



# USDA NUTRITION RESEARCH FACTOIDS

“PREVENTING CANCER AND DISEASES ONE BITE AT A TIME”

USDA science agencies play a crucial role in ensuring Americans have access to nutritious food options through cutting-edge food and nutrition research.

The work USDA scientists do is an integral part of improving the overall health and wellbeing of Americans. A major risk factor for cancer and other chronic diseases is poor nutrition. As many as a **third of cancer cases** could be prevented with a healthy diet, nutrition, and other lifestyle choices.

USDA’s unique niche in reducing and preventing diseases is evaluating the whole food system—from **farm to fork, food is our business!**



## Bite-sized nutrition research facts:



Alzheimer’s disease makes up 60–80% of dementia cases. Approximately one in nine adults over the age of 65 are living with Alzheimer’s disease. USDA-supported researchers at Tufts University found specific fruits and vegetables rich in plant compounds known as flavonoids may significantly reduce the risk of Alzheimer’s dementia. Flavonoids are plant nutrients known for their antioxidant, antiviral, and even anticancer properties. Flavonoids are found in blueberries, apples, bananas, strawberries, tea, red wine, and more.



Recent USDA research shows that older adults need about 0.54 grams of protein per pound of body weight per day. Most older adults do not consume this amount of protein. In fact, about 40% of older adults do not consume the recommended dietary allowance (RDA) of about 0.37 grams of protein per pound per day. The protein source is also important. Some foods can get people to the protein threshold faster than others. You need to eat 4 ounces of a lean meat such as beef, chicken, or pork, or 1 cup of cottage cheese, or 2 cups of beans to reach the 25-30-gram threshold. Although most plant-based proteins are not complete, they can be paired with each other and other foods to create complete proteins. The health benefits of consuming proteins are clear, especially for older adults.



As partially hydrogenated oils are increasingly removed from foods due to their negative health effects, USDA scientists are researching whether oil replacements have lower risks for health issues (for example, coronary heart disease). Scientists studied how high-oleic soybean oil, an oil with high amounts of healthy monounsaturated fats, modifies LDL cholesterol (the bad cholesterol) and other risk factors of coronary heart disease. They found diets containing high-oleic soybean oil blended with fully hydrogenated soybean oil beneficially affect lipid and lipoprotein profiles associated with reduced coronary heart disease risk.

**USDA’s FoodData Central** provides users with current data on food supply, food products, nutrition, experimental foods, and foundation foods data. These data are analyzed, compiled, and presented in scientifically rigorous and accessible ways to help users better understand the relationships between dietary intakes and health.



USDA scientists partnered with private industry to develop Sucromalt, also called Xtend™. The sweetener offers consumers health benefits including slow and complete digestibility, and an ability to release carbohydrates into the bloodstream slowly. As a low-glycemic-index ingredient, Sucromalt is 70% as sweet as sugar and provides comparatively stable blood sugar levels after consumption. In contrast, high-glycemic foods and traditional sugars cause rapid spikes and falls in blood sugar levels that are dangerous—or even fatal—for people suffering from diabetes.



USDA scientists partnered with NewGem Foods to reinvent the classic flour wrap using USDA-developed technology that makes edible films out of unmarketable fruits and vegetables. “GemWraps” are lowcarb alternatives to bread, tortillas, and lavash. Made from fruit and vegetable purees, one wrap equals one full serving of fruits or vegetables. The wraps are all natural, gluten free, 100% plant based, low calorie, and come in flavors like tomato, carrot, and apple-kale.



Obesity in U.S. children has tripled over the past few decades, and brain activation in children with obesity differs from that in normal-weight children. Understanding how normal-weight and obese young children process high-calorie food stimuli may provide ways to alter unhealthy eating behaviors. USDA-supported researchers mapped brain activity in children ages 8 to 10 viewing images of high-calorie food (for example, an ice cream sundae) or non-food (for example, a telephone) items. Normal-weight children had significantly higher brain activity associated with cognitive control and memory than obese children. These results suggest that normal-weight and obese children process high-calorie food stimuli differently. The findings show the importance of early and sustained education for children about healthy food choices.



Evening snacking generally involves less healthy choices. On any given day, almost two-thirds of Americans eat or drink something after 8:00 p.m. USDA researchers analyzed data from more than 10,000 volunteers in the What We

Eat in America, National Health and Nutrition Examination Survey, and found that one in five adults obtained 30 percent or more of their total daily calories from late-evening consumption of foods and beverages. Those who ate late at night took in about 15 percent more calories than non-snackers did. Snacking was most prevalent among non-Hispanic black subjects. The most eaten late evening food category was “snacks and sweets”, and the most consumed beverage was water.



White flour is a highly refined substance with minimal nutritional value, possesses a high glycemic index, and contains gluten. USDA scientists have developed alternatives to refined white flour that allow consumers with certain dietary needs to enjoy certain foods without elevating their health risks. These new flours are also more nutritious to the average consumer, and include:

- **Peanut flour**—naturally low in fat, high in protein, and relatively low in carbohydrates.
- **Amaranth-oat flour**—as versatile as ordinary wheat flour but provides more essential amino acids and may lower blood cholesterol.
- **Chia-oat flour**—rich in Omega-3, which helps lower cholesterol and prevents coronary heart disease.
- **Wine grape seed flour**—contains important compounds such as proteins, lipids, and antioxidants. The flour may also significantly reduce cholesterol levels and even decrease abdominal fat.

The Dietary Guidelines for Americans indicates healthy diets rich in fruits, vegetables and whole grains are important for reducing risk of some cancers. **USDA’s Food Access Research Atlas** provides a glimpse into a neighborhood or community’s access to food stores that offer a variety of healthy and affordable food. USDA researchers use this data to identify strategies that can help lower-income households satisfy fruit and vegetable recommendations based on the Thrifty Food Plan—used to establish Supplemental Nutrition Assistance Plan (SNAP) benefits.



For more information and hands-on food and nutrition education opportunities in your community, contact your local **Cooperative Extension Service** office. USDA-supported Cooperative Extension, part of the Land-grant University System, is in every county nationwide and offers science-based information you can use.

## USDA Food and Nutrition Resources

Food Access Research Atlas Interactive Guide  
What’s In The Foods You Eat Search Tool  
Dietary Guidelines For Americans  
Food Assistance Programs  
Top 10 Things You Need to Know About the Dietary Guidelines for Americans

FoodData Central Database  
What’s In Food  
Nutrition.gov  
Find Your Local Food Bank  
USDA Local Food Directories  
MyPlate