0
Energy	kJ	171	0
Protein	g	0.05	6
Total lipid (fat)	g	3.97	6
Ash	g	0.62	6
Carbohydrate, by difference	g	1.46	0
Fiber, total dietary	g	0.0	2
Sugars, total	g	1.16	2
Sucrose	g	0.00	2
Glucose (dextrose)	g	0.66	2
Fructose	g	0.51	2
Lactose	g	0.00	2
Maltose	g	0.00	2
Galactose	g	0.00	2
Starch	g	0.00	2
Minerals			
Calcium, Ca	mg	1	6
Iron, Fe	mg	0.09	6
Magnesium, Mg	mg	0	6
Phosphorus, P	mg	1	6
Potassium, K	mg	7	6
Sodium, Na	mg	232	6
Zinc, Zn	mg	0.02	6
Copper, Cu	mg	0.000	6
Manganese, Mn	mg	0.002	6
Selenium, Se	mcg	0.3	3
Vitamins			
Vitamin C, total ascorbic acid	mg	0.0	0
Thiamin	mg	0.002	3

Riboflavin	mg	0.003	3
Niacin	mg	0.000	3
Pantothenic acid	mg	0.000	2
Vitamin B-6	mg	0.008	2
Folate, total	mcg	0	2
Folic acid	mcg	0	0
Folate, food	mcg	0	0
Folate, DFE	mcg_DFE	0	0
Choline, total	mg	0.4	0
Betaine	mg	0.0	1
Vitamin B-12	mcg	0.00	2
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	0	0
Retinol	mcg	0	0
Carotene, beta	mcg	3	6
Carotene, alpha	mcg	0	0
Cryptoxanthin, beta	mcg	0	6
Vitamin A, IU	IU	5	0
Lycopene	mcg	2	6
Lutein + zeaxanthin	mcg	0	0
Vitamin E (alpha-tocopherol)	mg	0.70	0
Vitamin E, added	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.0	0
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	mcg	7.8	0
Lipids			
Fatty acids, total saturated	g	0.626	0
4:0	g	0.000	3
6:0	g	0.000	3
8:0	g	0.000	3
10:0	g	0.000	3
12:0	g	0.000	3
14:0	g	0.000	3
16:0	g	0.462	3
17:0	g	0.000	3

18:0	g	0.133	3
20:0	g	0.010	3
22:0	g	0.021	3
24:0	g	0.000	3
Fatty acids, total monounsaturated	g	0.884	0
14:1	g	0.000	3
15:1	g	0.000	2
16:1 undifferentiated	g	0.000	3
17:1	g	0.000	3
18:1 undifferentiated	g	0.884	3
20:1	g	0.000	3
22:1 undifferentiated	g	0.000	3
Fatty acids, total polyunsaturated	g	1.812	0
18:2 undifferentiated	g	1.614	3
18:3 undifferentiated	g	0.198	3
18:4	g	0.000	3
20:4 undifferentiated	g	0.000	3
20:5 n-3 (EPA)	g	0.000	3
22:5 n-3 (DPA)	g	0.000	3
22:6 n-3 (DHA)	g	0.000	3
Cholesterol	mg	0	0
Amino acids			
Tryptophan	g	0.000	0
Threonine	g	0.000	0
Isoleucine	g	0.000	0
Leucine	g	0.000	0
Lysine	g	0.000	0
Methionine	g	0.000	0
Cystine	g	0.000	0
Phenylalanine	g	0.000	0
Tyrosine	g	0.000	0
Valine	g	0.000	0
Arginine	g	0.000	0
Histidine	g	0.000	0
Alanine	g	0.000	0

Aspartic acid	g	0.000	0
Glutamic acid	g	0.008	0
Glycine	g	0.000	0
Proline	g	0.000	0
Serine	g	0.000	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

Chick-fil-A

Mustard, prepared, yellow

Refuse: 0%
NDB No: 02046 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 6 grams	Number of Data Points
Proximates			
Water	g	4.96	12
Energy	kcal	4	0
Energy	kJ	17	0
Protein	g	0.26	4
Total lipid (fat)	g	0.24	3
Ash	g	0.22	4
Carbohydrate, by difference	g	0.32	0
Fiber, total dietary	g	0.2	5
Sugars, total	g	0.05	0
Sucrose	g	0.01	4
Glucose (dextrose)	g	0.03	4
Fructose	g	0.01	4

Lactose	g	0.00	4
Maltose	g	0.00	4
Galactose	g	0.00	0
Starch	g	0.04	3
Minerals			
Calcium, Ca	mg	3	42
Iron, Fe	mg	0.09	42
Magnesium, Mg	mg	3	42
Phosphorus, P	mg	6	42
Potassium, K	mg	8	42
Sodium, Na	mg	68	43
Zinc, Zn	mg	0.04	42
Copper, Cu	mg	0.005	42
Manganese, Mn	mg	0.025	42
Fluoride, F	mcg	0.1	2
Selenium, Se	mcg	2.0	43
Vitamins			
Vitamin C, total ascorbic acid	mg	0.1	6
Thiamin	mg	0.021	3
Riboflavin	mg	0.002	3
Niacin	mg	0.031	3
Pantothenic acid	mg	0.018	3
Vitamin B-6	mg	0.004	3
Folate, total	mcg	0	3
Folic acid	mcg	0	0
Folate, food	mcg	0	3
Folate, DFE	mcg_DFE	0	0
Choline, total	mg	1.3	0
Betaine	mg	0.0	1
Vitamin B-12	mcg	0.00	0
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	0	0
Retinol	mcg	0	0
Carotene, beta	mcg	2	4
Carotene, alpha	mcg	0	3

Cryptoxanthin, beta	mcg	2	3
Vitamin A, IU	IU	4	0
Lycopene	mcg	0	3
Lutein + zeaxanthin	mcg	1	3
Vitamin E (alpha-tocopherol)	mg	0.02	4
Vitamin E, added	mg	0.00	0
Tocopherol, beta	mg	0.00	4
Tocopherol, gamma	mg	0.12	4
Tocopherol, delta	mg	0.00	4
Vitamin D (D2 + D3)	mcg	0.0	0
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	mcg	0.1	4
Lipids			
Fatty acids, total saturated	g	0.015	0
4:0	g	0.000	3
6:0	g	0.000	3
8:0	g	0.000	3
10:0	g	0.000	3
12:0	g	0.000	3
14:0	g	0.000	3
15:0	g	0.000	3
16:0	g	0.008	3
17:0	g	0.000	3
18:0	g	0.003	3
20:0	g	0.001	3
22:0	g	0.001	3
24:0	g	0.001	3
Fatty acids, total monounsaturated	g	0.158	0
14:1	g	0.000	3
15:1	g	0.000	3
16:1 undifferentiated	g	0.001	3
16:1 c	g	0.001	3
16:1 t	g	0.000	3
17:1	g	0.000	3
18:1 undifferentiated	g	0.056	3

18:1 c	g	0.055	3
18:1 t	g	0.000	3
20:1	g	0.020	3
22:1 undifferentiated	g	0.076	3
22:1 t	g	0.000	3
24:1 c	g	0.005	3
Fatty acids, total polyunsaturated	g	0.057	0
18:2 undifferentiated	g	0.027	3
18:2 n-6 c,c	g	0.026	3
18:2 CLAs	g	0.000	3
18:2 t not further defined	g	0.000	3
18:3 undifferentiated	g	0.027	3
18:3 n-3 c,c,c (ALA)	g	0.027	3
18:3 n-6 c,c,c	g	0.000	3
18:4	g	0.000	3
20:2 n-6 c,c	g	0.001	3
20:3 undifferentiated	g	0.002	3
20:4 undifferentiated	g	0.000	3
20:3 n-6	g	0.000	3
20:5 n-3 (EPA)	g	0.000	3
22:5 n-3 (DPA)	g	0.000	3
22:6 n-3 (DHA)	g	0.000	3
Fatty acids, total trans	g	0.001	0
Fatty acids, total trans-monoenoic	g	0.000	0
Cholesterol	mg	0	0
Amino acids			
Tryptophan	g	0.001	0
Threonine	g	0.010	0
Isoleucine	g	0.009	0
Leucine	g	0.018	0
Lysine	g	0.016	0
Methionine	g	0.005	0
Cystine	g	0.004	0
Phenylalanine	g	0.010	0
Tyrosine	g	0.008	0

