



*FAA Center for Management Development  
Health Awareness Program*

October 15, 2003

**received**  
10/20/03  
KT

Dear Food Guide Pyramid Reassessment Team:

I am a workplace health educator who facilitates educational sessions, to adults, on the following topics: Exercise & Nutrition, Heart Health, Cancer Awareness, and Stress Management. These individuals also get their cholesterol screening, body fat composition, height and weight and other assessments completed during their time with our facility. Through this experience I have been exposed to hundreds of people who lack basic, correct knowledge about nutrition and physical activity. As we know these two facets of our lifestyle are pivotal in almost any health/medical issue. I appreciate the opportunity to provide suggestions for an "improved" version of the current Food Guide Pyramid.

First and foremost, I must say that my personal and professional opinion agrees with most details of Walter Willet's "Health Eating Pyramid," from Eat, Drink & Be Healthy. In addition to the suggestions he lays out, I would like to add the following:

- Include a focus on water consumption
- Differentiate between "good" fats and the others...include a focus on "good" fats
- Incorporate a focus on calcium consumption...include alternatives, like supplementation, for the large number of people who are lactose intolerant
- Differentiate between good and worse sources of carbs...suggest a limit on highly refined carbs, especially high fructose corn syrup
- Explain the reason for the small serving sizes compared to what "most Americans eat"
- Maybe surround the pyramid (or diagram) with a focus on physical activity

Again, I appreciate this opportunity to have my suggestions considered and I look forward to the upgrade!

Sincerely,

Angela Lee, CHES

Health Awareness Coordinator  
FAA CMD

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Schueler

received  
10-20-03  
DLH

Stephanie Schueler, P.E.

Chesterton, IN

October 11, 2003

Ms. Carol Davis  
USDA Center for Nutrition Policy and Promotion  
3101 Park Center Drive Room 1034  
Alexandria VA 22302

Dear Ms. Davis:

I would like to take this opportunity to comment on the Food Guide Pyramid. Please consider the following points:

The Food Guide Pyramid needs to include more soyfoods whole grains non-dairy sources of calcium nuts and seeds.

The Grain Group should be changed to the Whole Grain Group to promote increased use of whole grains. This could be combined with a recommendation to get at least half of grain products as whole grains.

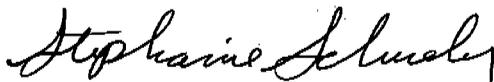
Currently all fats are included in the tip of the pyramid as Fats Oils and Sweets. Health-promoting fats from vegetable oils nuts and seeds should be in a different category from saturated fats and trans fatty acids.

The Food Guide Pyramid should contain adequate sources of vitamin E including nuts and nut butters and vegetable oils. Perhaps there needs to be a new food group called Nuts and Seeds Group.

Currently dry beans are included in the Meat Poultry Fish Dry Beans Eggs and Nuts Group. Dry beans provide substantial amounts of fiber and phytochemicals and are low in total fat and saturated fat. Nuts are good sources of unsaturated fat. In contrast meat poultry fish and eggs do not contain fiber and do contain fat and saturated fat as well as cholesterol. A simple reordering of the title of this group to Dry Beans Nuts Eggs Meat Poultry and Fish could show that dry beans are preferable to meat.

Since many consumers use only limited amounts of dairy products and dairy products are not traditionally a part of the diet of many ethnic groups the Food Guide Pyramid should focus on multiple sources of calcium including dark green vegetables and fortified foods rather than relying primarily on dairy products as a source of calcium. Non-dairy sources of calcium should be included in the graphic of the Food Guide Pyramid.

Sincerely,



Stephanie Schueler, P.E.

10/01  
Sappington



Roberta Sappington

received  
10/01/03  
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Angela,

First, thanks for doing this. Second, as I understand it, the food pyramid overdoes the simple carbs which metabolize into pure sugar. The large base of the pyramid encourages the majority of daily caloric intake to come from bread, pasta, potatoes and stuff most doctors ask people to limit as soon as they have any symptoms of that relate to weight in any way.

I recommend having the carb section (base of the pyramid) explicitly refer to high fiber and high glycemic index carbs, and add a narrow layer to the pyramid which allows for a limited amount of "white" carbs that are so demanding on the pancreas and provide so little nutritional value.

Roberta Sappington, Ph.D.  
Program Manager, Center for Management Development

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10/20/03  
KS

Oct 6, 2003

Food Guide Pyramid Reassessment Team  
USDA Center for Nutrition Policy and Promotion  
3101 Park Center Drive,  
Room 1034, Alexandria, VA 22302

Dear Sir/Madam,

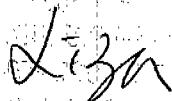
I am a student in Texas Woman's University and major is Dietetics & Institutional Administration. I would like to comment in regard the Federal Register published on September 11, 2003 which concerns about the newly proposed Food Guide Pyramid and its comment collection for the 2005 discussion. Periodical revision on Dietary Guideline is essential, especially with valuable educational tool like the Food Guide Pyramid. Therefore I absolutely appreciate and strongly support the revision of the Food guide Pyramid.

Diet related diseases, for instance obesity, are the major health problems affecting millions of Americans. Prevalence of obesity had risen during the past 20 years. By the year 2000, 22 of the 50 states are having obesity prevalence as high as 20 % or greater. With focuses on age, gender and activity level variations among different groups of people, more comprehensive food intake patterns best represent the groups can be concluded. It would be ideal to be as detailed and specific as possible to meet the various metabolic rate and nutritional needs of different individual. However, the guideline can only be specify to a level in which overall maximal benefit is reached for the general public. I think the function for the new Food Guide Pyramid is to ultimately serve as an unambiguous, broadly applicable and highly validating dietary reference.

As a member of The American Dietetic Association and the Texas Dietetic Association, and a future dietitian, I am gratified for the revamping of the Food Guide Pyramid. Public health education often begins with prevention and starting with the best known dietary reference, the Food Guide Pyramid, would be an excellent lead. I hope the department will continue its effort to improve the Food Guide Pyramid for the public's health. I hope to hear your opinion of this important issue at your earliest convenience.

Thank you for your attention.

Sincerely,



Liza Ng

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received  
10/20/03  
KA

To Whom It May Concern:

I am submitting comments and recommendations for consideration for the update of the current food guidelines. I submit my ideas based on 36 years in the secondary classroom teaching heavily in foods and nutrition.

I found that the current form and information for food guidelines was the most difficult to teach compared to the Basic Four or Basic Seven.

1. I recommend providing many more measurable or specific units that are easily identified for serving size units. Simply listing 6-11 or 3-5 servings is of little value to most consumers. I know some charts as the one provided by the National Cattlemen's Beef Association had a backside to the chart that was extremely helpful to identify a specific quantity of food to equate a serving. I am enclosing a copy of that document.

Consumers do not know how much is an "ounce" of cheese when cutting cheese from a larger chunk. It needs to be a ruler measurement or "Tablespoon" or "cup" portion or a common visual comparison as in the "deck of cards" for a 3 ounce portion of meat.

2. The current pyramid is confusing to read because we are taught that the top of most everything is the best. The current pyramid has the "No Nos" at the top.

3. Remove the triangle concept. Put the new concept in a different format. The old Basic 4 was extremely easy to teach, understand and remember. The 4 quadrants didn't prioritize. It simply gave the guidelines. I recommend something in a straight line across a page as we are taught to read left to right and in a line. There would be room on the same page to provide many examples of servings sizes.

