

peanut nutrition research TRUSTING THE JOURNEY FROM PAST TO PRESENT TO FUTURE

AHH, for the good ole' days!



"when I fell, nothing would happen to me. I wasn't delicate, like you kids."

POWER OF THE PAST



FORCE OF THE FUTURE



See what's next.

"The past is a place of reference, not a place of residence."

- Roy T. Bennett



POWER OF OUR NUTRITION PAST:

SECURITY FOR CONSUMERS IN UNCERTAIN TIMES

Circumstances of war time involved food rationing, so there was a focus
on conserving and getting enough calories, protein, vitamins and
minerals. In addition to their use in war materials, peanuts were an
important food source.



"Mr. Peanut Goes to War," United States Department of Agriculture War Boards, c. 1942. National Archives





PETER PAN (1944)

"It's rich in important proteins, furnishes Vitamin B1 and Niacin."



PLANTERS (1947)

"Super-rich in vitamins, carbohydrates, proteins, and minerals."



ANN PAGE (1949)

"It's high in protein for that extra energy – an economical source of Vitamin B1."

CERTAINTY IN NOURISHMENT: PROTEIN, VITAMINS, MINERALS

PEANUT INSTITUTE



PEANUT CRUNCH (1950s)

"Contains essential vitamins that help build strong bodies."



SWIFTS (1950s)

"Top-quality vegetable protein.. plus the essential minerals Iron, Calcium and Phosphorus."



SKIPPY (1980s)

"It's the only leading national brand to give them both high protein and less sugar."

NOURISHMENT: PROTEIN, VITAMINS, & MINERALS - UNTIL THE 1980s



1980s

TURNING POINT

We needed to build on consumer's need for nourishment as they were asking for more information on health

More than 55% of your daily protein needs

And a higher level of many vitamins and minerals than the average Australian meal.



Keeping you and your children in good health makes good sense...and good business. And we think our food is as good for you as it is good to eat. We're not suggesting, of course, that a meal at McDonald's gives you all the nutrients you need.

But it is true that a meal of a BIG MAC_®, a McDonald's strawberry milk Shake and a (regular) serving of French Fries, provides a substantial proportion of your daily requirements of many nutrients. While this meal combination supplies 40% of the total body requirements of calories, it provides more than 55% of the daily need for protein and greater than 50% of the daily need of many important vitamins and minerals.

