Just Ask for Whole Grains Conference
Kansas City, Missouri
November 5, 2007

Whole Grains: Dietary Recommendations, Intake Patterns, and Promotion

Dr. Robert C. Post, Deputy Director
Center for Nutrition Policy and Promotion

United States Department of Agriculture
To improve the health of Americans by developing and promoting dietary guidance that links scientific research to the nutrition needs of consumers.
Strategic Goal, Objective, and Outcome

- Improve the Nation’s Nutrition and Health
- Promote Healthier Eating Habits and Lifestyles
- Eating Habits More Consistent With the Dietary Guidelines for Americans
CNPP’s Outcome-Focused, Strategic Projects

- Dietary Guidelines for Americans
- MyPyramid Educational Tools
- USDA Food Plans
- Food Supply Series
- Expenditures on Children
- Healthy Eating Index
2005 *Dietary Guidelines for Americans*

- For policymakers, health professionals
- Separate policy and consumer documents
- 23 general recommendations
- 18 population-specific recommendations (e.g., for older Americans, children, African Americans)
Nine separate focus areas

- Adequate Nutrients Within Calorie Needs
- Weight Management
- Physical Activity
- Food Groups to Encourage
- Fats
- Carbohydrates
- Sodium and Potassium
- Alcoholic Beverages
- Food Safety
Dietary Guidelines
Summary of Recommended Food Pattern Changes

More
- fruits
- dark green vegetables
- orange vegetables
- legumes
- whole grains
- low-fat milk and milk products
- physical activity

Less
- saturated fats
- trans fats
- cholesterol
- added sugars
- refined grains
- sodium

www.healthierus.gov/dietaryguidelines
Focus on fruits.

Vary your veggies.

Get your calcium-rich foods.

Make half your grains whole.

Go lean with protein.

Know the limits on fats, salt, and sugars.
Significance of Dietary Fiber

• Most health benefits related to digestion
• Increases satiety without adding calories
• High-fiber diet lowers blood cholesterol levels and stimulates bacterial fermentation in the colon
• Research supports that these actions contribute to the health benefits of dietary fiber in chronic diseases such as heart disease, some types of cancer, diabetes, and obesity.
Nutritive Value of Whole Grains

• Whole-grain foods are an important source of dietary fiber

• Whole-grain foods are significant sources of vitamins, minerals, and other compounds, such as phytochemicals, that alone or in combination, have health benefits
Whole Grains Recommendation

The 2005 Dietary Guidelines recommend the consumption of 3 or more ounce equivalents of whole grains per day by substituting whole grains for refined grains. In general, at least half the grains consumed should come from whole grains.
## One Whole Grain Ounce-Equivalent

<table>
<thead>
<tr>
<th>Food Item</th>
<th>Household Measure</th>
<th>Amount of Whole Grain (gm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread, whole wheat commercial</td>
<td>1 slice</td>
<td>16</td>
</tr>
<tr>
<td>Cereal, whole grain, ready-to-eat</td>
<td>1 cup</td>
<td>~28</td>
</tr>
<tr>
<td>Cereal, whole grain, cooked</td>
<td>_ cup</td>
<td>27</td>
</tr>
<tr>
<td>Rice, brown, medium grain, cooked</td>
<td>_ cup</td>
<td>29</td>
</tr>
<tr>
<td>Macaroni, whole wheat</td>
<td>_ cup</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: DGA, 2005; Appendix A-1, 2, & C
Whole Grain Consumption

According to the NHANES 1999-2002:

- Only 13% of current total grain consumption is whole grain

  - 42% of respondents consumed no whole grains on survey date
  - 8% consumed 3 or more whole grains servings
  - Only 5% of those consuming whole grains made “half their grains whole”
Grain Recommendations Compared to Consumption

Consumed* 13%

87%

Recommended* 50%

50%

Whole Grains

Refined Grains

*Females 31-50
Whole Grain Consumption 2001-2002

Ounce Equivalent

age 2-3
age 4-8
M 9-13
M 14-18
M 19-30
M 31-50
M 51-70
M 71+
F 9-13
F 14-18
F 19-30
F 31-50
Percent of Whole Grain Consumption in Total Grain 2001-2002
Promoting Whole Grain Consumption: Implementation Challenge
Federal Efforts to Promote Whole Grains

• The Dietary Guidelines recommend that the U.S. population consume more whole grains due to the health benefits

• MyPyramid recommends that at least half of total grain consumption be whole grains

• MyPyramid Tracker – an educational tool for providing consumers with analyses of their food intake and physical activity in relation to the DGA

• Tracker and other education materials are accessible from the USDA/CNPP web site
Grains
Make half your grains whole

- Eat at least 3 ounces of whole grain bread, cereal, crackers, rice, or pasta every day.
- Look for "whole" before the grain name on the list of ingredients.