4. Keep quantities simple. The ranges of 6-11, 3-5, etc. are confusing. There is too much room for indecision as to how much of each category is needed. Then to try to balance the total day from those ranges is much too difficult for consumers, especially in hurried time schedules. Kids had an awful time in class projects. The Basic 4 was very easy to remember as it was simply 4-4-4-2!

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5. Reduce the number of categories. Go back to putting fruits and vegetable together and meats, fish, milk, etc. as a group. Keep it simple. With so many categories and so very many ranges of servings there is too much information to keep track of in your head and few people take time to get a chart out, if they even have one.
6. The current triangle concept is similar in concept to a map. Many people can not read a map with so much information before them scattered everywhere. There are too many images for them to figure out what to read or where to read first. Also, the many oblique lines are visually frustrating and confusing. Oblique lines used in design are meant to create visual excitement and eye movement not allowing the brain to concentrate on one area very long.
7. The milk category needs to be increased to 4 servings or more. There is enough evidence that many people are not getting enough of the milk products. The recent Mayo Clinic study released showing the drastic increase in broken limbs among teenagers reinforces this need.
8. Portion control needs to be included, especially for pastas and cereal products. I learned that children, if they can read, do not read the labels to know how much is a one ounce serving of cold cereal. They take a bowl and simply pour until it is full. The same holds true for eating spaghetti type products. When I measured a ½ cup of cooked spaghetti to indicate a serving, students would just hoot at the small amount! Those early eating habits continue through adulthood, we know.
9. If a triangle is continued, turn it upside down. Also, rearrange the categories from their current positions. Obviously, many of the categories need to have their quantities adjusted in addition to the milk group.
10. I could, also, recommend a circle shape for the new guidelines. Circles are visually comforting and would signify an ongoing process to meet daily food needs without a top or a bottom, beginning or end. People, especially adults, are familiar with the concept of pie charts for conveying information to see how the whole of something can be divided into parts and then comprehend the relationship of the pieces to the whole of something.

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11. Whatever is done, more information has to be built into the food guidelines to indicate portion control. I would recommend visuals of commonly abused portions such as for potato chips, French fries, various cereals as grape nut type cereals and puffed type cereals, pop and most bagged snack foods.
  
12. I highly recommend that you find seasoned classroom teachers to help evaluate the new guidelines. Unless you have had a lot of experience trying to teach this information at the lay level, you will miss some important issues as evidenced by the current pyramid. The issues are not strictly dietary, but in visual presentation format, also. If you provide guidelines that are not understood or used, your efforts will be fruitless.

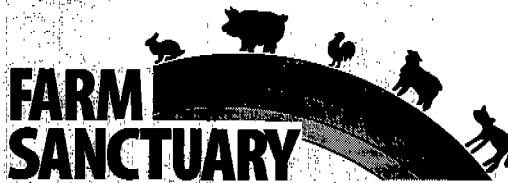
Thank you,



Isabel Qualls

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KJ

October 15, 2003

Food Guide Pyramid Reassessment Team  
USDA Center for Nutrition Policy and Promotion  
Room 1034  
3101 Park Center Drive  
Alexandria, VA 22302

**RE: Proposed Food Guide Pyramid**

To Whom It May Concern:

I am writing on behalf of Farm Sanctuary to comment on the proposed Food Guide Pyramid daily food intake patterns and technical support data noticed in the *Federal Register* on September 11, 2003 (Vol. 68, No. 176). Farm Sanctuary is a national non-profit organization dedicated to fighting agricultural abuse of animals and promoting a vegan lifestyle.

Farm Sanctuary supports updating the Food Guide Pyramid and its technical support data to reflect the conclusions reached by a growing body of scientific research into the relationship between diet and disease. America's dietary choices have a profound impact, not only on the health and wellbeing of its citizens, but on the nation's health care costs, the integrity of our natural resources, and the welfare of billions of non-human animals as well.

**Importance of the Food Guide Pyramid**

The Food Guide Pyramid translates nutritional recommendations into the kinds and amounts of foods the public is to eat every day. Its purpose is to interpret highly technical information about the nutritional composition of various foods into a simple graphic representation of ideal food choices that the average American can relate to and comprehend.

The current Dietary Guidelines for Americans informs readers: "Let the Pyramid guide your food choices. To make sure you get all the nutrients and other substances you need for health, build a healthy base by using the Food Guide Pyramid as a starting point. Choose the recommended number of daily servings from each of the five major food groups."<sup>1</sup>

As the Dietary Guidelines instruct individuals to eat a minimum number of servings from each of the major food groups every day, it is imperative that those food groups are in fact beneficial, and not deleterious, to human health.

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10/20/03

**Role of Diet in Disease**

During the past two decades thousands of scientific studies have documented the health benefits of a plant-based diet and the risks of consuming meat and dairy products. Animal-derived diets have been repeatedly linked to the four leading causes of death in the U.S. – heart disease, cancer, diabetes, and stroke/hypertension. In addition, diets that are high in fat and calories and low in fiber have been associated with overweight and obesity, which have reached epidemic proportions in the U.S. According to a “call to action” released by the U.S. Surgeon General in 2001, “Health problems resulting from overweight and obesity could reverse many of the health gains achieved in the U.S. in recent decades.” The report goes on to claim that 61 percent of U.S. adults and 13 percent of children and adolescents are now considered overweight.<sup>2</sup>

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The Surgeon General report attributes 300,000 U.S. deaths a year to obesity and sets the price tag for the condition at \$117 billion for the year 2000.<sup>3</sup> According to the USDA’s Center for Nutrition Policy and Promotion, all diet-related health problems cost Americans approximately \$250 billion each year in medical costs and lost productivity.<sup>4</sup>

A small sampling of the many studies correlating diet and disease are summarized below:

Heart Disease

The Seven Countries Study was the first to show a strong relationship between the consumption of different food groups by cultural populations and the long-term incidence and mortality from coronary heart disease (CHD). In the study, higher animal food consumption was associated with higher CHD death rates, while higher vegetable consumption was associated with lower CHD death rates. The findings held true for the consumption of both meat and dairy products.<sup>5</sup>

In another international survey, death rates from CHD were positively linked country-by-country with milk consumption, specifically with consumption of the non-fat portion of cow’s milk.<sup>6</sup> An additional study that combined data from five different prospective studies found that mortality from ischemic heart disease was 24 percent lower in vegetarians than in non-vegetarians.<sup>7</sup>

Cancer

A 1997 report by the American Institute for Cancer Research examined global evidence of a diet-cancer link using a methodical and comprehensive approach. It concluded that 30 to 40 percent of all cancers are directly related to food.<sup>8</sup> The report’s findings were confirmed by a 2003 document from the World Health Organization, entitled *Diet, Nutrition and the Prevention of Chronic Diseases*, that associated diets rich in plant foods with lower risk for cancer. According to the American Institute for Cancer Research, “To date, literally thousands of studies consistently show correlations between fruit and vegetable consumption and lower cancer risk.... Taken together, this evidence amounts to proof of a causal relationship beyond any reasonable doubt.”<sup>9</sup>

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### Diabetes

In one study, rates of diabetes among Seventh-day Adventists – approximately 40 percent of whom are vegetarian – were less than half those found in the general population. In the same study, vegetarian Adventists had lower rates of diabetes than non-vegetarian Adventists.<sup>10</sup>

