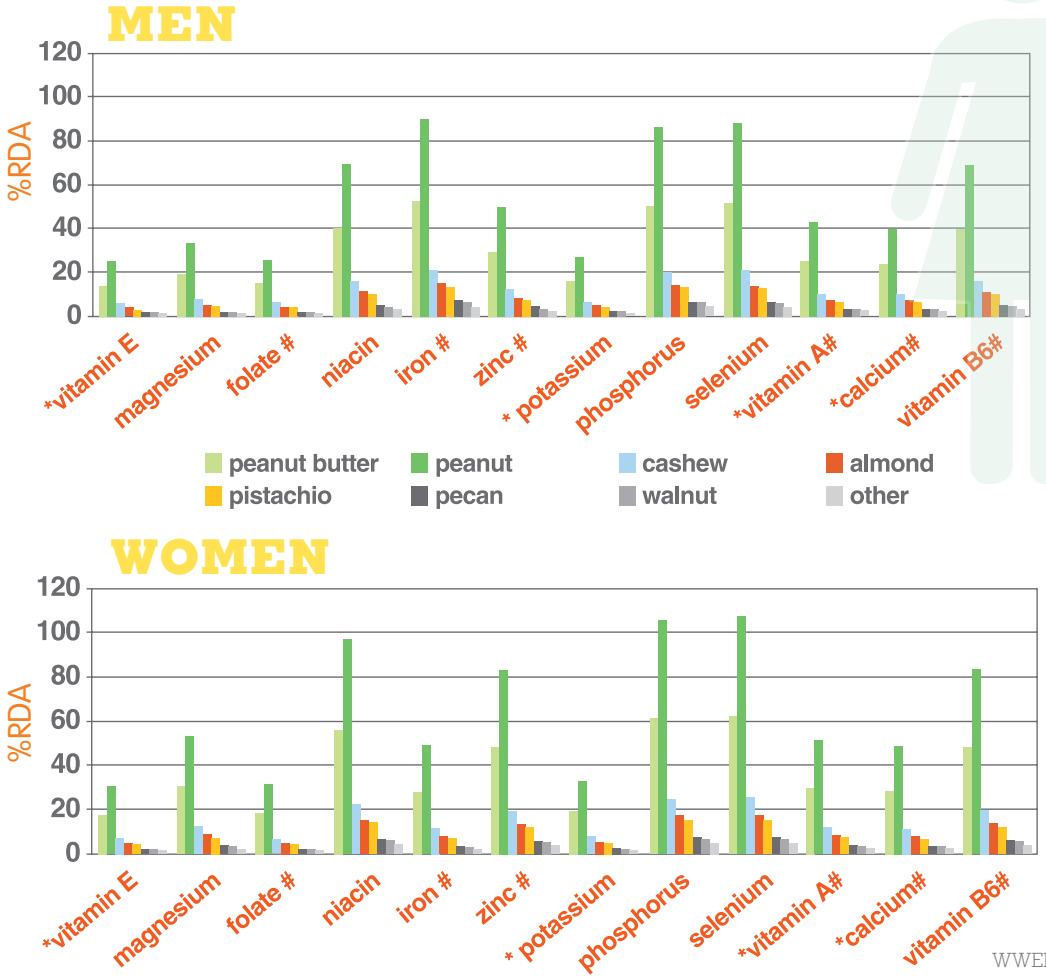
PEANUTS IMPROVE NUTRIENT INTAKE

- Snacking on peanuts improves intake of healthy nutrients. One serving of peanuts provides many of the essential nutrients we need each day. These include vitamin E, magnesium, folate, potassium, and fiber.[5]
- According to a study at Penn State University, people who eat peanuts regularly have diets with higher nutrient quality.[42]
- People eating peanuts each day for three weeks boosted their blood levels of magnesium, a mineral that is low in much of the population.[43]

PEANUT BUTTER, PEANUT, AND NUT CONSUMPTION:
CONTRIBUTION TO % RDA IN A 2000 CALORIE DIET



As peanuts and/or peanut butter are currently eaten they help men and women meet at least 20% of the RDA for all nutrients listed and 80% or more of niacin, iron, phosphorus, selenium, vitamin B6.

