

Nutrition *Action*

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HEALTH  LETTER®
CENTER FOR SCIENCE IN THE PUBLIC INTEREST

Carbohydrate Confusion

Should you avoid carbs
at all costs?

Our Planet
AT RISK

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3 Veggie
Dips

Actor Halle Berry "swears by the ketogenic diet,"
according to *Women's Health* magazine.

M E M O

MEAT THE FUTURE



It's daunting to think about the damage we're doing to our planet, and the harm it will do to our own health.

But as our interview with Harvard's Sam Myers (see p. 7) shows, solutions do exist. Some, like

reducing carbon emissions from vehicles and power plants, are well known; others are less recognized. For example, livestock accounted for an estimated 15 percent of human-induced worldwide greenhouse gas emissions in 2005.

Eating less beef could drive down emissions because cattle (even if grass-fed) emit methane, a greenhouse gas that is 25 times more potent than carbon dioxide.

What's more, it takes tremendous quantities of water, pesticides, and fertilizer to grow the crops that

animals eat. Add to that the damage caused by the animal excrement and fertilizer that can pollute our streams, rivers, and air.

That enormous environmental insult has spurred scientists and entrepreneurs to try to produce meat without farming—in a laboratory.

In essence, muscle cells from meat are placed in a petri dish and allowed to divide until enough meat is “grown.” (Companies are still working on creating the texture and mouthfeel of meat.)

It sounds like science fiction, and indeed, man-made “meats” have shown up in everything from Star Trek to Margaret Atwood. Even conventional meat producers [Cargill](#) and [Tyson](#) have invested in lab-grown meat start-ups.

The product—which is years away from supermarket shelves—is sometimes called “clean meat,” “cultured meat,” or “cell-based meat.” But not if the U.S. Cattlemen's Association has its way.

In February, the cattlemen petitioned the U.S. Department of Agriculture to limit the words “meat” and “beef” to animals raised the traditional way. (That would also ban those words on plant-based foods like Beyond Meat, even when the products are obviously not meat.)

In May, the Center for Science in the Public Interest, publisher of *Nutrition Action*, and the Consumer Federation of America [urged](#)



Lab-grown meat could help curtail damage from raising livestock, but we have to be sure that it's safe.

the USDA to deny the petition, since there is no evidence that consumers are being misled.

(Of course, if lab-grown meat isn't actually meat, as the beef industry insists, the USDA has no legal authority to regulate it. The Food and

Drug Administration would.)

In July, CSPI's Greg Jaffe spoke at a meeting on lab-grown meat held by the FDA. Greg [argued](#) that if the FDA regulates lab-grown meat, the agency must review the safety of the technology and the foods well before the burgers and steaks reach supermarket shelves.

Only then will consumers have confidence in these emerging foods. And only then can these foods help us confront the threats facing our beleaguered planet.

Peter G. Lurie, MD, MPH, President
[Center for Science in the Public Interest](#)

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Carbohydrate Confusion

Should you avoid carbs at all costs?

BY BONNIE LIEBMAN

Interest in the ketogenic diet grows for weight loss and type 2 diabetes,” reported a news article (not a study) in the [Journal of the American Medical Association](#) in January. A ketogenic diet—which is very low in carbohydrates and high in fat—may be getting attention, but the evidence to support it is far from solid.

Weight Loss

“Low-carb and low-fat diets equally effective for losing weight: Study.”

That headline, which ran in [Newsweek](#) in February, was reporting on DIETFITS, a year-long study on 609 people who were assigned to eat healthy diets with as little fat or carbs as possible.¹

It’s not just DIETFITS. The Pounds Lost trial tested diets that were higher or lower in carbs, fat, or protein on 811 people. After two years, weight loss was the same.²

“The Pounds Lost results make a very strong case that it doesn’t matter which you cut—fat, carbs, or protein,” says lead author Frank Sacks, professor of cardiovascular disease prevention at the Harvard T.H. Chan School of Public Health.

But those and similar studies didn’t end the debate over low-carb diets and weight loss.

“What is this keto diet you keep hearing about, and is it healthy?” asked [Bon Appétit](#) in August. “With celebrities like Halle Berry and Kourtney Kardashian getting on board, we have a feeling that interest won’t be waning any time soon.”

A ketogenic diet is not just low—it’s very low—in carbs: no more than 20 to 50

grams a day. (The average adult consumes about 245 grams of carbs a day.)

Without carbs to burn for fuel, the body breaks down fat—from food or the fat in your cells—into ketones (like acetone) that can be burned for fuel instead. When it does, you’re in ketosis.

A strict version of the diet has been used since the 1920s to treat children with drug-resistant epilepsy.



You can add low-carb veggies and berries to these staples of a ketogenic diet.

“It’s not an easy diet to follow even for a few months,” says Sacks. “Look at all the carbohydrate-containing foods you can’t eat.”

It’s not just carrots, oranges, beans, oatmeal, and other healthy carbs. It’s goodbye burgers, fries, sodas, shakes,

pizza, burritos, sandwiches, breads, bagels, buns, pasta, rice, cereals, chips, muffins, cakes, cookies, candy, and just about all junk food.

And it’s hello fats—cream, butter, oils, nuts, avocado—along with fatty meats and cheese. You can eat protein, but not too much, because it boosts insulin levels.

“One of the things that’s driving the ketosis is the low levels of insulin,” says Kevin Hall, senior investigator at the National Institute of Diabetes and Digestive and Kidney Diseases.

“Keeping insulin low drives the liver to take up the fatty acids from fat cells and produce ketones.” That doesn’t

happen if insulin goes up.

But those ketones have a downside.

“People don’t feel so well,” says Sacks. “They have side effects like fatigue, bad breath, bloating, and constipation.” Some diet books call it the “keto flu.”

They’re constipated because they can’t eat fiber-rich foods like whole grains, beans, or some fruits and vegetables.

“A fiber supplement is generally recommended because most people don’t get enough fiber to move their bowels efficiently,” says Judith Wylie-Rosett, who heads the division of health

promotion and nutrition research at the Albert Einstein College of Medicine in New York.

You can eat some fruit (like berries) and some vegetables in some ketogenic diets. “They tend to focus on low-carb

Photos: Danny Moloshok/Reuters (top), ricka_kinamoto/stock.adobe.com (bottom).



A ketogenic diet for diabetes?

vegetables, like broccoli or cauliflower,” notes Wylie-Rosett.

“If you can’t have french fries, you may find broccoli much more attractive, because there’s only so much steak you can eat. And if you’re trying to eat more fat to get into ketosis, you need to put the fat on something. So oil and garlic on broccoli becomes extremely attractive.”

The long list of forbidden foods can help dieters, at least for a while.

“People often consume fewer calories on a low-carbohydrate diet because they have fewer foods to choose from,” says Wylie-Rosett.

But in studies that last at least a year, any difference in weight loss between low-carb and other diets shrinks or disappears. Of course, you may have heard otherwise.

