

# Nutrition Action

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HEALTH LETTER®

INSTITUTE FOR SCIENCE IN THE PUBLIC INTEREST

APPLES TO  
WATERMELON  
Rating fruit

Two super  
salads

Good for the  
**GUT?**

## An Anti-Aging Diet?

MEMO FROM MFJ

# Industry Giveaway



Whether you're a Democrat, Republican, Independent, or anything else, I think that you should care about a dangerous piece of legislation that recently breezed through the House of Representatives, largely under the radar of the media. A similar bill may well pass the Senate.

This major threat to the nation is called the Regulatory Accountability Act (RAA). We—the Center for Science in the Public Interest, *Nutrition Action's* publisher—call it the Filthy Food Act. But it's a threat to far more than our food.

The RAA would make it nearly impossible for the government to adopt health and safety regulations that protect consumers, workers, the environment, our children—you name it.

Among the RAA's most damaging features:

■ **It protects industry, not the public.** The RAA says that the *best* regulatory option is the one that's *cheapest for industry*—never mind if it harms the public. Rather than balance the costs and benefits of health and safety protections, the Food and Drug Administration and other agencies would have to go with what's cheapest for industry. (Is the cheapest food-safety inspection system *really* the best way to protect American families?)

■ **It adds red tape.** Rather than streamline bureaucratic procedures, the RAA would require agencies to waste taxpayers' dollars examining endless alternatives and speculating on their indirect costs. And it would let the food and other industries demand

that resource-depleted agencies conduct trial-like hearings on rules that they dislike... all paid for by you, me, and the rest of us.

■ **It puts politics over science.** The RAA would allow White House political appointees to replace the EPA, the Consumer Product Safety Commission, and other knowledgeable federal agencies when it comes to health and safety matters. Think Stephen Bannon instead of the FDA commissioner.

The RAA would threaten every existing and future law that protects consumers from unsafe food, dirty water and air, dangerous toys, toxic chemicals, and so on.

If the RAA had been in place at the time, commonsense measures to improve school foods, make nutrition labels more user friendly, shore up food-safety regulations, reduce air pollutants, and get lead out of gasoline and paint would never have been adopted.

If Congress passes the RAA, government officials would face ever steeper procedural hurdles in taking urgently needed actions.

When Stephen Bannon spoke of the administration's desire to "deconstruct the administrative state," he had something very much like the Regulatory Accountability Act in mind.

Please ask your Senators to oppose this dangerous bill. You can e-mail them at <http://bit.ly/OpPoseRAA>.

Michael F. Jacobson, Ph.D., President  
[Center for Science in the Public Interest](http://www.centerforscience.org)



When it comes to things like meat inspection, *cheapest* doesn't cut it.

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# An Anti-Aging Diet?

BY BONNIE LIEBMAN

## Cut Calories, Live Longer?

"It's the only intervention that extends lifespan," says Susan Roberts, director of the energy metabolism laboratory at the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University.

She's talking about putting animals on a diet that cuts their calories by 25 to 30 percent.

"It's been known since the 1930s that lower food intake confers longevity in rodents," says Rozalyn Anderson, an associate professor in the department of medicine at the University of Wisconsin School of Medicine and Public Health.

"The question always was: Does this have any relevance to human aging and human disease?"

Roughly 30 years ago, scientists decided to test calorie cutting in rhesus monkeys.

"They have decades-long lifespans, and they are genetically 93 percent identical to us," explains Anderson. "The way they age is the same, they get the same diseases of age, and the way those diseases manifest is the same."

Back in the 1980s, researchers at the University of Wisconsin put adult monkeys on either an ordinary "control" diet or a diet that cut calories by 30 percent.

By 2016, the results were striking. At any point in time, the control monkeys (which were chubbier than the typical rhesus that lives in a

Benedict Cumberbatch. Beyoncé. Jimmy Kimmel. They're among the household names who have reportedly tried a diet that slashes calories for two days a week.

But researchers aren't only interested in on-and-off fasting to help people stay trim. Here's the evidence that cutting calories—every day or twice a week—may reduce the risk of cancer, Alzheimer's disease, and diabetes, and may even lengthen your life. And here's why, so far, pills won't.

research lab) were almost twice as likely to die than the calorie-restricted monkeys (which were leaner than the typical research-lab rhesus).<sup>1</sup>

"And the control monkeys had two and a half times the risk of age-related disease," notes Anderson. "That included cancer, diabetes, and heart disease."

But monkeys aren't mice or rats.

"In rodents, the earlier you start, the more calorie restriction extends lifespan," explains Anderson.

Not so in a similar study at the National Institute on Aging, which started cutting monkeys' calories at an age equal to a child in elementary school.<sup>1</sup>

"Those monkeys lived no longer than the control monkeys," says Anderson.

## CALERIE Study

What about humans? Enter the CALERIE (Comprehensive Assessment of Long-term Effects of Reducing Intake of Energy) study.

"The CALERIE study was never intended to say that people on lower-calorie diets would live longer, because a two-year intervention is never going to show that," says co-author Susan Roberts.

## Rev Up Your Mitochondria?



"Helps 'De-age' your body 15 to 20 years—OR IT'S FREE!" says the manufacturer.

Sounds to us like it's free.

Juvenon contains L-acetylcarnitine and lipoic acid, which "protect your body from the ravages of Father Time!" in part

by preventing damage to your mitochondria by free radicals, claims the company. (Mitochondria are our cells' fuel-burning power plants.)

The company hasn't done any studies on people. But when researchers at Washington University in St. Louis gave 28 people Juvenon's ingredients (though at lower doses) every day for six months, they found no change in an indicator of free-radical damage in the body—or anything else they measured.<sup>1</sup> —David Schardt

<sup>1</sup> *Aging* 6: 149, 2014.

“The question was whether those people would show biomarkers of a longer, healthier life. The purpose was to look at the anti-aging effects of calorie restriction.”