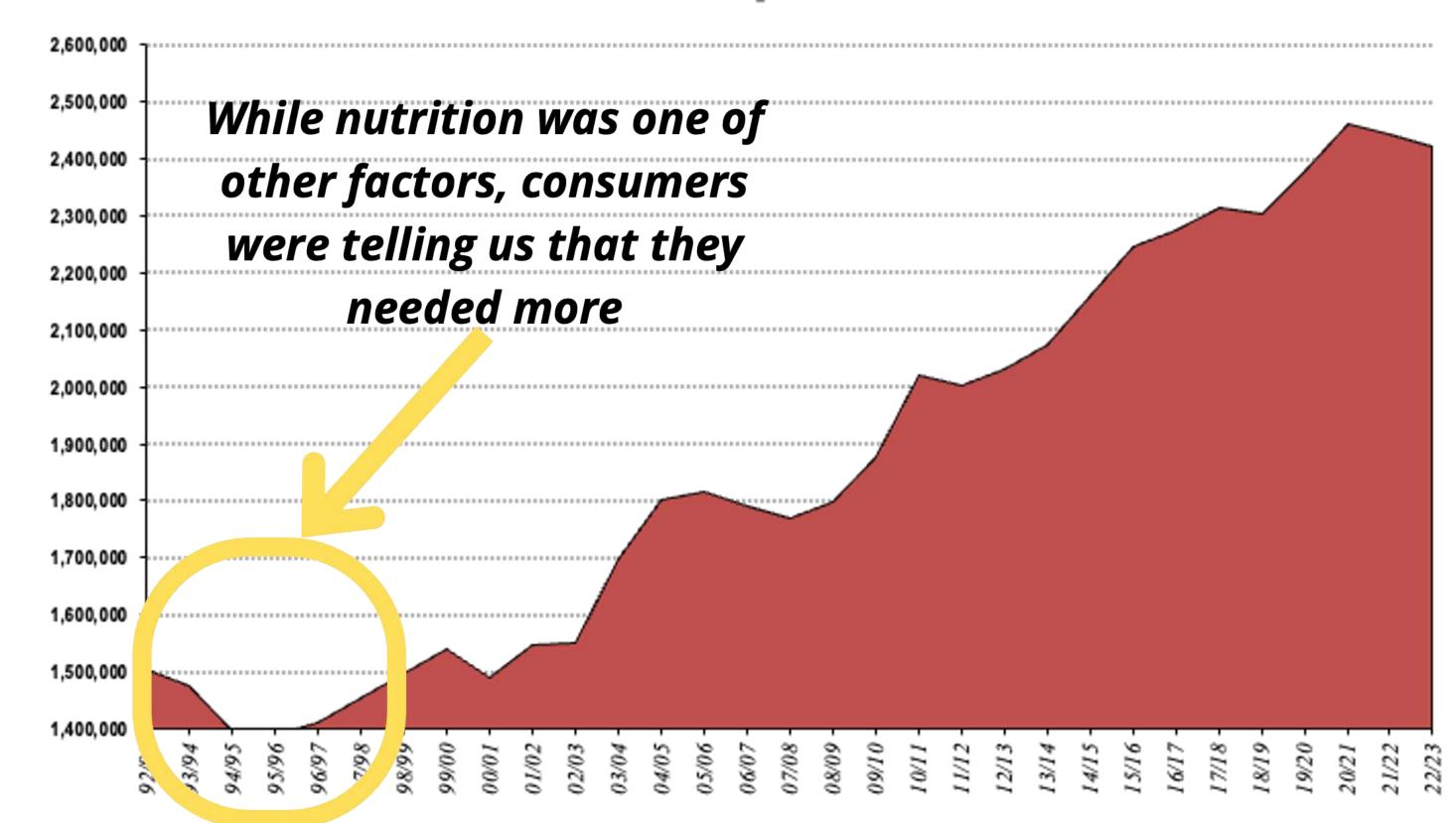
The table below indicates specific nutrition information on the illustrated meal.

If you would like further information about McDonald's food, ask at any McDonald's restaurant for our 'Nutritional Look at McDonald's' leaflet. We want you to enjoy our good food... and enjoy it in good health.





Total U.S. Consumption of Peanuts



Source: USDA Peanut Stocks & Processing Report.

BUT WHERE WAS PEANUT HEALTH RESEARCH?

- Between 1945 and 1985, there were 149 papers written on peanut nutrition and health
- Topics
 - Lectins, which people should avoid
 - Aflatoxin, which people should avoid
 - Malnutrition and liver damage
 - Protein quality
- A search for "health benefits" yielded nothing before 1995





OUR GREATEST CHALLENGE = OUR GREATEST OPPORTUNITY





A Shaky System

- Fewer than four in ten adults (38 percent) in 2021 said they had a great deal of confidence in today's healthcare system (compared to 61% in 1976).
- Millennials (age 27-42) exceed older generations in chronic conditions, making them more dependent on the healthcare system compared to other age groups
- People are trying to take control of their health. Ninety-three percent (93%)
 express wanting to eat healthier at least sometimes but 60% don't know how.



OUR PRIVILEGE





Today's Consumers Are Asking For Functional Foods and Beverages



Gut Health Promoting Ingredients

Probiotics, prebiotics, and fermented foods that support a healthy gut microbiome and improve digestion.



Immune-Strengthening Nutrients

Vitamins, minerals, and plant-based compounds that bolster the body's natural defense mechanisms.



Cognitive Function Boosters

Nootropic supplements, omega-3 fatty acids, and antioxidants that enhance brain function and mental clarity.



Holistic Well-being Enhancers

Adaptogens, stress-reducing herbs, and plantbased beverages that promote overall wellness and balance.

People are seeking out products that not only nourish but also provide tangible health benefits beyond basic nutrition. We have the tools to provide consistent, evidence-based information to help others along their health journey.





Survey of consumer curiosity in a sample of 700. Food trends are driven by early food adopters who significantly influence mainstream consumers tomorrow.

"What really stood out to us was the level of curiosity about functional nutrition. Foods with cognitive health benefits and foods that improve gut health stood out."