Valine	g	0.012	0
Arginine	g	0.016	0
Histidine	g	0.007	0
Alanine	g	0.010	0
Aspartic acid	g	0.024	0
Glutamic acid	g	0.045	0
Glycine	g	0.014	0
Proline	g	0.022	0
Serine	g	0.013	0
Hydroxyproline	g	0.000	3
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

Cheesecake
91g
310 kcal
23g tfat
13g satfat
280mg Na
5g Pro
1g fiber

Cheesecake commercially prepared

Refuse: 0%
NDB No: 18147 (Nutrient values and weights are for edible portion)

Nutrient	**Units**	**Value per 91 grams**	**Number of Data Points**
Proximates			
Water	g	41.50	4
Energy	kcal	292	0
Energy	kJ	1222	0
Protein	g	5.00	4
Total lipid (fat)	g	20.48	5

Ash	g	0.82	6
Carbohydrate, by difference	g	23.21	0
Fiber, total dietary	g	0.4	0
Sugars, total	g	19.84	0
Minerals			
Calcium, Ca	mg	46	4
Iron, Fe	mg	0.57	4
Magnesium, Mg	mg	10	4
Phosphorus, P	mg	85	4
Potassium, K	mg	82	4
Sodium, Na	mg	188	4
Zinc, Zn	mg	0.46	4
Copper, Cu	mg	0.018	3
Manganese, Mn	mg	0.127	2
Selenium, Se	mcg	4.7	0
Vitamins			
Vitamin C, total ascorbic acid	mg	0.4	0
Thiamin	mg	0.025	10
Riboflavin	mg	0.176	10
Niacin	mg	0.177	10
Pantothenic acid	mg	0.520	8
Vitamin B-6	mg	0.047	8
Folate, total	mcg	16	0
Folic acid	mcg	3	0
Folate, food	mcg	14	8
Folate, DFE	mcg_DFE	18	0
Choline, total	mg	41.8	0
Vitamin B-12	mcg	0.15	8
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	139	0
Retinol	mcg	136	0
Carotene, beta	mcg	27	0
Carotene, alpha	mcg	0	0
Cryptoxanthin, beta	mcg	2	0
Vitamin A, IU	IU	498	0

Lycopene	mcg	0	0
Lutein + zeaxanthin	mcg	56	0
Vitamin E (alpha-tocopherol)	mg	0.51	0
Vitamin E, added	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.5	0
Vitamin D	IU	16	0
Vitamin K (phylloquinone)	mcg	4.0	0
Lipids			
Fatty acids, total saturated	g	9.028	0
4:0	g	0.322	0
6:0	g	0.122	0
8:0	g	0.108	0
10:0	g	0.224	0
12:0	g	0.188	0
14:0	g	1.152	0
16:0	g	4.345	0
18:0	g	2.266	0
Fatty acids, total monounsaturated	g	7.857	0
16:1 undifferentiated	g	0.315	0
18:1 undifferentiated	g	7.388	0
20:1	g	0.002	0
22:1 undifferentiated	g	0.000	0
Fatty acids, total polyunsaturated	g	1.458	0
18:2 undifferentiated	g	1.241	0
18:3 undifferentiated	g	0.203	0
18:4	g	0.000	0
20:4 undifferentiated	g	0.011	0
20:5 n-3 (EPA)	g	0.000	0
22:5 n-3 (DPA)	g	0.000	0
22:6 n-3 (DHA)	g	0.005	0
Cholesterol	mg	50	2
Amino acids			
Tryptophan	g	0.058	0
Threonine	g	0.202	0
Isoleucine	g	0.256	0

Leucine	g	0.422	0
Lysine	g	0.339	0
Methionine	g	0.124	0
Cystine	g	0.065	0
Phenylalanine	g	0.235	0
Tyrosine	g	0.202	0
Valine	g	0.286	0
Arginine	g	0.228	0
Histidine	g	0.121	0
Alanine	g	0.229	0
Aspartic acid	g	0.369	0
Glutamic acid	g	0.930	0
Glycine	g	0.201	0
Proline	g	0.438	0
Serine	g	0.279	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

Lemon pie
120g
360 kcal
13g tfat
6g satfat
290mg Na
6g Pro
1g fiber

Pie, lemon meringue, commercially prepared

Refuse: 0%
NDB No: 18320 (Nutrient values and weights are for edible portion)

Nutrient	**Units**	**Value per 120 grams**	**Number of Data Points**
Proximates			

Water	g	50.04	5
Energy	kcal	322	0
Energy	kJ	1345	0
Protein	g	1.80	3
Total lipid (fat)	g	10.44	6
Ash	g	1.08	7
Carbohydrate, by difference	g	56.64	0
Fiber, total dietary	g	1.4	0
Sugars, total	g	28.63	0
Minerals			
Calcium, Ca	mg	67	3
Iron, Fe	mg	0.73	3
Magnesium, Mg	mg	18	2
Phosphorus, P	mg	126	2
Potassium, K	mg	107	3
Sodium, Na	mg	175	3
Zinc, Zn	mg	0.59	2
Copper, Cu	mg	0.001	2
Manganese, Mn	mg	0.072	2
Selenium, Se	mcg	3.6	0
Vitamins			
Vitamin C, total ascorbic acid	mg	3.8	9
Thiamin	mg	0.074	10
Riboflavin	mg	0.251	10
Niacin	mg	0.779	9
Pantothenic acid	mg	0.952	8
Vitamin B-6	mg	0.036	9
Folate, total	mcg	29	0
Folic acid	mcg	19	0
Folate, food	mcg	10	8
Folate, DFE	mcg_DFE	42	0
Choline, total	mg	7.4	0
Vitamin B-12	mcg	0.20	0
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	61	0

Retinol	mcg	61	0
Carotene, beta	mcg	1	0
Carotene, alpha	mcg	0	0
Cryptoxanthin, beta	mcg	4	0
Vitamin A, IU	IU	208	0
Lycopene	mcg	0	0
Lutein + zeaxanthin	mcg	11	0
Vitamin E (alpha-tocopherol)	mg	1.27	0
Vitamin E, added	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.2	0
Vitamin D	IU	8	0
Vitamin K (phylloquinone)	mcg	2.5	0
Lipids			
Fatty acids, total saturated	g	2.119	0
4:0	g	0.000	0
6:0	g	0.000	0
8:0	g	0.000	0
10:0	g	0.001	0
12:0	g	0.000	0
14:0	g	0.032	0
16:0	g	1.614	0
18:0	g	0.461	0
Fatty acids, total monounsaturated	g	3.222	0
16:1 undifferentiated	g	0.072	0
18:1 undifferentiated	g	3.143	0
20:1	g	0.005	0
22:1 undifferentiated	g	0.000	0
Fatty acids, total polyunsaturated	g	4.378	0
18:2 undifferentiated	g	4.097	0
18:3 undifferentiated	g	0.246	0
18:4	g	0.000	0
20:4 undifferentiated	g	0.026	0
20:5 n-3 (EPA)	g	0.001	0
22:5 n-3 (DPA)	g	0.000	0
22:6 n-3 (DHA)	g	0.007	0

