

Food & Nutrition is an accessible book with an easy-to-read Q & A style that helps readers separate food fact from fiction and nutrition science from nonsense when it comes to what we eat and why it matters, answering need-toknow questions related to all things food, from farm to fork.

Dr. P.K. Newby is a a Harvard-trained scientist, science communicator, and gastronome whose multidisciplinary training spans the biological, social, and public health sciences, creating a unique perspective when thinking about today's food challenges. Her mission is to help people live their healthiest, most delicious lives, sustainably—and fight junk-science in all the ways she can. More at <u>pknewby.com</u>.

From gluten-free to all-Paleo, GMOs to grass-fed beef, our newsfeeds abound with nutrition advice. Whether sensational headlines from the latest study or anecdotes from celebrities and food bloggers, we're bombarded with "superfoods" and "best ever" diets promising to help us lose weight, fight disease, and live longer. At the same time, we live in an over-crowded food environment that makes it easy to eat, all the time. The result is an epidemic of chronic disease amidst a culture of nutrition confusion—and copious food choices that challenge everyday eaters just trying to get a healthy meal on the table.

But the exhilarating truth is that scientists know an astounding amount about the power of food. A staggering 80% of chronic diseases are preventable through modifiable lifestyle changes, and diet is the single largest contributing factor. And we also know the secrets to eating sustainably to protect our planet.

In *Food & Nutrition*, Harvard- and Columbia-trained nutrition scientist Dr. P.K. Newby examines 134 stand-alone questions addressing "need to know" topics, including how what we eat affects our health and environment, from farm to fork, and why, when it comes to diet, the whole is greater than the sum of its parts—and one size doesn't fit all. At the same time, Newby debunks popular myths and food folklore, encouraging readers to "learn, unlearn, and relearn" the fundamentals of nutrition at the heart of a health-giving diet. Her passion for all things food shines through it all, as does her love of the power of science, technology, and engineering to help create healthier diets for ourselves, and a more sustainable future for the planet we share.

Table of Contents

PART I Why What We Eat Matters: Farm to Fork

Chapter 1. Framing Today's Food and Nutrition Issues

What's this book about?Who should read this book? Is a science background necessary?How do traditional and contemporary diets differ around the world?Who runs the food system?Who produces and provides our food?What are the major food and nutrition challenges impacting human and environmental health?How can we solve food and nutrition problems? Revolution, or evolution?

Chapter 2. Global Food and Nutrition Challenges: People and Planet

Who is affected by hunger, food insecurity, and malnutrition?
What is obesity, and why is it a health problem?
Who suffers from chronic diseases, and what are the leading causes of death globally?
What are the causes of food poisoning, and how can it be reduced?
How do agriculture and food production contribute to climate change?
Are fertilizers farming friend or foe?
What's the problem with pesticides?
What is agriculture's role in water pollution and dead zones?
What is the state of seafood, and why does overfishing matter?
What are the causes and impacts of food waste?

PART II Dining Throughout Human History: Science, Technology, Eater, Environment

Chapter 3. How Revolutions, Discoveries, and Inventions Shape Our Diet: Paleo to Present

What is the Paleolithic diet? What did hunter–gatherers actually eat? What is the Neolithic Revolution, and how did diets change after the birth of agriculture? How and why did the Industrial Revolution impact food production? What is the Green Revolution, and how did it impact human health and the environment? What is the Genetic Revolution, and how did it affect food production? How have the Digital Revolution and information age impacted our diet? What are the top food inventions and technologies that have shaped how we eat and drink throughout human history?

Chapter 4. Contemporary Food Production, Buzzwords, and Pop Nutrition: Fact or Fiction?

What are "processed" foods, and how do they fit into a healthy diet?
Do red and processed meats cause cancer?
Are canned and frozen foods inferior to fresh?
Are "natural," "raw," and "clean eating" concepts science, or nonsense?
What's the difference between "organic" and "conventional"?
Is "eating local" important for human health and the environment?
OMG GMO!? Why is food genetically engineered?
Is "grass-fed" beef healthier and more sustainable than "grain-fed"?
How does "wild-caught" salmon compare to "farmed"?
Is sugar addictive?
What are "good bacteria," and how are they related to "probiotics," "prebiotics," and the "microbiome"?
Why is breastfeeding important?

Chapter 5. Diets and Food Environments Today: Why We Eat the Way We Do

What are the influencers and major drivers of eating behavior and food choices in today's world? What exactly is taste, and why does it differ across person and place? How does the foodscape shape how we eat? Does food advertising impact diet? How have cooking and dining changed in the 21st century? Does snacking or meal timing matter? How do restaurants, cafeterias, and other "away-from-home" options impact diet? What roles do street food and food trucks play?

PART III Essential Food and Nutrition: Separating Science from Junk Science

Chapter 6. A Brief History of Nutrition: Scientific Discoveries and Applications

How do we know what we know about food and health? How did the study of food become the science of nutrition? What is nutrification? What is fortification? What other methods are used to nutrify foods?