CALERIE randomly assigned 218 people aged 20 to 50 to either eat their usual diet or cut their calories by 25 percent. (They only managed to cut calories by about 12 percent.)<sup>2</sup>

When the study started, “half were normal weight and half were slightly overweight,” says Roberts. “Those who cut calories lost, on average, about 10 percent of their body weight—about 17 pounds—and they kept it off for two years.”

your bones more, so when people are 10 percent lighter, their bones are less dense.”

Of course, the CALERIE study could only go so far.

“We measured a hell of a lot of things, but it was only two years,” says Roberts. “You can’t measure the incidence of cancer.”

The investigators plan to publish data on memory and other cognitive changes. In the meantime, a small German study reported that older people who cut calories for three months did better on some memory tests.<sup>5</sup>

“CALERIE is the first major study of its kind,” cautions Roberts. “So I don’t think

much on two days of the week and eat normally but not overeat on five days, versus counting calories at every meal,” says Mark Mattson, chief of the laboratory of neurosciences at the National Institute on Aging.

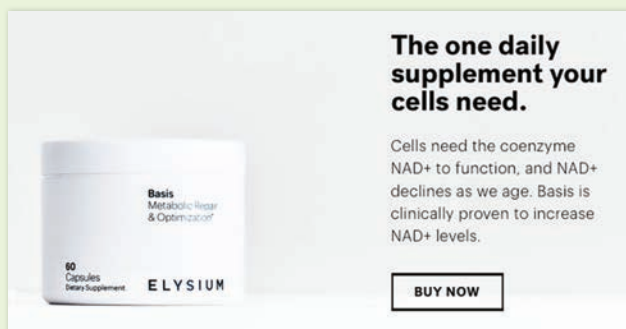
As it turns out, the 5:2 diet—also called the 2-day diet—may do more than trim your waistline.

“In animal models, intermittent fasting increases the resistance of cells to various types of stress and disease,” says Mattson.

But the human evidence in favor of on-and-off fasting is just emerging:

■ **Diabetes.** On-and-off fasting may help lower the risk of type 2 diabetes

## Still at First Basis



“Almost immediately I noticed an increase in my energy level,” writes “Lydia” on elysiumhealth.com. “I started feeling happier,” writes “Grace.”

Both women are singing the praises of Basis, a supple-

ment that contains a building block of NAD+, “which the body uses to power metabolism,” says elysiumhealth.com. Basis also contains pterostilbene, a cousin of resveratrol.

Elysium—which manufactures Basis—claims that the supplement “supports long-term well-being at the cellular level.” But, as a [2016 article](#) in *New York Magazine* put it, Basis offers “the implied gift of life extension.”

There’s only one study in humans. It’s by Elysium, and it has yet to be published. [According to the company](#), among 120 volunteers, those who took Basis every day for eight weeks had 40 percent higher blood levels of NAD+ than those who took a placebo. But that’s far from proof that taking Basis slows the aging process.

“NAD supplementation is worth investigating,” says former National Institute on Aging researcher Don Ingram. “But it hasn’t been studied much in people.” —DS

And cutting calories paid off in other ways as well.

“They had favorable changes in markers of cardiometabolic health,” says Roberts. “Cholesterol decreased, blood sugar control improved, and inflammatory markers decreased.”

“And they had no increase in hunger, and no adverse effects on sexual or immune function.” If anything, they rated their mood as better than did people who didn’t cut calories.<sup>3,4</sup>

The only side effect was some bone loss.

“It could be a red flag,” says Roberts. “But I don’t think this is anything more than the fact that being overweight loads

we should be going out there saying, ‘Everybody should do this right away.’”

“But we looked pretty hard for bad effects, and we found almost nothing. So I think we got a pretty unequivocal answer that this is a healthy, beneficial thing to do.”

### On-and-Off Fasting

“I’m on the 5:2 diet,” actor Benedict Cumberbatch told the (London) *Times* in 2013. “You have to, for *Sherlock*.” That’s his hit BBC series.

Cumberbatch, and most other celebrities who have used the 5:2 diet, do so to lose (or not gain) weight.

“For many people, it’s easier to not eat

not just by shrinking waistlines but by keeping the body’s insulin in good working order.

That’s what happened in two studies, each on roughly 100 overweight or obese women.<sup>6,7</sup>

“Half cut 25 percent of their calories every day, and half ate only 650 calories a day for two days per week” and didn’t cut calories on the other five days, says co-author Mattson.

After three to six months, “each group had lost about the same amount of weight,” he notes. “But the women on the 5:2 diet had better insulin function.”

And insulin matters.

Poor insulin function is “at the root of

many weight-related diseases, such as type 2 diabetes, heart disease, some cancers, and possibly dementia," wrote Michelle Harvie and Tony Howell in *The 2 Day Diet*.

The researchers, both at the Manchester Breast Centre in England, led the two studies in women.

■ **Cancer.** "When you inject cancer cells under the skin of mice, alternate-day fasting slows the growth of the tumor cells," says Mattson.<sup>8</sup>

It's not clear why. One possibility: "Almost all cancer cells use glucose as their energy source, so the fasting state is not ideal for cancer cells because the glucose levels are low," explains Mattson.

But studies in people are just starting.

"British researchers are putting women who have breast cancer on intermittent fasting diets throughout the entire five-month course of their chemotherapy treatments," says Mattson.

"The prediction is that intermittent fasting will enhance the effectiveness of the chemotherapeutic drugs by making cancer cells more vulnerable. And fasting may protect normal cells from the adverse effects of chemotherapy."

■ **Memory.** In a study on mice engineered to get an Alzheimer's-like disease, the animals performed better on memory tests—how to find a hidden platform in water, for example—when put on diets that cut calories daily or every other day than when eating an

## 2 Days a Week

### 500-CALORIE DAY

#### Breakfast

Plain low-fat yogurt  
with berries  
200 calories



#### Dinner

Mixed greens  
with grilled chicken  
300 calories

**Want to try "fasting" for two days a week?** Here's an example of what you might eat on those days. It's similar to what you'll find in popular books like *The Fast Diet*, by Michael Mosley and Mimi Spencer. You can eat one, two, or three meals on those days, as long as you keep the total calories at around 500 for women or 600 for men (though Mosley now allows up to 800). To minimize muscle loss, shoot for 50 grams of protein (the Daily Value).