Cholesterol	mg	54	2
Amino acids			
Tryptophan	g	0.023	0
Threonine	g	0.072	0
Isoleucine	g	0.079	0
Leucine	g	0.139	0
Lysine	g	0.101	0
Methionine	g	0.036	0
Cystine	g	0.035	0
Phenylalanine	g	0.079	0
Tyrosine	g	0.065	0
Valine	g	0.089	0
Arginine	g	0.097	0
Histidine	g	0.041	0
Alanine	g	0.073	0
Aspartic acid	g	0.127	0
Glutamic acid	g	0.410	0
Glycine	g	0.058	0
Proline	g	0.139	0
Serine	g	0.121	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

Fast foods, brownie
79g
370 kcal
19g tfat
6g satfat
180 mg Na
5g pro
3g fiber

Refuse: 0%
NDB No: 21027 (Nutrient values and weights are for edible portion)

Nutrient	**Units**	**Value per**	**Number**

		79 grams	of Data Points
Proximates			
Water	g	9.99	2
Energy	kcal	320	0
Energy	kJ	1339	0
Protein	g	3.61	3
Total lipid (fat)	g	13.30	3
Ash	g	0.79	2
Carbohydrate, by difference	g	51.31	0
Minerals			
Calcium, Ca	mg	33	2
Iron, Fe	mg	1.70	2
Magnesium, Mg	mg	21	2
Phosphorus, P	mg	115	2
Potassium, K	mg	110	2
Sodium, Na	mg	201	3
Zinc, Zn	mg	0.73	1
Copper, Cu	mg	0.000	2
Manganese, Mn	mg	0.143	6
Selenium, Se	mcg	5.0	0
Vitamins			
Vitamin C, total ascorbic acid	mg	4.2	2
Thiamin	mg	0.095	2
Riboflavin	mg	0.166	2
Niacin	mg	0.766	2
Pantothenic acid	mg	0.435	1
Vitamin B-6	mg	0.032	1
Folate, total	mcg	23	0
Folic acid	mcg	17	0
Folate, food	mcg	6	0
Folate, DFE	mcg_DFE	35	0
Vitamin B-12	mcg	0.21	1
Vitamin A, RAE	mcg_RAE	4	0
Retinol	mcg	4	0

Vitamin A, IU	IU	14	2
Lipids			
Fatty acids, total saturated	g	4.124	1
Fatty acids, total monounsaturated	g	5.038	1
Fatty acids, total polyunsaturated	g	3.474	1
Cholesterol	mg	13	1
Amino acids			
Tryptophan	g	0.045	0
Threonine	g	0.125	0
Isoleucine	g	0.157	0
Leucine	g	0.268	0
Lysine	g	0.176	0
Methionine	g	0.065	0
Cystine	g	0.047	0
Phenylalanine	g	0.164	0
Tyrosine	g	0.132	0
Valine	g	0.186	0
Arginine	g	0.139	0
Histidine	g	0.079	0
Alanine	g	0.119	0
Aspartic acid	g	0.227	0
Glutamic acid	g	0.820	0
Glycine	g	0.103	0
Proline	g	0.313	0
Serine	g	0.169	0
Other			
Caffeine	mg	2	0
Theobromine	mg	62	0

Hearty Breast of Chicken Soup
278g
140 kcal
4g tfat
1g satfat
1110mg Na
2g fiber

7g Pro

Soup, chunky chicken noodle, canned, ready-to-serve
Refuse: 0%
NDB No: 06018 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 278 grams	Number of Data Points
Proximates			
Water	g	252.03	0
Energy	kcal	103	0
Energy	kJ	431	0
Protein	g	9.09	0
Total lipid (fat)	g	2.50	0
Ash	g	3.00	0
Carbohydrate, by difference	g	11.12	0
Fiber, total dietary	g	1.1	0
Sugars, total	g	2.08	0
Minerals			
Calcium, Ca	mg	22	0
Iron, Fe	mg	0.92	0
Magnesium, Mg	mg	14	0
Phosphorus, P	mg	175	0
Potassium, K	mg	278	0
Sodium, Na	mg	954	0
Zinc, Zn	mg	0.53	0
Copper, Cu	mg	0.136	0
Manganese, Mn	mg	0.309	0
Fluoride, F	mcg	151.5	0
Selenium, Se	mcg	7.8	0
Vitamins			
Vitamin C, total ascorbic acid	mg	1.1	0
Thiamin	mg	0.122	0
Riboflavin	mg	0.175	0
Niacin	mg	4.982	0
Pantothenic acid	mg	0.261	0

Vitamin B-6	mg	0.139	0
Folate, total	mcg	25	0
Folic acid	mcg	8	0
Folate, food	mcg	17	0
Folate, DFE	mcg_DFE	31	0
Choline, total	mg	17.2	0
Vitamin B-12	mcg	0.22	0
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	172	0
Retinol	mcg	3	0
Carotene, beta	mcg	1649	0
Carotene, alpha	mcg	739	0
Cryptoxanthin, beta	mcg	39	0
Vitamin A, IU	IU	3403	0
Lycopene	mcg	0	0
Lutein + zeaxanthin	mcg	161	0
Vitamin E (alpha-tocopherol)	mg	0.33	0
Vitamin E, added	mg	0.00	0
Tocopherol, beta	mg	0.00	0
Tocopherol, gamma	mg	0.08	0
Tocopherol, delta	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.0	0
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	mcg	4.7	0
Lipids			
Fatty acids, total saturated	g	1.134	0
4:0	g	0.000	0
6:0	g	0.000	0
8:0	g	0.000	0
10:0	g	0.000	0
12:0	g	0.003	0
14:0	g	0.047	0
15:0	g	0.000	0
16:0	g	0.840	0
17:0	g	0.000	0

18:0	g	0.228	0
20:0	g	0.000	0
22:0	g	0.000	0
24:0	g	0.000	0
Fatty acids, total monounsaturated	g	0.539	0
14:1	g	0.000	0
15:1	g	0.000	0
16:1 undifferentiated	g	0.064	0
17:1	g	0.000	0
18:1 undifferentiated	g	0.456	0
20:1	g	0.017	0
22:1 undifferentiated	g	0.000	0
Fatty acids, total polyunsaturated	g	0.311	0
18:2 undifferentiated	g	0.278	0
18:3 undifferentiated	g	0.019	0
18:4	g	0.000	0
20:2 n-6 c,c	g	0.000	0
20:3 undifferentiated	g	0.000	0
20:4 undifferentiated	g	0.006	0
20:5 n-3 (EPA)	g	0.000	0
22:5 n-3 (DPA)	g	0.000	0
22:6 n-3 (DHA)	g	0.003	0
Fatty acids, total trans	g	0.003	0
Cholesterol	mg	14	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

Carrot Raisin Salad
170g
260 kcal
12g tfat
160mg Na
4g fiber
2g Pro

Chicken Sandwich
430 kcal
17g tfat
3.5g satfat
3g fiber
31g Pro
1370mg Na
Fast foods, chicken fillet sandwich, plain

Refuse: 0%
NDB No: 21102 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 179 grams	Number of Data Points
Proximates			
Water	g	84.68	27
Energy	kcal	507	0
Energy	kJ	2119	0
Protein	g	23.72	20
Total lipid (fat)	g	28.96	13
Ash	g	3.58	1
Carbohydrate, by difference	g	38.06	0
Minerals			
Calcium, Ca	mg	59	11
Iron, Fe	mg	4.60	12
Magnesium, Mg	mg	34	12
Phosphorus, P	mg	229	12
Potassium, K	mg	347	9
Sodium, Na	mg	942	14
Zinc, Zn	mg	1.84	11
Copper, Cu	mg	0.227	9
Manganese, Mn	mg	0.465	10
Selenium, Se	mcg	39.7	0
Vitamins			
Vitamin C, total ascorbic acid	mg	8.8	1
Thiamin	mg	0.322	3
Riboflavin	mg	0.233	3
Niacin	mg	6.695	3