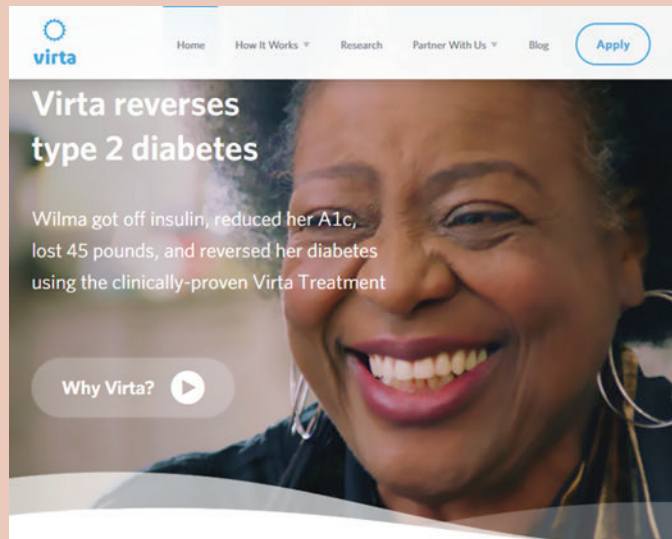
“A meta-analysis of 13 randomized controlled trials suggested that people on ketogenic diets tend to lose more weight and keep more of it off than people on low-fat diets,” reported a news article in the *Journal of the American Medical Association* in January.³

What the reporter left out: The difference in weight loss after a year or more was only two pounds. And that was in people who were typically obese.⁴ “The differences appear to be of little clinical significance,” said the meta-analysis.

But if a new industry-funded study in people with type 2 diabetes is borne out by future research—and that’s a big *if*—it could be a game changer.

Type 2 Diabetes

“Wilma got off insulin, reduced her A1c, lost 45 pounds, and reversed her diabetes using the clinically-proven Virta Treatment,” says the website for



The Virta Treatment, which offers intensive online coaching and lets people check their ketones and blood sugar daily, has promise. But it has only been “clinically proven” in an industry-funded non-randomized study run largely by Virta staff.

[Virta Health Corporation](#), one of several high-tech companies that offer online programs to help people manage their type 2 diabetes remotely.

(Virta charges a one-time \$500 initiation fee, plus \$370 a month for one year and \$199 a month subsequently, though some employers and health plans cover the cost, says Virta.)

Virta’s diet typically allows less than 30 grams of carbs a day, but the compa-



Goodbye carbs means goodbye soda, pizza, fries, and more.

ny doesn’t disclose the details.

“While there are many ways to achieve ketosis, Virta uses its own, proprietary, clinically-tested high fat, moderate protein, low carbohydrate protocol,” says the [website](#).

Participants get video chats with a

physician, a personal health coach, and a Starter Kit with lancets so they can take blood samples to test their blood sugar and blood ketone levels at home.

The catch: Virta’s treatment was “clinically proven” in the company’s own non-randomized study.⁵

Instead of randomly assigning people to either Virta or a control treatment, the researchers—mostly Virta employees who had been offered stock options—compared 262 people with type 2 diabetes who volunteered to try Virta’s program to 87 others who were not interested, so they just kept seeing their own

doctors and eating their usual diet.

Not surprisingly, nothing changed in the control group after a year. But among those who got the Virta treatment, the one-year results were impressive:

- **Hemoglobin A1c** (a long-term measure of blood sugar) dropped from an average of 7.6 to 6.3 percent. (An A1c of 6.5 or higher is diabetes. Prediabetes is 5.7 to 6.4.)

- **Weight** dropped an average of 30 pounds (down from an average of 256 pounds).

- **Diabetes medications** dropped. At the outset, 57 percent of the Virta group took drugs other than metformin. After a year, it was only 30 percent.

“The results are very promising,” says Hall.

But questions remain:

- **Selection bias?** “Because the trial wasn’t randomized, you can only draw limited conclusions from the data,” says Hall. “You have to worry about selection bias, because the folks who got the Virta treatment were highly motivated to stick to the program.”

So you can’t chalk up their greater

Can a ketogenic diet make new cancer drugs work better?

“Cancer just loves refined sugar,” warned an article on “The 20 Most Carcinogenic Foods” on msn.com in June. “Why? Because this foodstuff helps cancer cells multiply.”

Whoa. It’s a huge leap to go from saying that blood sugar fuels cancer cells to calling sugar a carcinogen.

But a recent study in mice does suggest that very-low-carb diets may make some cancer-fighting drugs more effective.¹

“A series of cancer drugs are being developed to inhibit an enzyme called PI3-kinase,” explains Benjamin Hopkins, a postdoctoral associate at the Weill Cornell Medical College.

Mutations in the PI3K pathway are found in more than a third of all tumors in the breast, uterus, prostate, colon, and other organs.² So drugs that turn off the enzyme hold promise.

“People were excited about the PI3K inhibitors because PI3K is a fundamentally important pathway in that tumors need nutrients to grow,” notes Hopkins.

PI3-kinase is activated by insulin. “Researchers thought that by turning off insulin signaling, you’re telling tumor cells that they don’t have the resources to continue to divide,” says Hopkins.

But trials testing the drugs have been disappointing. So far, the FDA has approved only one, Aliqopa, and only for treating relapsed follicular lymphoma.

“For almost a decade now, clinical trials on PI3K inhibitors have never quite had the impact on cancer that clinicians thought they should,” notes Hopkins.

So he and his colleagues, including lab director Lewis Cantley and author and oncologist Siddhartha Mukherjee, tried to figure out why.

“We and others observed that when patients received

these compounds, their blood sugar spiked,” says Hopkins.

That’s because when the drugs blocked insulin, which allows blood sugar to enter cells, the cells ran short on fuel. That prompted the liver to break down its carbohydrate (glycogen) stores, sending a burst of sugar into the bloodstream. But the rise in blood sugar didn’t last.

“If your glucose goes high, insulin is released by your pancreas to lower it,” says Hopkins. “That’s a sign that your

body is reactivating the very insulin-signaling pathway that the drugs are targeting. It’s undercutting the drugs before they start working.”

But that didn’t happen when Hopkins put mice on a ketogenic diet.

“If you’re eating very, very low levels of carbohydrates, your body no longer has glycogen stores to release when blood sugar is too low,” he explains. “There’s no sugar to release so you don’t undercut the drugs.”

Of course, it’s too early to know if the drugs would work in *people* who eat a very-low-carb diet. Trials are under way.

But these promising results don’t show that a very-low-carb diet *alone* can fight cancer.

“There are tumor types where the ketogenic diet alone does seem to help, there are tumors that don’t seem to care, and there are even some tumors that grow faster on a ketogenic diet,” says Hopkins.

“So the study definitely does not show that a ketogenic diet is a good idea for all cancer patients. And it absolutely does not show that sugar causes cancer.” However, “it doesn’t argue in favor of sugar, either.”



A ketogenic diet helps a new class of cancer drugs work, at least in mice. But the diet alone made some cancers worse.

¹ *Nature* 2018. doi:10.1038/s41586-018-0343-4.

² *JAMA Oncol.* 2: 1565, 2016.

success only to the treatment.

What’s more, adds Hall, “we don’t know whether these results will translate to a wider group of people who are less motivated.”

■ **Performance bias?** When researchers give one group more attention than others, that can create a bias.

“These motivated, self-selected folks underwent intensive coaching and monitoring as part of this remote delivery system,” says Hall. The control group got no intervention.

“What’s unclear is whether an equally intensive intervention with a different diet could have led to similar effects,” notes Hall.

■ **Weight loss or diet?** Also unclear is how much weight loss helped the participants manage their diabetes.

“It would be interesting to see another group that lost the same weight on a different diet, so you could distinguish the effects of the weight loss versus the type of diet,” says Hall.

“If you went on a ketogenic diet and

didn’t lose weight, it’s not clear how it would affect insulin sensitivity and beta-cell function.” (Insulin is secreted by the beta cells in the pancreas.)

Of course, the Virta group *did* lose weight—an average of 30 pounds after a year. That beats the usual 12 or so pounds in weight loss studies that last a year. The ketone tests could explain why.