### Hypertension

Studies have documented significantly lower rates of hypertension among vegetarians compared with meat eaters.<sup>11</sup> In one study, only 13 percent of vegetarians were shown to suffer from hypertension versus 42 percent of those consuming meat.<sup>12</sup>

### Obesity

Following a vegetarian diet has been associated with lower levels of obesity, as defined by the body mass index (BMI). In the Seventh-day Adventists Health Study, BMI was associated with meat eating: BMI increased as the consumption of meat increased.<sup>13</sup> Similar findings were documented for both sexes and all age groups in the Oxford Vegetarian Study.<sup>14</sup>

### Foodborne Illness

Last year the USDA Food Safety and Inspection Service (FSIS) issued 44 recalls for a total of 56 million pounds of meat and poultry, enough to serve a potentially tainted burger or chicken patty to every man, woman, and child in America.<sup>15</sup> In 1999 the Centers for Disease Control and Prevention conducted an extensive study of the impact of foodborne diseases on health in the United States. The study concluded that each year in the U.S. foodborne disease is responsible for approximately 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths. While many pathogens can be transmitted through multiple sources including plant foods, water, or from person to person, the pathogens of greatest concern today (*Escherichia coli* 0157:H7, *Campylobacter jejuni*, *Listeria monocytogenes*, and *Salmonella nontyphoidal*) are all spread through foods derived from animals.<sup>16</sup>

### **Support for a Plant-Based Diet**

In analyzing a vegetarian lifestyle, the American Dietetic Association concludes, "In general, heart disease, high blood pressure, adult-onset diabetes, obesity and some forms of cancer develop less often among vegetarians than non-vegetarians."<sup>17</sup> The American Dietetic Association and the Dietitians of Canada has published the following statement in support of plant-based diets:

*It is the position of the American Dietetic Association and Dietitians of Canada that appropriately planned vegetarian diets are healthful, nutritionally adequate, and provide health benefits in the prevention and treatment of certain diseases.*<sup>18</sup>

Due to their demonstrated health benefits, diets rich in vegetables, fruits and grains and low in starches and fat have been endorsed by a number of additional organizations. Some of these groups include:

- American Institute for Cancer Research
- American Cancer Society

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Bauston

- American Heart Association
- Heart and Stroke Foundation of Canada
- National Institutes of Health
- American Academy of Pediatrics<sup>19</sup>

### **Recommended Changes to Food Guide Pyramid**

The current Food Guide Pyramid recommends a total of 4 to 6 servings each day from food groups containing foods that have been consistently linked to heart disease, cancer, and other health problems. This is anything but a prescription for health and fitness.

Farm Sanctuary makes the following suggestions regarding the food groups that form the basis of the Food Guide Pyramid:

#### Replace the "Milk Group" with a "Calcium-rich Group"

The current Food Guide recommends 2 to 3 servings per day of dairy products. The Guide offers no plant sources for calcium, despite the fact that many adequate alternatives exist. Fortified soy non-dairy products contain as much calcium, Vitamin A and D as fortified cow's milk. Some enriched soy alternatives are superior to cow's milk in providing other nutrients, including iron, folic acid, Vitamin B<sub>12</sub>, and Vitamin E.

#### Replace the "Meat and Beans Group" with a "Protein-rich Group"

The current Food Guide recommends 2 to 3 servings per day of meat, poultry, fish, dry beans, eggs, or nuts. Although the Guide does offer beans and nuts as plant-based alternatives to meat, it does not reflect the fact that the intake of animal flesh is injurious to human health and should be minimized, or that legumes provide protein that is nutritionally adequate and may even protect against the onset of heart disease.<sup>20</sup>

#### Revise or Eliminate the "Fats, Oils, & Sweets Group"

Given the current obesity problem in the U.S., it's doubtful a separate "Fats, Oils & Sweets" food group is prudent, and since sugars and fats naturally occur in a number of foods, it's questionable whether a separate category for these nutrients is even necessary.

It has been suggested that the graphic representation of the Food Guide be inverted since many individuals perceive the top tier of a pyramid as being of the highest quality or the most desirable. It may be preferable, in fact, to replace the pyramid itself with an entirely different graphic. Canada, for example, makes use of a rainbow graphic for its food guide.

Several alternative food guide graphics have been developed. One proposed vegetarian food guide pyramid (Attachment 1) and rainbow (Attachment 2) includes five food groups: Grains, Legumes, Nuts and Other Protein-rich Foods; Vegetables; Fruits; and Fats. Both the pyramid and the rainbow feature a segment of each food group dedicated to Calcium-rich foods as opposed to having a separate Calcium group.<sup>21</sup>

The Plant-based Food Pyramid promoted by EarthSave (Attachment 3) consists of a conventional pyramid design with four tiers. The "Whole Grains, Cereals and Pastas" group occupies the bottom tier; "Vegetables" and "Fruits" are on the second tier; "Calcium-rich Foods"

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and "Beans and Alternatives" share the third tier, and "Omega 3 Fatty Acids, Vitamins B<sub>12</sub> and D" are at the top of the pyramid. This latter group allows a completely plant-based, or vegan, diet to meet all nutritional requirements.<sup>22</sup>

**Conclusion**

When the U.S. Food Guide was originally published in 1916 little was known about the connection between the consumption of animal food products and disease. The concern at the time was malnutrition, not "overnutrition," as is the case today. Moreover, vegetarian substitutes for animal foods were not readily available. Today, virtually every grocery store in America, in addition to many restaurants, hotels, airlines, shopping centers, and recreational venues, offer vegetarian and vegan options.

Given the overwhelming empirical evidence linking animal-based foods with various human health conditions, it is irresponsible for the federal government to continue to recommend through its Food Guide the daily consumption of 4 to 6 servings per day of meat and dairy products. Not only are vegetarian and vegan diets nutritionally adequate, they provide significant health benefits in the prevention and treatment of a variety of diseases.

Therefore, Farm Sanctuary recommends that the Food Guide Pyramid and its technical support data be altered by substituting a "Calcium-rich Group" for the current "Milk Group" and a "Protein-rich Group" for the current "Meat and Beans Group." We challenge the USDA to devise a graphic representation of recommended dietary choices that accurately reflects what is known about the health benefits of a plant-based diet, as well as the risks of a diet based on animal-derived foods.

Thank you for the opportunity to comment on this very important issue. We look forward to reviewing the revised Food Guide when it becomes available.

Sincerely,



Gene Bauston, President  
Farm Sanctuary, Inc.

**Attachments**

<sup>1</sup> USDA Center for Nutrition Policy and Promotion. 2000. Dietary Guidelines for Americans, 5<sup>th</sup> Edition. (Available at <http://www.health.gov/dietaryguidelines.htm>.)

<sup>2</sup> United States Department of Health and Human Services, Office of Surgeon General. December 13, 2001. Overweight and Obesity Threaten U.S. Health Gains (news release). (Available at <http://www.surgeongeneral.gov/news/>.)

<sup>3</sup> Ibid.