* USDA nutrients of concern
\# WIC nutrients of concern

WWEIA, NHANES 2001-2004, 1 day, 19+ years

DID YOU KNOW

Pairing peanuts with other healthy foods can actually help you **absorb more nutrients?** Healthy oils, like those found in peanuts, peanut butter, and peanut oil, are needed to absorb fat-soluble vitamins A, D, E, and K from food.[44]

PEANUTS ARE HIGH IN VITAMIN E

Commercial Runner Peanut Cultivars in the United States: Tocopherol Composition

Eui-Cheol Shin,[†] Yue-Zhong Huang,[†] Ronald B. Pegg,[*,†] R. Dixon Phillips,[‡] and Ronald R. Eitenmiller[†]

CURRENT USDA VALUE
2.36 MG/OUNCE

VITAMIN E

NEW VALUE
3 MG/OUNCE

- **Peanuts have 26.7% more vitamin E** than what is currently shown by USDA
- 1 ounce of peanuts is an **excellent source of vitamin E (containing more than 20% of daily requirement)** for children AND adults according to FDA

Pegg, 2012

FOOD FOR THOUGHT

Vitamin E is a powerful antioxidant that can boost the immune system and decrease the risk of heart disease, but research also shows vitamin E plays an important role in preventing Alzheimer's disease and dementia.[45]

Research has shown that over 90% of men and women do not meet the recommendations for intake of vitamin E. Peanuts are an excellent source of vitamin E and three 1-ounce servings provides half of a person's daily needs.[11]

BIOACTIVES

Peanuts contain bioactives, which are plant substances found to offer health benefits possibly beyond vitamins and minerals.[54] The known bioactives in peanuts include:

Resveratrol

- Same phytochemical found in red wine that is associated with reduced risk of heart disease and cancer.[46]
- Peanuts contain resveratrol in the seed itself, as well as high amounts in the skins.[46]
- Shown to have anti-aging effects and can increase fat burning activity in cells.[47]
- May extend life.[47,48]

Flavonoids

- Also found in green tea.
- All parts of the peanut plant contain flavonoids.
- A high intake is thought to be protective against heart disease and certain types of cancer.
- They may also play a role in circulation after eating.[49]

Phenolic Acids

- Also found in berries
- Works as an antioxidant to protect against heart disease, cancer, and stroke.[50]

Phytosterols

- Block the absorption of cholesterol from the diet
- May decrease inflammation and reduce the growth of various cancers.[51]
- Shown to reduce tumor growth.[52]

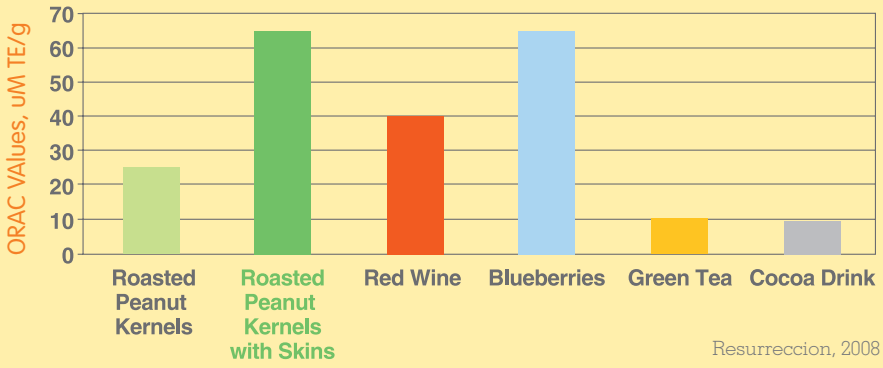
THE BIOACTIVES IN PEANUTS CONTRIBUTE TO THEIR HIGH ANTIOXIDANT CAPACITY[53]

ANTIOXIDANTS

- Peanuts are high in antioxidants. Antioxidants have been shown to help prevent oxidative damage in the body that can lead to many types of disease including heart disease and cancer.[53]
- Roasting peanuts can actually increase their antioxidant potential. The darker the peanut roast, the higher their antioxidant potential.[54]
- Peanut skins have the highest antioxidant levels compared to other parts of the peanut and roasted peanut with skins have a higher antioxidant capacity than blueberries.