Chapter 7. Small and Mighty: Vitamins, Minerals, and Phytonutrients

What are vitamins? What's the deal with vitamin D? How do you know whether your vitamin intake is adequate? Should you take a supplement? What roles do salt and other minerals play in our diet, and should you watch your sodium intake? What is the DASH diet? What are phytochemicals? Do carotenoids prevent cancer?

Chapter 8. The Foundation of Nutrition: Carbohydrate, Fat, and Protein

What are the different kinds of carbohydrates we eat?
What is fiber, and how is it related to health?
Are you eating the best carbs for your body? How do digestible carbohydrates, sugar, and high-fructose corn syrup differ?
What are the major fats and oils in our diet?
How does saturated fat compare to unsaturated fat?
Is coconut oil a good choice? What about palm oil?
What are omega-3 and omega-6 fatty acids?
What is trans fat?
Is fat "fattening"? Are low-fat foods healthy?
Why are protein and amino acids important?
How much protein do we require, and do some people need more than others?
Do high-protein diets lead to greater weight loss and improved cardiovascular health?

PART IV Food, Glorious Food

Chapter 9. Creating a Colorful Plate: Vegetables and Fruits

How do vegetables differ nutritionally? What's special about herbs and spices? What are the various kinds of fruit? When it comes to disease prevention, are some vegetables and fruits better than others? How much vegetables and fruit are we eating, and why should we consume more, of all kinds?

Chapter 10. Whole Grains, Refined Grains, and Gluten

What are cereal grains and "pseudograins"? What's the difference between "whole" and "refined" grains? What is gluten, and are gluten-free diets important for health? Do whole and refined grains differently impact the body? How do you ensure grains are "whole"?

Chapter 11. Plant Protein Power: Beans and Peas, Legumes and Pulses, Nuts and Seeds

What are legumes, and why are they unique in nutrition and agriculture?How do legumes impact weight and health?Why do beans produce gas (and can it be mitigated)?Why is soy unique and how is it related to health?What's in a nut?Are nuts fattening, or associated with increased risk of disease?What's the current science on nut allergies and prevention?

Chapter 12. Land Animals and Animal-Based Foods

What animals are consumed for food, and how do they differ nutritionally?
What resources are needed for animal production?
What is a concentrated animal feeding operation (CAFO), and why does it matter?
Why are antibiotics used in CAFOs, and is it important for human health?
Why are hormones used in animal production?
Who drinks milk, and what does it offer nutritionally?
Are milk and its nutrients related to bone health and osteoporosis?
Are milk and dairy products related to obesity, prostate cancer, and other diseases?
Why is yogurt unusual?
Are egg-white omelets the best choice for heart disease prevention?

Chapter 13. Water Dwellers: Fish and Seafood

What are the nutritional benefits of seafood? Does seafood prevent heart disease? What about "fish oil"? What is the state of environmental contamination? Is seafood safe to eat? Is seafood healthy for pregnant and breastfeeding women and young children? What are the benefits and risks of aquaculture?

Chapter 14. Water, Coffee, and Tea: Impacts on Health and Environment

Why is water essential for life, and how much do we need?
What are the differences between tap and bottled water?
Can drinking water help with weight loss, or prevent kidney stones?
How are coffee and caffeine unique?
How is coffee related to heart health and type 2 diabetes?
Is coffee beneficial for other diseases, like depression?
What's behind coffee production?
What are the main types of tea? What is kombucha?
What are tea's nutritional and health benefits—and how is green tea distinctive?

Chapter 15. Alcohol and Health: Cheers!?

How is alcohol handled in the body? How do wine, beer, spirits, and cocktails differ in calorie and nutrient content? What are the health risks and benefits of alcohol consumption? Does red wine play a special role in heart disease prevention?

Chapter 16. Sweet Drinks: Fruit Juice, Sugar-Sweetened Beverages, and Diet Soda (Pop)

How many sugar-sweetened beverages are we drinking, and are they related to obesity?

Is drinking fruit juice the same as eating whole fruit?

Is fruit juice a nutritious beverage or a risk factor for obesity, type 2 diabetes, and cavities? And is juicing healthy or hooey?

Are diet beverages helpful for weight control?

PART V Diets for Optimal Health, Longevity, and Sustainability: Today and Tomorrow

Chapter 17. Putting It All Together: Creating a Health-Giving Diet that Works for You, for Life

Is focusing on individual nutrients and foods important for health?

Are there universal dietary principles for preventing chronic disease?

Is a calorie just a calorie? What mix of fat, carbs, and protein is most effective for weight management?

What popular diets are best for weight loss?

Do calorie restriction and fasting lead to a longer life, and better health? What are the keys to longevity? What are the "Blue Zones"? What sustainable practices protect people and the planet? Is dietary change possible?

Chapter 18. The Future of Food and Nutrition

How will we sustainably feed 10 billion people in 2050—and beyond? How are high tech and big data changing farming? Will food production move to cities? Will genetic engineering of food continue? Will animals still be raised for food? Is "personalized nutrition" hope or hype? What will dinner look like? How will machines change how we cook and eat? What does food evolution look like?

