

Nutrition *Action*

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HEALTH LETTER®
CENTER FOR SCIENCE IN THE PUBLIC INTEREST

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(Hint: Apples
and cabbage
aren't to blame)

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a **mega** problem

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breakthrough?

Rating vegetables
From arugula to zucchini

M E M O

Is What You See What You Get?



Is it too much to ask that food labels not mislead us? At times, it seems so.

That's why the Center for Science in the Public Interest, *Nutrition Action's* publisher, keeps pushing for honest, useful labels.

And we've won some notable victories. A few recent examples:

■ **Nitrates and nitrites.** In 2019, CSPI and *Consumer Reports* petitioned the U.S. Department of Agriculture to ban misleading “no nitrates or nitrites added” claims on processed meats (like ham, bacon, and hot dogs) when the source of those probable carcinogens is celery powder or other “natural” ingredients.

This past December, the USDA agreed, and the agency started the process of changing its labeling rules to prohibit “no nitrates or nitrites” claims whenever those ingredients are present—regardless of the source.

■ **Sesame.** In 2014, CSPI urged the Food and Drug Administration to require labeling for sesame, the **ninth most common** food allergen. The law requires companies to declare the presence of the “Big Eight” allergens—milk, eggs, fish, crustacean shellfish, tree nuts, peanuts, wheat, and soybeans—within or next to the ingredients list (with a statement like “contains milk”). But sesame can be hidden in the ingredients as “tahini” or as “spice” or “natural flavor.”

In November, the FDA recommended that companies voluntarily disclose the presence of sesame. That's not good enough. CSPI will continue to push the feds for *mandatory*

sesame labeling, and we're asking Congress to designate sesame as a major allergen.

■ **Potassium salt.** Switching from sodium chloride (ordinary salt) to potassium chloride would help companies cut the sodium in their foods. And that could reduce the risk of stroke, heart disease, and high blood pressure.

But some companies have hesitated to make the change because “potassium chloride” sounds like an unfamiliar chemical, and some consumers might balk when they see it on a label. In 2019, CSPI urged the FDA to allow companies to simply call potassium chloride “potassium salt.” In December, the agency agreed.

■ **Cheese.** For years, large cheese manufacturers have pushed Congress to pass the CURD Act, which would protect them from lawsuits by consumers who say they were misled by “natural” claims on cheeses that are actually made with artificial ingredients.

In December, dairy lobbyists nearly succeeded in slipping the cheesy bill into pandemic-relief legislation. But when CSPI and other nonprofits raised the alarm, the CURD Act was blocked.

Companies will continue to manipulate food labels in ways that help them make a sale. And we will continue to fight for labels that are informative...and honest.



“NO NITRATES OR NITRITES ADDED EXCEPT FOR THOSE NATURALLY OCCURRING IN SEASONING,” says the label. Getting probable carcinogens from seasonings like cultured celery juice powder doesn't make them safe.

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CELEBRATING
50 YEARS

WHY WE OVEREAT

(Hint: Apples and cabbage aren't to blame)

BY BONNIE LIEBMAN

Two years ago, a study by researcher Kevin Hall made headlines when it reported that ultra-processed foods led people to overeat and gain weight. Hall and others are still trying to figure out what makes us overdo it. Here's the latest.

At last count, 74 percent of U.S. adults and 35 percent of children had overweight or obesity.^{1,2} And our expanding national—and global—waistlines show no signs of shrinking.

Enter Kevin Hall, a researcher at the National Institutes of Health.

"We're trying to understand the properties of our food environment that regulate appetite and cause people to overeat and gain body fat," says Hall.

Unlike most researchers, Hall has been able to measure precisely what people eat—and how many calories they burn. That's because his volunteers spend several weeks living in a lab on the NIH campus.

Hall's recent studies—including his 2019 bombshell—weren't trying to help people lose weight.

"We told the participants that these were not weight-loss studies," he explains. "We basically just put the food in front of them and said, 'Eat as much or as little as you want.'"

Hall's 2019 study offered 20 people largely unprocessed foods for two weeks and ultra-processed foods for two weeks (see "What's Ultra-Processed?" p. 5).³

"People consumed an average of 500 more calories a day on the ultra-processed foods compared to the unprocessed foods," says Hall. "That led them to gain two pounds on the ultra-processed diet and lose two pounds on the unprocessed diet." (See Jul./Aug. 2019, p. 3.)

Even Hall was surprised. "I didn't expect to see such a huge effect because the meals in both diets had equal amounts of carbohydrates, sugar, fat, protein, and fiber, which are the nutrients that people have suggested as drivers of obesity."

But there was a key difference between the two diets: Beverages aside, the ultra-processed food diet had nearly twice the calorie density of the unprocessed food diet.

Calories Per Bite

"Calorie density is the number of calories in a given portion or a given bite of food," explains Barbara Rolls, director of the Laboratory for the Study of Human Ingestive Behavior at Penn State.

Rolls's studies have found that people consume fewer calories when they're offered foods with fewer calories per bite.

A 1999 study was one of the first.

"Before lunch, we gave people either a chicken-rice casserole, the same casserole with 1½ cups of water to drink, or a soup we made out of the casserole plus the water," says Rolls. All three "preloads" had the same ingredients and the same 270 calories.

"The soup much more effectively reduced subsequent intake," says Rolls.

The participants ate 290 calories at an all-you-can-eat lunch buffet on days they got the soup, but they downed roughly 400 calories on days they got the casserole, with or without the glass of water.⁴

Not all studies agree on drinking water. "In one study in older individuals, drinking two cups of water before meals helped with weight loss," notes Rolls.⁵ (See Dec. 2020, p. 8.)

Still, she says, "it's better to eat your water, not just drink it. When you drink water, it empties out of your stomach more quickly."

It's not just soup. The best way to add water to your diet: eat more fruits and vegetables.

In a 2007 study, Rolls randomly assigned women with obesity to either eat less fat or eat less fat *and* eat more fruits and vegetables for a year.

"The group that ate extra fruits and vegetables lowered their calorie density more, and they were eating a better-quality diet," says Rolls.

100-CALORIE SNACKS



You're likely to feel less full after eating 1½ squares of dark chocolate or 3 cracker cuts of cheddar cheese than after 1 sliced apple, 2 cups of baby carrots, or 6 cups of cucumber. All have 100 calories.

After a year, the fruit-and-veggie eaters had lost more weight (17 pounds) than the other group (14 pounds), and they reported being less hungry.²

“Bulking out your diet with fruits and vegetables is a win-win,” says Rolls.

A New Wrinkle

In Hall’s 2019 study, the difference in non-beverage calorie density was huge—about 2 calories per gram in the ultra-processed diet versus 1 calorie in the unprocessed diet.

He acknowledges that the difference in calorie density may help explain why the ultra-processed food eaters ate more calories than the unprocessed-food eaters.

In fact, as soon as the pandemic ends, he’s planning to find out.

“We have a protocol testing three diets that’s ready to go,” he notes.

Two of the three replicate the 2019 diets. That is, one consists largely of calorie-dense ultra-processed foods, and one consists largely of unprocessed foods with a low calorie density.