The dark specs in peanut butter are actually peanut skins, making peanut butter a source of antioxidants as well!

When peanuts are consumed with their skins, their anti-oxidant capacity doubles and roasted peanuts with skins have been shown to have a higher antioxidant capacity than green tea, red wine, and blueberries.[66]

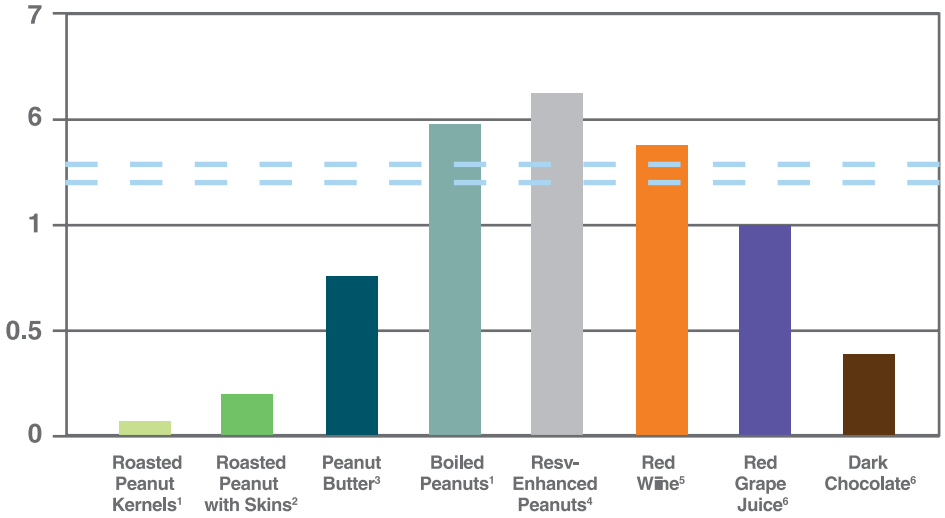


Resurreccion, 2008

RESVERATROL

- Almost a decade of research provides strong evidence that resveratrol plays a role in reducing body weight, decreasing the risk of cancer and diabetes, and prolonging life.[46,47,48]
- One study shows that resveratrol may have possible protective effects against hearing loss and Alzheimer's.[55]
- Most of the resveratrol in peanuts is found in the skins, and Southern-style boiled peanuts and peanut butter contain very high amounts.[53]

BOILED PEANUTS **CONTAIN MORE RESVERATROL THAN RED WINE**[61]



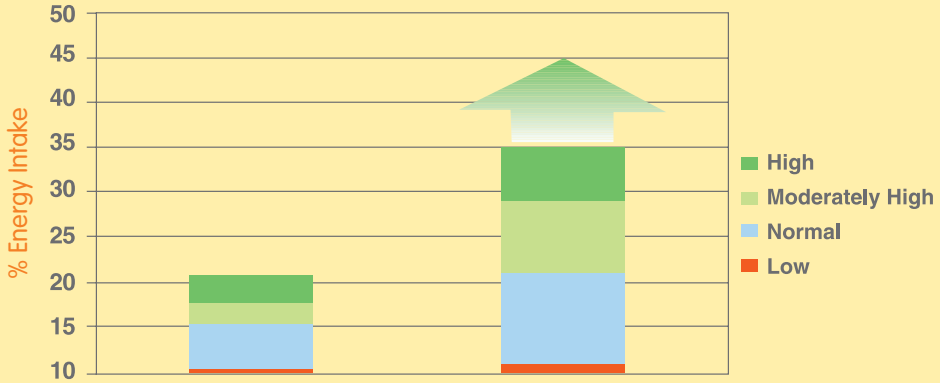
Resurreccion, Food Tech, 2009

PROTEIN

Peanuts contain about 8g of protein per ounce, which is more than any other nut.[5]

ACTUAL VS. RECOMMENDED PROTEIN INTAKES

The acceptable macronutrient distribution range for adults is approximately 10-35%. This means about 10-35% of our energy intake should come from protein (about 46-56 g/day). Americans are only consuming less than half of this range (15%) of recommended protein intake.