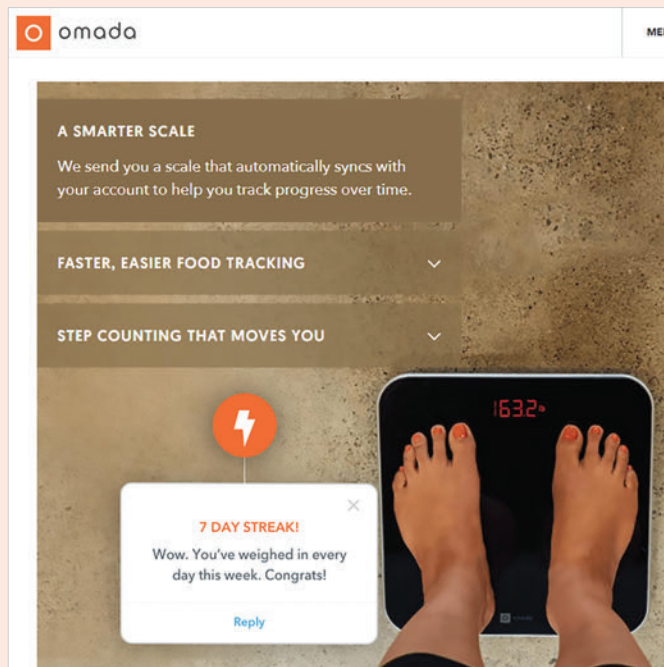
“The tests allowed people to monitor whether they went off the diet,” says Hall. “People can’t tell precisely how



Got prediabetes?

Want to avoid moving from prediabetes to type 2 diabetes? Few studies have looked at whether ketogenic diets can help.

But one thing is clear: “Weight loss is the strongest predictor of whether you convert to diabetes,” says Judith Wylie-Rosett of the Albert Einstein College of Medicine.



That’s based on the Diabetes Prevention Program (DPP), a randomized clinical trial on 3,234 people with what we now call prediabetes. After three years, diet plus exercise lowered the risk of diabetes by 58 percent. Metformin (a drug that lowers blood sugar) cut the risk by 31 percent.¹

“The fact that lifestyle was twice as effective as medication was a shock even to the investigators,” says Wylie-Rosett.

Thanks to the DPP, Medicare pays for older people with prediabetes to participate in approved DPP-like programs.

And some insurance plans cover online digital coaching programs like Omadahealth.com. (Note: Omada’s trials are non-randomized and are funded and run by the company.)

Though the DPP ended in 2002, Wylie-Rosett and other researchers are still tracking the participants.

“The improvement in A1c is largely related to weight loss,” she notes. “The composition of the diet—carbs, fat, protein—doesn’t seem to make any difference.”

Want to try a DPP program? The Centers for Disease Control and Prevention lists groups that meet DPP standards, though Medicare hasn’t approved them all (nccd.cdc.gov/DDT_DPRP/Registry.aspx).

¹ *N. Engl. J. Med.* 346: 393, 2002.

many calories they eat each day, but they can tell whether they ate too many carbs or too much protein to knock them out of ketosis. That’s a real advantage.”

■ **Safety?** What with the cream, butter, meat, and cheese in the ketogenic diet, it’s no surprise that LDL (“bad”) cholesterol rose in the Virta group (from an average of 103 to 113 mg/dL).⁴

Odds are, LDL didn’t exceed what used to be called the “near optimal” range (100 to 129) because half of the participants were taking statins, and most lost weight over the year.

However, triglyceride (fat) levels after meals—which weren’t measured—could have risen.

“The high-fat, low-carb diet improves fasting triglyceride levels,” says Hall.

“But it’s likely to increase post-meal triglyceride levels, which predict cardiovascular risk more than fasting triglycerides. So we just don’t know what the net effect on risk is.”

The Long Haul

The catch with any diet is whether you can stay on it.

That’s why Hall is encouraged by the Virta results.

“The frequent interaction with participants and the ability to track their adherence are wonderful factors that may help people stick to the diet over time,” he says.

Not many studies have kept people on ketogenic diets for more than six months. And most studies that test lower-carb diets—ketogenic or not—haven’t had much long-term success.

“People often get off to a good start with a low-carbohydrate diet,” says Wylie-Rosett. “The question is, will they

stick with it.”

Her study randomly assigned 105 people with type 2 diabetes to either a

low-fat or low-carb (though not low enough to be ketogenic) diet. The low-carb group lost more weight after the first three months, but by one year there was no difference in weight or A1c.² Other studies find similar results.⁸

“People who are big advocates for low-carb diets make the results sound impressive,” says Wylie-Rosett. “But they tend to have a study without a control group or a study of only completers. If you ignore the dropouts, the low-carb diets tend to look better.”

However, she adds, “the American Diabetes Association now recognizes that people can lower their blood sugar with a variety of approaches, so there’s no one diet for people with diabetes.”⁹

And patients may be more likely to stick to a diet if they choose it.

“The person with diabetes makes the decision and is guided by the health-care team,” says Wylie-Rosett. “The patient is in the driver’s seat.”

However, she adds, people with type 2 diabetes shouldn’t cut way back on carbs without a doctor’s supervision.

“If you dramatically reduce carbs on your own and don’t adjust medications that raise blood insulin, you could have a real crisis” if your blood sugar drops too low. 🍌

¹ *JAMA* 319: 667, 2018.

² *N. Engl. J. Med.* 360: 859, 2009.

³ *JAMA* 319: 215, 2018.

⁴ *Br. J. Nutr.* 110: 1178, 2013.

⁵ *Diabetes Ther.* 9: 583, 2018.

⁶ *Cardiovasc. Diabetol.* 17: 56, 2018.

⁷ *Diabetes Care* 32: 1147, 2009.

⁸ *Am. J. Clin. Nutr.* 108: 1, 2018.

⁹ *Diabetes Care* 41(Suppl 1): S38, 2018.



There Is No PLANET B

To protect our health, we have
to protect the Earth



Sam Myers

is a physician and principal research scientist at the Harvard T.H. Chan School of Public Health

and the director of the Planetary Health Alliance. He serves on [The Rockefeller Foundation-Lancet Commission on Planetary Health](#). Myers spoke with *Nutrition Action's* Caitlin Dow.

A Changing Planet

Q: What is planetary health?

A: Humans are changing just about all the natural systems on the planet at an unprecedented rate. The field of planetary health examines the implications of those changes, not only for nature but for our own health.

Q: Which natural systems have we changed?

A: You name it. We're disrupting the climate system. We've cleared half the tropical and temperate forests in the world. We've polluted air, water, and soil, and we can see it on a planetary scale. We're driving species extinct at a thousand times the baseline rate. We've dammed more than 60 percent of the world's rivers. What natural systems have we *not* fundamentally altered?

Q: Are these changes recent?

A: Yes. The biophysical conditions of the

Humans are damaging the natural systems of the only planet we've got. Here's how that puts our health—and our children's health—at risk.

Holocene—the current geologic period that has lasted for roughly the past 12,000 years—have been extraordinarily stable. And suddenly, in the last 60 years or so, we are turning every dial, throwing every switch, pushing every button.

We're completely changing the biophysical conditions that we have adapted to. It's not surprising that the impact is going to be deleterious.

Q: What's driving these changes?

A: First, there's the almost exponential growth of the human population since the 1950s, when the population was about two billion. Now, it's well over seven billion and rising very rapidly. Projections are on the order of 10 to 12 billion by the end of the century.