### 600-CALORIE DAY

#### Breakfast

Oatmeal with  
peaches, berries,  
and milk  
250 calories



#### Dinner

Baked salmon with  
asparagus and  
tomatoes  
350 calories



unlimited diet.<sup>2</sup>

And healthy mice that were fed few calories for four days twice a month did better on memory tests than mice that never fasted.<sup>10</sup>

"Animals on intermittent fasting are more alert than animals that have constant access to food," notes Mattson.

"And they have increased activity in a region of the brain called the hippocampus, which is important for learning and memory."

That makes sense, given that animals in the wild are hungry most of the time.

"It's normal for cougars to go a week without eating anything, so they're burning fat," explains Mattson. "And their brains have to work well, so they can figure out how to track down their prey."

What about evidence in humans?

"We're about halfway through a study on people aged 55 to 70 who are at risk for cognitive impairment and Alzheimer's disease because of their age and because they are obese and insulin resistant," says Mattson.

Half are on the 5:2 diet, while half are getting the usual advice for healthy eating.

"Before they start and two months later, we do a battery of tests to look at learning and memory," says Mattson.

If the 5:2 dieters do better, it will take another study to know if that's due to fasting or just having lost weight.





## Resveratrol Reservations

Resveratrol is “as close to a miraculous molecule as you can find,” claimed Harvard scientist David Sinclair in 2004.

The compound, found in grape skins and red wine, makes yeast, fruit flies, worms, fish, and obese (though not normal-weight) mice live longer.

But resveratrol has yet to live up to its hype in humans.

In two small studies of people with type 2 diabetes—one in India and one in Iran—resveratrol lowered hemoglobin A1c (a measure of long-term blood sugar levels).<sup>1</sup>

But in studies that included few or no people with diabetes, it had no impact on



blood pressure or body fat, and it raised LDL (“bad”) cholesterol.<sup>1,3</sup> And resveratrol muted the benefits of exercise on fitness, blood pressure, triglycerides, and LDL.<sup>4</sup>

“Resveratrol is still being studied for possible benefits,” says former National Institute on Aging researcher Don Ingram, who is now at the Pennington Biomedical Research Center in Louisiana.

“But if you ask whether it’s proven to be anti-aging, the answer is no.” —DS

<sup>1</sup> *Am. J. Clin. Nutr.* 99: 1510, 2014.

<sup>2</sup> *J. Clin. Endocrinol. Metab.* 2017. doi:10.1210/je.2016-2160.

<sup>3</sup> *Int. J. Cardiol.* 189: 47, 2015.

<sup>4</sup> *J. Physiol.* 591: 5047, 2013.

### The Bottom Line

What to do until we know more?

“The first thing is to make sure you’re not overweight or obese,” says Tufts’ Susan Roberts, “because there’s a legion of studies that show that carrying excess body fat is unhealthy in 20 different flavors.”

And if you find it easier to slash calories two days a week than to make smaller cuts every day, why not try it?

“To my knowledge, there is no evidence that intermittent fasting has adverse effects on healthy people unless they’re a young child or a frail older person,” says Mattson. (Granted, on-and-off fasting

hasn’t been tested in studies lasting longer than six months.)

What if you’re not overweight or obese?

“The CALERIE study indicates that some caloric restriction is very likely to be healthy even if you’re already normal weight,” says Roberts.

(That is, unless you end up *too* thin. In the CALERIE study, researchers temporarily took one participant off the diet when he or she fell into the “underweight” category.)

And, of course, there’s always hope that you can have your cake and eat it, too.

“If we can identify the cellular pathways that calorie restriction uses to slow down aging, we can try to activate those pathways using a drug, nutrient, or something else,” says the University of Wisconsin’s Rozalyn Anderson.

“That way, you could have the benefits of calorie restriction without actually doing it.” 🍌

### Not So Vital



“Turn Back Time With The ‘Anti-Aging’ Breakthrough Everyone Is Talking About!” says serovital.com.

“Reduce body fat,” “Reduce appearance of wrinkles,” promise the TV ads.

Although human growth hormone (hGH) declines as we age, the five amino acids and one herb in SeroVital can increase blood levels by 682%, says the manufacturer.

According to an unpublished [company study](#), two hours after 16 people took SeroVital, their blood hGH levels were eight times higher than two hours after they took a placebo.

But “any single measurement of hGH is pretty meaningless,” says researcher Steven Austad, of the

University of Alabama at Birmingham. “The hormone is secreted in spikes, so it could have been just chance that it was high at that one moment.”

No study has shown any benefits from taking SeroVital. More worrisome: high hGH levels may not be safe, especially for older people, who tend to have dormant cancers that the hGH could stimulate to grow. —DS

<sup>1</sup> *Nat. Commun.* 2017. doi:10.1038/ncomms14063.

<sup>2</sup> *J. Gerontol. A Biol. Sci. Med. Sci.* 70: 1097, 2015.

<sup>3</sup> *Aging* 8: 1416, 2016.

<sup>4</sup> *JAMA Intern. Med.* 176: 743, 2016.

<sup>5</sup> *Proc. Natl. Acad. Sci.* 106: 1255, 2009.

<sup>6</sup> *Int. J. Obes.* 35: 714, 2011.

<sup>7</sup> *Br. J. Nutr.* 110: 1534, 2013.

<sup>8</sup> *Sci. Transl. Med.* 2012. doi:10.1126/scitranslmed.3003293.

<sup>9</sup> *Neurobiol. Dis.* 26: 212, 2007.

<sup>10</sup> *Cell Metab.* 22: 86, 2015.

# Tracking Telomeres

Short telomeres are bad. Can you lengthen yours?

BY DAVID SCHARDT

**I**f you want to live longer, take good care of your telomeres,” the *Washington Post* [told readers](#) earlier this year.