Pantothenic acid	mg	0.591	2
Vitamin B-6	mg	0.197	2
Folate, total	mcg	98	0
Folic acid	mcg	70	0
Folate, food	mcg	29	14
Folate, DFE	mcg_DFE	147	0
Choline, total	mg	63.2	0
Betaine	mg	51.0	3
Vitamin B-12	mcg	0.38	2
Vitamin A, IU	IU	98	1
Lipids			
Fatty acids, total saturated	g	8.386	0
10:0	g	0.005	1
12:0	g	0.011	1
14:0	g	0.286	1
16:0	g	5.402	1
18:0	g	2.520	1
Fatty acids, total monounsaturated	g	10.239	0
16:1 undifferentiated	g	0.968	1
18:1 undifferentiated	g	9.179	1
Fatty acids, total polyunsaturated	g	8.245	0
18:2 undifferentiated	g	7.160	1
18:3 undifferentiated	g	0.943	1
20:4 undifferentiated	g	0.141	1
Cholesterol	mg	59	7
Amino acids			
Tryptophan	g	0.277	0
Threonine	g	0.936	0
Isoleucine	g	1.192	0
Leucine	g	1.751	0
Lysine	g	1.715	0
Methionine	g	0.598	0
Cystine	g	0.328	0
Phenylalanine	g	0.992	0
Tyrosine	g	0.748	0

Valine	g	1.180	0
Arginine	g	1.330	0
Histidine	g	0.686	0
Alanine	g	1.199	0
Aspartic acid	g	1.928	0
Glutamic acid	g	4.368	0
Glycine	g	1.113	0
Proline	g	1.310	0
Serine	g	0.902	0

Waffle Fries
113g
380 kcal
21g tfat
4g satfat
4g fiber
4g Pro
190mg Na
McDONALD'S, French Fries
Refuse: 0%
NDB No: 21238 (Nutrient values and weights are for edible portion)

Nutrient	**Units**	**1.00 X 1 medium serving ------- 117g**
Proximates		
Water	g	46.52
Energy	kcal	370
Energy	kJ	1549
Protein	g	4.46
Total lipid (fat)	g	18.86
Ash	g	1.51
Carbohydrate, by difference	g	45.65
Fiber, total dietary	g	4.9
Sugars, total	g	0.23
Minerals		
Calcium, Ca	mg	20

Iron, Fe	mg	1.01
Magnesium, Mg	mg	37
Phosphorus, P	mg	154
Potassium, K	mg	655
Sodium, Na	mg	266
Zinc, Zn	mg	0.51
Copper, Cu	mg	0.138
Manganese, Mn	mg	0.262
Vitamins		
Vitamin C, total ascorbic acid	mg	8.5
Thiamin	mg	0.384
Riboflavin	mg	0.042
Niacin	mg	3.229
Pantothenic acid	mg	0.753
Vitamin B-6	mg	0.610
Folate, total	mcg	70
Vitamin A, IU	IU	0
Lipids		
Fatty acids, total saturated	g	2.438
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.011
15:0	g	0.000
16:0	g	1.076
17:0	g	0.012
18:0	g	1.145
20:0	g	0.103
22:0	g	0.056
24:0	g	0.035
Fatty acids, total monounsaturated	g	9.132
14:1	g	0.000
15:1	g	0.000

16:1 undifferentiated	g	0.032
17:1	g	0.000
18:1 undifferentiated	g	8.921
18:1 c	g	8.849
18:1 t	g	0.073
20:1	g	0.179
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	5.457
18:2 undifferentiated	g	5.030
18:2 n-6 c,c	g	4.949
18:2 t,t	g	0.081
18:3 undifferentiated	g	0.415
18:3 n-3 c,c,c (ALA)	g	0.415
18:3 n-6 c,c,c	g	0.000
20:2 n-6 c,c	g	0.012
20:3 undifferentiated	g	0.000
20:4 undifferentiated	g	0.000
Fatty acids, total trans	g	0.153
Fatty acids, total trans-monoenoic	g	0.073
Cholesterol	mg	0

Coke-Med.
434g
170 kcal
0g tfat
0gsatfat
0g fiber
0g Pro
15mg Na

McDONALD'S, French Fries

Refuse: 0%
NDB No: 21238 (Nutrient values and weights are for edible portion)

Nutrient	**Units**	**1.00 X 1 medium serving** **-------** **117g**

Proximates		
Water	g	46.52
Energy	kcal	370
Energy	kJ	1549
Protein	g	4.46
Total lipid (fat)	g	18.86
Ash	g	1.51
Carbohydrate, by difference	g	45.65
Fiber, total dietary	g	4.9
Sugars, total	g	0.23
Minerals		
Calcium, Ca	mg	20
Iron, Fe	mg	1.01
Magnesium, Mg	mg	37
Phosphorus, P	mg	154
Potassium, K	mg	655
Sodium, Na	mg	266
Zinc, Zn	mg	0.51
Copper, Cu	mg	0.138
Manganese, Mn	mg	0.262
Vitamins		
Vitamin C, total ascorbic acid	mg	8.5
Thiamin	mg	0.384
Riboflavin	mg	0.042
Niacin	mg	3.229
Pantothenic acid	mg	0.753
Vitamin B-6	mg	0.610
Folate, total	mcg	70
Vitamin A, IU	IU	0
Lipids		
Fatty acids, total saturated	g	2.438
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000

12:0	g	0.000
14:0	g	0.011
15:0	g	0.000
16:0	g	1.076
17:0	g	0.012
18:0	g	1.145
20:0	g	0.103
22:0	g	0.056
24:0	g	0.035
Fatty acids, total monounsaturated	g	9.132
14:1	g	0.000
15:1	g	0.000
16:1 undifferentiated	g	0.032
17:1	g	0.000
18:1 undifferentiated	g	8.921
18:1 c	g	8.849
18:1 t	g	0.073
20:1	g	0.179
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	5.457
18:2 undifferentiated	g	5.030
18:2 n-6 c,c	g	4.949
18:2 t,t	g	0.081
18:3 undifferentiated	g	0.415
18:3 n-3 c,c,c (ALA)	g	0.415
18:3 n-6 c,c,c	g	0.000
20:2 n-6 c,c	g	0.012
20:3 undifferentiated	g	0.000
20:4 undifferentiated	g	0.000
Fatty acids, total trans	g	0.153
Fatty acids, total trans-monoenoic	g	0.073
Cholesterol	mg	0

Dr. Pepper – Med.
434g
180 kcal

0g tfat
0gsatfat
0g fiber
0g Pro
60mg Na

Sweet Tea
340g
130 kcal
10mg Na

Coffee – Small
5 kcal
0g tfat
0gsatfat
0g fiber
0g Pro
5mg Na

Ice creams, vanilla, light, soft-serve

Refuse: 0%
NDB No: 19096 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 135 grams	Number of Data Points
Proximates			
Water	g	93.96	45
Energy	kcal	170	0
Energy	kJ	711	0
Protein	g	6.62	1
Total lipid (fat)	g	3.51	67
Ash	g	1.49	1
Carbohydrate, by difference	g	29.43	0
Fiber, total dietary	g	0.0	0
Sugars, total	g	25.23	0
Minerals			
Calcium, Ca	mg	212	1
Iron, Fe	mg	0.08	1
Magnesium, Mg	mg	19	1