“The third is a redesigned ultra-processed diet that matches the low calorie density—excluding beverages—of the unprocessed diet,” says Hall.

“If calorie density is the main driver of how many calories people eat, then the ultra-processed diet with the low non-beverage calorie density should result in a similar calorie intake as the unprocessed diet.”

In the meantime, Hall’s latest study added a new wrinkle. It tested two diets made largely of unprocessed foods:²

■ High-carbohydrate, plant-based.

Rich in vegetables, fruit, grains, and beans, it was low in fat and had a *low* calorie density.

■ Low-carbohydrate, animal-based.

Rich in meat, poultry, fish, cheese, eggs, butter, heavy cream, and non-starchy vegetables, it was high in fat and had a *high* calorie density.

“A popular theory about weight gain is the carbohydrate-insulin model of obesity, which predicts that if you eat a diet that’s high in carbohydrates, you’ll produce a lot of insulin after meals,” explains Hall. “According to this model, high insulin levels promote storage of calories inside fat cells, thereby starving other cells in the body of fuel, which then signal to the brain that you’re hungry so you should eat more food.”

But that didn’t happen.

“We found exactly the opposite,” says Hall. “The high-carb diet caused high levels of insulin after meals, but on that diet, people spontaneously reduced their

and stabilized during the second week, the low-carb eaters reduced their calorie intake by about 300 per day,” says Hall. So they might have lost body fat if the study had lasted longer.

But Hall is struck by the fact that neither diet led to weight *gain*.

“We’ve done several of these studies now, and only one diet has led people to gain weight and gain body fat,” he says. “And that’s the ultra-processed-food diet.”

The Biggest Wow

How might ultra-processed food get us to overeat?

“Companies are all about maximizing the allure of their products,” says Michael Moss, a Pulitzer Prize-winning former *New York Times* reporter whose new [book](#) is titled *Hooked: Food, Free Will, and How the Food Giants Exploit Our Addictions*.

“One definition of addiction is a repetitive behavior that some people find difficult to quit,” says Moss.

“That perfectly fits our relationship to food,

though it varies from person to person.”

Addiction or not, it’s clear that companies keep pushing us to eat. “They hate the word addiction, but they have these euphemisms like craveability and likeability,” says Moss. “My favorite is ‘more-ishness,’ which reflects their efforts to get us to eat more and more.”

We’re easy targets for enticing food because, as we evolved, extra pounds were a survival advantage.

“We’re designed to put on lots of body fat and defend against any efforts to shrink it,” notes Moss.

In hunter-gatherer societies, extra body fat could make the difference between life and death.

“None of this mattered until about 50 years ago, when the industry changed the nature of our food,” says Moss.

How do companies take advantage of our baked-in urge to keep eating?

“They want to sell as much as possi-

260-CALORIE CEREALS



For 260 calories, you can have $\frac{2}{3}$ cup of granola with $\frac{1}{4}$ cup of low-fat milk (left) or 1 cup of bran flakes with $\frac{1}{2}$ cup of milk plus 1 cup of berries (right).

usual calorie intake by about 700 calories per day, which led to a loss of about $1\frac{1}{2}$ pounds of body fat over two weeks.”

The diet’s low calorie density, he adds, “could have played a role in that large decrease in calorie intake.”

In contrast, on the low-carb diet, people didn’t eat any fewer (or more) calories than they normally did.

“So over two weeks, the low-carb diet didn’t lead to a significant loss of body fat,” says Hall. (People did lose about four pounds on the low-carb diet, but that was largely due to lost water, not body fat.)

But there’s a catch: Two weeks might not have been long enough to capture what happens on a diet that’s so low in carbs that the body has to burn ketones, rather than glucose, for energy. (The ketones come from both the fat that people eat and, if that’s not enough, from body fat.)

“When ketone levels in the blood rose

ble, so they have scientists who spend their time devising formulas that create the biggest attraction in the brain—the biggest wow,” says Moss.

It starts with the three ingredients featured in Moss’s previous [book](#), *Salt, Sugar, Fat*.

■ **Sugar.** “The industry came up with the term ‘bliss point’ to describe the perfect amount of sugar in a drink or food that would send us over the moon. Not too little, not too much.”

■ **Fat.** “In snack foods like potato chips, 50 percent of the calories typically come from fat, which gives them that melt-in-your-mouth phenomenon, which so much ultra-processed food has. You hardly even have to chew it.”

■ **Salt.** “Salt is the flavor burst because it’s often on the surface of the food and the first thing that touches the tongue.”

340-CALORIE PASTAS



For 340 calories, you can have 1 cup of pasta with fresh tomato sauce (left) or $\frac{3}{4}$ cup of pasta with sauce plus 2 cups of broccoli and bell peppers (right). (For the veggie-rich pasta recipe, go to nutritionaction.com/primavera.)

But salt, sugar, and fat aren’t the whole ballgame. What else matters?

■ **Fat plus carbs.** “Foods with high concentrations of both fat and refined carbohydrates—like chocolate, ice cream, french fries, pizza, cookies, and chips—are the foods that people find most irresistible,” says Ashley Gearhardt, associate professor of psychology at the University of Michigan.⁸

That might partly explain why people didn’t overeat on Hall’s low-carb diets.

What’s more, adds Gearhardt, “flavor enhancers and texturizers might amplify

the appeal of highly processed foods.”

■ **Variety.** “We came to cherish variety in food millions of years ago when hominids started walking upright,” says Moss. Variety boosted the odds of getting all the nutrients we needed.

But variety still compels us. In 1982, Barbara Rolls found that people eat about 15 percent more pasta if given a variety of shapes instead of just one.⁹

“And when we served sandwiches with four different fillings, people ate a third more than when they were served sandwiches with one filling,” she notes.¹⁰

“The appeal of variety explains the smorgasbord effect,” says Moss, “where you can feel completely full, but dessert comes along and all of a sudden your brain goes, ‘Ah, we can eat more.’”

When it comes to ultra-processed foods, variety can mean 10 flavors of potato chips or crackers or cereal.

On the flip side, minimizing variety—for example, by cutting carbs—may help some people eat less. “It’s just really hard to maintain that strict monotony,” says Moss.

■ **Speed.** In Hall’s 2019 study, people ate the ultra-processed foods faster than the unprocessed foods.³ “Eating rate can make a difference,” says Rolls. “Unprocessed foods often take more chewing. They have more intact fiber. They might be crunchier. They’re not blended down as much.”

■ **Advertising.** “Companies know how to press those emotional buttons to get us to eat, even when we’re not hungry,” says Moss. “The key is to create strong food memories by showing the product at the precise moment when our emotions are running high.”

Studies show that TV ads influence food preferences and consumption, at least in children, according to the World Health Organization.¹¹

■ **Snacking.** “The food industry has created more and more products that encourage us to snack during the day. It’s basically a fourth meal,” says Moss.

WHAT’S ULTRA-PROCESSED?



Typical unprocessed foods: fresh or frozen vegetables and fruits, beans, nuts, seeds, poultry, seafood, meats, eggs, milk, unflavored yogurt, pasta, oats, rice, no-sugar-added muesli or shredded wheat.