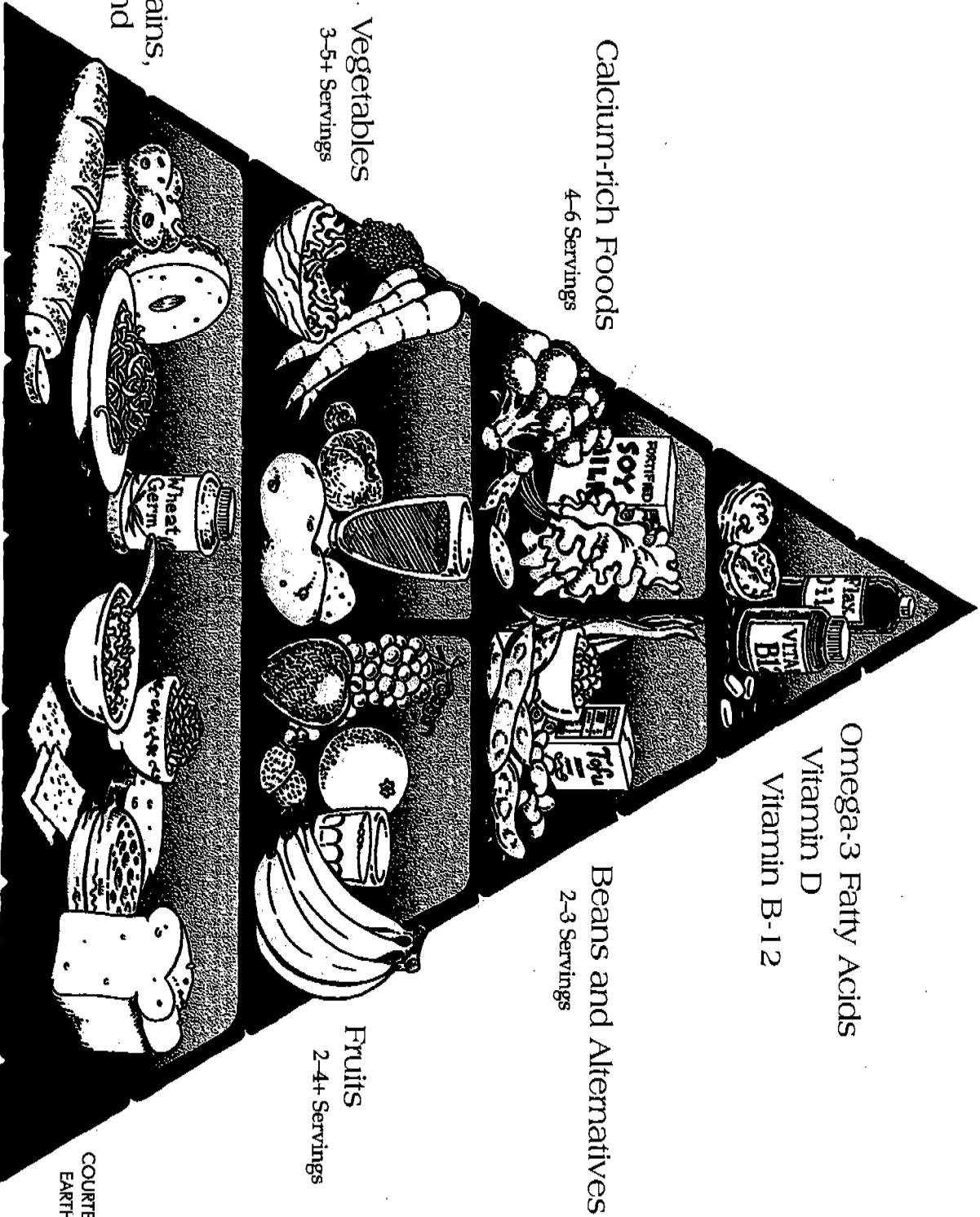
<sup>4</sup> United States Department of Agriculture, Center for Nutrition Policy and Promotion. 2000. Questions and Answers on the Dietary Guidelines, 2000. (Available at <http://www.cnpp.usda.gov>.)

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- <sup>5</sup> Menotti A, Kromhout D, Blackburn H, Fidanza F, Buzina R, Nissinen A. 1999. Food intake patterns and 25-year mortality from coronary heart disease: cross-cultural correlations in the Seven Countries Study. *European Journal of Epidemiology*, 15:507-515.
- <sup>6</sup> Moss M, Freed D. 2003. The cow and the coronary: epidemiology, biochemistry and immunology. *International Journal of Cardiology*, 87:203-215.
- <sup>7</sup> Key TJ, Fraser GE, Thorogood M, Appleby PN, Beral V, Reeves G, Burr ML, Chang-Claude J, Frentzel-Beyme R, Kuzma JW, Mann J, McPherson K. 1999. Mortality in vegetarians and nonvegetarians: detailed findings from a collaborative analysis of 5 prospective studies. *American Journal of Clinical Nutrition*, 70(suppl):516S-524S.
- <sup>8</sup> American Institute for Cancer Research. 1997. Food, Nutrition and the Prevention of Cancer: A Global Perspective. (Available at <http://www.aicr.org>.)
- <sup>9</sup> American Institute for Cancer Research. March 3, 2003. New United Nations Report Supports Key Role for Diet, Activity in Cancer Prevention (news release). (Available at <http://www.aicr.org/press>.)
- <sup>10</sup> Snowdon DA, Phillips RL. 1985. Does a vegetarian diet reduce the occurrence of diabetes? *American Journal of Public Health*, 75:507-512.
- <sup>11</sup> Melby CL, Hyner GC, Zoog B. 1985. Blood pressure in vegetarians and non-vegetarians: a cross-sectional analysis. *Nutrition Research*, 5:1077-1082.
- <sup>12</sup> Fraser GE. 1999. Associations between diet and cancer, ischemic heart disease and mortality in non-Hispanic white California Seventh-day Adventists. *American Journal of Clinical Nutrition*, 70(suppl):532S-538S.
- <sup>13</sup> Ibid.
- <sup>14</sup> Appleby PN, Thorogood M, Mann JJ, Key TJA. 1999. The Oxford vegetarian study: an overview. *American Journal of Clinical Nutrition*, 70(suppl):525S-531S.
- <sup>15</sup> United States Department of Agriculture, Food Safety and Inspection Service, Recall Information Center. (Available at [http://www.fsis.usda.gov/OA/recalls/rec\\_pr.htm#2002](http://www.fsis.usda.gov/OA/recalls/rec_pr.htm#2002).)
- <sup>16</sup> Mead PS, Slutaker L, Dietz V, McCaig LF, Bresee JS, Shapiro C, Griffin PM, Tauxe RV. 1999. Food-related illness and death in the United States. *Emerging Infectious Diseases*, 5(5):607.
- <sup>17</sup> American Dietetic Association. A vegetarian lifestyle: can vegetarian eating supply your body with enough nutrients? (Available at: [http://www.eatingright.org/Public/NutritionInformation/index\\_2827.cfm](http://www.eatingright.org/Public/NutritionInformation/index_2827.cfm).)
- <sup>18</sup> American Dietetic Association. 2003. Position of the American Dietetic Association and Dietitians of Canada: vegetarian diets. *Journal of the American Dietetic Association*, 103(6):748-765. (Also available at: <http://www.eatright.org>.)
- <sup>19</sup> Ibid.
- <sup>20</sup> An analysis of 38 clinical trials found that consumption of soy protein in place of animal protein significantly reduced blood levels of total cholesterol, LDL cholesterol, and triglycerides. Krauss, RM, et al. 2000. AHA Dietary Guidelines. *Circulation*, 102:2284-2299.
- <sup>21</sup> Messina V, Melina V, Mangels AR. 2003. A new food guide for North American vegetarians. *Journal of the American Dietetic Association*, 103:771-775.
- <sup>22</sup> The Institute of Medicine has recommended that everyone over 50 years of age, regardless of type of diet, receive Vitamin B<sub>12</sub>, through consuming supplements or fortified foods. Food and Nutrition Board, Institute of Medicine. 1998. Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B<sub>6</sub>, Pantothenic Acid, Biotin, and Choline. Washington, DC: National Academy Press.