Phosphorus, P	mg	163	1
Potassium, K	mg	298	1
Sodium, Na	mg	94	1
Zinc, Zn	mg	0.72	1
Copper, Cu	mg	0.036	1
Manganese, Mn	mg	0.011	1
Selenium, Se	mcg	4.9	0
Vitamins			
Vitamin C, total ascorbic acid	mg	1.2	1
Thiamin	mg	0.070	1
Riboflavin	mg	0.267	1
Niacin	mg	0.159	1
Pantothenic acid	mg	0.603	1
Vitamin B-6	mg	0.062	1
Folate, total	mcg	7	0
Folic acid	mcg	0	0
Folate, food	mcg	7	0
Folate, DFE	mcg_DFE	7	0
Choline, total	mg	27.4	0
Vitamin B-12	mcg	0.68	1
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	39	0
Retinol	mcg	38	0
Carotene, beta	mcg	7	0
Carotene, alpha	mcg	0	0
Cryptoxanthin, beta	mcg	0	0
Vitamin A, IU	IU	139	1
Lycopene	mcg	0	0
Lutein + zeaxanthin	mcg	0	0
Vitamin E (alpha-tocopherol)	mg	0.08	0
Vitamin E, added	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.0	0
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	mcg	0.5	0
Lipids			

Fatty acids, total saturated	g	2.200	0
4:0	g	0.121	2
6:0	g	0.068	2
8:0	g	0.041	2
10:0	g	0.095	2
12:0	g	0.095	2
14:0	g	0.365	2
16:0	g	0.986	2
18:0	g	0.432	2
Fatty acids, total monounsaturated	g	1.026	0
16:1 undifferentiated	g	0.081	2
18:1 undifferentiated	g	0.945	2
20:1	g	0.000	0
22:1 undifferentiated	g	0.000	0
Fatty acids, total polyunsaturated	g	0.135	0
18:2 undifferentiated	g	0.081	2
18:3 undifferentiated	g	0.054	2
18:4	g	0.000	0
20:4 undifferentiated	g	0.000	0
20:5 n-3 (EPA)	g	0.000	0
22:5 n-3 (DPA)	g	0.000	0
22:6 n-3 (DHA)	g	0.000	0
Cholesterol	mg	16	1
Amino acids			
Tryptophan	g	0.080	0
Threonine	g	0.266	0
Isoleucine	g	0.351	0
Leucine	g	0.572	0
Lysine	g	0.474	0
Methionine	g	0.147	0
Cystine	g	0.053	0
Phenylalanine	g	0.285	0
Tyrosine	g	0.275	0
Valine	g	0.394	0
Arginine	g	0.250	0

Histidine	g	0.158	0
Alanine	g	0.248	0
Aspartic acid	g	0.466	0
Glutamic acid	g	1.246	0
Glycine	g	0.246	0
Proline	g	0.629	0
Serine	g	0.325	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Peaches, spiced, canned, heavy syrup pack, solids and liquids

Refuse: 4% (Pits)
NDB No: 09243 (Nutrient values and weights are for edible portion)

Nutrient	**Units**	**0.33 X 1 cup, whole ------- 79.86g**
Proximates		
Water	g	63.25
Energy	kcal	60
Energy	kJ	251
Protein	g	0.33
Total lipid (fat)	g	0.08
Ash	g	0.17
Carbohydrate, by difference	g	16.04
Fiber, total dietary	g	1.0
Sugars, total	g	15.00
Minerals		
Calcium, Ca	mg	5
Iron, Fe	mg	0.22
Magnesium, Mg	mg	6

Phosphorus, P	mg	7
Potassium, K	mg	68
Sodium, Na	mg	3
Zinc, Zn	mg	0.06
Copper, Cu	mg	0.078
Selenium, Se	mcg	0.2
Vitamins		
Vitamin C, total ascorbic acid	mg	4.2
Thiamin	mg	0.009
Riboflavin	mg	0.028
Niacin	mg	0.429
Pantothenic acid	mg	0.040
Vitamin B-6	mg	0.015
Folate, total	mcg	2
Folic acid	mcg	0
Folate, food	mcg	2
Folate, DFE	mcg_DFE	2
Choline, total	mg	3.3
Vitamin B-12	mcg	0.00
Vitamin B-12, added	mcg	0.00
Vitamin A, RAE	mcg_RAE	13
Retinol	mcg	0
Carotene, beta	mcg	125
Carotene, alpha	mcg	0
Cryptoxanthin, beta	mcg	52
Vitamin A, IU	IU	253
Lycopene	mcg	0
Lutein + zeaxanthin	mcg	49
Vitamin E (alpha-tocopherol)	mg	0.39
Vitamin E, added	mg	0.00
Vitamin D (D2 + D3)	mcg	0.0
Vitamin D	IU	0
Vitamin K (phylloquinone)	mcg	1.4
Lipids		
Fatty acids, total saturated	g	0.009

4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.000
16:0	g	0.007
18:0	g	0.001
Fatty acids, total monounsaturated	g	0.029
16:1 undifferentiated	g	0.001
18:1 undifferentiated	g	0.029
20:1	g	0.000
22:1 undifferentiated	g	0.000
Fatty acids, total polyunsaturated	g	0.038
18:2 undifferentiated	g	0.038
18:3 undifferentiated	g	0.001
18:4	g	0.000
20:4 undifferentiated	g	0.000
20:5 n-3 (EPA)	g	0.000
22:5 n-3 (DPA)	g	0.000
22:6 n-3 (DHA)	g	0.000
Cholesterol	mg	0
Amino acids		
Tryptophan	g	0.001
Threonine	g	0.013
Isoleucine	g	0.010
Leucine	g	0.018
Lysine	g	0.010
Methionine	g	0.008
Cystine	g	0.002
Phenylalanine	g	0.010
Tyrosine	g	0.009
Valine	g	0.018
Arginine	g	0.008
Histidine	g	0.006

Alanine	g	0.020
Aspartic acid	g	0.055
Glutamic acid	g	0.050
Glycine	g	0.011
Proline	g	0.014
Serine	g	0.015
Other		
Alcohol, ethyl	g	0.0
Caffeine	mg	0
Theobromine	mg	0

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Cheesecake commercially prepared

Refuse: 0%
NDB No: 18147 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 91 grams	Number of Data Points
Proximates			
Water	g	41.50	4
Energy	kcal	292	0
Energy	kJ	1222	0
Protein	g	5.00	4
Total lipid (fat)	g	20.48	5
Ash	g	0.82	6
Carbohydrate, by difference	g	23.21	0
Fiber, total dietary	g	0.4	0
Sugars, total	g	19.84	0
Minerals			
Calcium, Ca	mg	46	4
Iron, Fe	mg	0.57	4
Magnesium, Mg	mg	10	4
Phosphorus, P	mg	85	4
Potassium, K	mg	82	4

Sodium, Na	mg	188	4
Zinc, Zn	mg	0.46	4
Copper, Cu	mg	0.018	3
Manganese, Mn	mg	0.127	2
Selenium, Se	mcg	4.7	0
Vitamins			
Vitamin C, total ascorbic acid	mg	0.4	0
Thiamin	mg	0.025	10
Riboflavin	mg	0.176	10
Niacin	mg	0.177	10
Pantothenic acid	mg	0.520	8
Vitamin B-6	mg	0.047	8
Folate, total	mcg	16	0
Folic acid	mcg	3	0
Folate, food	mcg	14	8
Folate, DFE	mcg_DFE	18	0
Choline, total	mg	41.8	0
Vitamin B-12	mcg	0.15	8
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	139	0
Retinol	mcg	136	0
Carotene, beta	mcg	27	0
Carotene, alpha	mcg	0	0
Cryptoxanthin, beta	mcg	2	0
Vitamin A, IU	IU	498	0
Lycopene	mcg	0	0
Lutein + zeaxanthin	mcg	56	0
Vitamin E (alpha-tocopherol)	mg	0.51	0
Vitamin E, added	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.5	0
Vitamin D	IU	16	0
Vitamin K (phylloquinone)	mcg	4.0	0
Lipids			
Fatty acids, total saturated	g	9.028	0
4:0	g	0.322	0