Typical ultra-processed foods: sugary drinks, chips, ice cream, chocolate, packaged breads, cookies, pastries, cakes, breakfast cereals, cereal bars, flavored yogurts, frozen pizza, fish sticks, chicken nuggets, sausages, hot dogs, instant soups.

Kevin Hall relied on the [NOVA system](#) to define ultra-processed foods. But NOVA has shortcomings. For example, Kellogg’s Raisin Bran and Froot Loops are both “ultra-processed” (thanks to malt flavor in the Raisin Bran). And packaged whole-grain bread is usually “ultra-processed,” while white rice is not. Until we know more, build your diet around unprocessed foods (see Jul./Aug. 2019, p. 3).



Nearly a third of our calories come from restaurants, where the food—like Burger King’s—is often ultra-processed, calorie dense, and cheap.

“Companies became very adept at ultra-convenience—that is, food you can eat while you’re doing something else. When that happens, your brain is not paying attention to the signals from your stomach that are going, ‘Wait a minute. I’m filling up down here.’”

In one study, people ate about 35 percent more pizza and 70 percent more macaroni and cheese while watching TV than while listening to music.¹²

■ **Cost.** “The food industry is all about making products as cheaply as possible,” says Moss. “They use flavors that mimic the tastes and smells of the real thing. Their overall purpose is to keep their food as cheap as possible.”

Moss has asked companies how they’re helping people eat more fruits and vegetables. “You get this blank stare, because they can’t do it,” he says. “If they stuff a Hot Pocket with broccoli rabe, they lose the cheapness factor.”

What to Do

One way to minimize ultra-processed foods *and* cut calorie density: load your plate with fruits and vegetables.

“Adding vegetables and fruits to dishes gives you bigger, more satisfying portions,” says Rolls, who [wrote](#) *The Ultimate Volumetrics Diet* to help people curb calorie density.

“We eat with our eyes and our brains,” adds Rolls. “If we see a big portion, that sets us up to feel more satisfied. If a plate looks half empty, that sets us up to feel hungry.”

One example: “Start a sandwich with whole-grain bread, cut down on fatty meat, try mustard instead of mayo, and bulk it up with vegetables—tomatoes, peppers, onions, lettuce, whatever,” says Rolls.

“You’ll end up with a sandwich that’s bigger and more likely to fill you up.”

Oils, nuts, and other high-fat foods are calorie dense, she adds, “but you don’t have to go low fat if you eat enough fruits and vegetables. You should be eating healthy fats, but you need to bulk them out with water-rich foods.”

Unwilling to part with chocolate, ice cream, or other calorie-dense or ultra-processed foods you love?

“I don’t recommend eliminating them because you’ll feel deprived,” says Rolls. “You just have to manage the portions more carefully than with fruits and vegetables.”

And stick with water, coffee, tea, or other calorie-free drinks.

“It’s easy to get rid of soda or other caloric beverages because there are so many other options,” says Rolls.

And she and Moss agree: Cook your own food whenever possible.

For starters, that protects you from the stratospheric calorie counts in most restaurant food, whether it’s sit-down or fast food. (See Jan./Feb. 2016, p. 8.)

“What you cook can be better than what’s served by the food giants,” says Moss. “Don’t let multinational corporations dictate your diet and your health.” 🍌

¹ [cdc.gov/nchs/data/hestat/obesity-adult-17-18/obesity-adult.htm](https://www.cdc.gov/nchs/data/hestat/obesity-adult-17-18/obesity-adult.htm).

² [cdc.gov/nchs/data/hestat/obesity-child-17-18/obesity-child.htm](https://www.cdc.gov/nchs/data/hestat/obesity-child-17-18/obesity-child.htm).

³ *Cell Metab.* 30: 67, 2019.

⁴ *Am. J. Clin. Nutr.* 70: 448, 1999.

⁵ *Obesity* 18: 300, 2010.

⁶ *Am. J. Clin. Nutr.* 85: 1465, 2007.

⁷ *Nat. Med.* 2021. doi:10.1038/s41591-020-01209-1.

⁸ *PLoS ONE* 2015. doi:10.1371/journal.pone.0117959.

⁹ *Physiol. Behav.* 29: 409, 1982.

¹⁰ *Physiol. Behav.* 26: 215, 1981.

¹¹ who.int/dietphysicalactivity/publications/recsmarketing/en.

¹² *Physiol. Behav.* 88: 597, 2006.

How Dense?

You can calculate the calorie density of any food by dividing its calories by its weight (in grams). But calories *per serving* also matters. Fruits and veggies are low in both.

Very Low

Food	Calories per gram
Celery	0.1
Asparagus or cucumber	0.2
Bell peppers, green, raw	0.2
Cabbage or cauliflower, cooked	0.2
Romaine lettuce or tomato	0.2
Cantaloupe or watermelon	0.3
Strawberries	0.3
Broccoli or green beans, cooked	0.4
Carrots	0.4
Honeydew, nectarine, or peach	0.4
Apple or orange	0.5

Low

Plain Greek yogurt (2% fat)	0.7
Marinara sauce	0.8
Tofu, firm	0.8
Banana	0.9
Tuna, light, canned in water	0.9
White or sweet potato, baked	0.9
Shrimp, cooked	1.0
Brown rice, long-grain, cooked	1.2
Kidney or black beans, cooked	1.3
Pasta, cooked	1.5

Medium

Egg, hard-boiled	1.6
Avocado	1.7
Chicken breast, roasted, no skin	1.7
Edy’s Slow Churned Ice Cream	1.8
Salmon, farmed, baked	2.1
Hummus	2.4
Mayonnaise, light	2.4
Bread, whole wheat	2.5
Ben & Jerry’s Ice Cream	2.7
Ground beef, 80% lean, broiled	2.7
Raisins	3.0
French fries	3.1
Hard pretzels	3.8
Glazed doughnut	3.9

High

Cheddar cheese	4.0
Brownie	4.1
Croissant	4.2
Buttery spread, tub	4.3
Crackers	4.3
Bacon, cooked	4.7
Chocolate chip cookies	4.9
Potato chips	5.3
Dark chocolate	5.5
Peanuts, roasted	5.9
Mayonnaise, full-fat	6.8
Butter	7.2
Oil (canola, olive, soybean, etc.)	8.8

Sources: USDA, company information. Adapted from *The Ultimate Volumetrics Diet*.

Quick Studies

A snapshot of the latest research on diet, exercise, and more.

Weight Loss Breakthrough?



Have scientists finally found a drug that helps people lose weight and keep it off?

Researchers randomly assigned 1,961 people—nearly all had obesity and none had diabetes—to inject themselves once a week with either 2.4 milligrams of semaglutide (Ozempic) or a placebo. All were told to eat 500 fewer calories a day and to exercise for 2½ hours a week.

Semaglutide is similar to GLP-1 (glucagon-like peptide-1), a naturally occurring hormone that lowers blood sugar and curbs appetite. A lower dose (1 mg) of semaglutide—the drug is made by Novo Nordisk, which sponsored the weight loss trial—is used to treat type 2 diabetes.