“The answer to long life may not be any magical ‘Fountain of Youth,’ but it may be hidden in your telomeres,” says [swansonvitamins.com](#).

Huh?

Telomeres are the caps that protect the ends of our 23 pairs of chromosomes—the twisted strands of DNA in the nucleus of each of our cells.

Every time a cell divides to reproduce, its telomeres get shorter. As *Scientific American* put it in 2009, “When they get short enough, our cells no longer divide and our body stops making those cells.” Over time, “this leads to aging and death,” the magazine noted.

“People with shorter telomeres have a higher risk of pulmonary fibrosis and aplastic anemia, and, if they’re smokers, they may be prone to emphysema,” says Mary Armanios, who treats patients with abnormally short telomeres at the Johns Hopkins Sidney Kimmel Comprehensive Cancer Center in Baltimore.<sup>1</sup>

But having very long telomeres comes with its own problems. They’re linked to a greater risk of melanoma and lung

cancer and some types of leukemia and brain tumors.<sup>2</sup>

What’s a good length? “Most of us are in the middle range, which is the best place to be,” says Armanios.

That’s good, because no rigorous tests have ever shown that any drug, supplement, or lifestyle change can lengthen telomeres, says Armanios. In other words, there’s no good evidence for pills like Swanson Telomere Advantage Cellular Longevity Formula (\$15.99 for a two-month supply). Or for a Mediterranean diet. Or for meditation or yoga.

The length of our telomeres is largely inherited from our parents, notes Armanios. And since few people have very long or very short telomeres, telomeres aren’t good at predicting how long most of us will live.

That may explain the results of a study that compared how well 20 risk factors could predict which of more than 4,500 middle-aged adults would die during the next five years.<sup>3</sup> The risk factors included smoking, blood pressure, diabetes, body weight, and exercise habits.

Telomere length was one of the least useful predictors. In fact, it was little better than flipping a coin, the researchers noted.



Illustration showing telomeres (yellow) at the ends of a chromosome.

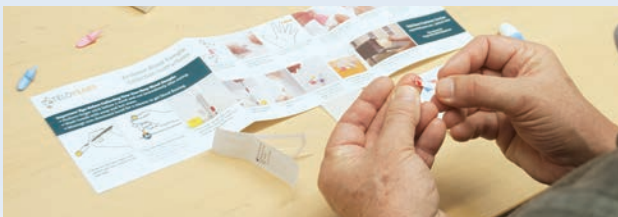
“As a physician,” says Armanios, “it makes me sad that people worry about and spend money trying to lengthen their telomeres, when we know that a healthy lifestyle—including a healthy diet and exercise—has definitively been linked to slowing the effects of aging.”

<sup>1</sup>[Circ. Cardiovasc. Genet. 8: 82, 2015.](#)

<sup>2</sup>[Int. J. Epidemiol. 45: 1634, 2016.](#)

<sup>3</sup>[PloS One 11: 0152486, 2016.](#)

## A little blood, a cheek swab, and a check



Telomere-measuring kits may not be reliable.

Curious about how long *your* telomeres are?

Just mail a sample of your cells to California-based TeloYears (“Control how well you’re aging. And improve it!”). The company’s pin-prick blood test costs \$89.

Or send a cheek swab (and \$150) to Titanovo, a New York crowd-funded startup that will give you “a measure of cellular health and longevity.”

Earlier this year, I tried both.

About six weeks after I sent off my samples, the companies reported back. Both told me that my telomeres were much longer than those of the average person my age. According to Titanovo, my “telomere-based biological age” is 55. According to TeloYears, it’s 41.

Since my chronological age is 69, I guess that’s good news, although Titanovo cautioned that my telomeres might be too long.

But it’s not clear that the tests produce accurate results.

“The laboratory method that companies like these employ is the easiest to use, but the least reliable,” says telomere expert Mary Armanios.

The tests apparently *do* produce customers, though. Titanovo invited me to buy more testing (and “DNA lifestyle coaching”). TeloYears encouraged me to exercise, eat a Mediterranean diet, and have the company—for a price—measure my telomeres periodically. 🍌

# Vitamin D, Calcium, & Cancer



**D**oes vitamin D (plus calcium) lower the risk of cancer, as an earlier study reported? No, says a new trial, but questions remain.

Researchers randomly assigned roughly 2,300 postmenopausal women to take either vitamin D (2,000 IU a day) plus calcium (1,500 mg a day) or a placebo.

After four years, the supplement takers did not have a significantly lower risk of cancer than the placebo takers.

The authors did find that women who were diagnosed with cancer during the study had lower vitamin D levels than those who were not. But that observation can't prove cause and effect, because something else about women with low vitamin D might explain their higher risk. For example, they might exercise less outdoors (which could limit their ability to make vitamin D from sunlight). Getting less exercise could increase the risk of some cancers.

**What to do:** Until larger studies (now in progress) report in, shoot for the recommended daily intake of vitamin D (600 IU up to age 70 and 800 IU if you're older; you'll need a supplement) and calcium (1,000 to 1,200 mg from food and supplements combined). And get your vitamin D level checked to make sure that it's at least 30 ng/mL.

[JAMA 317: 1217, 1234, 2017.](#)

## Curb Carbs at Dinner

**A** carbohydrate-rich dinner may be worse for blood sugar levels than a carb-rich breakfast or lunch.

Researchers studied 29 men who had either normal blood sugar levels or prediabetes. Most were overweight, but none were obese. For one month each, the men ate either:

- carb-rich meals early (by 1:30 pm) and fat-rich meals late (4:30 to 10 pm) or
- fat-rich meals early and carb-rich meals late.

Among those who had prediabetes, blood sugar levels, measured throughout the day, were 8 percent higher after a month of eating the carb-rich meals later in the day than after a month of eating them earlier.

As expected, a high-carb test meal raised blood sugar levels more than a high-fat test meal. However, both test



A lower-carb dinner: better for blood sugar.

meals raised blood sugar levels more when they were eaten later, rather than earlier, in the day. In other words, glucose tolerance—the body's ability to handle carbs—gets worse as the day progresses.