But it's also because of even steeper growth in the amount of resources each person consumes. To feed ourselves, we use about 40 percent of the ice-free, desert-free land as pastures and croplands, and about half of the planet's accessible water, largely to irrigate crops. And we exploit 90 percent of the world's fisheries at or beyond their maximum sustainable limits.

Q: But haven't we become healthier?

A: Yes. Worldwide, we've reduced poverty, increased life expectancy, and decreased child mortality. The problem is that it's not sustainable. We're mortgaging the health of future generations to make our lives better now.

We're completely changing the playing field in terms of temperature,

precipitation patterns, the biology of pollinators and pests and pathogens, the availability of arable land and fresh water, and biodiversity.

We're changing those things at the fastest rates in the history of our species, just when we also need to increase food production at the fastest rate in the history of our species, thanks to the growing population and more wealth. That has allowed people to eat more animal foods, which require growing huge amounts of grain and soy to feed livestock.

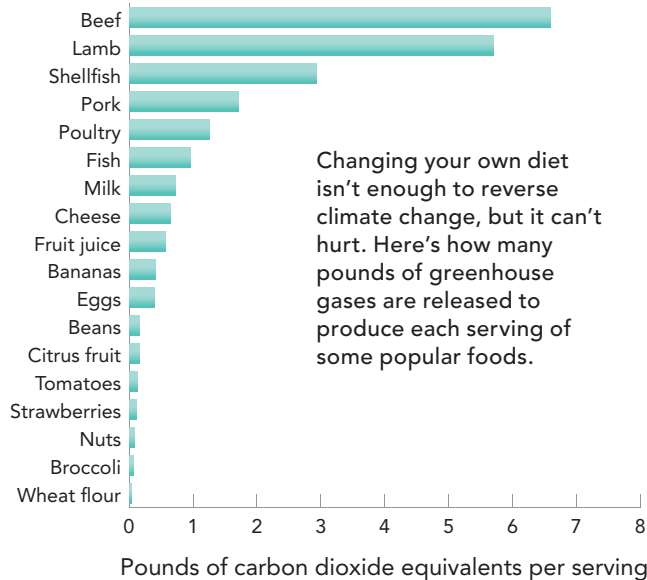
Q: How will those changes harm our health?

A: Left unchecked, they will alter the quality of the air we breathe, the water we have access to, and the food we can produce. They will expose us to infectious diseases and natural hazards like heat waves, droughts, floods, fires, and tropical storms. We're already seeing statistical increases in the incidence of those extreme weather events.

And if drought, rising sea levels, or extreme heat leads people to flee their homes and become refugees, that puts them at risk for malnutrition, infectious disease, and physical, sexual, and psychological trauma.

The civil war in Syria that has displaced millions of people, for example, was due in part to the worst three-year drought on record. Ultimately, those changes will affect every dimension of our health.

Turn Down the Heat



Source: [J. Ind. Ecol. 19: 391, 2015.](#)

Changing your own diet isn't enough to reverse climate change, but it can't hurt. Here's how many pounds of greenhouse gases are released to produce each serving of some popular foods.

Q: How will the changes cause more infectious disease?

A: Warming temperatures and changes in precipitation and soil moisture may change the habitats, life cycles, and biting rates of insects that carry diseases like malaria, dengue fever, and Lyme disease.

Q: Will non-infectious diseases also increase?

A: Yes. For example, air pollution increases the risk of heart disease, stroke, lung cancer, and chronic obstructive pulmonary disease.

In Bangladesh, people are consuming excess salt loads because rising sea levels are moving saltwater into freshwater aquifers. The excess salt means high blood pressure in

some people. And pregnant women are showing higher rates of pre-eclampsia, a high blood pressure disorder that can kill

both the mother and the fetus.

The Food Supply

Q: How will changes in natural systems affect the food supply?

A: Obviously, extreme weather events have local effects. If your crops flood or are burned in a fire or wither in a heat wave, that affects yield. And rising sea levels will put low-lying fertile coastal areas at risk of flooding.

Q: What about the seafood supply?

A: We're overfishing. Fish catch peaked in the 1990s and has been falling by 1 percent—about 1.2 million metric tons—per year since then, because overfishing has led to the collapse of kill

fisheries. Now, with warming ocean temperatures, we anticipate smaller fish and smaller fish populations. And we expect a dramatic redistribution of fisheries away from the tropics and toward the poles.

Q: Why is that a problem?

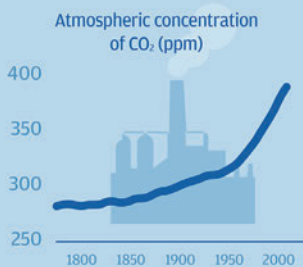
A: Most of the population growth we're expecting is in developing countries, mostly in the tropics. So you get a bigger disconnect between where the people are and where the food is.

We're also seeing ocean warming and acidification, which lead to massive coral bleaching events. We anticipate that most of our coral reefs will be

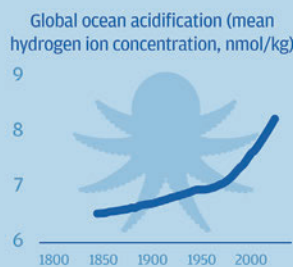
The Planet at Risk

Worldwide, humans are healthier than ever. Life expectancy is up. Poverty and child mortality are down. But to get there, we've exploited the planet.

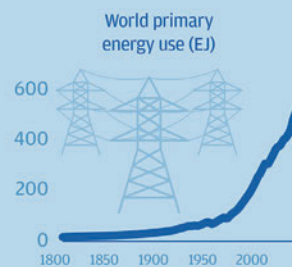
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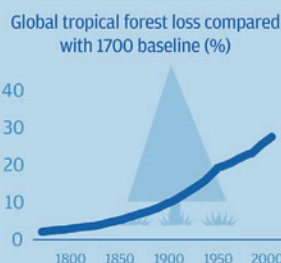
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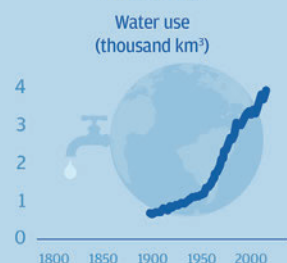
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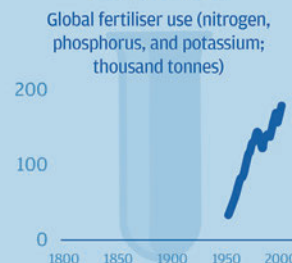
TROPICAL FOREST LOSS



WATER USE



FERTILISER USE



Source: [Adapted from The Rockefeller Foundation–Lancet Commission on Planetary Health.](#)

Human Health at Risk

Here are some of the harms that scientists are predicting by 2050.

destroyed by the end of the century. Reefs are nurseries for small fish that many people depend on for subsistence.

Q: Will the expected changes make some foods less nutritious?

A: Yes. In open field experiments, we grew identical crops inside and outside of rings of carbon-dioxide-emitting jets.

We looked at 41 cultivars of six staple crops in seven locations on three continents over ten years. We exposed the crops to about 550 parts per million of CO₂, which is where we expect to be in the middle of this century.

At higher CO₂ levels, we found significant reductions in iron and zinc in most of the staple food crops that we consume. We also found significant reductions in protein in staple grains like wheat and rice.

Q: Do those reductions matter?

A: Yes. About two and a half billion people get 70 percent or more of their zinc, iron, or protein from crops that are expected to lose those nutrients in response to rising CO₂.

By mid-century, around 150 million people would become zinc deficient, 150 million people would also be pushed into protein deficiency, and zinc and protein deficiencies would be exacerbated in the billion people who are already deficient.