After 16 months, the semaglutide takers had lost, on average, 34 pounds—more than what people typically lose with diets or weight loss drugs and without the usual regain after 6 months. In contrast, the placebo takers had lost 6 pounds. Blood pressure and blood sugar levels were also significantly lower in the semaglutide takers.

Among the downsides: Nausea, diarrhea, and vomiting were reported by 25 to 44 percent of the drug takers versus 7 to 17 percent of the placebo takers. Most cases were not severe, though, and they subsided over time.

Semaglutide causes thyroid tumors in rodents, says the label warning, which notes that it's unknown whether the drug causes tumors in humans.

What to do: These results are promising, but don't take semaglutide to lose weight unless the FDA decides that the benefits outweigh the risks.

[N. Engl. J. Med. 2021. doi:10.1056/NEJMoa2032183](https://doi.org/10.1056/NEJMoa2032183), [doi:10.1056/NEJMe2101705](https://doi.org/10.1056/NEJMe2101705).

Allergic Reactions to Covid Vaccines

Worried that a Covid vaccine could cause anaphylaxis, a severe, life-threatening allergic reaction?

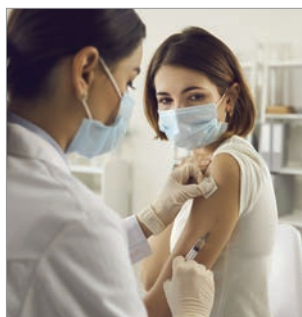
After 9.9 million doses of the Pfizer-BioNTech vaccine and 7.6 million doses of the Moderna vaccine were administered, the CDC identified 66 cases of anaphylaxis. That's about one case for every 212,000 doses of Pfizer and one for every 400,000 doses of Moderna.

Most people who had an anaphylactic reaction had a history of allergic reactions to drugs, foods, latex, etc.

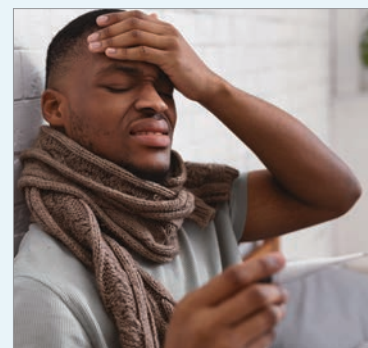
Typical signs of anaphylaxis were hives, rash, swelling, a sense of one's throat closing, or nausea. In 89 percent of cases, the reactions occurred within 30 minutes. Half of the people had to be hospitalized, but none died.

What to do: Got a history of allergic reactions? When you get your Covid shot, make sure there's injectable epinephrine on hand.

[J. Am. Med. Assoc. 2021. doi:10.1001/jama.2021.1967](https://doi.org/10.1001/jama.2021.1967).



Vitamins vs. Covid



In two studies, high doses of zinc, vitamin C, or vitamin D failed to curb Covid symptoms.

Researchers had planned to randomly assign 520 non-hospitalized Covid patients to take zinc gluconate (50 milligrams a day), vitamin C (8,000 mg), both, or neither for 10 days, then follow each patient for 18 more days.

After examining the data on 214 of the patients, it was clear that the supplement takers took no less time to reach a 50 percent drop in self-reported symptoms than those who took no supplements, so the study was cut short.

The second study involved 237 hospitalized Covid patients. Those who were randomly assigned to get one huge dose of vitamin D (200,000 IU) did not leave the hospital any sooner than those who got a placebo. Nor were the vitamin D takers less likely to die or need intensive care or a ventilator.

What to do: Don't expect zinc or vitamins C or D to fight Covid. 🍌

[JAMA Netw. Open 4: e210369, e210431. 2021. JAMA 2021. doi:10.1001/jama.2020.26848](https://doi.org/10.1001/jama.2020.26848).

Plastic, Plastic Everywhere

Why **micro**plastics are a **mega** problem



Sherri Mason, professor of chemistry and the sustainability coordinator at the Behrend College at Penn State Erie, is a leading researcher in

freshwater plastic pollution. Her work highlights the environmental and potential public health threats posed by microplastics. Mason spoke with *Nutrition Action's* Caitlin Dow.

PLASTIC PLANET

Q: It's hard to imagine a life without plastic.

A: It is, but we've only been able to mass produce plastics since World War II. So we've only had them for public use for about 70 years.

Q: How much plastic do we make?

A: Worldwide, we produce over 300 million metric tons each year. If things don't change, the industry will nearly quadruple that amount by 2050.

Q: Why is that a problem?

A: First, plastics are made from fossil fuels, so producing them creates greenhouse gases that contribute to the climate crisis. And plastic doesn't biodegrade. That means it doesn't break down into its basic components, which get reincorporated back into the soil.

Plastic can break into smaller and smaller pieces, but it retains the same chemical structure. And most plastic ends up as waste in landfills or it pollutes natural environments like the ocean.

Q: What is a microplastic?

A: It's any piece of plastic that's smaller

We can't always see them, but tiny particles of plastic are everywhere. Microplastics have been found in the most remote parts of the globe ...and in humans. Scientists are still uncovering the impact of microplastic pollution on our—and the planet's—health. Here's what you need to know.

than 5 millimeters, which is about the length of a grain of rice. Many microplastics are far smaller than that, and are far too small to see with the naked eye.

Q: Where do they come from?

A: They can come from larger pieces of plastic that have broken apart. But some, like microbeads—which were used as exfoliators in body washes and toothpastes before they were banned for that use by the FDA—are manufactured. Microbeads are still in personal care products in some other countries, though.

Q: Do microplastics also come from clothes?

A: They do. Synthetic fabrics like polyester, nylon, and spandex are all types of plastic. I'm draped in plastic right now. Sixty percent of clothing fabrics are synthetics, rather than natural fibers like cotton, wool, linen, or hemp.

And we all know from cleaning out the lint trap in our dryers that pieces of our clothes break off. It happens in the washing machine as well. The fibers from synthetic clothing are a type of microplastic. They break off in the wash and go down the drain.

Q: Where do they end up?

A: About 95 percent of microplastics are filtered out at wastewater treatment plants. That sounds great, but the 5 percent that make it through add

up. Our [study](#) of 17 wastewater treatment plants in the U.S. showed that each facility was releasing, on average, more than 4 million microplastic particles into our waterways every day. And we have about 15,000 plants.

Q: So microplastics contaminate the oceans?

A: Yes. One [study](#) estimated that there are roughly 5 trillion pieces of microplastics floating in the world's oceans.

But they're also in the air. Researchers have even found microplastics in snow samples from the Arctic. Every place we've looked, we've found microplastics.

Q: Do plastics harm marine animals?

A: Yes. Most of the focus has been on larger plastics. You've probably seen the pictures of sea turtles with straws up



Plastic waste is harming marine life from the bottom to the top of the food chain.

their noses. And there have been reports of beached whales with stomachs full of plastic debris like plastic bags, cups, netting, and so on.

Q: How about microplastics?