AMY WOOD, SENIOR VICE PRESIDENT AND STRATEGIST AT CURIOUS PLOT



RESEARCH SNAPSHOT 2024

13 FUNDED STUDIES
3 SUPPORTED STUDIES

HARVARD UNIVERSITY













UNIQUE TOPIC AREAS

- Brain health
- Diabetes
- Cancer
- Gut microbiome
- Immunity
- Fitness
- Heart health
- Longevity
- Health equity
- Bone health

COUNTRIES

- United States
- Canada
- Australia
- Spain
- Italy
- Netherlands

RECENT PUBLICATIONS

- Mental health
- Vascular health
- Microbiome
- Cancer



























2023-2024 RESEARCH



BRAIN HEALTH





WEIGHT MANAGEMENT



HEART HEALTH

COGNITION

"Available evidence suggests a possible role for nuts in the maintenence of cognitive health and prevention of cognitive decline."

Nishi SK, Sala-Vila A, Julvez J, Sabaté J, Ros E. Impact of Nut Consumption on Cognition across the Lifespan. Nutrients. 2023 Feb 16;15(4):1000. doi: 10.3390/nu15041000. PMID: 36839359; PMCID: PMC9965316.

2024

The peanut group had greater improvements in memory and in attention span than the control group.

Systolic blood pressure (BP) decreased by 6.6% in the peanut group and increased 1.9% in the control group.







J Nutr Health Aging

2024

- Study in 6,411 adults
- Higher consumption of nuts as part of the MIND diet was associated with a 30% reduced risk of cognitive impairment.
- Past TPI studies have shown an improvement in memory and depression scores among young adults with peanut consumption. More research is needed.



Lin W, Zhou X, Liu X. Association of adherence to the Chinese version of the MIND diet with reduced cognitive decline in older Chinese individuals: Analysis of the Chinese Longitudinal Healthy Longevity Survey. J Nutr Health Aging. 2024 Feb;28(2):100024. doi: 10.1016/j.jnha.2023.100024. Epub 2024 Jan 1. PMID: 38388105.

PEANUT COMPOUNDS



Figure 3. Significant Spearman correlations (p < 0.05) of memory function (A) and stress response (B) with fecal and plasma VLCSFAs, intake of peanut polyphenols, and total and main SCFAs in feces. The r coefficient is represented in the horizontal axis. VLCSFAs: very long-chain saturated fatty acids. SCFAs: short-chain fatty acids.





were correlated with stress and

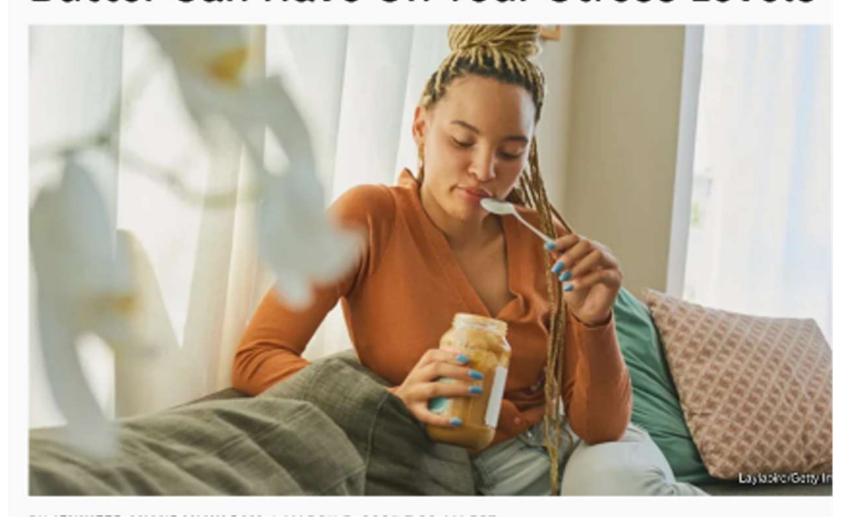
depression



Health Digest >2 million monthly visitors

Nutrition » Dietary Essentials » Food

The Unexpected Effect Eating Peanut Butter Can Have On Your Stress Levels



Health » Aging

Eating Peanut Butter As You Age Has Some Major Benefits



BY BETH RDADEODD / MARCH 18 2028 11:30 AM ES

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GUTMICROBIOME

"Peanuts demonstrate the potential to exert a beneficial effect on the gut microbiota for human health [inflammation, metabolic syndrome]."