Adapted from Fulgoni, VL. *Am J Clin Nutr* 2008;87:1554S-1557S

Adapted from Mahon et al. *J Am Coll Nutr* 2007;26:182-189

PEANUT PROTEIN **HAS A HIGH DIGESTIBILITY**

Although peanuts do not contain all 9 of the essential amino acids in perfect proportions to make it a complete protein, pairing peanuts or peanut butter with any whole grain or consuming whole grains throughout the day will provide the balance your body needs.[56,57]

FOOD	DIGESTIBILITY %
Wheat Pasta	38%
Cornmeal	44%
Rice	60%
Chickpeas	87%
Peanuts	98%
Peanut Flour	91-98%
Soy Protein isolate	93-97%
Animal Protein	90-100%

Research shows that peanut protein has a high digestibility comparable to soy protein and higher than chickpea and wheat. [58]

Janet King, 2013 Singh, 1991

DID YOU KNOW?

A peanut butter sandwich with an 8 oz glass of milk provides about 22g of protein, about **half of the daily value for the average person?[5]**

PROTEIN

PEANUT PROTEIN IS **HEART-HEALTHY**

One study on hamsters showed that non-lipid components in peanuts, such as protein, Arginine, and micro-nutrients, may help reduce cholesterol and benefit heart health.[16]

Replacing red meat in the diet with a plant-protein like peanuts can decrease the risk of heart disease by 19%.[8]

PROTEIN KEEPS YOU **FULLER LONGER**

Research shows protein plays an important role in satiety, and increased protein intake as a part of a healthy diet may improve body composition, facilitate fat loss, and improve body weight maintenance after weight loss.[36]

Peanut protein may play a role in decreasing appetite and desire to eat when peanuts or peanut butter are paired with a whole grain for breakfast.[35,37]

POWER YOU DAY WITH **PEANUT FLOUR**

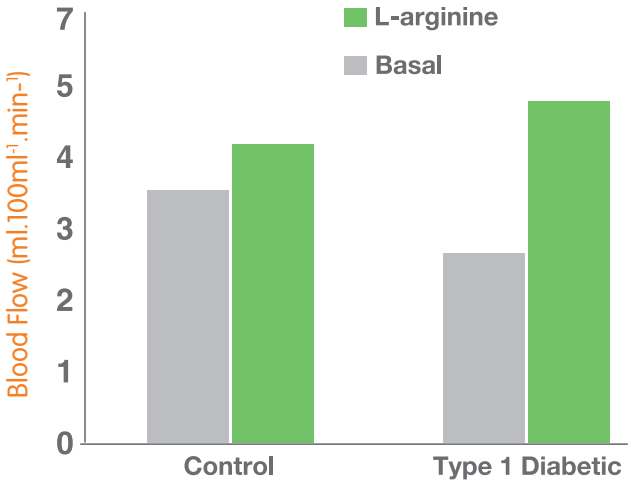
Peanut flour contains about 10g to 14g of protein per ounce depending on the fat concentration, and can be a great addition to any protein shake or smoothie.[5]

Unlike most flours, peanut flour is made from ground peanuts with the oils removed and does not contain any gluten. It is an excellent source of fiber, protein, and essential nutrients and can be a great option for making gluten-free baked goods.

ARGININE

Arginine is an amino acid found at very high levels in peanuts. In fact, **peanuts contain more Arginine than any other whole food.**[5]

ARGININE IMPROVES BLOOD FLOW



Fayh, *Eur. J Nutr.* 2013

- Arginine helps to open up blood vessels and improve blood flow and improve circulation. [6,7]
- Research shows Arginine can significantly improve endothelial function.[59]
- Improved circulation may help reduce blood pressure and prevent blood clotting.