A: We're still learning, but we know that animals are ingesting microplastics, and there's evidence that they impair the reproduction, growth, mobility, and feeding patterns of small marine animals.

It starts with plankton at the very base of the food chain. The plankton ingest microplastics, which sometimes kills them, and then the animals that rely upon them have less food. If the plankton don't die before they're eaten, their microplastics end up inside whatever eats them. So the plastics might accumulate as you go up the food chain.

SIDE OF PLASTIC?

Q: Are microplastics in food?

A: Yes. [Seafood](#) was one of the first foods they were found in. I've had people say, "Well, I don't eat seafood. I just eat chicken, so I'm fine." We haven't looked for microplastics in chicken. But I can assure you that if they're in seafood, they're in chicken, because they're in our air, water, and soil.

Q: What about other foods?

A: There are all sorts of foods that we haven't analyzed yet. But we've [found](#) microplastics in water, beer, and sea salt. And a recent [study](#) showed that they can make their way into vegetables through the roots.

Q: How do microplastics get into soil?

A: Wastewater treatment plants retain everything that gets filtered out. It's called sewage sludge. About half of that sludge gets treated and applied to agricultural land, because it's very nutrient-rich.

Microplastics from the sludge can then percolate through the soil and end up in fruits, vegetables, and grains. Or they might end up as runoff that flows into a river and doesn't go through a wastewater treatment plant. So applying the sewage sludge to agricultural land may delay

the plastics from entering the waterways, but they eventually move into our food.

Q: And they're in our drinking water?

A: Yes. We [studied](#) tap water from 14 different countries, including the U.S. In each liter of water, on average, there were about 5½ pieces of microplastic.

Some people were like, "Oh my gosh, I'll just drink bottled water." But in another [study](#), we found twice as much microplastic in bottled water as in tap water. You should assume that anything that's wrapped in plastic is going to contain microplastic. A recent study [concluded](#) that the number one thing



We produce more plastic than we know what to do with, and we can't recycle our way out of the problem.

people can do to reduce their ingestion of plastic is to not drink bottled water.

Q: How much plastic do we consume?

A: One recent study [estimated](#) that some people may be consuming up to five grams' worth of plastic a week. That's the amount of plastic in a credit card.

Q: Do microplastics harm our health?

A: It appears that we can absorb some plastics, depending on their size and chemistry. For example, one [study](#) found microplastics in four of six women who had just given birth. But we don't know yet if that harms us.

Also, there are a lot of chemicals in plastics like BPA and phthalates. Many are hormone disruptors that have been linked to fertility problems, obesity, type 2 diabetes, and some cancers.

We still have much to learn, but we know that plastics and microplastics can adversely affect marine life, even if we don't know everything yet. So we need to take a precautionary approach.

CUTTING THE PLASTIC CORD

Q: Do we need to stop using plastic?

A: No. Plastics serve a lot of necessary purposes, and we can't eliminate them. I'm not anti-plastic; I'm anti-unnecessary-plastic, like single-use plastics. We need to rethink our relationship with plastic.

Q: So reduce, reuse, recycle?

A: Yes. And they're in that order for a reason. Reducing is most important. And reusing what we have gets the most life out of a single item.

Q: And recycle?

A: Yes. But in the U.S., we only [recycle](#) 9 percent of our plastics. Some plastics can't be recycled. And most are complex blends of different plastics and additives that can't be teased apart, which makes them difficult or impossible to recycle.

Also, recycling plastic is more expensive than making new plastic. So even if plastic *can* be recycled, it often isn't.

Corporations have put the responsibility on consumers to recycle ourselves out of this

problem. But that won't work.

Q: What else can we do?

A: In some cases, we can change the types of materials that we buy and use. Consumers have a bigger impact than we give ourselves credit for. If we demand materials other than plastic, the industry will respond. In other cases, the industry could move to a bioplastic, something that can biodegrade.

But if we're going to fix this problem, we need to hold corporations accountable. Once they are responsible for their packaging after consumers have disposed of it, there will be less plastic, plastic will be more durable, and systems will be put in place to collect it.

And this isn't just about us. We have to demand change and reduce our use of plastics now, for the future for our kids and grandkids. Our focus should not simply be on avoiding certain foods. It's about changing the system so plastics are not in the foods to begin with.



BREAKING up with PLASTIC

The best way to avoid microplastics—and to curb our contribution to microplastic pollution—is to use less plastic.

“You don’t need to get rid of all your plastic and buy new things,” says Penn State’s Sherri Mason. “But as things break or you lose them, try to replace them with reusable items made out of more sustainable materials like glass or stainless steel.”

And curbing plastic doesn’t have to mean spending money. Wash out and reuse food jars. And repurpose tote bags into grocery or produce bags (or sew your own!).

Here are some other tips to get you started.

SMART STORAGE

- Store food in glass jars or storage containers.
- If you buy food in plastic containers, reuse them. (Use glass for liquids or hot food.)
- Beeswax wraps can replace plastic wrap or bags.



SAY GOODBYE TO SINGLE-USE

- Ditch the bottled water. Keep a refillable bottle on hand.
- Say no to plastic straws and utensils in takeout orders. Keep your own set of utensils with you.
- Bring your own containers for restaurant leftovers.



PLASTIC-FREE STEEPING

When researchers [steeped](#) plastic tea bags (like the one pictured) in hot water for five minutes, each cup ended up with 11.6 billion microplastic particles.

- Teavana says that its store-bought tea bags are made out of plastic.
- Celestial Seasonings, Tazo, and Lipton say that their tea bags are mostly paper with some plastic added.
- Yogi, Numi, Traditional Medicinals, and Stash say that their tea bags are made without plastic.
- Try a metal infuser for loose-leaf tea.



REVAMP YOUR GROCERY RUN

- Consider reusable grocery and produce bags. Many are made of polyester or other synthetic fabrics, so look for bags made from natural fibers like cotton or hemp.
- When you can, buy in bulk and look for food that’s sold in glass or metal instead of plastic.



CONSCIOUS CLOTHING

One study [estimated](#) that a 13-pound laundry load of polyester clothing releases nearly 500,000 microfibers.

- When replacing clothing, consider secondhand first. Aim for natural fibers, if you can.
- Wash your clothes less often. (Bonus: they’ll last longer!)

■ In [two studies](#), Environmental Enhancements’ MicroPlastics LUV-R Filter (which attaches to home washing machines) prevented roughly 75 to 80 percent of polyester microfibers from heading down the drain. (You toss the trapped particles into your trash bin.) 🍌

The Healthy Cook

Pick Your Own



For a stir-fry that looks (and tastes) great, use a mix of colors. The dish cooks in a flash, so prep all your ingredients before you turn on the burner. 🍴

Stir-Fried Vegetables in Black Pepper Sauce

 SERVES 4

- 1½ Tbs. reduced-sodium soy sauce
- 1½ Tbs. dry sherry*
- ½ tsp. brown sugar
- ½ tsp. toasted sesame oil
- 1 tsp. cornstarch
- ½ tsp. coarsely ground black pepper
- 1 clove garlic, minced
- 1 tsp. + 1 Tbs. peanut oil
- 4 cups mixed chopped vegetables

1. In a small bowl, whisk together the soy sauce, sherry, brown sugar, sesame oil, and cornstarch with 3 Tbs. water. In another small bowl, mix together the black pepper, garlic, and 1 tsp. peanut oil.
2. In a large sauté pan or wok over high heat, heat the remaining 1 Tbs. peanut oil until very hot but not smoking. Stir-fry the vegetables until tender-crisp, 2–3 minutes.
3. Push the vegetables to one side of the pan. Add the oil/garlic/pepper mixture to the open space and stir-fry until fragrant, about 30 seconds.
4. Whisk the soy sauce mixture again, then pour it over the oil/garlic/pepper. Cook until the sauce thickens, about 1 minute. Toss the vegetables with the sauce.