Rising CO₂ would also exacerbate iron deficiency in enormous numbers of vulnerable women and children.

Q: What about fruits and vegetables?

A: Widespread declines in insect pollinators could reduce yields of fruits, vegetables, nuts, and seeds. Globally, that

could increase the risks of heart disease, stroke, and certain cancers.

Q: What will happen to livestock?

A: We don't know an awful lot yet, but the animals will be affected by water availability and heat stress. Plus, the plants available for animals to forage are likely to change.

Q: Who will be hurt the most?

A: The most vulnerable are poor people with few financial, institutional, or technological safety nets. In a perverse irony, it is the wealthiest nations whose consumption patterns and CO₂ emissions are putting the poorest into harm's way.

Wealthier nations are not immune to the health effects of planetary changes like more frequent natural disasters, changes in the quality of food, declines of fisheries and pollinators, and rising sea levels. But the wealthy are better insulated from the effects.

What to Do

Q: What can we do to protect our children and grandchildren?

A: We need to expand the realm of public health to include how we manage our planet's natural systems: how we feed ourselves, how we produce energy, the types of cities we construct, and how well we protect our biodiversity.

Then we need to exert pressure to change policies, despite powerful vested interests like fossil fuel companies and Big Agriculture. It will take time. It's like steering a supertanker.

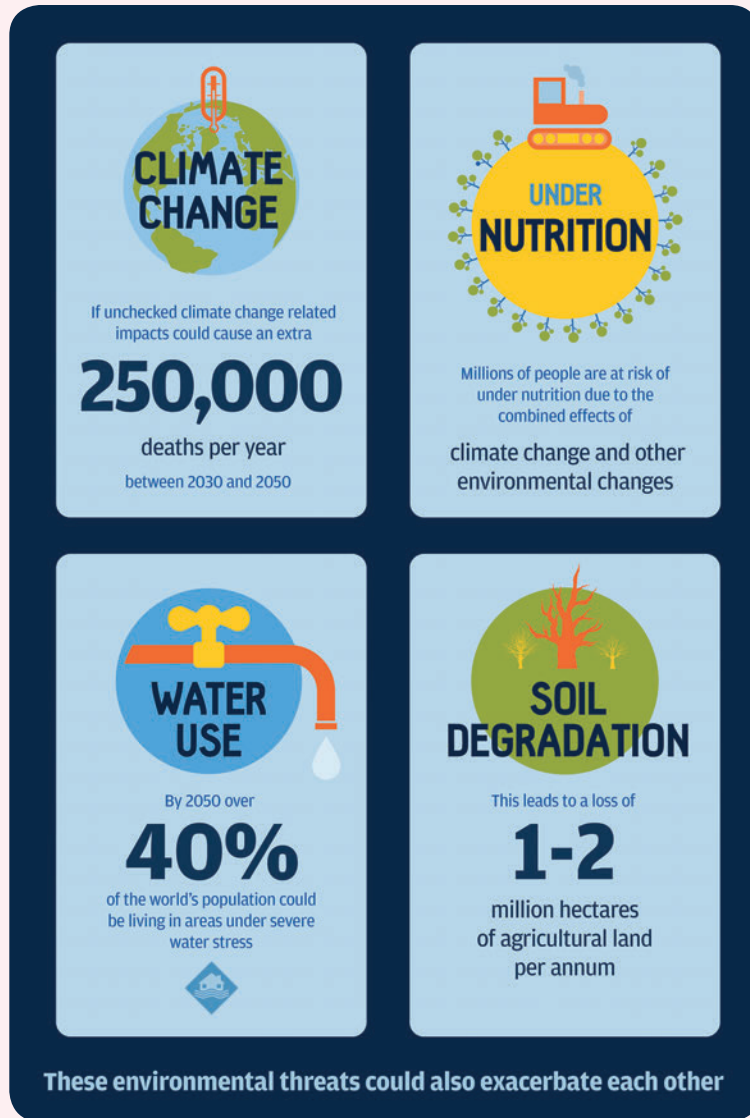
Q: What can individuals do?

A: It feels good to say "I'm a vegetarian and I bike to work, so that's my contribution to solve the problem." And those are good things to do. But they're nowhere near enough.

We need to find each other, organize, and pressure our elected leaders to acknowledge that climate change is a grave threat to humanity and to take aggressive action to curb it.

For example, we can insist on a rapid transition away from fossil fuels and toward renewables to meet our energy needs.

There's every reason to believe that we can rise to these challenges. We have extraordinary capacity for innovation. But we need to get to work. 🍌



Source: [Adapted from The Rockefeller Foundation–Lancet Commission on Planetary Health.](#)

The Healthy Cook

Take a Dip



BY KATE SHERWOOD

Here are three zippy dips for raw or roasted veggies. The curry yogurt and spicy pepper are also great on chicken or fish. 🌶️

Got a question or suggestion? Write to Kate at healthycook@cspinet.org.

Caramelized Onion-Curry Yogurt

- 1 Vidalia or other sweet onion, finely diced
 - 2 Tbs. grapeseed or olive oil
 - 1 tsp. curry powder
 - ½ tsp. kosher salt
 - ½ cup 2% plain greek yogurt
1. Sauté the onion in the oil over medium heat, stirring often, until golden brown, 8-10 minutes.
 2. Stir in the curry powder and cook for 30 seconds.
 3. Remove to a bowl and stir in the salt and yogurt.

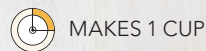
PER SERVING (2 Tbs.): calories 50 | total fat 4 g | sat fat 0.5 g | carbs 4 g | fiber 1 g
total sugar 3 g | added sugar 0 g | protein 2 g | sodium 130 mg



Spicy Roasted Pepper

- 2 red bell peppers
 - 1 red chile pepper
 - ¼ cup toasted slivered almonds
 - 2 Tbs. extra-virgin olive oil
 - 1 Tbs. sherry vinegar or red wine vinegar
 - ½ tsp. kosher salt
1. Cut the bell and chile peppers in half and lay them on a baking sheet, cut side down. Broil until the skin is browned in spots, 5-10 minutes. Let cool, then remove the skin and seeds.
 2. Blend all the ingredients in a small food processor.

PER SERVING (2 Tbs.): calories 60 | total fat 5 g | sat fat 0.5 g | carbs 3 g | fiber 1 g
total sugar 2 g | added sugar 0 g | protein 1 g | sodium 120 mg



Avocado Hummus

- 1 avocado
 - ¾ cup no-salt-added chickpeas
 - 2 Tbs. extra-virgin olive oil
 - 1 tsp. lemon zest
 - 2 Tbs. fresh lemon juice
 - ½ tsp. kosher salt
1. Blend all the ingredients in a small food processor until smooth.

PER SERVING (2 Tbs.): calories 80 | total fat 6 g | sat fat 1 g | carbs 6 g | fiber 2 g
total sugar 0 g | added sugar 0 g | protein 2 g | sodium 125 mg



Quick Studies

A snapshot of the latest research on diet and exercise

Low Risk Despite Diabetes



Type 2 diabetes need not mean a higher risk of a heart attack or stroke.

Swedish researchers compared five risk factors for heart attack or stroke in 271,000 people with diabetes and 1,356,000 without the disease:

- **blood sugar:** hemoglobin A1c of at least 7 percent,
- **LDL ("bad") cholesterol:** 100 or more,
- **blood pressure:** at least 140 systolic or 80 diastolic,
- **albumin in the urine** (a marker of kidney disease), and
- whether the person **smokes**.