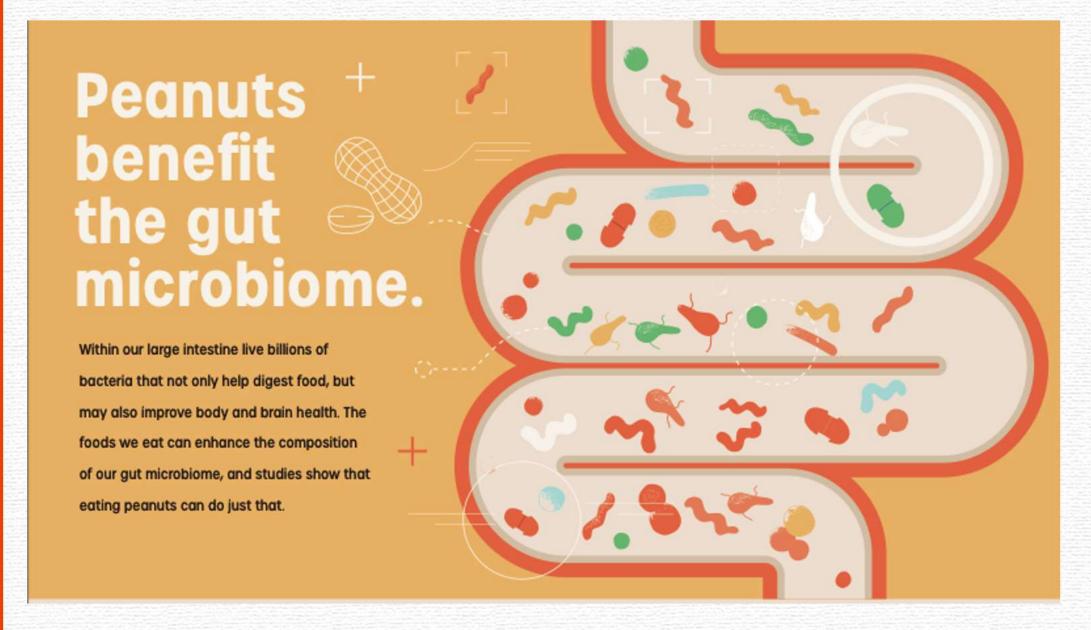
Campos SB, Oliveira Filho JGd, Salgaço MK, Jesus MHD, Egea MB. Effects of Peanuts and Pistachios on Gut Microbiota and Metabolic Syndrome: A Review. Foods. 2023; 12(24):4440. https://doi.org/10.3390/foods12244440



2023

MICROBIAL PHENOLIC METABOLITES (MPMS)

Eating peanuts and peanut butter produces specific compounds in the gut that can cross the blood-brain barrier to improve memory and mood.



Butyric acid: fuels new cell growth in the gut and can reduce inflammation. Acetic acid: increases blood flow and motility in the digestive tract as well as aids in nutrient absorption.

Propionic acid: helps kill cancer cells in the gut and can reduce cholesterol. **Resveratrol:** inhibits growth of harmful pathogens among the gut microbiota as well as fights cancer in the gut.





Int Jour of Food Sci Nutr Med Sci Sports Exerc

STUDY 1: Girls and boys aged 12–19 who consumed peanuts, peanut butter, peanut flour, nuts, and seeds were up to 45% less likely to be overweight or obese than those who didn't.

STUDY 2: Athletes who consumed peanuts gained lean mass but not much fat, even with eating 500 more calories each day.

Adds to the body of literature that suggests that peanuts can improve muscle quality and growth without causing fat gain.