6:0	g	0.122	0
8:0	g	0.108	0
10:0	g	0.224	0
12:0	g	0.188	0
14:0	g	1.152	0
16:0	g	4.345	0
18:0	g	2.266	0
Fatty acids, total monounsaturated	g	7.857	0
16:1 undifferentiated	g	0.315	0
18:1 undifferentiated	g	7.388	0
20:1	g	0.002	0
22:1 undifferentiated	g	0.000	0
Fatty acids, total polyunsaturated	g	1.458	0
18:2 undifferentiated	g	1.241	0
18:3 undifferentiated	g	0.203	0
18:4	g	0.000	0
20:4 undifferentiated	g	0.011	0
20:5 n-3 (EPA)	g	0.000	0
22:5 n-3 (DPA)	g	0.000	0
22:6 n-3 (DHA)	g	0.005	0
Cholesterol	mg	50	2
Amino acids			
Tryptophan	g	0.058	0
Threonine	g	0.202	0
Isoleucine	g	0.256	0
Leucine	g	0.422	0
Lysine	g	0.339	0
Methionine	g	0.124	0
Cystine	g	0.065	0
Phenylalanine	g	0.235	0
Tyrosine	g	0.202	0
Valine	g	0.286	0
Arginine	g	0.228	0
Histidine	g	0.121	0
Alanine	g	0.229	0

Aspartic acid	g	0.369	0
Glutamic acid	g	0.930	0
Glycine	g	0.201	0
Proline	g	0.438	0
Serine	g	0.279	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

Fast foods, brownie

Refuse: 0%
NDB No: 21027 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 79 grams	Number of Data Points
Proximates			
Water	g	9.99	2
Energy	kcal	320	0
Energy	kJ	1339	0
Protein	g	3.61	3
Total lipid (fat)	g	13.30	3
Ash	g	0.79	2
Carbohydrate, by difference	g	51.31	0
Minerals			
Calcium, Ca	mg	33	2
Iron, Fe	mg	1.70	2
Magnesium, Mg	mg	21	2
Phosphorus, P	mg	115	2
Potassium, K	mg	110	2
Sodium, Na	mg	201	3
Zinc, Zn	mg	0.73	1
Copper, Cu	mg	0.000	2
Manganese, Mn	mg	0.143	6

Selenium, Se	mcg	5.0	0
Vitamins			
Vitamin C, total ascorbic acid	mg	4.2	2
Thiamin	mg	0.095	2
Riboflavin	mg	0.166	2
Niacin	mg	0.766	2
Pantothenic acid	mg	0.435	1
Vitamin B-6	mg	0.032	1
Folate, total	mcg	23	0
Folic acid	mcg	17	0
Folate, food	mcg	6	0
Folate, DFE	mcg_DFE	35	0
Vitamin B-12	mcg	0.21	1
Vitamin A, RAE	mcg_RAE	4	0
Retinol	mcg	4	0
Vitamin A, IU	IU	14	2
Lipids			
Fatty acids, total saturated	g	4.124	1
Fatty acids, total monounsaturated	g	5.038	1
Fatty acids, total polyunsaturated	g	3.474	1
Cholesterol	mg	13	1
Amino acids			
Tryptophan	g	0.045	0
Threonine	g	0.125	0
Isoleucine	g	0.157	0
Leucine	g	0.268	0
Lysine	g	0.176	0
Methionine	g	0.065	0
Cystine	g	0.047	0
Phenylalanine	g	0.164	0
Tyrosine	g	0.132	0
Valine	g	0.186	0
Arginine	g	0.139	0
Histidine	g	0.079	0
Alanine	g	0.119	0

Aspartic acid	g	0.227	0
Glutamic acid	g	0.820	0
Glycine	g	0.103	0
Proline	g	0.313	0
Serine	g	0.169	0
Other			
Caffeine	mg	2	0
Theobromine	mg	62	0

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Fruit cocktail, (peach and pineapple and pear and grape and cherry), canned, water pack, solids and liquids

Refuse: 0%
NDB No: 09096 (Nutrient values and weights are for edible portion)

Nutrient	Units	Value per 194 grams	Number of Data Points
Proximates			
Water	g	176.07	37
Energy	kcal	62	0
Energy	kJ	260	0
Protein	g	0.81	12
Total lipid (fat)	g	0.10	9
Ash	g	0.50	13
Carbohydrate, by difference	g	16.51	0
Fiber, total dietary	g	1.9	0
Sugars, total	g	14.57	0
Minerals			
Calcium, Ca	mg	10	10
Iron, Fe	mg	0.48	13
Magnesium, Mg	mg	14	10
Phosphorus, P	mg	21	10
Potassium, K	mg	182	31
Sodium, Na	mg	8	31

Zinc, Zn	mg	0.17	0
Copper, Cu	mg	0.138	0
Manganese, Mn	mg	0.291	0
Selenium, Se	mcg	1.0	0
Vitamins			
Vitamin C, total ascorbic acid	mg	4.1	37
Thiamin	mg	0.031	10
Riboflavin	mg	0.021	10
Niacin	mg	0.704	13
Pantothenic acid	mg	0.120	0
Vitamin B-6	mg	0.101	0
Folate, total	mcg	6	0
Folic acid	mcg	0	0
Folate, food	mcg	6	0
Folate, DFE	mcg_DFE	6	0
Choline, total	mg	7.2	0
Vitamin B-12	mcg	0.00	0
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	25	0
Retinol	mcg	0	0
Carotene, beta	mcg	244	0
Carotene, alpha	mcg	0	0
Cryptoxanthin, beta	mcg	93	0
Vitamin A, IU	IU	485	12
Lycopene	mcg	0	0
Lutein + zeaxanthin	mcg	146	0
Vitamin E (alpha-tocopherol)	mg	0.78	0
Vitamin E, added	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.0	0
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	mcg	5.0	0
Lipids			
Fatty acids, total saturated	g	0.012	0
4:0	g	0.000	0
6:0	g	0.000	0

8:0	g	0.000	0
10:0	g	0.000	0
12:0	g	0.000	0
14:0	g	0.000	0
16:0	g	0.010	0
18:0	g	0.004	0
Fatty acids, total monounsaturated	g	0.017	0
16:1 undifferentiated	g	0.000	0
18:1 undifferentiated	g	0.017	0
20:1	g	0.000	0
22:1 undifferentiated	g	0.000	0
Fatty acids, total polyunsaturated	g	0.039	0
18:2 undifferentiated	g	0.033	0
18:3 undifferentiated	g	0.004	0
18:4	g	0.000	0
20:4 undifferentiated	g	0.000	0
20:5 n-3 (EPA)	g	0.000	0
22:5 n-3 (DPA)	g	0.000	0
22:6 n-3 (DHA)	g	0.000	0
Cholesterol	mg	0	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

USDA National Nutrient Database for Standard Reference, Release 22 (2009)

Soup, chunky chicken noodle, canned, ready-to-serve

Refuse: 0%
NDB No: 06018 (Nutrient values and weights are for edible portion)

Nutrient	**Units**	**Value per 278 grams**	**Number of Data Points**
Proximates			
Water	g	252.03	0