Learn more »
Inside the Pyramid

How many grain foods are needed daily?

The amount of grains you need to eat depends on your age, sex, and level of physical activity. Recommended daily amounts are listed in the chart. Most Americans consume enough grains, but few are whole grains. At least ½ of all the grains eaten should be whole grains.

<table>
<thead>
<tr>
<th></th>
<th>Daily recommendation*</th>
<th>Daily minimum amount of whole grains</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3 years old</td>
<td>3 ounce equivalents**</td>
<td>1 ½ ounce equivalents**</td>
</tr>
<tr>
<td>4-8 years old</td>
<td>4 – 5 ounce equivalents**</td>
<td>2 – 2 ½ ounce equivalents**</td>
</tr>
<tr>
<td><strong>Girls</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-13 years old</td>
<td>5 ounce equivalents**</td>
<td>3 ounce equivalents**</td>
</tr>
<tr>
<td>14-18 years old</td>
<td>6 ounce equivalents**</td>
<td>3 ounce equivalents**</td>
</tr>
<tr>
<td><strong>Boys</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-13 years old</td>
<td>6 ounce equivalents**</td>
<td>3 ounce equivalents**</td>
</tr>
<tr>
<td>14-18 years old</td>
<td>7 ounce equivalents**</td>
<td>3 ounce equivalents**</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-30 years old</td>
<td>6 ounce equivalents**</td>
<td>3 ounce equivalents**</td>
</tr>
<tr>
<td>31-50 years old</td>
<td>6 ounce equivalents**</td>
<td>3 ounce equivalents**</td>
</tr>
<tr>
<td>51+ years old</td>
<td>5 ounce equivalents**</td>
<td>3 ounce equivalents**</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-30 years old</td>
<td>8 ounce equivalents**</td>
<td>4 ounce equivalents**</td>
</tr>
<tr>
<td>31-50 years old</td>
<td>7 ounce equivalents**</td>
<td>3 ½ ounce equivalents**</td>
</tr>
<tr>
<td>51+ years old</td>
<td>6 ounce equivalents**</td>
<td>3 ounce equivalents**</td>
</tr>
</tbody>
</table>

*These amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consume more while staying within calorie needs. Click here for more information about physical activity.

**Click here to see what counts as an ounce-equivalent of grains.
My Pyramid Plan

Based on the information you provided and your needs for your age, gender and physical activity (Age: 54, Sex: male, Physical Activity: More than 80 minutes) your results indicate that you should eat these amounts from the following food groups daily.

Your results are based on a 2800 calorie pattern.

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grains *</td>
<td>10 ounces</td>
</tr>
<tr>
<td>Vegetables **</td>
<td>3.5 cups</td>
</tr>
<tr>
<td>Fruits</td>
<td>2.5 cups</td>
</tr>
<tr>
<td>Milk</td>
<td>3 cups</td>
</tr>
<tr>
<td>Meat &amp; Beans</td>
<td>7 ounces</td>
</tr>
<tr>
<td>Oils &amp; Discretionary Calories</td>
<td>8 teaspoons</td>
</tr>
</tbody>
</table>

Click the food groups above to learn more.

* Make Half Your Grains Whole
Aim for at least 5 whole grains a day.

** Vary Your Vegetables
Aim for this much every week:
- Dark Green Vegetables = 3 cups weekly
- Orange Vegetables = 2 1/2 cups weekly
- Dry Beans & Peas = 3 1/2 cups weekly
- Starchy Vegetables = 7 cups weekly
- Other Vegetables = 8 1/2 cups weekly

View, Print & Learn More:
- Click here to view and print a PDF version of your results.
- Click here to view and print a PDF of a helpful Meal Tracking Worksheet.

Follow the detailed assessment of your diet quality and physical activity go to the My Pyramid Tracker.

You will need the free Adobe Acrobat Reader plug-in to view and print the above PDF files.