Yang Y, Zhang D, Chen B, Huang X. Nuts and seeds consumption impact on adolescent obesity: sex-specific associations from 2003 to 2018. National Health and Nutrition Examination Survey. Int J Food Sci Nutr. 2024 Sanchez AD, Reynolds JC, Marinik EL, Kolb RD, Lozano AJ, Davy BM, Hunter GR, Larson-Meyer DE. A Randomized Trial of Healthy Weight Gain in Athletic Individuals. Med Sci Sports Exerc. 2024 Mar 25

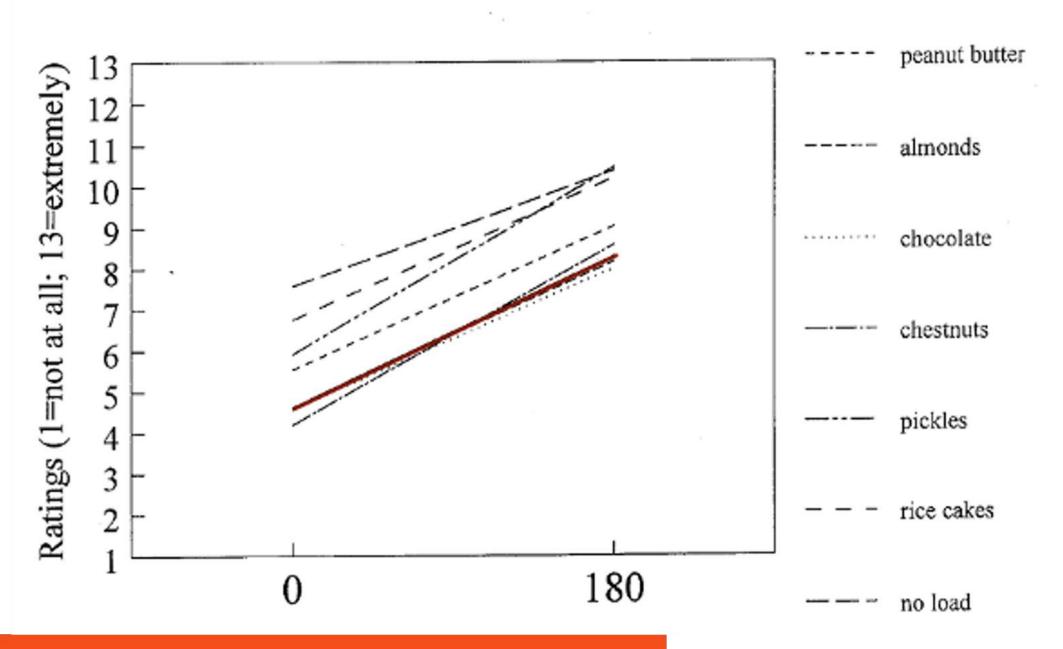


OBESITY CRISIS

- As of 2024, more than 1 billion people worldwide are now obese.
- Some are turning towards quick-fix methods like Ozempic and Wegovy
- Possible side effects of Ozempic include: nausea/diarrhea, abdominal pain, thyroid cancer, pancreatitis, kidney disease, and gallbladder disease
- Users and intenders of Ozempic skew more toward women and Gen Z adults aged 18-24







PEANUTS & OBESITY

- Modulates similar hormones (GLP-1 and PYY) to promote satiety.
- Increases resting energy expenditure (REE) so that we burn 11% more calories at rest.
- Promotes caloric loss, so that up to 18% of calories are excreted.





peanuts



Can Peanuts Lead to Weight Gain?

Like other nuts, peanuts have good-for-you mono- and polyunsaturated fats. And just because they contain fat, it doesn't mean they'll lead to weight gain if you're mindful of your portion size. For example, a 1-ounce serving of peanuts (32 nuts) delivers 161 calories, per the <u>USDA</u>, and can fit into a balanced eating plan.

Peanuts might even help with weight loss. In a 2022 study in *Nutrients*, researchers compared two groups. One group ate a reduced-calorie diet plus 35 grams of peanuts prior to two main meals each day. The other group ate a typical low-fat diet. Both groups had similar amounts of weight loss and similar blood sugar levels after six months. And compared to the low-fat diet group, the peanut-eating group had greater reductions in blood pressure.

Like other nuts, peanuts also contain fiber, which helps make them satiating. That 1-ounce serving of peanuts has about 2.5 g of fiber. And we know that fiber helps with weight loss.



Based on The Peanut Institute studies

HEART HEALTH

Our studies consistently show that a dietary pattern with peanuts as a major plant-based protein source may lower risk of heart disease and stroke.