Energy	kcal	103	0
Energy	kJ	431	0
Protein	g	9.09	0
Total lipid (fat)	g	2.50	0
Ash	g	3.00	0
Carbohydrate, by difference	g	11.12	0
Fiber, total dietary	g	1.1	0
Sugars, total	g	2.08	0
Minerals			
Calcium, Ca	mg	22	0
Iron, Fe	mg	0.92	0
Magnesium, Mg	mg	14	0
Phosphorus, P	mg	175	0
Potassium, K	mg	278	0
Sodium, Na	mg	954	0
Zinc, Zn	mg	0.53	0
Copper, Cu	mg	0.136	0
Manganese, Mn	mg	0.309	0
Fluoride, F	mcg	151.5	0
Selenium, Se	mcg	7.8	0
Vitamins			
Vitamin C, total ascorbic acid	mg	1.1	0
Thiamin	mg	0.122	0
Riboflavin	mg	0.175	0
Niacin	mg	4.982	0
Pantothenic acid	mg	0.261	0
Vitamin B-6	mg	0.139	0
Folate, total	mcg	25	0
Folic acid	mcg	8	0
Folate, food	mcg	17	0
Folate, DFE	mcg_DFE	31	0
Choline, total	mg	17.2	0
Vitamin B-12	mcg	0.22	0
Vitamin B-12, added	mcg	0.00	0
Vitamin A, RAE	mcg_RAE	172	0

Retinol	mcg	3	0
Carotene, beta	mcg	1649	0
Carotene, alpha	mcg	739	0
Cryptoxanthin, beta	mcg	39	0
Vitamin A, IU	IU	3403	0
Lycopene	mcg	0	0
Lutein + zeaxanthin	mcg	161	0
Vitamin E (alpha-tocopherol)	mg	0.33	0
Vitamin E, added	mg	0.00	0
Tocopherol, beta	mg	0.00	0
Tocopherol, gamma	mg	0.08	0
Tocopherol, delta	mg	0.00	0
Vitamin D (D2 + D3)	mcg	0.0	0
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	mcg	4.7	0
Lipids			
Fatty acids, total saturated	g	1.134	0
4:0	g	0.000	0
6:0	g	0.000	0
8:0	g	0.000	0
10:0	g	0.000	0
12:0	g	0.003	0
14:0	g	0.047	0
15:0	g	0.000	0
16:0	g	0.840	0
17:0	g	0.000	0
18:0	g	0.228	0
20:0	g	0.000	0
22:0	g	0.000	0
24:0	g	0.000	0
Fatty acids, total monounsaturated	g	0.539	0
14:1	g	0.000	0
15:1	g	0.000	0
16:1 undifferentiated	g	0.064	0
17:1	g	0.000	0

18:1 undifferentiated	g	0.456	0
20:1	g	0.017	0
22:1 undifferentiated	g	0.000	0
Fatty acids, total polyunsaturated	g	0.311	0
18:2 undifferentiated	g	0.278	0
18:3 undifferentiated	g	0.019	0
18:4	g	0.000	0
20:2 n-6 c,c	g	0.000	0
20:3 undifferentiated	g	0.000	0
20:4 undifferentiated	g	0.006	0
20:5 n-3 (EPA)	g	0.000	0
22:5 n-3 (DPA)	g	0.000	0
22:6 n-3 (DHA)	g	0.003	0
Fatty acids, total trans	g	0.003	0
Cholesterol	mg	14	0
Other			
Alcohol, ethyl	g	0.0	0
Caffeine	mg	0	0
Theobromine	mg	0	0

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APPENDIX C

INDIVIDUAL PARTICIPANTS' RESULTS OF THE VISUAL PLATE WASTE STUDY

Table 17. Individual participants' results of the visual plate waste study on day one

Tray number	Lemon chicken	Potato gratin	Green beans	Whole wheat bread	Margarine	Banana	Milk type	Milk amount	Extra type	Extra amount
24	50	25	0	75	0	.[a]	.	.	.	.
1	25	50	0	0	0	100	.	.	.	.
22	100	25	75	0	100	50	2	25	.	.
34	75	100	100	50	0	100	3	100	.	.
37	25	100	50	0	0	100	3	100	.	.
35	100	100	100	100	100	.	.	.	.	.
13	100	50	75	.	100	100	.	.	.	.
29	100	100	100	0	0	100	1	50	.	.
26	100	100	100	50	0	50	2	0	.	.
14	75	75	100	25	100	75	.	100	.	.
8	25	0	0	0	0	100	2	100	.	.
7	75	50	100	100	0	100	.	.	.	.
28	75	75	75	100	100	100	2	100	.	.
31	100	100	100	0	100	100	2	0	.	.
17	100	25	75	.	.	100	.	.	.	.
4	50	100	100	100	0	.	1	100	.	.
11	100	100	0	75	.	.	.	.	.	.
19	0	0	0	0	0	100	.	.	.	.
2	75	75	100	100	100	.	.	.	.	.
22	50	100	100	100	0	0	.	.	.	.
27	50	50	75	0	100	0	.	.	10	100
25	25	50	25	25	0	.	.	.	.	.
20	100	100	100	0	0	100	.	100	.	.
15	75	100	100	100	0	.	2	100	.	.
30	100	0	50	0	0	100	1	0	.	.
6	75	0	0	0	0	100	2	50	.	.
18	100	100	100	100	0	100	2	100	.	.
36	100	0	100	100	0	.	.	.	.	.
33	100	100	100	50	0	100	.	.	.	.
12	100	75	75	75	.	.	2	100	.	.
9	100	100	100	0	0	100	.	.	.	.
16	100	100	75	0	.	100	1	100	.	.
21	100	100	100	100	0	.	1	100	.	.
5	100	75	100	25	100	100	.	.	.	.
32	100	100	100	100	0	.	.	.	.	.

[a]"." Indicates "missing" from the tray. In the case of milk type and milk amount, this "missing" indicates that the older adult was offered milk as a beverage, but refused. In the case of the banana or whole wheat bread (both portable items), this indicates that the congregate meal participant took that item home. "Missing" for extra type or extra amount indicates that the congregate meal participant did not ask for additional condiments or food items**.**

Table 18. Individual participants' results of the visual plate waste study on day two

Tray number	Chopped steak	Scalloped potatoes	Mixed vege-tables	Whole wheat bread	Corn muffin	Margar-ine	Apple-sauce	Milk type	Milk amount	Extra type	Extra amount
11	100	75	100	.[a]	100	.	.	.	.	2	100
21	100	75	75	0	75	0	100	.	.	1	300
22	100	100	100	.	.	.	25	.	.	.	.
20	100	100	100	100	100	100	75	1	100	1	200
19	100	100	50	.	.	.	100	1	100	.	.
17	75	75	100	25	.	0	75	.	.	.	.
12	100	0	0	0	100	0	75	.	.	.	.
28	100	100	100	100	100	0	100	.	.	2	0
4	50	100	0	.	0	.	.	2	100	.	.
8	100	50	100	.	100	.	.	.	.	.	.
18	100	100	100	0	100	0	.	.	.	.	.
3	100	100	50	.	.	.	75	.	.	2	100
30	100	100	100	100	100	100	100	1	100	.	.
25	100	50	50	100	100	0	.	.	.	.	.
1	100	100	100	100	100	100	.	.	.	.	.
29	100	100	25	.	100	.	.	.	.	.	.
14	50	50	50	0	75	0	100	.	.	.	.
13	50	25	25	50	0	.	.	.	.	.	.
2	100	100	25	0	.	100	100	.	.	.	.
15	100	0	0	100	0	0	.	.	.	.	.
5	100	100	0	0	100	0	.	.	.	.	.
10	100	25	0	.	.	0	.	.	.	.	.
27	75	100	100	75	.	50	75	.	.	.	.
23	100	100	25	.	.	.	100	.	.	.	.
6	100	0	50	.	0	.	.	.	.	.	.
26	0	100	0	0	50	0	0	3	25	2	100
9	100	100	75	.	.	.	.	1	100	.	.
24	100	100	100	.	.	.	.	.	.	2	50
7	100	100	100	.	.	.	.	1	100	.	.
31	75	25	100	100	100	0	.	.	.	.	.
32	100	100	0	100	.	0	100	.	.	.	.
16	100	100	25	75	100	100	100	.	.	.	.