# Plant-Based Food Pyramid

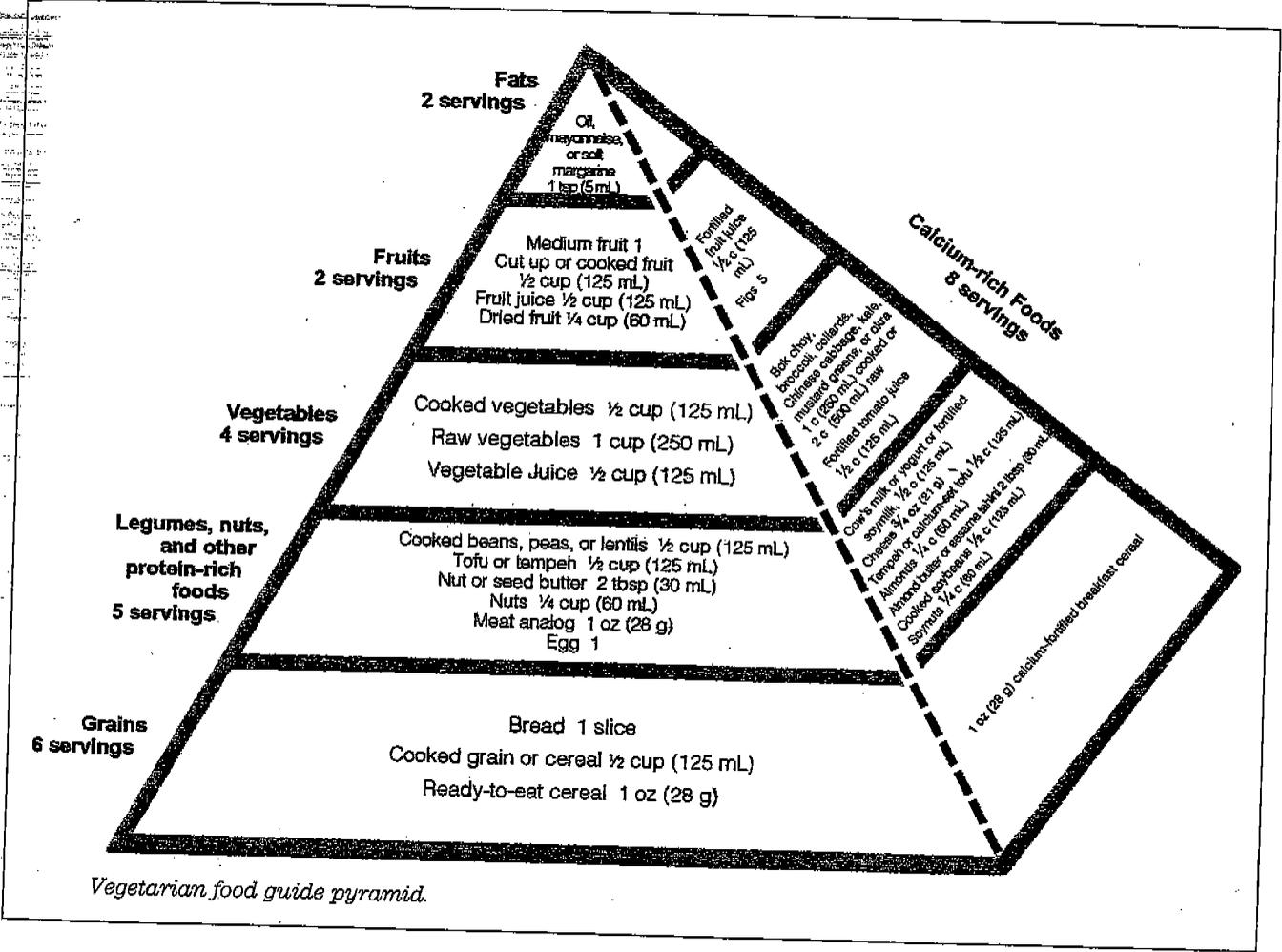
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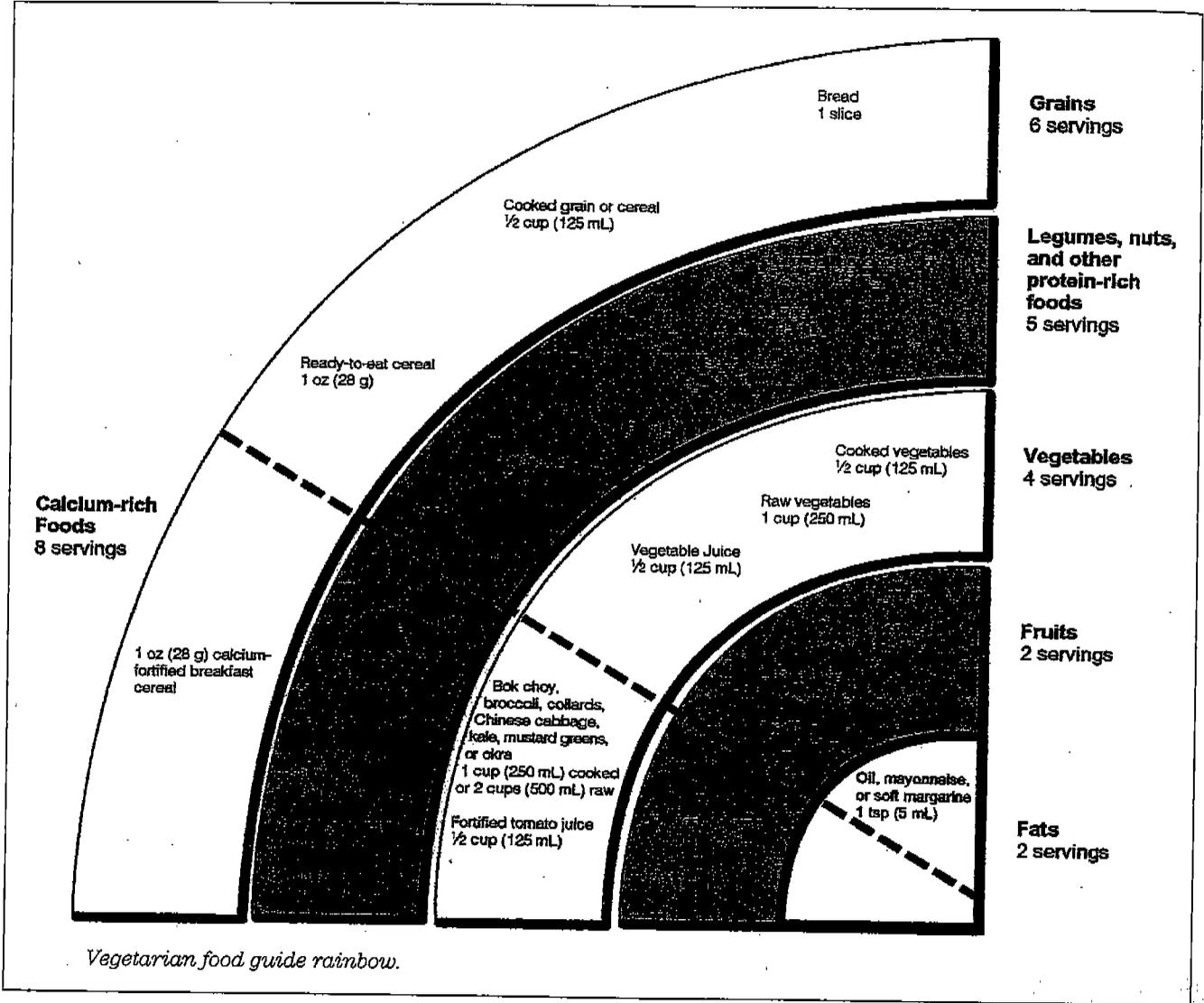
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# Attachment 2