PER SERVING (¾ cup): calories 100 | total fat 5 g | sat fat 1 g
carbs 11 g | fiber 2 g | total sugar 5 g | added sugar 1 g
protein 2 g | sodium 240 mg

*You can substitute 1½ Tbs. white wine (or 1½ tsp. sherry vinegar + 1½ Tbs. water). Don't use cooking sherry.

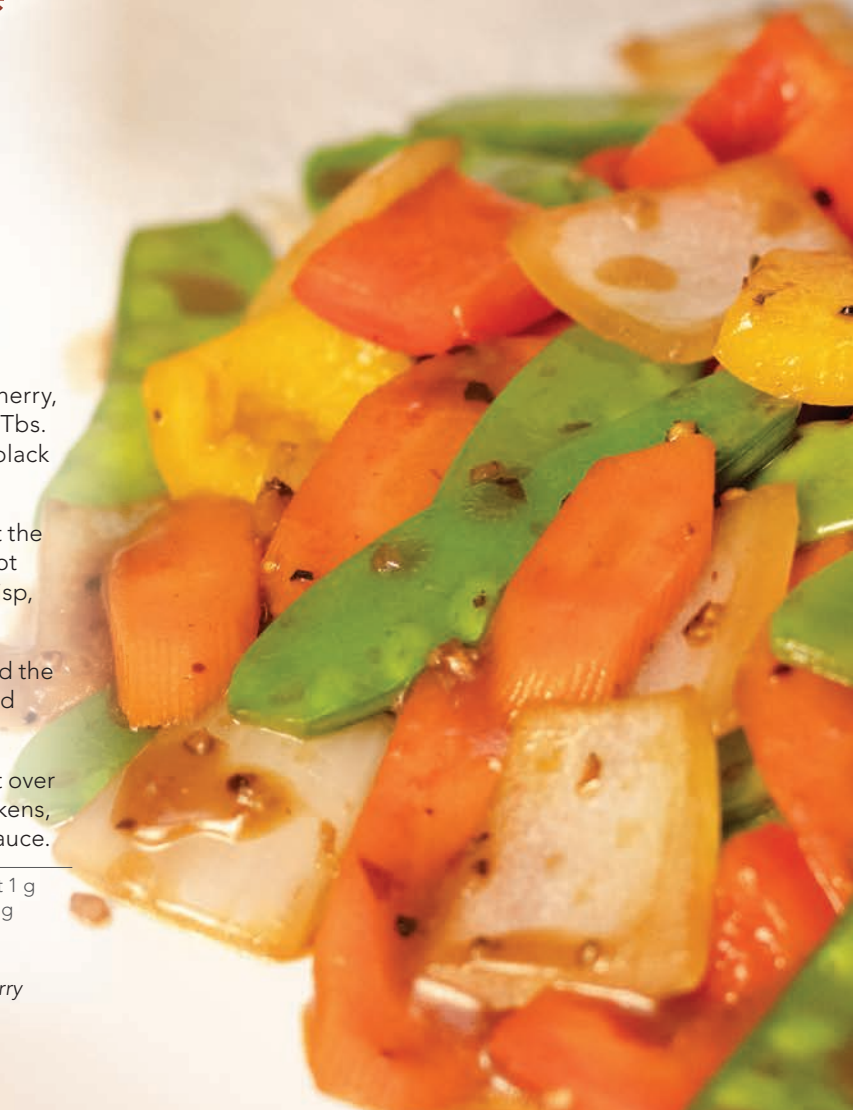


Photo: Kate Sherwood/CSPH

For more recipes

Go to nutritionaction.com/moreveg for **Very Veggie Fried Rice** and **Braised Leeks**

Cooking questions?

Write to Chef Kate at healthycook@cspinet.org



Veg Out!

5 reasons to eat more veggies

BY LINDSAY MOYER & KAAMILAH MITCHELL

Got vegetables? Nine out of 10 Americans are falling short...and missing out. Who can resist garlicky sautéed 'shrooms, candy-sweet roasted tomatoes, or a creamy kale Caesar salad? Here are five reasons to load more of the all-star plants onto your plate. Turn the page for our buying, cooking, and eating tips.

1. They're all winners

When it comes to packing in the nutrients, filling you up, and helping you skimp on calories per bite, nothing beats veggies.

So what if your favorites aren't among our "Superstars"? Life would be dull without cauliflower, zucchini, tomatoes, cabbage, and other "Veggie Goods."

Even our "Gotta Love 'em" list is full of surprises. Who knew that jicama and shiitakes had all that fiber? Or that rutabaga offers a decent supply of vitamin C with so few calories?

What's more, our scores don't give credit for phytochemicals that may turn out to matter.

The bottom line: All veggies are good veggies.

2. Some are standouts

Popeye knew best. The leafy green gang always leads the pack.

Spinach, kale, Swiss chard, etc., are heavy hitters that rack up the lutein (which may protect your eyes), magnesium, vitamin K, and more.

Other winners: pumpkins, butternuts, and other winter squashes—along with carrots and sweet potatoes—have a boatload of beta-carotene, which makes *them* orange...and *you* richer in vitamin A.

3. They protect the heart & brain

Veggies take center stage in the [DASH](#) (Dietary Approaches to Stop Hypertension) diet, to the tune of about 2½ cups a day.

Eating plenty of vegetables (and fruit)

is a great way to rack up potassium, which helps lower blood pressure. That may help explain why people who eat the most vegetables and fruit have a lower risk of heart disease and stroke than those who eat little or none.

4. They do double duty

Ever try cauliflower or broccoli "rice," zucchini "zoodles," or carrot "noodles"?

Finely chopped or spiralized vegetables can change things up when you want fewer calories or just a break from whole wheat pasta, brown rice, or other whole grains.

Veggie "grains" make it easier to cut back on refined carbs, curb calorie density (see cover story), or fill half your plate with vegetables, like health authorities recommend.

(Predictably, the rice industry isn't happy about the growing trend. "Rice is a grain, not a shape," the USA Rice Federation president [complained](#) to the FDA. What the industry calls "rice pretenders" shouldn't be allowed to carry names like "cauli rice," she said, though "riced cauliflower" would be fine.)

5. They're delish

You caught our Healthy Cook's Stir-Fried Vegetables in Black Pepper Sauce (p. 11), right?