**What to do:** Shrink servings of pasta, pizza, potatoes, rice, and bread at dinner.

[Sci. Rep. 2017. doi:10.1038/srep44170.](#)

## Resist Diabetes

**S**trength training may help make prediabetes disappear.

The Resist Diabetes trial enrolled 159 sedentary overweight or obese adults with prediabetes in a strength-training program for three months. Twice a week, they did 12 supervised exercises (like leg presses, chest presses, and abdominal crunches) for 8 to 12 repetitions each.

Then each participant was given one of two different levels of encouragement for six months, followed by six more months when they were on their own.

After the 15 months, 30 percent of the participants no longer had prediabetes. It made no difference whether they received more or less encouragement.

Although the volunteers didn't lose weight, their waistlines did shrink. And those who gained the most muscle were the most likely to reverse their prediabetes.

**What to do:** If you're not doing strength training, get started. People lose muscle as they age. Building strength is the best way to stop or reverse that loss, whether or not you have prediabetes.

[PLoS ONE 2017. doi:10.1371/journal.pone.0172610.](#)

## DHA for Premies?

**P**remature babies are at risk for bronchopulmonary dysplasia, an inflammation of the lungs that can lead to long-term lung and developmental problems. Could DHA, one of the omega-3 fats in fish oil, curb the danger, as some studies have suggested?

Australian researchers randomly assigned 1,273 infants born at least 11 weeks premature to get either DHA or a placebo delivered with their formula via a feeding tube for roughly 2 or 3 months.

Babies who got DHA were 13 percent more likely to have bronchopulmonary dysplasia than those who got the placebo.

**What to do:** Wait for solid studies—like this one—before deciding whether there's anything behind claims for omega-3s (or any other supplement). 🍷

[N. Engl. J. Med. 376: 1245, 2017.](#)



# Gut Check

BY CAITLIN DOW

Gas. Indigestion. Cramps. Irritable bowel syndrome. You name it. If you've got a "gut issue," there's some supplement or diet out there just itching to help. Are any of them worth trying?

## 1 Beano

"Flatus remains an important problem for those who suffer from it and even more so for those around them," wrote the authors of one [study](#). "It is an occupational problem of considerable proportion among submariners, miners, astronauts, and elevator operators."

Enter Beano. The over-the-counter pills contain alpha-galactosidase, an enzyme that breaks down indigestible carbohydrates in beans, whole grains, and some fruits and vegetables.

But before you consider a job below ground, in space, or at sea, consider the evidence.

Only two small studies have tested Beano's gas-busting claims in adults. In one, 19 people reported fewer "flatus events" for six hours after eating bean

chili when they got Beano (the authors didn't say how much) than when they got a placebo. However, Beano didn't seem to help those who said they typically had "problems with gas after eating beans."<sup>1</sup>

The other study gave eight adults a bean-heavy meal on three days: once with a placebo, once with 300 units of Beano (the recommended dose), and once with 1,200 units. Only those who got 1,200 units reported fewer flatus events over the next eight hours.<sup>2</sup>

But in a recent (industry-funded) Finnish study, Beano failed to help with symptoms of irritable bowel syndrome. People with IBS who took 1,200 units with every meal for 12 weeks reported no greater relief than placebo takers.<sup>3</sup>

**Bottom Line:** There's too little evidence to know if Beano curbs gas.

<sup>1</sup> [J. Fam. Pract. 39: 441, 1994.](#)

<sup>2</sup> [Dig. Dis. Sci. 52: 78, 2007.](#)

<sup>3</sup> [Scand. J. Gastroenterol. 51: 16, 2016.](#)

## 2 FODMAP Diet

People with irritable bowel syndrome have hypersensitive guts that react to certain foods or medications or to stress and anxiety.

It can be debilitating. "IBS often comes with bloating, pain, and diarrhea or constipation or a mix of both," says Shanti Eswaran, a gastroenterologist and assistant professor of medicine at the Uni-

versity of Michigan Medical Center.

Doctors don't know what causes IBS, which affects an estimated 10 to 15 percent of U.S. adults. They even have trouble diagnosing it.

"There's no specific test, imaging, blood marker, or endoscopy that doctors use," explains Eswaran. "It's diagnosed based on symptoms."

And doctors don't have a great way to treat IBS. "The focus has been on medications that reduce gut spasm, antidepressants that decrease gut sensitivity, laxatives for people with constipation, or anti-diarrheals if that's an issue," says Eswaran.

"But medications don't work in many patients, or patients suffer side effects from them."

What about avoiding foods that trigger symptoms?

Researchers have zeroed in on one potential culprit: FODMAPs (fermentable oligosaccharides, disaccharides, monosaccharides, and polyols).

"They're small carbohydrates that are poorly absorbed in the gut," Eswaran explains.

FODMAPs that aren't absorbed are eventually fermented by gut microbes.

"Everyone's gut microbes ferment FODMAPs," says Eswaran. "But people with IBS, we think, are more sensitive to FODMAPs. And that can lead to excess gas, bloating, and diarrhea."

FODMAPs are in all kinds of foods, from milk, yogurt, and soft cheeses to beans, lentils, and wheat. They're also in some fruits and vegetables like apples, watermelon, cauliflower, broccoli, onions, garlic, peaches, prunes, and asparagus. Sugar alcohols (xylitol, sorbitol, mannitol, and maltitol) and



No harm in trying Beano, but there's not much evidence.



Avoiding FODMAPs might help relieve some IBS symptoms.

inulin (chicory root) are also FODMAPs.

Since FODMAPs are in many healthy foods, researchers don't recommend cutting all FODMAPs for very long.

"We recommend a short-term elimination diet," says Eswaran. "We usually tell people to cut out all FODMAPS for two to four weeks, under the instruction of a dietitian. If they improve, they systematically add back different groups of FODMAPs to determine what their specific triggers are."