DID YOU KNOW

Arginine is associated with many health functions including maintaining muscle mass, liver detoxification, improved wound healing, decreased blood pressure, and decreased body fat?[60]

Amino Acids
DOI 10.1007/s00726-010-0598-z

INVITED REVIEW

Beneficial effects of L-arginine on reducing obesity: potential mechanisms and important implications for human health

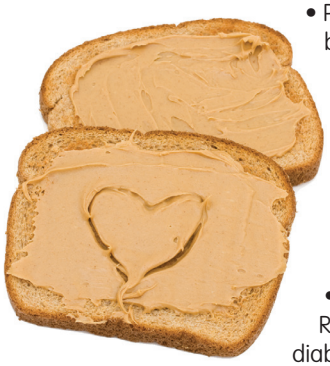
Jason R. McKnight · M. Carey Satterfield · Wenjuan S. Jobgen · Stephen B. Smith · Thomas E. Spencer · Cynthia J. Meininger · Catherine J. McNeal · Guoyao Wu

- Research shows Arginine reduces body fat in animals and stimulates muscle growth.
- Building muscle mass and reducing body fat percentage will improve lean body mass. Maintaining lean body mass can help to increase one's metabolism, aid in weight loss, and promote strength and endurance.[61]

FIBER

- Fiber is a type of carbohydrate in plant-based foods that provides various health benefits, and over 1/3 of the carbohydrates in peanuts is from fiber.

An ounce of peanuts contains about 2.5 grams or 10% of the daily value, making them a "good source" of fiber.[5]



- Peanuts and peanut butter contain both soluble and insoluble fiber. Soluble fiber has heart health benefits and can actually help absorb and remove cholesterol from the body. Insoluble fiber is hard to digest and plays a big role in promoting regularity and improving digestive function.

- Fiber adds bulk to our food that helps us to feel fuller after eating. Research shows that both peanuts and peanut butter promote satiety and weight management due to their high content of protein and fiber.[35]

- Although fiber is a carbohydrate, it is not absorbed by the body and does not raise blood sugar. Research has shown that both peanuts and peanut butter cab help control blood sugar in both diabetics and healthy people.[24,25]

The 2010 Dietary Guidelines highlights fiber as one of the main nutrients lacking in the typical American diet.

- Studies show that diets high in fiber can improve overall diet, help lower cholesterol, and reduce the risk of heart disease.[17]

Peanuts and peanut butter are a favorite food that pairs well with other high fiber foods like fruits, vegetables, and whole grains. In fact, a peanut butter paired with an apple provides about 8g of fiber, or 1/3 of your daily needs.[5]

- One study with kids showed that pairing peanut butter with veggies increased the amount and types of vegetables eaten.[41] Meaning peanut butter can actually promote vegetable intake and high fiber foods in children.

PEANUTS ARE THE MOST NUTRIENT DENSE NUT

KEY: Excellent Source Good Source

Based on 1-ounce portion	Peanuts	Walnut	Pistachio	Cashew	Brazil	Hazelnut	Macademia	Almond	Pecan
Calories	160	190	160	160	190	180	200	160	200
Protein (g) (%DV)	7.5 15%	4 8%	6 12%	5 10%	4 8%	4 8%	2 4%	6 12%	2.5 5%
Fat (g) (%DV)	14 21%	18.5 28%	12.9 20%	12.4 19%	18.8 29%	17.2 26%	21.5 33%	14 21%	20.4 31%
Carbohydrates (g) (%DV)	4 1%	4 1%	8 2.5%	9 3%	4 1%	5 1.5%	4 1%	6 2%	4 1%
Dietary Fiber (g) (%DV)	2.4 10%	1.9 7%	2.9 11%	0.9 3%	2.1 7%	2.7 11%	2.4 10%	3.5 14%	2.7 11%
Potassium (%DV)	6%	3%	8%	5%	5%	5%	3%	6%	3%
Magnesium (%DV)	12%	11%	8%	21%	27%	11%	9%	19%	8%
Phosphorus (%DV)	15%	9%	0%	16%	18%	8%	5%	13%	8%
Zinc (%DV)	7%	6%	4%	11%	8%	4%	2%	6%	8%
Copper (%DV)	16%	25%	20%	30%	25%	25%	10%	15%	15%
Iron (%DV)	7%	4%	6%	10%	3%	7%	6%	6%	3%
Calcium (%DV)	2%	2%	3%	1%	4%	3%	2%	7%	2%
Folate (%DV)	17%	7%	3%	1%	1%	8%	0%	3%	1%
Vitamin E (%DV)	12%	1%	3%	1%	8%	20%	1%	35%	2%
Riboflavin (%DV)	2.5%	0%	0%	0%	0%	0%	0%	17%	0%
Niacin (%DV)	23%	1%	2%	1%	0%	2%	3%	5%	1%
Thiamin (%DV)	12%	6%	15%	4%	12%	10%	15%	4%	10%
Vitamin B6 (%DV)	5%	10%	25%	5%	0%	10%	5%	0%	5%
Manganese (%DV)	27%	50%	20%	10%	15%	90%	45%	30%	60%