And don't forget veggies when you need something to tide you over until lunch or dinner. Crunch on mini cukes, bell peppers, snap or snow peas, or carrots. Or dunk them in dips like hummus, tzatziki, or baba ganoush.

Mmm.

Fresh Picks

How We Got Our Scores

We calculated a score for each vegetable by adding up its percentage of the recommended daily intake for eight nutrients plus lutein (and its twin, zeaxanthin) and carotenoids other than lutein. We used the Daily Value (DV) for all but two: Lutein and other carotenoids have no DV, so we devised our own recommended intakes.

We counted each nutrient equally. For example, a serving of cooked kale has 141 percent of our target for lutein and 50 percent of our target for other carotenoids, plus 296 percent of the DV for vitamin K, 17 percent of the DV for vitamin C, 14 percent for folate, 12 percent for fiber, 10 percent for calcium, 5 percent for magnesium, 4 percent for iron, and 3 percent for potassium. That gives it a score of 552 points.

We counted calcium, iron, folate, and magnesium in our scores but they're not in the chart. Ditto for carotenoids other than lutein, which include alpha-carotene, beta-carotene, beta-cryptoxanthin, and lycopene.

The scores are for 3 oz. of each vegetable. That's ½ to ¾ cup (or 1½ to 2 cups of raw leafy greens). But with only 15 to 25 calories in a serving of many veggies, why stop at just one?

Unless noted, the numbers in the chart are for cooked vegetables.

Superstars (200+)	Score	Lutein	Vitamin K	Vitamin C	Potassium	Fiber	Calories
Mustard greens	975	+	+	●	●	●	20
Spinach	948	+	+	●	●	●	20
Swiss chard	716	+	+	●	●	●	15
Turnip greens	712	+	+	●	●	●	15
Collard greens	648	+	+	●	●	●	30
Beet greens	606	●	+	●	●	●	25
Kale	552	+	+	●	●	●	30
Radicchio, raw	467	+	+	●	●	●	20
Watercress, raw	458	+	+	●	●	○	10
Carrots	398	●	●	●	●	●	30
Broccoli rabe	390	●	+	●	●	●	20
Sweet potato	379	○	○	●	●	●	80
Pumpkin, canned	376	○	●	●	●	●	30
Romaine lettuce, raw	339	●	●	●	●	●	15
Red leaf lettuce, raw	303	●	●	●	●	●	10
Green leaf lettuce, raw	298	●	●	●	●	●	15
Butternut squash	295	○	○	●	●	●	35
Arugula, raw	291	+	●	●	●	●	20
Broccoli	266	●	●	●	●	●	30
Endive, raw	262	○	+	●	●	●	15
Scallions, raw	256	●	+	●	●	●	25
Brussels sprouts	246	●	●	●	●	●	30
Red bell pepper	238	○	●	+	●	●	25
Escarole	224	○	+	●	●	●	15
Butter lettuce, raw	201	●	●	●	●	●	10

Veggie Good (50-199)

Chinese broccoli (gai lan)	187	●	●	●	●	●	20
Green peas	171	●	●	●	●	●	70
Bok choy	154	○	●	●	●	●	10
Cabbage	137	○	●	●	●	●	20
Snow or sugar snap peas	137	●	●	●	●	●	35
Tomatoes	135	●	○	●	●	●	15
Asparagus	133	●	●	●	●	●	20
Fennel, raw	122	●	●	●	●	●	25
Green bell pepper	113	●	●	●	●	●	25
Green beans	101	●	●	●	●	●	30
Red cabbage	94	○	●	●	●	●	25
Okra	93	●	●	●	●	●	20
Avocado, raw	92	●	●	●	●	●	140
Zucchini	87	●	●	●	●	●	15
Artichoke hearts	85	●	●	●	●	●	45
Leeks	82	●	●	●	○	●	25
Lima beans	80	○	●	●	●	●	100

	Score	Lutein	Vitamin K	Vitamin C	Potassium	Fiber	Calories
Cauliflower	76	○	●	●	●	●	20
Kohlrabi	71	○	○	●	●	●	25
Celery, raw	62	●	●	●	●	●	10
Yellow corn	62	●	○	●	●	●	80
Parsnips	54	○	○	●	●	●	60
Iceberg lettuce, raw	53	●	●	●	●	●	10
Tomatillos, raw	53	●	●	●	●	●	25

Gotta Love 'em (0-49)

Jicama, raw	46	○	○	●	●	●	30
Potato with skin	46	○	○	●	●	●	80
Shallots, raw	44	○	○	●	●	●	60
Beets	42	○	○	●	●	●	35
Radishes, raw	35	○	○	●	●	●	15
Rutabaga	35	○	○	●	●	●	25
White corn	33	○	○	●	●	●	80
Chayote squash	31	○	●	●	●	●	20
Cucumber with peel, raw	28	○	●	●	●	○	15
Turnips	27	○	○	●	●	●	20
Shiitake mushrooms	26	○	○	○	●	●	35
Portobello mushrooms	23	○	○	○	●	●	25
Onion	21	○	○	●	●	●	35
White (button) mushrooms	21	○	○	○	●	●	20
Eggplant	20	○	●	○	●	●	30
Spaghetti squash	19	○	○	●	●	●	25

KEY

Percentage of the recommended daily intake:

- less than 2%
- 2% to 10%
- 11% to 50%
- 51% to 100%
- ⊕ more than 100%

Recommended Daily Intakes

Lutein: 3,000 mcg¹
 Vitamin K: 120 mcg
 Vitamin C: 90 mg
 Potassium: 4,700 mg
 Fiber: 28 g

Other carotenoids: 3,000 mcg¹
 Folate: 400 mcg DFE
 Calcium: 1,300 mg
 Iron: 18 mg
 Magnesium: 420 mg

¹ Estimate based on typical intakes.
 Unless noted, vegetables are cooked.

Source: [U.S. Department of Agriculture Food Data Central](https://www.ars.usda.gov/research/units/national-laboratory-for-agricultural-and-food-research/).

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THE CRISPER

Tips for



WINTER SQUASH

- Using a large chef's knife, slice off the root and stem ends of your squash first. Aim to create flat surfaces that can rest securely on the cutting board while you cut.
- A sharp knife is less likely to slip while cutting hard, heavy squashes. Keep the blade sharp with an electric sharpener.
- Don't want to peel or carve away thick squash skin? Look for delicata or honeynut squash, whose skin is thin (and edible). Or try small acorns or butternuts: Both have skin that's pleasantly toothsome when roasted.



DARK LEAFY GREENS

- Your greens looking lackluster? Trim the ends and perk them up with a quick soak in ice water. Shake or spin off the excess water before sautéing or tossing in a salad.
- Remove any tough stems and center ribs before chopping. Don't discard colorful Swiss chard stems, though. Chop them up and sauté until tender.
- For a new, quicker-cooking take on kale, try Tuscan (aka dinosaur or Lacinato) or baby kale instead of curly kale.
- Try Asian greens like gai lan, tatsoi, bok choy, and yu choy. Go to nutritionaction.com/greens for stir-frying tips.
- Don't forget frozen greens. They can go straight from freezer to soup or stew without washing or chopping.