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# Attachment 3



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Palma

Deborah A. DiPalma

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10/15/03

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October 15, 2003

Food Guide Pyramid Reassessment Team  
USDA Center for Nutrition Policy and Promotion  
3101 Park Center Drive, Room 1034  
Alexandria, VA 22302

RE: Public Comments on the Food Pyramid Guide

Dear Sir/Madam:

Thank you for seeking public opinion on the Food Pyramid. As the dietary model behind federal food programs, including the National School Lunch Program, the Pyramid needs to evolve with nutrition science.

When the Dietary Guidelines Advisory Committee convenes to review current policy, I hope they will emphasize the Vegetarian/Vegan Six Food Groups: Whole Grains and Starches, Legumes, Green and Yellow Vegetables, Nuts and Seeds, Fruits, Vitamin and Mineral Foods.

Present guidelines advise two to three daily servings of dairy products along with meat as a main protein source. While this plan successfully promotes the meat and dairy industries, it ignores numerous studies linking saturated fat and cholesterol in meat, eggs, and dairy products with heart disease, cancer and stroke—the top three killers in the U.S. Dairy products alone are associated with obesity, high blood pressure, juvenile onset diabetes, prostate and breast cancers, allergies, nasal congestion and ear infections, according to the American Heart Association.

One of two Americans will die from heart disease. The excess saturated fat (mostly from animals) and cholesterol (entirely from animals) will be the cause in most cases. The American Dietetic Association claims that vegetarian diets reduce the risk for coronary artery disease, hypertension, diabetes mellitus, colorectal cancer, lung cancer, kidney disease, and obesity. Children, in particular, deserve alternatives to the fatty fare on school lunch lines. In a 1999 American Heart Association Scientific Sessions report, one in six teenagers' hearts showed significant blockage and the arteries of five-year-olds were clogged with fatty patches. Veggie burgers, soy cold cuts and soy milks are great substitutes for corn dogs, pizzas and milkshakes.

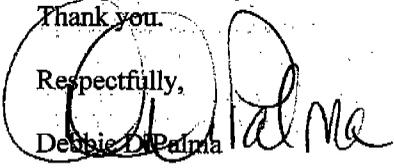
The FDA links contaminated meat goods with six and a half million cases of food poisoning and six thousand deaths every year. Animal-based meals contain residues of growth-inducing hormones and antibiotics. In fact, antibiotic abuse on factory farms has led to what the scientific community labels Super-Bugs-Bacteria. SBB are resistant to current antibiotic therapies.

The Vegetarian/Vegan Six include all the essential carbohydrates, fats, protein, vitamins, minerals and water necessary for a balanced and healthy diet. They also prevent disease and obesity. Please revise the Food Guide Pyramid to reflect vegetarian sources of protein, calcium and other vital nutrients.

Thank you.

Respectfully,

Debbie DiPalma



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10/20/03  
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October 17, 2003

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USDA Center for Nutrition Policy and Promotion  
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Alexandria, VA 22302

Dear Food Guide Pyramid Reassessment Team:

Thank you for the opportunity to comment on the reassessment of the Food Guide Pyramid. The following are comments on the topics of specific interest to the Reassessment Team noted in the Federal Register.

1. Appropriateness of using sedentary, reference-sized individuals in assigning target calorie levels.

With the decline in the physical activity and the rise in obesity, it is appropriate to assume no physical activity beyond the activities of independent living. For Americans that *are* physically active it is important to include the three tier suggested intakes for sedentary, low active, and active. It is cautioned that if these three levels are to be included the notes defining sedentary, low active, and active following *Table 2: Energy Levels for Proposed Food Intake Patterns* should be emphasized. Consumers may overestimate their activity level without clear definitions of activity levels.

2. Appropriateness of the selection of nutritional goals for the daily food intake patterns.

By adding a nutritional goal for added sugars, sugars are quantified for consumers, but may also cause consumer confusion. Using the term "added sugars" presents the nutritional goal as additional sugar that can be added to the diet, beyond the sugars added in food processing.

3. Appropriateness of the proposed food intake patterns for educating Americans about healthful eating patterns.

Although, the Food Guide Pyramid should be based on typical foods consumed by Americans, it is also a means through which nutrition educators bring about positive change. The food intake patterns suggest higher amounts of whole-grains, dark-green vegetables, legumes, and fruits than the current Food Guide Pyramid, but we are responsible for recommending the most healthful diet. Also, with the surge towards educating on the "good" kinds of fats, it would be appropriate to specify that solid fats are saturated fats, and that oil and margarines are mono- and

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polyunsaturated fats. These terms are used widely in the media and on FDA Food Labels, rendering it feasible for professionals to educate consumers.

4. Appropriateness of using "cups" and "ounces" vs. "servings."

As mentioned in the Federal Register, listing the serving sizes as a single quantity discourages consuming a variety of foods. This is especially detrimental in fruit and vegetable intake. Current research is promising, regarding the benefits of phytochemicals that are found in different colors of fruits and vegetables. The benefits of variety extend to all the food groups on the pyramid, and should be emphasized as much as moderation and adequacy.

In addition, the Food Guide Pyramid is widely used in educating children about healthful eating. Educating children on the concept of equivalents is not highly feasible. It would be difficult for young children to visualize how a medium banana or slice of bread can equal 1/2 cup.

As an educator it would be easier to reeducate or reemphasize the importance of a standardized serving size, rather than begin a new campaign of explaining equivalents. With the recent media outpouring of information on "portion distortion," the public is becoming more aware that an appropriate serving size is not the typical American serving size. Making it possible for educators to bring about a better understanding of serving size. If it is determined that the term "serving" must be avoided, please encourage variety through listing the recommendation as "3 - 1/2 cup equivalents/servings."

Another concern listed in the Federal Register in relation to the misunderstanding of standardized serving sizes, is that serving sizes on the Food Guide Pyramid are not in accordance with those that appear on the FDA Nutrition Facts labels. Although a rigorous and time consuming process, a future goal of the USDA should be to standardize USDA and FDA serving sizes. Both are federal standards, and often assumed to be the same by consumers. It is very difficult to help consumers distinguish the difference between the two, especially when the Food Guide Pyramid appears below the FDA Nutrition Facts label on many products. If we are going to simplify the concept of standardized serving sizes, we need to start by standardizing it.

5. Selection of appropriate illustrative food patterns for various consumer materials.

It is a concern that the food patterns for children may be used as low calorie diets for adults. Since the lower calorie food patterns are based on the DRIs for children, nutritive value of these food patterns would not be sufficient for adults. Developing a separate subset for children would help parents avoid confusing adult food patterns with those appropriate for children and vice versa. It would also be useful for parents to see the age breakdown as it relates to the food patterns, since they may not be able to select the correct calorie level for their child.