And that varies. "For example, some people will say, 'I do fine with wheat and beans, but dairy and onions are an issue,'" says Eswaran.

In a handful of studies, people who cut back on FODMAPs reported fewer IBS symptoms.<sup>1,2</sup> In the largest one, Eswaran and her colleagues compared a low FODMAP diet to standard advice for IBS in 84 patients.<sup>3</sup>

"We told the standard-advice group to avoid trigger foods—the ones they know cause symptoms," she explains. "We also told them to avoid large amounts of alcohol and caffeine and to eat small, frequent meals and eat on a regular basis."

After four weeks, about half the people on each diet reported "adequate relief." But abdominal pain and bloating were lower in those on the low FODMAP diet.

**Bottom Line:** A low FODMAP diet may help relieve IBS symptoms. If you want to try it, a good starting point is this University of Michigan website: [myginutrition.com/diet.html](http://myginutrition.com/diet.html).

<sup>1</sup> *J. Nutr.* 142: 1510, 2012.

<sup>2</sup> *Gastroenterology* 149: 1399, 2015.

<sup>3</sup> *Am. J. Gastroenterol.* 111: 1824, 2016.

### 3 Gluten Clipper

"Before Gluten Cutter I would have done ANYTHING to eat gluten again! Now all I have to do is take a pill," announces "Linda" on [glutencutter.com](http://glutencutter.com).

"Gluten is a really tough plant protein," notes Daniel Leffler, director of clinical research at the Celiac Center at Beth Israel Deaconess Medical Center in Boston.

"A variety of enzymes in the stomach are responsible for chopping up proteins, but they don't work on gluten."

That allows long fragments of undigested gluten to leave the stomach and enter the small intestine. Most people can tolerate those fragments. But not those with celiac disease.

"Their immune system mistakes gluten for a dangerous foreign protein, and attacks it the way it would attack bacteria or a virus," explains Leffler. "That damages the intestine, and causes abdominal pain and diarrhea and so on."

The only option for people with celiac: a lifetime of avoiding gluten...if they *can*.

"We think that a lot of people with celiac disease never fully heal," says Leffler. "It's not that they aren't doing their very best to be as gluten-free as can be. It's just that there's no such thing as being completely gluten-free in our environment."

That's why researchers are looking for an enzyme that can break down the small amounts of gluten that people with celiac disease are inevitably exposed to.

"While it has to be able to snip gluten in a test tube," says Leffler, "it also has to digest gluten in the stomach in the presence of acid and other foods. And it has to digest gluten quickly, before it can leave the stomach and

enter the small intestine. It's a very high bar."

High, indeed. In an industry-funded study, five "gluten-digesting" supplements—they went unnamed—couldn't even pass the test-tube snip test.<sup>1</sup>

What about brands that add Tolerase G, an enzyme that seemed promising in test tubes and in people without celiac disease?

The only study in people with celiac was useless because study participants had no symptoms after taking either Tolerase G or a placebo.<sup>2</sup>

Of course, weak evidence hasn't stopped supplements from using names—like Gluten Cutter, Gluten Rid, Gluten Digest, GlutnGo, Gluten Block, or Gluten Free-er—that *sound* like they help.

"I worry that they provide a false sense of security," says Leffler. "People who take them may think they can be less careful with their diet, and that can do significant harm in the long run."

Leffler, who is working with a company on a new enzyme, is optimistic.

"The idea makes so much sense therapeutically," he notes. "The right enzyme and the right formulation could be effective."

Just don't expect to find that right enzyme and right formulation on your drugstore shelves anytime soon.

**Bottom Line:** "There's no good evidence that the currently available enzymes can protect people with celiac disease from even small amounts of gluten," says Leffler.

<sup>1</sup> *PLoS One* 10: e0128065, 2015.

<sup>2</sup> *World J. Gastroenterol.* 19: 5837, 2013.



The only test of Tolerase G in people with celiac disease was useless.





Don't count on activated charcoal pills to relieve gas.

## 4 Activated Charcoal

"Charcoal capsules may well be one of the best emergency flatulence remedies available," touts FlatulenceCures.com.

Is that just...um...hot air?

In a poorly designed study, people who took activated charcoal capsules reported fewer "flatus events" after eating a bean meal than those who got a placebo.<sup>1</sup>

But in a better study, activated charcoal capsules worked no better than dummy capsules.<sup>2</sup>

That makes sense to study co-author Michael Levitt.

"Activated charcoal doesn't bind hydrogen and carbon dioxide—the two major gases," explains Levitt, a gastroenterologist and professor of medicine at the Minneapolis VA Medical Center. "So there's no reason to think that activated charcoal would reduce their volume."

Maybe not volume, but what about odor? A tiny fraction of intestinal gas contains sulfur. And it doesn't take much sulfur to get peoples' attention.

In test tube studies, activated charcoal binds sulfur gases.<sup>3</sup> But it's a long way from a test tube to the business end of a bowel.

When Levitt gave five people activated charcoal capsules to take at breakfast, lunch, dinner, and bedtime for a week, the volunteers reported no change in "flatus malodor."<sup>3</sup> Nor did Levitt find more—or more odiferous—gas released from their fecal samples.

Why did activated charcoal bomb? Simple. "When it gets wet, it can't absorb gases very well," Levitt explains. "And it gets really wet in the intestine."

But there's still hope.

"Activated charcoal seems to do a really good job of trapping gaseous odors once they're outside the body," says Julie Furne, a health science specialist at the Minneapolis VA who has co-authored dozens of papers with Levitt.

"Cushions lined with activated charcoal work, as long as your flatus goes directly into the cushion," she says, laughing.

(That means that products like Shreddies underpants might help. They "feature an activated carbon lining that absorbs all flatulence odours," as myshreddies.com puts it.)

Just don't expect any groundbreaking discoveries anytime soon. The last experiment Levitt—or anyone—published on the subject was in 2005.

"I haven't thought about it since," he says.

**Bottom Line:** Don't count on activated charcoal capsules to get rid of gas. But since charcoal does bind pretty much everything else, taking it could impair your ability to absorb medicines, vitamins, or minerals.