*This calorie level is only an estimate of your needs. Monitor your body weight to see if you need to adjust your calorie intake.

Click directly on the 😊😊😊 emoticon (face) for more detailed dietary information.

<table>
<thead>
<tr>
<th>Dietary Guidelines Recommendations</th>
<th>Emoticon</th>
<th>Number of cup/oz. Equ. Eaten</th>
<th>Number of cup/oz. Equ. Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain</td>
<td>😊</td>
<td>5.7 oz equivalent</td>
<td>6 oz equivalent</td>
</tr>
<tr>
<td>Vegetable</td>
<td>😊</td>
<td>2 cup equivalent</td>
<td>2.5 cup equivalent</td>
</tr>
<tr>
<td>Fruit</td>
<td>😞</td>
<td>0.8 cup equivalent</td>
<td>2 cup equivalent</td>
</tr>
<tr>
<td>Milk</td>
<td>😞</td>
<td>2 cup equivalent</td>
<td>3 cup equivalent</td>
</tr>
<tr>
<td>Meat and Beans</td>
<td>😊</td>
<td>5.2 oz equivalent</td>
<td>5.5 oz equivalent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dietary Guidelines Recommendations</th>
<th>Emoticon</th>
<th>Amount Eaten</th>
<th>Recommendation or Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>😞</td>
<td>45.9% of total calories</td>
<td>20% to 35%</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>😞</td>
<td>14.6% of total calories</td>
<td>less than 10%</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>😊</td>
<td>258 mg</td>
<td>less than 300 mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>😞</td>
<td>7406 mg</td>
<td>less than 2300 mg</td>
</tr>
<tr>
<td>Oils</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Discretionary calories (solid fats, added sugars, and alcohol)</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>
MyPyramid
Recommendations Compared to Consumption

Bars show percent change needed in consumption to meet recommendations.

- **Fruits**: Females need a large increase, while males need a smaller increase.
- **Vegetables**: Both females and males need an increase, with males needing a slightly larger increase.
- **Grains**: Both females and males need a decrease.
- **Meat & Beans**: Females need a small decrease, while males need a larger decrease.
- **Milk**: Females need a large increase, while males need a smaller increase.
# Whole Grains Consumption

<table>
<thead>
<tr>
<th>Whole Grain Item Clusters (Sample Foods)</th>
<th>Percentage of Total Ounce Equivalents Consumed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole-wheat breads (multigrain &amp; cracked wheat bread; whole-wheat tortillas, pita, bagels, rolls, English muffins) (^a)</td>
<td>17.4</td>
</tr>
<tr>
<td>Oatmeal bread (granola bars, oatmeal cookies, oatmeal muffins) (^a)</td>
<td>3.0</td>
</tr>
<tr>
<td>Whole-wheat quick breads (^a)</td>
<td>1.7</td>
</tr>
<tr>
<td>Rye bread (pumpernickel) (^a)</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Total Whole-Grain breads</strong></td>
<td><strong>23.6</strong></td>
</tr>
<tr>
<td>Whole-wheat ready-to eat cereals (^c)</td>
<td>15.5</td>
</tr>
<tr>
<td>Whole-oat ready-to eat cereals (^c)</td>
<td>10.3</td>
</tr>
<tr>
<td>Oatmeal, cooked (^b)</td>
<td>10.1</td>
</tr>
<tr>
<td><strong>Total Whole-Grain Cereals</strong></td>
<td><strong>35.9</strong></td>
</tr>
<tr>
<td>Corn tortillas (corn chips) (^c)</td>
<td>22.9</td>
</tr>
<tr>
<td>Popcorn (^d)</td>
<td>13.2</td>
</tr>
<tr>
<td>Whole wheat crackers (^a)</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Total Whole-Grain Snack Products</strong></td>
<td><strong>37.6</strong></td>
</tr>
<tr>
<td>Brown rice (barley, wild rice) (^b)</td>
<td>2.9</td>
</tr>
</tbody>
</table>
Print materials:  Mini Poster

For a 2,000-calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, go to MyPyramid.gov.