During the 5½-year study, people who had diabetes but none of those risk factors were no more likely to die or have a heart attack or stroke than those without diabetes. However, they still had a 45 percent higher risk of heart failure. Smoking had the most impact on the risk of dying. High blood sugar had the most impact on the risk of heart attacks and strokes.

What to do: Get rid of your risk factors with diet or, if necessary, drugs.

[N. Engl. J. Med. 379: 633, 2018.](#)

Vitamin D & New Knees

Can a high dose of vitamin D help people recover from knee replacement surgery?

Researchers randomly assigned 273 people who just had a knee replacement because of osteoarthritis to take a daily high dose (2,000 IU) or typical dose (800 IU) of vitamin D (plus 500 milligrams of calcium). After two years, there was no difference in falls, pain, or knee function between the groups.



What to do: New knee? Stick with the recommended 800 IU of D a day.

[RMD Open 2018. doi:10.1136/rmdopen-2018-000678.](#)

Move & Lose?

Exercise plus weight loss may make your insulin more effective.

Scientists randomly assigned 163 sedentary overweight or obese people to do aerobic exercise at high or moderate intensity. (They used a treadmill, StairMaster, elliptical trainer, or stationary bike.) The people weren't told to change their diets.

After eight months, insulin sensitivity improved more in those who lost at least 3 percent of their starting weight than in those who lost less. Nearly one out of four participants lost at least that much weight.

Insulin sensitivity improved the most in the group that did moderate-intensity exercise: the equivalent of walking about 12 miles a week at a brisk pace.

What to do: Get moving. 🍌

[PLoS One 2018. doi:10.1371/journal.pone.0196637.](#)

White Bread & Cholesterol

People who eat more refined grains have a higher risk of heart disease in some studies. Could white bread, rice, and pasta raise LDL ("bad") cholesterol?

Researchers fed 11 older adults diets that were high in refined grains, whole grains, or added sugars for 4½ weeks each.

LDL cholesterol levels were 10 percent

higher after the volunteers ate the refined-grain diet than after they ate the whole-grain diet. LDL was slightly, but not significantly, higher after they ate the diet rich in



added sugars than after they ate the whole-grain diet.

What to do: It's too early to know whether larger studies will confirm these results. But they're one more reason to replace refined grains with whole grains. And cut back on added sugars. Other studies suggest that they raise the risk of heart disease, type 2 diabetes, and weight gain.

[J. Clin. Endocrinol. Metab. 2018. doi:10.1210/je.2018-00667.](#)



YES, YOU MAYO



The misunderstood spread

BY LINDSAY MOYER & JENNIFER URBAN

1 Take your pick. Mayonnaise looks creamy, but it has no cream. It's mostly oil

and water, with a touch of egg, vinegar, and salt. That's why a one-tablespoon serving has only 1½ grams of saturated fat.

Sodium is low, too. Mayos typically range from 70 to 130 milligrams per tablespoon. And most mayos that add sugar contain so little (less than half a gram per tablespoon) that it shows up as zero on the Nutrition Facts label.

That's why we don't have a mayo chart. Nearly all would get a Best Bite.

2 Don't break the bank for fancy oils. The new kid on the block: avocado oil mayo. **Chosen Foods**, **Primal Kitchen**, and **Sir Kensington's** sell mayos made with avocado oil. But a 12 oz. jar will set you back \$7 to \$10. (**Hellmann's** and **Kraft's** "avocado oil" mayos are cheaper because they're blended with canola and soy oil.)

Avocado oil is "better for you than the oils used in most mayos," says Chosen Foods. Not really. Most mayos are made with soy, olive, and/or canola oil. Like avocado oil, they're largely unsaturated. But soy oil is richer in polyunsaturated fats, which can lower LDL ("bad") cholesterol more than the monounsaturated fats in avocado, olive, and canola oil.

3 Go vegan...or not. Vegan mayos are in. They keep their oil emulsified by replacing mayo's egg with pea

Vegan or with cage-free eggs? Avocado or olive oil? Sriracha or curry? The mayo aisle is booming. Here's how to find a good one.

Zoe Rosner helped compile the information for this article.

protein (**JUST** and **Earth Balance**) or chickpea cooking water (the "aquafaba" in **Sir Kensington's Fabanaise**).

But if you're not vegan, there's no need to go eggless for your health's sake. Regular mayo has a trivial 5 to 15 milligrams of cholesterol per tablespoon. A large egg yolk has 185 mg—about 60 percent of a day's worth.

4 Cage free? Read closely. "Made with cage free whole eggs," says **Kraft Olive Oil Mayo**. The label's fine print: "Contains at least 65% cage free whole eggs." The back story: In 2016, Kraft pledged to go 100% cage free...by 2025. But **Hellmann's** beat Kraft to the punch. It has used 100% cage-free eggs since 2017.

5 Consider calories. Regular mayo has 90 to 100 calories per tablespoon. If you want to go lower, try a "light" or "reduced fat" variety. Most have 40 to 60 calories. So do some non-lights, like **JUST** (60 calories). But not every lower-cal mayo wowed our taste buds. A good bet: **Hellmann's Light**.

6 Think beyond sandwiches. Whisking a touch of mayo into your homemade salad dressing can keep the oil and vinegar from separating. And the inventive new crop of flavored mayos can stand in for sauces and more. See the photos below for our favorites and how to use them. 🍷



Hellmann's Organic Spicy Chipotle
Drizzle on fish or shrimp tacos.



JUST Mayo
The best-tasting vegan mayo we found.



Hellmann's Real
The real deal. (It's called **Best Foods** west of the Rockies.)



JUST Sriracha
Add to lettuce wraps with crunchy veggies and herbs.



Hellmann's Organic Mild Curry
Great in chicken salad with apples & almonds.

SPREADIN' *the* NEWS



BY LINDSAY MOYER & JENNIFER URBAN

Want a spread that's better than butter? The good news: Your days of worrying about trans fat are over. And some new spreads are healthy *and* delish.

The bad news: To find the best spreads, you have to wade through misleading claims about coconut, butter, ghee, and more.

Here's what to look for. Turn the page for some claims to ignore.

Zoe Rosner helped compile the information for this article.

WHAT TO LOOK FOR

Almost any spread beats butter because spreads deliver more healthy unsaturated fat. But to find the best, check:

■ **Saturated fat.** Our Best Bites have no more than 1½ grams per tablespoon. Honorable Mentions can have 2 grams.

■ **Added sugar.** We didn't give Best Bites or Honorable Mentions to sweetened spreads like Land O Lakes Honey or Country Crock Honey, which are nearly one-third added sugar.

■ **Calories.** We set no limit because in the best spreads, more calories means more unsaturated fat. But if you're trying to lose (or not gain) weight, look for "light" spreads. Most have 35 to 50 calories per tablespoon.



■ **Sodium.** We set no limit because most spreads don't top 100-or-so milligrams per tablespoon. But you can go lower with Smart Balance

Low Sodium (30 mg) or with Finlandia 25% Reduced Fat Spreadable Butter (50 mg).

Artificial Trans Fat: Sayonara!

"0g trans fat per serving," proclaim many spread labels.

Got that right. Partially hydrogenated oils—the source of artificial trans fat—gave spreads a bad name for decades. But on June 18th, the federal ban on using those oils kicked in. (Don't worry about "hydrogenated" or "fully hydrogenated" oils. They have no trans fat.)

Note: A tablespoon of butter contains nearly half a gram of *naturally occurring* trans, which may be no less harmful.