<sup>1</sup> *Am. J. Gastroenterol.* 75: 192, 1981.

<sup>2</sup> *Gastroenterol.* 88: 620, 1985.

<sup>3</sup> *Am. J. Gastroenterol.* 94: 208, 1999.

## 5 Peppermint Oil

Suffer from indigestion or cramps? Try Heather's Tummy Tamers. Or Digestive Support. Or Oil of Peppermint (its promise: "intense bowel soothing").

"Peppermint oil reduces abdominal pain by targeting specific pain receptors," says Adrian Masclee, a professor

of gastroenterology and hepatology at the Maastricht University Medical Center in the Netherlands. "It also seems to act as a muscle relaxant."

But Masclee is skeptical that it helps people with indigestion, as one industry-funded study reported.<sup>1</sup> That's because the study used enteric-coated capsules, which don't release the oil in the stomach, where indigestion strikes.

"If you encapsulate the peppermint oil, it will only be released in the small bowel," he explains.

Masclee doesn't recommend *uncoated* peppermint oil capsules, either.

"Because peppermint oil has a muscle-relaxing effect, it may reduce the tone of the sphincter between the stomach and esophagus," he says. "That can cause reflux in some people."

More promising: a handful of randomized trials—most of them small, short, and sponsored by supplement makers—hint that enteric-coated peppermint oil may reduce pain and discomfort in people with IBS.<sup>2</sup>

Masclee and his colleagues are



Peppermint oil & IBS: promising...but far from proven.

enrolling people with IBS in a larger and longer study funded by the Dutch government. He expects results by 2019.

**Bottom Line:** The jury is still out on whether peppermint oil capsules work. If you want to try them, use enteric-coated capsules to avoid reflux. 🍋

<sup>1</sup> *Aliment. Pharmacol. Ther.* 14: 1671, 2000.

<sup>2</sup> *Am. J. Gastroenterol.* 109: S2, 2014.

# Must-Have Salads



BY KATE SHERWOOD

I can't get enough of these two very different salads. Want one for supper? Just add grilled or roasted chicken. 🍗

Got a question or suggestion? Write to Kate at [healthycook@cspinet.org](mailto:healthycook@cspinet.org).



## Kale & Quinoa Salad

- 2 Tbs. lemon juice
- 2 Tbs. mayonnaise
- 2 Tbs. extra-virgin olive oil
- 1 Tbs. dijon mustard
- ¼ tsp. kosher salt
- 5 cups thinly sliced Tuscan or regular kale
- 2 cups cooked warm quinoa
- ¼ cup chopped smoked almonds

1. *Make the dressing:* In a large bowl, whisk together the lemon juice, mayonnaise, oil, mustard, and salt.
2. Thoroughly toss the kale with the dressing.
3. Toss the quinoa with the dressed kale, and sprinkle with the almonds.

Serves 4 

Per serving (1½ cups): calories 280 | total fat 19 g | sat fat 2.5 g | carbs 24 g | fiber 4 g | protein 7 g | sodium 310 mg



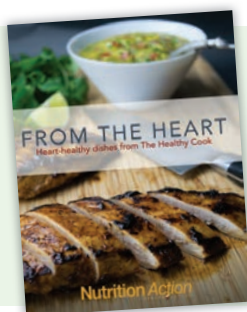
## Strawberry & Arugula Salad

- 1 Tbs. white balsamic or red wine vinegar
- ½ tsp. honey
- ¼ tsp. kosher salt
- 1 Tbs. extra-virgin olive oil
- 4 cups arugula
- ¼ cup basil leaves, chopped
- ½ avocado, chopped
- 1 cup sliced strawberries
- 4 radishes, thinly sliced

1. *Make the dressing:* In a large bowl, whisk together the vinegar, honey, salt, and oil.
2. Toss the arugula, basil, and avocado with the dressing, and top with the strawberries and radishes.

Serves 2 

Per serving (2 cups): calories 170 | total fat 13 g | sat fat 1.5 g | carbs 14 g | fiber 5 g | protein 3 g | sodium 260 mg



## From the Heart

Looking for heart-healthy recipes that are quick and delicious? Kate Sherwood, The Healthy Cook, delivers, with this collection of dishes that help you follow the top-rated DASH diet.

Visit [NutritionAction.com/FromTheHeart](http://NutritionAction.com/FromTheHeart) or send a check for \$12 (shipping included) with your name & address to CSPI—From the Heart, Suite 300, 1220 L St. NW, Washington DC 20005.



# The Fruit Case

5 reasons to eat more

BY LINDSAY MOYER & BONNIE LIEBMAN

**W**e take fruit for granted. Ads entice us to pick up some soda, chips, or other junk (or pseudo-health) food. When was the last time you saw a commercial for watermelon? Here are five reasons to reach for a peach...or a plum, pear, pineapple, persimmon, pomegranate, papaya...

*The information for this article was compiled by Jennifer Urban.*

## 1. It's nutrient rich.

Fruit is famous for its vitamin C, but you can also expect a decent dose of carotenoids (watermelon), folate (mango), potassium (bananas), and fiber (raspberries), for example. Some even supply some vitamin K (kiwi), calcium (kumquats), iron (dried peaches), or magnesium (blackberries), to name a few.

If your aim is to get the most nutrient-bang for your buck, check our fruit scores on p. 14. But don't feel like you have to fill your fruit bowl with nothing but guava. All fruit is good fruit. And it may turn out that flavonoids or some other phytochemicals in fruit matter more than the nutrients in our scores.

## 2. It isn't calorie dense.

Most fruit is fairly low in calories per bite. That's because it's typically about 85 percent water. (Exception: raisins and other dried fruits have less water...and more calories.)