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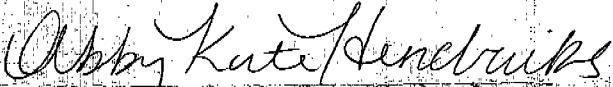
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We commend you for your diligence in advancing public health nutrition. Thank you.

Sincerely,



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Community Health Specialist  
Utah Department of Health



Abby Hendricks  
Utah State University Dietetic Intern

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received  
10/20/03

## **Redesigning the Food Pyramid-The Malka Food Pyramid** KT

by Rebecca Dachman, M.D., M.P.H

Presented at the: Art & Science of Health  
Promoting Conference February, 2003, Washington, D.C.  
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### **Abstract:**

*The food pyramid is the major mechanism by which nutritional directives are communicated to the nation. The current pyramid, which is based on agricultural food groupings, does not focus on the macronutrient content of food nor does it provide a definitive serving size. Yet it is macronutrients that contain calories and provide energy. This article presents a novel food pyramid, the MALKA (MAcronutrient Linked Kaloric Assessment) pyramid, which is based on macronutrient content and has a benchmark serving size. This pyramid clearly communicates nutritional requirements and would facilitate appropriate weight management.*

### **Methods:**

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*Information regarding the food pyramid was obtained from the USDA website, [www.usda.gov](http://www.usda.gov). USDA serving portions were based on information contained in the The Food Guide Pyramid at the Consumer Information Center of the USDA. Information regarding nutritional content of foods such as fruits, vegetables and beans was obtained from **about.com/nutrition**. The nutritional content of packaged foods was obtained from the food labels on packaged food items. Formulas regarding energy requirements were obtained from **Fundamentals of Clinical Nutrition** by SL Morgan and RL Weinsier, Mosby, Inc, St. Louis, Missouri, 1998.*

## **Results:**

### **I. The USDA Food Pyramid Composition**

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*The current food paradigm is based on agricultural groupings; grains, vegetables, fruits, meats, dairy. It recommends 6-11 servings of grains, 3 servings of fish/meats, 3 servings of dairy products, 2-4 servings of fruits and 3-5 servings of vegetables.<sup>1,2,3</sup> The definition of a serving, per USDA, is based on the net weight of the food item<sup>2,3</sup> and is inconsistent. A serving of one food has a different macronutrient /energy content than that of another food in the same category. Hence, 1 oz serving of dry cereal contains 22 grams of carbohydrate and 110 calories, whereas a 2 oz standard serving of pasta contains 42 grams of carbohydrate and 200 calories and a slice of bread, the standard serving, contains 16 grams of carbohydrate and 90 calories. The lack of correlation between serving size and macronutrient content, contributes to dietary confusion and excess caloric intake.*

*Moreover, the caloric content of the maximum daily intake per current food pyramid, i.e. the value of 11 servings of grains @ 100 calories per serving (5 slices bread, 2 bowls cereal and 2 servings of pasta), 3 servings of fish/meat @ 110 calories per serving ( $\frac{1}{2}$  of a 6 oz can of tuna fish, and 2 portions of 3 oz cooked chicken or meat), 3 serving of dairy @ 90 calories (3 glasses of skim milk), plus 4 servings of fruit @ 80 calories per serving and 5*

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*servings of vegetables @ 50 calories (variety of lettuce, spinach, potatoes and corn) comes to 2240 calories.*

*The basic need though for a 30 y.o, 70 kg (154 lb), 5'9" (180 cm) male is:*

*$66.47 + 13.75(W) + 5.00(H) - 6.76(A) = 1726.17$  calories where  $W$  = weight*

*in kg and  $H$  = height in cm and  $A$  = age in years.<sup>1, 4</sup> Exercise increases caloric*

*need by 20 -30% depending on level of activity<sup>4</sup>, and in the example given*

*above would increase the caloric requirement to 2076--2300 calories. Thus*

*except in the case of very active males the basic food pyramid promotes*

*excess caloric intake.*

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<sup>1</sup> For females the formula is:  $655.1 + 9.46(W) + 1.86(H) - 4.68(A)$

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**Table 1: USDA Food Pyramid Composition**

| Food group                 | Serving Size                | Calories per serving size | Grams carbohydrate       | Nutritional value   |
|----------------------------|-----------------------------|---------------------------|--------------------------|---------------------|
| Grains                     | 1 oz (28 g) cereal          | 110                       | 22 (0.8 oz)              | Carbohydrates       |
|                            | 2 oz (57 g) pasta           | 200                       | 42 (1.5 oz)              |                     |
|                            | 1 slice bread               | 90                        | 16 (0.6 oz)              |                     |
| Dairy                      | 1 cup-8 oz (237 ml) milk    | 90                        | 12 g (0.4 oz)            | Calcium/<br>protein |
|                            | 1 cup-8 oz (237 ml) yogurt  | 200                       | 40 g (1.4 oz)            |                     |
|                            | 2 oz (57 g) cheese          | 180                       | 1 g (0.04 oz)            |                     |
| Fruit                      | 1 medium banana             | 80                        | 27 g (1.0 oz)            | Vitamins            |
|                            | 1 slice melon or<br>1/2 cup | 24                        | 5 g (0.2 oz)             |                     |
|                            |                             |                           |                          |                     |
| Vegetable                  | 1 cup raw leafy             | 25                        | ~20 g (0.7 oz)           | Minerals            |
|                            | 1/2 cup other               | 80-120                    |                          |                     |
| Meat,<br>Poultry,<br>Beans | 2-3 oz (57-85 g)<br>cooked  | 85-200                    | 15-25 g (0.5-<br>0.8 oz) | Protein             |
|                            | 4 oz (113 g) beans          | 280                       | 50 g (1.8 oz)            |                     |

**USDA Food Pyramid Calorie Calculator:**

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|                          |   |        |
|--------------------------|---|--------|
| 11 servings of grains    | @ 100 calories per serving  | = 1100 |
| 3 servings of meat/fish  | @ 130 calories per serving (avg)<br>(½ can tuna, lox, and chicken breast) | = 390  |
| 3 servings beans         | @ 280 calories per serving  | = 840  |
| 3 servings of dairy      | @ 90 calories per serving<br>(3 glasses milk)                             | = 270  |
| 4 servings fruit         | @ 80 calories per serving   | = 320  |
| 5 servings of vegetables | @ 50 calories per serving   | = 250  |

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|  |                    |
|--|--------------------|
| <b>Total</b>                                       | <b>2330</b>        |
| Total with beans                                   | 2780               |
| Basic caloric needs of a 30 y.o, 154 lb, 5'9" male | 1726 calories      |
| Active 30 y.o. 154 lb, 5'9" male                   | 2040-2210 calories |

## **II. The MALKA Food Pyramid**

The MALKA food pyramid, by contrast, is based on macronutrient content, protein, carbohydrate and fats, which is the source of our energy i.e. calories. According to the MALKA pyramid, fruits and vegetables would be grouped with grains, as they all are sources of carbohydrate. Meat, legumes and dairy products would also be grouped together as they are the major sources of protein. Fats are considered incidental to the processing and composition of all other products. The MALKA pyramid recommends 50%-

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60% of calories from carbohydrates, 20-25% from proteins and 15-25% from fats.