Butter...or Better

A tablespoon of regular butter has 7 grams of saturated fat (and 100 calories). "Extra creamy" or "European style" butters tack on an extra gram.

Why go there. We found some better butters and not-butters that taste darn close to the real thing. Your best options, from least to most sat fat:

■ **Oil & water.** Most regular tubs blend largely unsaturated soy and canola oils with largely saturated palm and palm kernel oils (to keep the spreads solid), plus water (and sometimes buttermilk).



The result: 50 to 100 calories and 1 to 3 grams of saturated fat per tablespoon, unless you're talking coconut oil spreads (see p. 14).

Miss that buttery taste? Best Bite **Brummel & Brown Made with Real Yogurt** will knock your taste buds off for only 45 calories and 1½ grams of sat fat.

If you're done with dairy, Honorable Mention **I Can't Believe It's Not Butter! It's Vegan** (60 calories and 2 grams of sat fat) is a good bet.



■ **Butter & oil.** If you're stuck on butter, at least get it mixed with oil. Sat fat ranges from 3 grams (ones with more oil) to 6 grams (ones with less).

Our hands-down favorite: **Finlandia 25% Reduced Fat Spreadable Butter**, a near miss with 70 calories and 3 grams of sat fat. "Light" spreadable butters—they have more water—cut the calories to 50 and the sat fat to 2 grams. But no lights come close to the flavor of **Brummel & Brown Made with Real Yogurt**.

■ **Whipped butter.** Less butter and more air means you get less sat fat (5 grams) and calories (70) per tablespoon. **Land O Lakes** whipped butters lead the pack, with just 3½ grams of sat fat and 50 calories.



Coco-Nuts

“At last, good fat!” declares **Melt Rich & Creamy**, which blends coconut oil with palm, canola, sunflower, and flaxseed oils to get 3½ grams of sat fat per tablespoon.

Coconut oil is on a roll. But there’s no solid evidence that it’s a “good fat.” While some of its shorter-chain saturated fats don’t raise LDL (“bad”) cholesterol levels, its longer-chain saturated fats do (see November 2017, p. 3). And it’s missing the unsaturated fats that lower LDL.

The upside: Like Melt, some coconut oil spreads mix in other oils. So instead of the 13 grams of sat fat in a tablespoon of, say, **Nutiva Organic Butter Flavor Coconut Oil**, you get only the 2½ grams of sat fat in, say, **I Can’t Believe It’s Not Butter! with Coconut Oil**. That’s not nearly as bad.



Greener Pastures?

“Pasture Butter contains elevated levels of beneficial omega-3 fatty acids,” says **Organic Valley**. Really?

Each tablespoon has 105 milligrams of omega-3s, says the label. But that’s not much. A modest 4 oz. of farmed Atlantic salmon has roughly 2,600 mg.

What’s more, salmon is rich in EPA and DHA, the longer-chain omega-3s that may protect your heart. Organic Valley won’t say how much EPA or DHA is in its butter, but odds are, the butter’s omega-3s are largely the shorter-chain ALA that predominates in milk.

Why bother. You’d get two or three times as much ALA in many spreads, thanks to their soy and canola oils...for less than half the sat fat.

Ghee Whiz

“Ghee is much better for you than butter,” says **4th & Heart**. “Paleo Friendly,” says **Kelapo Ghee**. The trendy Whole30 diet also pushes ghee.

Better than butter? In fact, it’s worse. Ghee is butter that has been clarified, which removes milk solids and water.

Unfortunately, that also concentrates its dairy fat.

So instead of butter’s usual 7 grams of saturated fat and 100 calories per tablespoon, you get roughly 8 to 10 grams of sat fat (half a day’s worth) and 120 to 140 calories.

To make matters worse, many ghee labels (like **Organic Valley’s** and **4th & Heart’s**) use a one-*teaspoon* serving instead of the required one *tablespoon*. That makes the numbers look lower. Trying to trick your customers, ghee guys?



The Olive Caper

“The Goodness of Olive Oil,” promises **Olivio Original**. “Olivio’s unique formulation with olive oil produces a rich spread with a delicious buttery taste.”

Olivio is unsaturated enough for a Best Bite, but don’t let its name or its claims fool you. You’re getting more canola and palm oils than pricier olive oil.

The same goes for **Smart Balance Made with Extra Virgin Olive Oil** and **Earth Balance Made with Olive Oil**. Buyer beware: “made with” may mean “made with very little.”



Cholesterol Smarts

“Supports healthy cholesterol levels,” boasts **Smart Balance**. But that only goes for levels “already in the normal range,” says the fine print.

In other words, Smart Balance can’t *lower* your cholesterol like an unsaturated oil would.

Hidden on the bottom of the tub is another disclaimer: “Clinical research has shown that the right blend of fats may improve your cholesterol ratio when at least ⅔ of your fat intake comes from this product or a properly balanced diet.”

No spread is likely to supply two-thirds of your fat intake. And a tablespoon of many Smart Balance spreads has 2½ to 3½ grams of saturated fat. You can do better with our Best Bites.

On the other hand, **Promise Activ Light** and **Benecol** can reduce cholesterol levels. Promise adds a gram of plant sterols—and Benecol adds ½ gram of stanols—per tablespoon. Two grams per day can lower LDL (“bad”) cholesterol by around 8 percent (see Jan./Feb. 2016, p. 10).



SPREAD THE LOVE

Want to branch out beyond buttery spreads? Try these tips from our Healthy Cook, Kate Sherwood:

- **Toast**. Spread with mashed avocado, peanut or almond butter, mayo and sliced tomatoes, or chopped tomatoes mixed with olive oil and salt (think bruschetta).
- **Vegetables**. Drizzle with olive oil, fresh lemon juice, and salt.
- **Grains or pasta**. Top with a dollop of pesto, or toss with roasted vegetables. 🍷

Covering the Spreads

Best Bites (✓✓) have no more than 1.5 grams of saturated fat per tablespoon. **Honorable Mentions** (✓) have 2 grams. We disqualified spreads with added sugar. Products are ranked from least to most saturated fat, then calories, then sodium.

Spreads (1 Tbs., tub)

	Calories	Sat Fat (g)	Sodium (mg)
✓✓ Promise Activ Light	45	0.5	85
✓✓ I Can't Believe It's Not Butter! the Light One	35	1	85
✓✓ Country Crock Light	35	1	90
✓✓ Imperial	35	1	90
✓✓ Blue Bonnet Light	40	1	95
✓✓ Promise Light	45	1	85
✓✓ Olivio Light	50	1	90
✓✓ Benecol Light	50	1	95
✓✓ Parkay Light	50	1	110
✓✓ Blue Bonnet Calcium plus Vitamin D	50	1	130
✓✓ Fleischmann's Original	60	1	35
✓✓ Fleischmann's Made with Olive Oil	60	1	45
✓✓ Benecol Original	70	1	105
✓✓ Brummel & Brown Made with Real Yogurt	45	1.5	90
✓✓ Smart Balance Light—Extra Virgin Olive Oil, Flaxseed Oil, or Omega-3 ¹	50	1.5	80
✓✓ Country Crock—Calcium with Vitamin D, Churn Style, or Original ¹	50	1.5	100
✓✓ Blue Bonnet	50	1.5	120
✓✓ Parkay	60	1.5	90
Country Crock Honey	70	1.5	45
✓✓ Parkay Squeeze	70	1.5	110
✓✓ Promise Buttery	80	1.5	85
✓✓ Olivio Original	80	1.5	95
✓ Smart Balance Made with Extra Virgin Olive Oil	60	2	70
✓ I Can't Believe It's Not Butter! It's Vegan	60	2	90
✓ I Can't Believe It's Not Butter! the Original	60	2	90
✓ I Can't Believe It's Not Butter! with Olive Oil	60	2	90
✓ Pure Blends Avocado Oil	60	2	90
✓ Smart Balance Low Sodium	70	2	30
✓ Land O Lakes Fresh Buttery Taste	70	2	80
✓ Land O Lakes Soft Squeeze	90	2	90
✓ Canoleo Original	100	2	100
I Can't Believe It's Not Butter! with Coconut Oil	60	2.5	90
Earth Balance—Made with Olive Oil or Omega-3 ¹	80	2.5	80
Smart Balance—Omega-3, Organic, or Original ¹	80	2.5	90
Earth Balance Organic Whipped	80	2.5	100
Olivio Coconut	70	3	90
Brummel & Brown Organic	80	3	80
Earth Balance—European Style, Original, or Soy Free ¹	100	3	100
Land O Lakes Margarine	100	3	105
Melt Organic—Probiotic or Rich & Creamy	80	3.5	85
Pure Blends Coconut Oil	60	4	90
Earth Balance Organic Coconut	100	5	70
Nutiva Organic Butter Flavor Coconut Oil	130	13	0