TOMATOES & EGGPLANT

- In spring, winter, and fall, the tastiest supermarket tomatoes are small ones like grape, cherry, or Campari. Bonus: You can store them in the fridge without losing flavor.
- In summer, go for heirloom tomatoes that are heavy for their size and still have their green stems attached.
- Long, skinny Chinese and Japanese eggplants are tender and quick-cooking; perfect for stir-frying.
- At farmers markets, look for smaller eggplant varieties like fairy tale or graffiti. They're oh-so creamy and sweet.



CABBAGE

- A whole head of green or red cabbage can stay fresh in the fridge for weeks until you're ready to cut it. Need just a little? If you use a few of the outer leaves, the rest will keep.
- Cabbage isn't just for slaw. Toss it in stir-fries or fried rice.
- Heads of savoy and napa cabbage are less dense than green or red cabbage, so they're easier to cut.
- Sauté Brussels sprouts quickly in a hot pan. Or halve and roast them. Or thinly slice them for a raw salad.



ONIONS & GARLIC

- Store unpeeled, uncut onions, garlic, and shallots in a cool, dark, and dry place. Refrigerate leeks and scallions, which are more perishable at room temperature.
- Onions can make potatoes sprout. Store them apart.
- White onions are milder than red or yellow ones, which makes them terrific either cooked or raw.

SEE ALL OUR TIPS

For more tips, plus a list of the 5 vegetables richest in fiber, potassium, and other nutrients, go to:

nutritionaction.com/veg tips

Buying, cooking, and eating vegetables

BY KATE SHERWOOD & LINDSAY MOYER



BEANS & PEAS

- Unless your sugar snap peas or snow peas are “stringless,” trim or snap off the ends of each pod and remove the string that runs down the seam before cooking.
- If you wind up with a batch of tough snap pea pods, the peas inside may still be fine. Pop one open and try it.
- The secret to green (or yellow wax) beans is to cook them until they’re very tender but not quite falling apart. They can be astringent if they’re not fully cooked.



ROOT VEGETABLES

- Before storing roots like radishes or beets, cut off any leafy green tops. They draw out moisture, which makes the veggies go limp. Sauté the greens in garlic and olive oil.
- Rutabagas or turnips can stand in for white potatoes if you want to slash starchy carbs. Get yourself a serrated vegetable peeler—the kind with teeth—to shave off their thick skin with ease. (It’s also great for butternut squash.)
- Thought you didn’t like peppery radishes? Try them sautéed or roasted. They’re surprisingly sweet and mellow.
- Sweet potatoes have twice as much fiber and more potassium than white potatoes. Sweets also pack a beta-carotene punch: 90 percent of a day’s vitamin A per serving.



CAULIFLOWER, BROCCOLI, ETC.

- Browned surfaces of roasted cauliflower or broccoli deliver flavor to spare. Slice florets to get flat surfaces, toss them in oil, place on an unlined baking pan, and use the oven rack closest to the heat.
- Broccoli rabe (rapini) is a pungent, leafier member of the broccoli family. Blanch it to cut some of its bite, then quickly sauté.
- Broccolini (sometimes called “baby broccoli”) is milder than broccoli. And its stalks are tender, so you don’t need to trim them.



SALAD GREENS

- A salad spinner isn’t just for drying greens. You can also store your washed and spun lettuce in it (inside the fridge).
- The best way to toss your salad greens with dressing: in a low, wide bowl. If the leaves are delicate, use (clean) hands.
- Soft, foldable lettuces like butter, green leaf, or red leaf are perfect for lettuce wraps or cups. (Butter lettuce is often called Bibb or Boston.)
- When you don’t want the robust taste of darker greens like baby kale, spinach, or spring mix, try a mellow baby butter lettuce blend or mâche.



MUSHROOMS

- Don’t wash them: They’ll end up soggy. Instead, use a paper towel to wipe off the brown stuff (it’s most likely heat-treated compost, not dirt).
- To extend the life of your mushrooms, store them in a paper bag or open container in the fridge. 🍄

The Healthy Cook’s Kitchen

Try these recipes, and you’ll never look at veggies the same way again.

To order “Spring & Summer Vegetables” or “Fall & Winter Vegetables” —or any of the other volumes in *The Healthy Cook’s Kitchen* series—go to store.nutritionaction.com.



Photos (left to right, top to bottom): stock.adobe.com; frugier; Paul Pellegrino; New Africa; Iurii Kachkovskiy; Florin.



FOOD FIND

Spring Fling



Ready for a spring fling?

Asparagus is.

It's not just that the tender shoots are easy to come by and fresh-tasting right now. Asparagus in the spring can also be gentler on the planet.

That's because some out-of-season asparagus gets flown in from South America. (The delicate veggie needs the airlift.) And those flights leave a hefty carbon footprint.

But in April, local asparagus abounds. And it gets trucked into farmers markets...and even some supermarkets.

Look for spears with dry, tight tips. And try to get a bunch that has similar-sized stalks. That way, they'll all be done at the same time.

You'll walk away with 2 grams of fiber, a decent dose of vitamin C, and a whopping third of a day's folate and vitamin K from every half cup of cooked asparagus (not counting sautéing oil or toppings). All for just 20 calories.

Got skinny spears? Before you start cooking, bend the woody stem ends until they snap off. For thicker spears, just peel the bottom third or so. The skin may be stringy, but the flesh is tender.

Then get cooking. Toss steamed asparagus with extra-virgin olive oil, lemon juice and zest, and chopped smoked almonds or parmesan. Better yet, try our Dish of the Month.

It's easy eating green.



DISH of the month

Pan-Roasted Asparagus

In a sauté pan over high heat, cook 1 lb. thick-stemmed asparagus in 1 Tbs. water, 1 Tbs. olive oil, 1 tsp. butter, and 1 tsp. soy sauce until bright green and charred in spots, 2–3 minutes. Serves 4.

FOOD FAIL



Pub Style Product

"Can't make it across the pond to explore the English countryside and visit local pubs?" asks Marie Callender's website. "Never fear: Our **Pub Style Steak and Ale** meal brings classic pub fare to you."

"Warm up with hearty beef, golden potatoes, carrots, and a rich brown ale gravy packed into a flaky, buttery crust."

Gosh. Sure sounds like homemade. So who'd ever guess that the hearty beef is "cooked beef and water binder product" (beef, water, modified food starch, salt, and natural flavorings)? Or that the gravy has some two dozen ingredients (including carrageenan, corn starch, beef tallow, beef extract, lactic acid, and methylcellulose)?

What with all the heavy cream, butter, and beef, Marie manages to squeeze 790 calories and 29 grams (1½ days' worth) of saturated fat into each 3-inch-wide "meal." Oh yeah. You also get a pile of white flour and half a day's sodium (1,210 milligrams).

It's like eating a McDonald's Cheeseburger slathered with a quarter cup of lard...except *that* would hit "only" 720 mg of sodium.

"The Marie Callender's story" is all about "a heritage of homemade," says the company's website.

Yes, indeed. Who doesn't yearn for some homemade cooked beef and water binder product?



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