Glenn AJ, Guasch-Ferré M, Malik VS, Kendall CWC, Manson JE, Rimm EB, Willett WC, Sun Q, Jenkins DJA, Hu FB, Sievenpiper JL. Portfolio Diet Score and Risk of Cardiovascular Disease: Findings From 3 Prospective Cohort Studies. Circulation. 2023 Nov 28;148(22):1750-1763. doi: 10.1161/CIRCULATIONAHA.123.065551. Epub 2023 Oct 25. PMID: 37877288; PMCID: PMC10841173.



HEART HEALTH IN YOUNG PEOPLE

Peanut and peanut butter consumption improves vascular health in young college students

Brazilian gospel singer Pedro Henrique, 30, dies on stage during massive heart attack

Parilli-Moser I, Domínguez-López I, Vallverdú-Queralt A, Hurtado-Barroso S, Lamuela-Raventós RM. Urinary Phenolic Metabolites Associated with Peanut Consumption May Have a Beneficial Impact on Vascular Health Biomarkers. Antioxidants. 2023



2023-2024 RESEARCH



BRAIN HEALTH



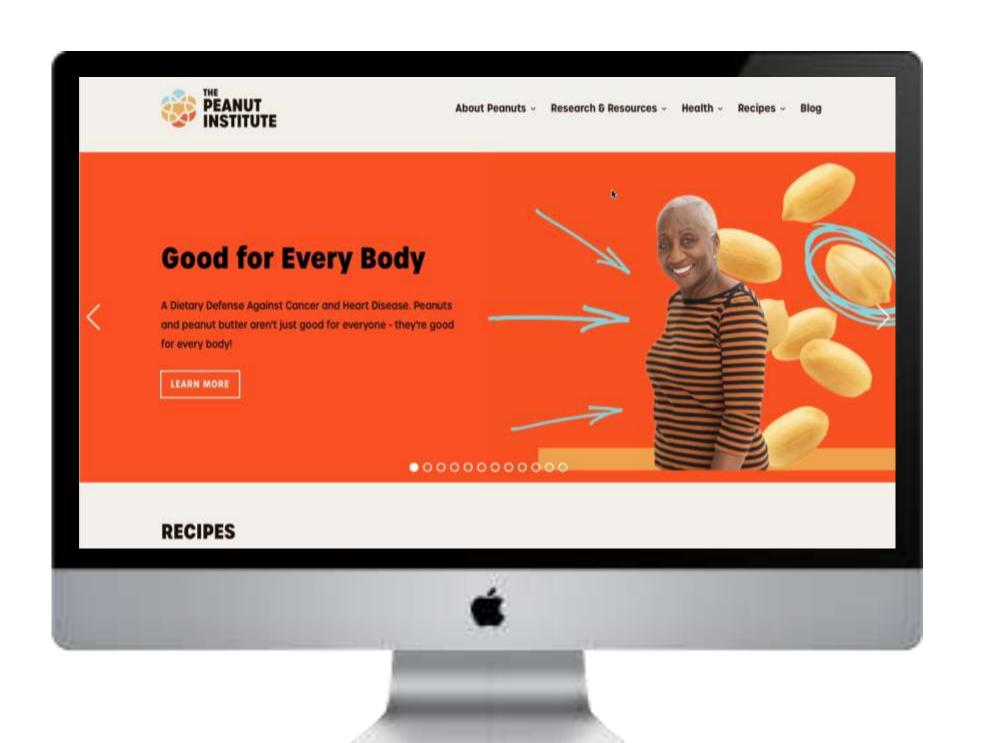


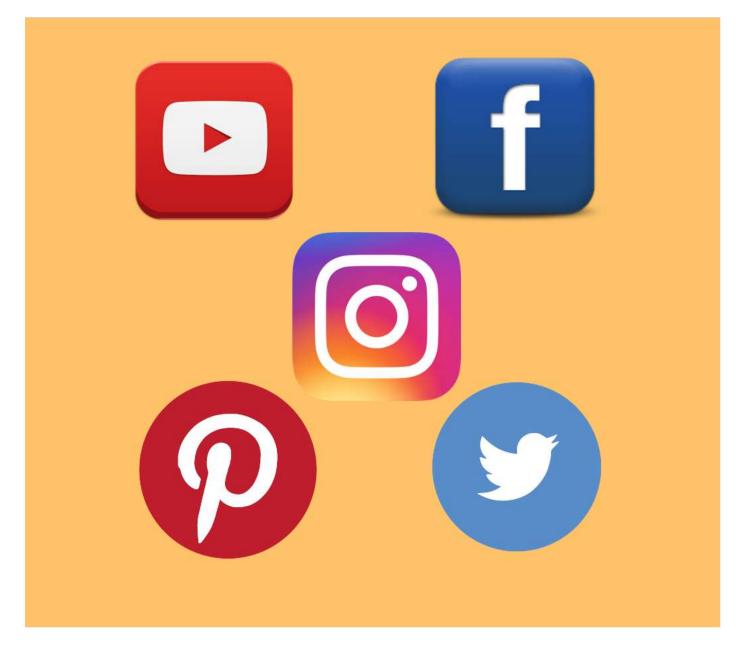
WEIGHT MANAGEMENT



HEART HEALTH





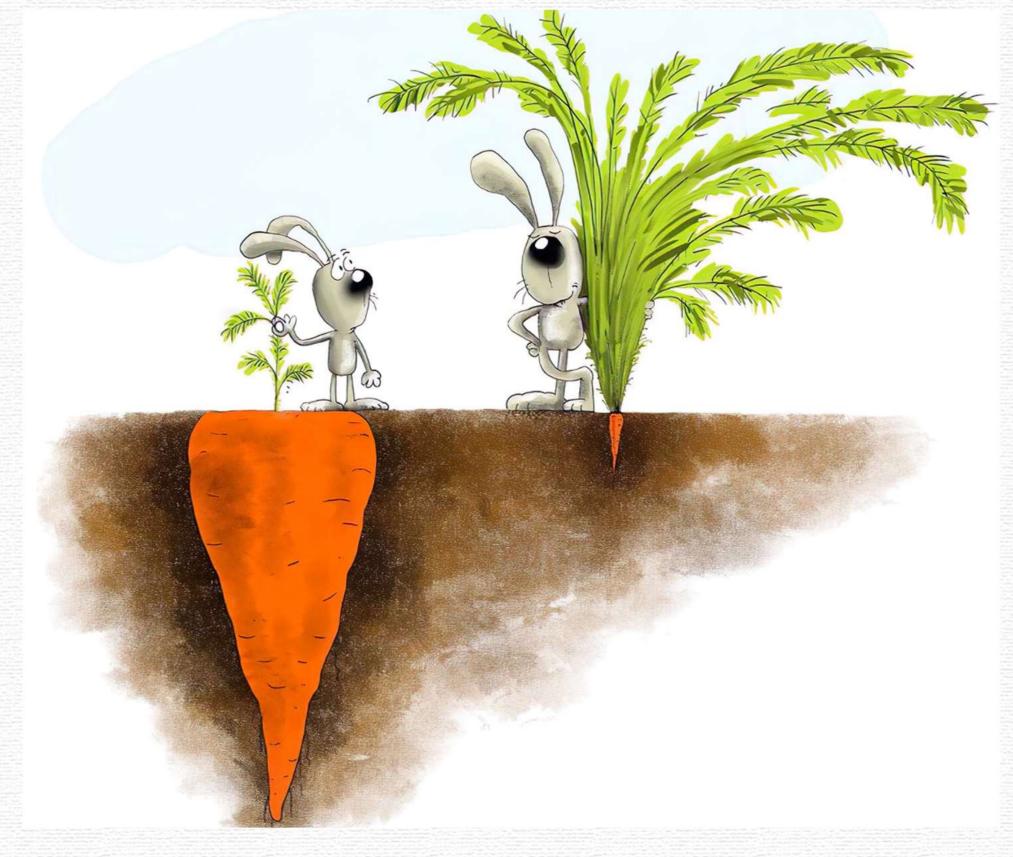


www.peanutinstitute.com

LEADERS OF HEALTH INTO THE FUTURE

Our industry is well poised to help lead the health journey into the future.

As we continue to provide evidence-based nutrition information that is relevant, rigorous, and transparent, we are building on a foundation in the present to help meet us the biggest health needs of tomorrow.



"IT IS NOT THE BEAUTY OF A BUILDING YOU SHOULD LOOK AT; ITS THE CONSTRUCTION OF THE FOUNDATION THAT WILL STAND THE TEST OF TIME."

DAVID ALLAN COE

FOR YOUR ATTENTION AND SUPPORT!