**GRAINS**
- Make half your grains whole
  - Eat at least 3 oz. of whole-grain cereals, breads, crackers, rice, or pasta every day
  - 1 oz. is about 1 slice of bread, about 1 cup of breakfast cereal, or $\frac{1}{2}$ cup of cooked rice, cereal, or pasta

**VEGETABLES**
- Vary your veggies
  - Eat more dark-green veggies like broccoli, spinach, and other dark leafy greens
  - Eat more orange vegetables like carrots and sweet potatoes
  - Eat more dry beans and peas like pinto beans, kidney beans, and lentils

**FRUITS**
- Focus on fruits
  - Eat a variety of fruit
  - Choose fresh, frozen, canned, or dried fruit
  - Go easy on fruit juices

**MILK**
- Get your calcium-rich foods
  - Go low-fat or fat-free when you choose milk, yogurt, and other milk products
  - If you don’t or can’t consume milk, choose lactose-free products or other calcium sources such as fortified foods and beverages

**MEAT & BEANS**
- Go lean with protein
  - Choose low-fat or lean meats and poultry
  - Bake it, broil it, or grill it
  - Vary your protein routine — choose more fish, beans, peas, nuts, and seeds

Find your balance between food and physical activity
- Be sure to stay within your daily calorie needs.
- Be physically active for at least 30 minutes most days of the week.
- About 60 minutes a day of physical activity may be needed to prevent weight gain.
- For sustaining weight loss, at least 60 to 90 minutes a day of physical activity may be required.
- Children and teenagers should be physically active for 60 minutes every day, or most days.

Know the limits on fats, sugars, and salt (sodium)
- Make most of your fat sources from fish, nuts, and vegetable oils.
- Limit solid fats like butter, stick margarine, shortening, and lard, as well as foods that contain these.
- Check the Nutrition Facts label to keep saturated fats, trans fats, and sodium low.
- Choose food and beverages low in added sugars. Added sugars contribute calories with few, if any, nutrients.
Key food group messages from the Dietary Guidelines and MyPyramid:

- **Focus on fruits.**
- **Vary your veggies.**
- **Get your calcium-rich foods.**
- **Make half your grains whole.**
- **Go lean with protein.**
- **Know the limits on fats, salt, and sugars.**
MyPyramid Menu Planner

- Can plan food intake for a day or up to a week
- Provides immediate feedback as foods entered
- Encourages behavior change – taking small steps
- Can plan for family
MyPyramid on labels

MyPyramid recommends 2 _ cups of vegetables and at least 3 ounces of whole grains per day for a 2000 calorie intake pattern.
2005 Dietary Guidelines & Popularity of Whole Grain Products

• The average shopper purchased about 13% more pounds of whole grain products in 2005 after the release of the Guidelines, compared to the same period in 2004.

• The purchases of whole-grain breads, whole-grain rice and ready-to-eat cereals increased by approximately 12%, 19%, and 16% respectively.
Some Efforts by the Grains-Based Food Industry to Increase Grains Consumption

- **Reformulations of Existing Products with New Ingredients** *(Sustagrain®, Ultragrain®, and MaizeWise™)*

- **New Products** *(wholegrain flour with taste and texture similar to that of refined flour products, Soft and Smooth Whole Grain White, developed Kansas Diamond™ white whole-wheat extra-fine flour)*

- **Manufacturers Efforts To Educate Consumers on Grain Products** *(2-Week Fiber Challenge, Whole Grains Stamp, “Just Ask™” campaign)*
Contributions of grains to dietary fiber were stable at 36 percent; contributions of vegetables decreased from 28 to 25 percent.
Signs of Increase In Whole Grains Consumption

- The U.S. food fiber industry earned revenue of $193.1 million in 2004 and could earn $495.2 million in 2011.

- Sales of dietary fiber-sourced whole grain products increased more than 18 percent from June 2004 to 2005 — an increase eclipsing the less-than-1-percent growth in the whole-grain market from 2000 to 2004.
Partnerships

The Need for Collaborative Working Relationships Between the Federal Government & the Grains-Based Food Industry

• When foods are reformulated, the data used to characterize what is available for consumption must reflect those reformulations.

• A reciprocal relationship between the food industry and the Federal Government would strengthen the reporting of trends in nutrient availability.

• The grains-based food and food ingredients industry can help by providing additional data on fiber-enriched products and on formulations/nutrient contents of products.

• When data on fiber-enriched products are included in the U.S. food supply series, the dietary-fiber benefits of grained-based foods are clearly identifiable for their contributions and reflect the industry’s responses to Federal nutrition policies regarding the components of healthful diets.
Vision-Focused. . .Mission-Driven. . .Outcome-Oriented

WWW.CNPP.USDA.GOV