Sticks (1 Tbs.)

✓ Blue Bonnet Light	50	2	75
✓ Parkay Light	50	2	75

	Calories	Sat Fat (g)	Sodium (mg)
Blue Bonnet	60	2.5	130
Smart Balance Original	80	3.5	90
Country Crock Unsalted	100	3.5	0
Country Crock Salted	100	3.5	85
I Can't Believe It's Not Butter! Original	100	3.5	100
Earth Balance—Soy Free or Vegan ¹	100	3.5	115
Melt	80	4.5	85
Miyoko's	90	8	65

Butter (1 Tbs., tub, unless noted)

✓ Challenge Spreadable Lite Butter Flavored with Olive Oil	50	2	90
✓ Land O Lakes Light Butter with Canola Oil	50	2	90
✓ Smart Balance Light Butter and Canola Oil Blend	50	2	90
Land O Lakes—Cinnamon Sugar or Honey ¹	70	2.5	40
Finlandia 25% Reduced Fat Spreadable Butter	70	3	50
Land O Lakes Garlic & Herb Butter Spread	70	3	100
Challenge Lactose Free Clarified Butter with Canola Oil	80	3	110
Land O Lakes Whipped Unsalted Butter	50	3.5	0
Land O Lakes Whipped Salted Butter	50	3.5	50
Land O Lakes Light Butter (stick)	50	3.5	95
Challenge Spreadable Butter Flavored with Olive Oil	80	4	75
Finlandia Spreadable Butter	90	4	35
Land O Lakes Butter with Olive Oil & Sea Salt	90	4	90
Land O Lakes Less Sodium Butter with Canola Oil	100	4	65
Smart Balance Butter and Canola Oil Blend	100	4	85
Smart Balance Butter and Canola & Extra Virgin Olive Oil Blend	100	4	85
Land O Lakes Butter with Canola Oil—regular or Plus Calcium & Vitamin D ¹	100	4	90
Breakstone's Whipped Salted Butter	70	4.5	60
Horizon Organic Spreadable Butter with Sunflower Oil & Sea Salt	100	4.5	50
Challenge Whipped Unsalted Butter	70	5	0
Challenge Whipped Butter	70	5	60
Kerrygold Reduced Fat Butter	80	5	45
Kerrygold Irish Butter with Canola Oil	80	5	65
Challenge Spreadable Butter with Canola Oil	90	6	70
Land O Lakes Butter with Olive Oil & Sea Salt (stick)	100	6	85
Butter, unsalted (stick)	100	7	0
Butter, salted (stick)	100	7	90
Organic Valley Cultured Pasture Butter (stick)	110	7	35
Land O Lakes Extra Creamy European Style Salted Butter (stick)	110	8	75
4th & Heart Original Recipe Ghee Butter	140	9	0
Organic Valley Ghee	140	9	0
Kelapo Ghee	120	10	0

✓✓ **Best Bite.** ✓ **Honorable Mention.** ¹ Average of the varieties listed. Note: Best Bites and Honorable Mentions refer to nutrition, not taste.

Daily Limits (for a 2,000-calorie diet): **Saturated Fat:** 20 grams. **Sodium:** 2,300 milligrams.

Sources: company information and USDA. The use of information from this article for commercial purposes is strictly prohibited without written permission from CSPI.



RIGHT STUFF

Colorflower!



Cauliflower is having a moment, and not just because it can stand in for carbs like rice.

Exhibit A: **rainbow cauliflower.**

You can thank traditional breeding for these new or long-forgotten varieties. (Orange cauliflower, for example, was discovered in a Canadian marsh in the 1970s.)

Ditto for **rainbow carrots.** Carrots were yellow or purple until Dutch breeders reportedly produced the orange household staple in the 1600s. Now there's even white and red!

Naturally occurring plant pigments account for the color riot. Beta-carotene makes carrots and cauliflower orange, while anthocyanins turn them purple. Lycopene (plus beta-carotene) pushes carrots into the red zone, while lutein yields yellow.

Less beta-carotene means less vitamin A, but overall, you can expect roughly similar nutrients, regardless of color.

That means a decent dose of fiber, vitamin C, vitamin K, and folate from cauliflower. (The green variety—cauliflower crossed with broccoli—has extra C.) Carrots deliver fiber and vitamin A. And both have just 20 to 30 calories in a half cup.

Check out *The Healthy Cook* (p. 10) for three addictive dips for raw or roasted veggies, and the Dish of the Month for a mesmerizing carrot salad.

It's not just the colorful leaves that are changing it up this fall.



DISH of the month

Rainbow Carrot Salad

Toss 4 cups of ribbon- or spiral-cut rainbow carrots with 1 sliced scallion, 1 Tbs. olive oil, 1 Tbs. red wine vinegar, ¼ tsp. kosher salt, and ¼ cup chopped mixed fresh herbs (parsley, cilantro, mint, dill). Serves 4.

FOOD PORN



Double Trouble

"A hearty double burger made with unexpected flavor combinations, including crispy Applewood smoked bacon, smoky bacon-onion sauce, two slices of real white cheddar, mild sweet mustard sauce and in-house fried onion strings."



McDonald's new **Double Bacon Smokehouse Burger** comes "stacked with two 100% fresh beef ¼ lb. patties that are hotter, juicier and cooked when you order."

How exciting! The new arrival is part of Mickey D's Signature Crafted Recipes line—"a collection of premium recipe flavors that elevate 100% fresh beef quarter-pound burgers." And elevate, it does.

Each Double Bacon Smokehouse has 1,130 calories plus 27 grams of saturated fat, 63 grams of carbs (thanks largely to its white-flour "artisan" roll), and 1,920 milligrams of sodium.

It's like eating *two* McDonald's Quarter Pounders with Cheese. And that's without fries or a drink.

And if the Smokehouse also elevates your weight, cholesterol, blood pressure, and blood sugar, good luck with that.

"The move to fresh beef quarter-pound burgers is the latest step in McDonald's food journey to build a better McDonald's," says the company.

What about building healthier McDonald's customers? Guess that's not part of the journey.

mcdonalds.com—(800) 244-6227

quick tip

Your potatoes turning green? Solution: store them in a dark, dry, cool place (but not the fridge). To avoid food poisoning, cut away green flesh (and any eyes or sprouts) before cooking.