[a]"." Indicates "missing" from the tray. In the case of milk type and milk amount, this "missing" indicates that the older adult was offered milk as a beverage, but refused. In the case of the whole wheat bread, corn muffin, or applesauce (portable items), "missing" indicates that the congregate meal participant took that item home. "Missing" for extra type or extra amount indicates that the congregate meal participant did not ask for additional condiments or food items.

Table 19. Individual participants' results of the visual plate waste study on day three

Tray number	BBQ beef	Cole-slaw	Suc-cotash	Regular hamburger bun	Margarine	Orange	Milk type	Milk amount	Extra type	Extra amount
29	100	100	0	0	100	100	.[a]	.	25	100
10	100	100	100	100	.	.	.	.	.	.
32	100	0	100	.	0	.	3	75	2	100
25	100	100	100	100	0	.	2	100	26	100
34	100	100	100	100	100	.	.	.	.	.
16	25	100	75	75	0	.	.	.	.	.
28	100	100	100	.	0	0	1	100	2	100
20	25	100	100	50	0	.	.	.	7	100
21	75	75	75	25	0	100	2	100	4	100
24	100	50	100	25	0	100	.	.	.	.
36	50	75	0	75	0	.	2	100	.	.
3	100	100	100	.	100	.	2	100	1	100
4	100	100	100	100	.	.	.	.	2	100
31	100	50	25	.	0	.	.	.	2	100
7	100	100	100	100	.	.	.	.	.	.
26	100	100	75	100	0	100	.	.	7	100
14	75	100	50	.	.	0	.	.	26	100
2	100	100	100	100	.	.	1	100	.	.
22	100	25	25	.	.	.	2	100	3	100
13	0	25	25	.	0	.	.	.	.	.
1	100	100	75	100	.	.	.	.	2	100
23	0	25	0	100	100	.	.	.	8	0
18	50	100	25	50	0	.	.	.	.	.
8	25	25	25	100	0	.	.	.	.	.
9	100	100	25	100	0	.	.	.	4	100
11	100	100	100	50	25	.	2	100	.	.
17	50	25	0	50	0	.	.	.	.	.
30	100	100	0	100	0	.	1	100	.	.
27	100	100	25	50	.	.	.	.	.	.
12	100	100	0	100	.	.	.	.	1	100
19	100	100	0	.	0	.	.	.	1	100
33	75	50	25	50	100	.	.	.	.	.
6	100	100	75	.	0	.	1	100	.	.
5	100	100	100	.	.	.	.	.	2	100
15	75	100	75	.	.	.	.	.	3	100
35	75	0	25	100	75	100	2	75	.	.

[a]"." Indicates "missing" from the tray. In the case of milk type and milk amount, this "missing" indicates that the older adult was offered milk as a beverage, but refused. In the case of the whole wheat bread, or orange (both portable items), "missing" indicates that the congregate meal participant took that item home. "Missing" for extra type or extra amount indicates that the congregate meal participant did not ask for additional condiments or food items.

Table 20. Individual participants' results of the visual plate waste study on day four

Tray number	OJ	Turkey ham cheese	Whole wheat bread (2 slices)	Mayo	Salad	Pineapple	Milk type	Milk amount	Italian dressing	Extra type	Extra amount
25	.[a]	100	100	100	25	75	.	.	0	5	100
10	.	50	50	50	100	.	.	.	100	2	100
17	.	100	75	100	100	100	.	.	100	5	100
30	.	100	75	100	50	.	3	0	0	5	100
23	100	100	100	50	0	100	3	100	0	2	200
11	100	50	50	.	100	100	.	.	100	.	.
16	100	75	75	0	75	.	1	100	0	6	0
32	.	25	25	100	100	100	1	100	100	.	.
20	100	50	50	50	75	100	.	.	100	.	.
29	.	100	75	100	75	.	2	100	.	.	.
4	.	25	25	100	100	100	2	100	0	.	.
6	.	100	100	0	100	.	.	.	100	.	.
5	.	100	75	0	75	.	.	.	100	.	.
33	.	100	100	.	100	.	3	0	100	2	100
26	.	100	75	100	100	.	.	.	100	.	.
27	.	100	75	0	100	.	.	.	100	.	.
9	.	100	100	100	100	25	.	.	100	5	100
2	.	100	100	0	100	100	1	100	0	.	.
28	.	100	100	.	0	.	.	.	.	.	.
1	100	100	100	0	50	75	.	.	100	.	.
22	0	50	50	100	0	100	3	0	0	.	.
34	100	25	25	.	0	100	.	.	.	.	.
15	.	25	25	0	0	.	.	.	0	.	.
8	100	100	100	0	100	100	.	.	100	.	.
31	.	100	100	.	100	.	.	.	100	.	.
13	.	75	75	100	0	0	.	.	0	.	.
12	.	100	100	100	100	.	1	100	100	.	.
7	.	100	75	0	0	100	2	100	0	.	.
19	100	100	75	100	100	75	.	.	100	.	.
18	100	75	75	.	100	.	.	.	100	.	.
14	50	25	25	100	100	.	1	0	100	22	100
21	.	100	50	100	100	.	1	100	100	2	100
24	.	75	75	0	50	.	.	.	100	6	100
3	.	0	0	0	0	100	.	.	0	.	.

[a]"." Indicates "missing" from the tray. In the case of milk type and milk amount, this "missing" indicates that the older adult was offered milk as a beverage, but refused. In the case of the OJ or pineapple (both portable items), "missing" indicates that the congregate meal participant took that item home. "Missing" for extra type or extra amount indicates that the congregate meal participant did not ask for additional condiments or food items.

Table 21. Individual participants' results of the visual plate waste study on day five

Tray number	Chopped steak	Regular hamburger bun	Cole-slaw	Succotash	Orange	Milk type	Milk amount	Extra type	Extra amount
4	75	50	50	75	25	.[a]	.	.	.
12	100	100	100	25	100	.	.	1	200
8	100	50	50	100	0	2	0	.	.
7	50	50	25	75	.	.	.	.	.
28	100	0	100	100	100	.	.	.	.
19	100	0	100	100	0	1	0	.	.
6	0	50	75	75	.	1	100	.	.
18	100	50	50	25	100	2	100	.	.
15	75	25	50	75	.	.	.	.	.
20	50	75	25	0	.	2	100	.	.
25	100	25	100	100	100	2	100	.	.
16	100	.	0	100	.	.	.	.	.
17	100	100	100	75	0	.	.	.	.
22	100	100	100	100	.	.	.	.	.
27	75	100	50	50	0	.	.	24	75
24	100	100	0	25	.	.	.	8	100
2	0	0	0	0	.	.	.	.	.
14	75	.	75	25	.	.	.	.	.
10	25	100	0	0	0	1	0	1	100
5	25	50	0	25	.	.	.	.	.
1	0	0	0	0	.	1	.	.	.
23	25	50	50	0	.	.	.	.	.
9	100	0	0	25	.	2	100	.	.
26	75	50	100	0	.	.	.	.	.
3	100	0	100	100	.	.	.	.	.
21	75	.	75	100	.	1	100	.	.
13	0	100	0	25	.	.	.	.	.
11	100	100	0	0	.	.	.	.	.

[a]"." Indicates "missing" from the tray. In the case of milk type and milk amount, this "missing" indicates that the older adult was offered milk as a beverage, but refused. In the case of the orange (a portable item), "missing" indicates that the congregate meal participant took that item home. "Missing" for extra type or extra amount indicates that the congregate meal participant did not ask for additional condiments or food items.