*A serving size would be standardized to 20 grams of carbohydrate or protein. This would require looking at the carbohydrate and protein content on food labels, which are given in grams, rather than the net weight, which may be in oz or grams. Thus 3 oz of cooked meat or chicken is a serving size, since a portion of chicken or meat that has a net weight of 3 oz contains about 20 grams of protein. A portion of smoked salmon that has a net weight of 3 oz is  $\frac{3}{4}$  a serving size. A glass of fat free milk, which contains 8 grams of protein per label, would be 40% of a serving size.*

*With respect to carbohydrates, a portion of cereal with a net weight of 1 oz would be a serving size since it contains 22 grams of carbohydrate, a portion of pasta that has a net weight of 2 oz would be 2 servings since it contains 42 grams of carbohydrate. A slice of bread, which contains 16 grams of carbohydrate per slice, would be  $\frac{3}{4}$  of a serving.*

*The MALKA pyramid recommends 9-11 servings of carbohydrates a day of which 60% should be fruits and vegetables. Accordingly a diet should only have 3-5 servings of grains a day. Proteins, which include meat and dairy products would constitute 20-25% of the diet or 4-5 servings per day @ 20 grams a serving.*

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*Fats, which are part of the processing and composition of proteins and carbohydrates and therefore incidental to their intake, would be the remaining 15-25% of the diet.*

*Thus, according to the MALKA pyramid 9-11 servings of carbohydrate @ 20 grams/serving would provide 990 calories (4.5 x 20 x 11). 5 servings of protein @ 20 grams /serving would provide 450 calories and fats would provide an additional 360- 450 calories, for a total of 1800 -1890 calories daily. This is closer to the 1726 basic requirement of a 30 y.o. 70 kg, 180 cm male. Some foods such as milk and beans contain both carbohydrates and protein and would account for portions in both categories. These foods tend to add to caloric intake. 2 glasses of milk, accounts for 1 serving each of a carbohydrate and protein and does add to caloric intake, unless one strictly limits one's servings. Adjustments can be made by either increasing or decreasing the number and type of carbohydrate servings in the diet depending on body size and gender.*

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**Table II: MALKA Food Pyramid Composition:**

| Food Group  | Serving Size  | Calories                                | Grams                 | Nutritional value                         |
|---|---|---|-----------------------|---|
| Carbohydrates including grains, beans, fruit, vegetables and milk | 20 grams of carbohydrate<br>½ cantaloupe, 1 banana, 1 oz cereal, 1 oz pasta, 2 glasses milk, 1-16 oz bag green vegetables | 80-100 calories, 180 for 2 glasses milk | 20 grams carbohydrate | Carbohydrates plus minerals, vitamins     |
| Proteins including meat, fish, beans, milk, dairy                 | 20 grams protein =<br>3 oz cooked meat, fish, 2.5 glasses milk, 2.5 oz processed cheese                                   | 85-200 calories, 280 for beans          | 20 grams protein      | Protein-beans have carbohydrates as well. |
| Fats  | 20-25% of diet as process of preparing carbohydrates and proteins   |   |                       |   |

*Beans and milk account for both a carbohydrate and a protein serving.*

**The MALKA Food Pyramid Calculator:**

**Carbohydrates 9-10 servings @ 20 gms carbohydrate/ serving = 1000**

*(weight is carbohydrate content-net weight and caloric value are greater than expected based on 20 grams since processed foods include fats and water in net weight and calories)*

**50-60% from fruits and vegetables, only 3-5 servings of grain/day,**

**1/2 cup of beans = 1 serving protein, 2 servings carbohydrate,**

**2 glasses milk = 1 serving carbohydrate, ~ 1 serving protein**

**adds 80 calories**

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Protein 4-5 servings per day @ 20 gms protein/serving = 800

Fats -450 calories, these calories are incidental to protein and carbohydrate intake and are included in the calculations above

**Total = 1800**

This calculation differs slightly from the calculations on page 8 because these calculations account for fats in the calories of the protein and carbohydrate since fat intake will be incidental to protein and carbohydrate intake i.e. it is in the burger not separate from it.

**Table III: USDA vs. MALKA Food Pyramid**

| Food           | USDA Serving Size   | MALKA Serving Size          | Calories | Grams Carbohydrate/Protein |
|----------------|---------------------|-----------------------------|----------|----------------------------|
| Cereal         | 1 oz                | 1 serving                   | 110      | 22                         |
| Pasta          | 2 oz                | 2 servings                  | 200      | 42                         |
| Milk-Skim      | 8 oz                | ½ serving carbs and protein | 90       | 12 gm carb/8 gm protein    |
| Apple          | Medium              | 1 serving                   | 81       | 21                         |
| Chicken-breast | 3 oz                | 1 serving                   | 160      | 25                         |
| Cantaloupe     | 1/8 slice=1 serving | ¼ serving                   | 24       | 5                          |
| Broccoli       | 1 cup =1 serving    | 1/5 serving                 | 24       | 4                          |
| Potato         | Medium              | 1 serving                   | 96       | 22                         |
| Carrots        | 1 cup =1            | ½ serving                   | 55       | 13                         |

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*Discussion: The USDA Food Pyramid, which is based on an agricultural paradigm-promotes over-consumption of carbohydrates by discounting the carbohydrate contribution of fruits and to some extent vegetables. It does not standardize serving size so there is significant confusion as to what a serving is and that translates into misinterpretation of necessary food intake.*

*The MALKA Food Pyramid is based on a macronutrient/energy paradigm, which is consistent with the role of food in our diet. It incorporates fruits and vegetables as carbohydrates, which is a significant aspect of their value and establishes a benchmark serving size, which can be used to calculate daily needs and exchanges. It also enhances fruit and vegetable intake and hence vitamin and mineral intake because large amounts of many fruits and vegetables are in a single serving. It allows for better control over carbohydrate caloric contribution, which is 50-60% of the diet and is the macronutrient that has a major impact on weight management. It provides a simple algorithm for calculating daily energy needs and can be easily adapted to use to educate the public on essential nutritional intake. Utilizing the MALKA pyramid should obviate the need for dieting as it provides for a seamless method to assess daily caloric intake.*

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*The MALKA pyramid thus provides a transparent seamless system, which allows for easy identification and calculation of daily nutrition intake and insures adequate intake of all nutrients.*

**Table IV: USDA vs. MALKA Food Pyramid Comparison**

| Comparator             | USDA                      | MALKA                                       |
|------------------------|---------------------------|---|
| Food category          | Agricultural              | Macronutrient/Energy Source                 |
| Basic unit             | None                      | 20 grams protein or carbohydrate by content |
| Serving Size Basis     | Traditional eating habits | 20 grams protein or carbohydrate by content |
| # Calories per pyramid | 2330                      | 1800  |

**FATS**

**15-25% OF DIET**

**INCIDENTAL TO INTAKE OF  
PROTEIN AND CARBOHYDRATES**

**PROTEINS**

**3-5 SERVINGS/DAY**

**INCLUDES 1.5 SERVINGS OF MILK**

**1 SERVING = 20 GRAMS BY CONTENT**

**INCLUDES DAIRY, MEAT, FISH AND BEANS**

**20-25% OF DIET**

---

**CARBOHYDRATES**

**9-11 SERVINGS/DAY OF WHICH**

**5-6 SERVINGS ARE FRUIT/VEGETABLES**

**1 SERVING = 20 GRAMS BY CONTENT**

**INCLUDES GRAINS, BEANS, FRUIT AND VEGETABLES**

**50-60% OF THE DIET**

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**References:**

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