of Good or Excellent Source for Nutrients listed

#1 Peanuts	Hazelnuts	Almonds	Cashews	Brazil	Pistachios	Walnuts	Macadamia	Pecans
9 Highest Protein	7	7	6	5	5	4	4	4

%DV based off 2,000 calorie diet

Source: U.S. Department of Agriculture, Agricultural Research Service. 2011. USDA National Nutrient Database for Standard Reference, Release 25. Nutrient Data Laboratory Home Page, http://www.ars.usda.gov/ba/bhnrc/ndl

VITAMINS IN PEANUTS

Niacin plays a role in reducing the risk of heart disease by reducing LDL, total cholesterol and triglycerides. Niacin also has antioxidant, anti-inflammatory, and anti-thrombotic properties.[7] Niacin is linked to reducing the risk of Alzheimer's disease as well.[62]

Folate reduces the risk of heart disease because it acts to break down the amino acid homocysteine, which in high levels can lead to artery damage and higher risk of a heart attack.[42,63] Folate is also important for women who are or may become pregnant to prevent neural tube defects in their babies.[63]

Thiamin is essential for the functioning of the heart, muscles, and nervous system. It functions as a coenzyme in the metabolism of carbohydrates.[64]

Riboflavin functions as a coenzyme in numerous oxidation-reduction reactions and has a role in creating some vitamins in the body. It has a key role in metabolizing fats, carbohydrates, and proteins.[64]

Vitamin B6 functions as a coenzyme in the metabolism of amino acids and glycogen. It may also help in reducing risk factors for coronary artery disease. It also has a role in the nervous and immune systems.[64]

Vitamin E, which is hard to get from foods, is thought to prevent heart disease, Alzheimer's disease, and dementia. Vitamin E is an antioxidant that may help boost immune response and prevent or treat many other health conditions.[65]

MINERALS IN PEANUTS

Magnesium plays a role in the prevention of heart disease and type 2 diabetes. It acts to maintain normal muscle and nerve function. Magnesium also supports a healthy immune system, promotes normal blood pressure, keeps bones strong, and helps to regulate blood sugar levels.[43]

Phosphorous is a major component of DNA and RNA and its functions include helping to maintain a normal pH by buffering acids and bases, storing and transferring energy, and activating enzymes. It helps synthesize protein for the growth, maintenance, and repair of cells and tissues. Phosphorous functions in the formation of bones and teeth.[66]

Potassium is needed for normal cellular function in the body. Potassium also aids in maintaining blood pressure and prevents cardiovascular disease. It has a role in preventing bone demineralization, and kidney stones, as well.[67]

Zinc is a mineral essential for growth; it promotes reproduction of cells and the growth and repair of tissues. Zinc is required by many enzymes to work properly and also has a role in regulating gene expression. Zinc also helps in wound healing.[60]

Iron helps to deliver oxygen to the body's cells. Iron deficiencies can cause impaired performance, delays in devel- opment, and anemia. Iron is available more in meats and fish than in fruits and vegetables, so peanuts are a great option for iron consumption for vegetarians and vegans.[69]

Copper is a hard to get nutrient that functions as a catalyst to reduce oxygen. Diets low in copper are likely to affect the enzymes' activity by causing vascular and skeletal problems, anemia, and possible central nervous system dysfunction. Immune and cardiac function may also be affected by copper deficiency.[69]

Manganese helps form bones and metabolize amino acids, lipids, cholesterol and carbohydrates. Manganese also aids in the activation of many enzymes.[69]