And it's not just fewer calories per bite that makes fruit fill you up (but not out). The intact structure of plant cells also seems to matter. People feel more full after eating an apple than after eating applesauce or drinking apple juice, even if the apple juice has enough added fiber to match the fiber in the apple.<sup>1</sup>

## 3. It protects the heart & brain.

The DASH (Dietary Approaches to Stop Hypertension) diet can lower systolic blood pressure by 8 to 14 points—as much as some drugs. And fruit is a

key building block of DASH, which has about five servings of fruit per day. (Relax. The servings are small: just one piece or ½ cup.)

Why does fruit matter? It's not entirely clear, but fruit is typically a reliable source of blood-pressure-lowering potassium.

What's more, studies that track thousands of people for years find that those who eat more fruit have a lower risk of heart attack and stroke.<sup>2,3</sup>

And who knows. A luscious bowl of berries every day might help keep your brain sharp as you age.<sup>4</sup>

Talk about a win-win.

## 4. It's convenient.

How many other foods require zero prep? At most, you might have to do a quick wash, pull off a peel, or cut some slices or chunks. But few foods are so convenient. Bonus: fruit is portable and—if it's whole—typically needs no refrigeration.

And it's not just a terrific snack. Tired of the usual veggies in your green salad? Add some sliced apple, grapes, strawberries, or other fruit instead.

## 5. It can be cheap.

Yes, you can pay \$6 for a pound of imported cherries in January. But fresh fruit is fairly inexpensive in season. And some fruit—like bananas and most frozen fruit—is cheap all year long.

<sup>1</sup> *Appetite* 52: 416, 2009.

<sup>2</sup> *Am. J. Clin. Nutr.* 98: 1514, 2013.

<sup>3</sup> *Stroke* 45: 1613, 2014.

<sup>4</sup> *Ann. Neurol.* 72: 135, 2012.

## Getting Clean

If you're worried about pesticides, consider buying organic if a fruit doesn't have a rind or inedible peel. If you go beyond that and buy organic bananas or cantaloupes or oranges, think of it as a present to the planet and to farmworkers.

Just keep in mind that if it's a choice between eating fruit grown with pesticides and not eating fruit, you're far better off eating the fruit.

A few examples:

Organic for you & the planet
Apples
Blackberries
Blueberries
Cherries
Grapes
Nectarines
Peaches
Pears
Plums
Raspberries
Strawberries

Organic for the planet
Bananas
Cantaloupe
Grapefruit
Honeydew melon
Mango
Oranges
Papaya
Pineapple
Pomegranate
Tangerines
Watermelon





# Fruit for All

We calculated a score for each fruit by adding up its percentage of the recommended daily intake for seven nutrients plus fiber and carotenoids. (We used the Food and Drug Administration’s updated Daily Value, or DV, which will appear on food labels by mid-2018, for all but two. For calcium, we used the recommended intake for older adults. For carotenoids, which has no DV, we devised our own recommended intake from available research.)

For example, a quarter of a cantaloupe has 47% of our daily target for carotenoids (47 points) and 4% of the DV for fiber (4 points), plus 56% of the DV for vitamin C, 8% for potassium, 7% for folate, 3% for vitamin K, 2% for iron, 4% for magnesium, and 1% of the recommended intake for calcium. That gives it a score of 132 points. The chart doesn’t show vitamin K, calcium, iron, or magnesium numbers because they’re generally low for most fruits.

The serving sizes in our chart are based on the government’s food-labeling rules, but they’re not set in stone. A bigger serving will boost the score (and the calories).

## KEY

Percentage of the recommended daily intake:

- ⊕ 20% or more
- ⊕ 15%-19%
- ⊕ 10%-14%
- ⊕ 5%-9%
- ⊕ less than 5%

Fruit	Score	Carotenoids	Vitamin C	Potassium	Folate	Fiber	Calories
Guava (3)	657	⊕	⊕	⊕	⊕	⊕	110
Watermelon (2 cups)	302	⊕	⊕	⊕	⊕	⊕	90
Kiwi (2)	236	⊕	⊕	⊕	⊕	⊕	80
Papaya (1 cup)	208	⊕	⊕	⊕	⊕	⊕	60
Lychees (15)	139	⊕	⊕	⊕	⊕	⊕	100
Kumquats (7)	137	⊕	⊕	⊕	⊕	⊕	90
Mango (½)	135	⊕	⊕	⊕	⊕	⊕	100
Cantaloupe (¼)	132	⊕	⊕	⊕	⊕	⊕	45
Strawberries (8)	132	⊕	⊕	⊕	⊕	⊕	45
Persimmon (1)	129	⊕	⊕	⊕	⊕	⊕	120
Raspberries (1¼ cups)	125	⊕	⊕	⊕	⊕	⊕	80
Blackberries (1 cup)	121	⊕	⊕	⊕	⊕	⊕	60
Orange (1)	118	⊕	⊕	⊕	⊕	⊕	60
Grapefruit, pink or red (½)	107	⊕	⊕	⊕	⊕	⊕	50
Pineapple (¾ cup)	90	⊕	⊕	⊕	⊕	⊕	60
Pomegranate (½)	83	⊕	⊕	⊕	⊕	⊕	120
Apricots (4)	80	⊕	⊕	⊕	⊕	⊕	70
Tangerine (1)	77	⊕	⊕	⊕	⊕	⊕	60
Star fruit (1)	74	⊕	⊕	⊕	⊕	⊕	40
Blueberries (1 cup)	65	⊕	⊕	⊕	⊕	⊕	80
Grapefruit, white (½)	61	⊕	⊕	⊕	⊕	⊕	40
Rhubarb, cooked with sugar (½ cup)	60	⊕	⊕	⊕	⊕	⊕	140
Banana (1)	58	⊕	⊕	⊕	⊕	⊕	120

	Score	Carotenoids	Vitamin C	Potassium	Folate	Fiber	Calories
Peaches, dried (3 halves)	54	⊕	⊕	⊕	⊕	⊕	90
Honeydew melon (¾ cup)	50	⊕	⊕	⊕	⊕	⊕	45
Figs (3)	48	⊕	⊕	⊕	⊕	⊕	110
Apricots, dried (11 halves)	47	⊕	⊕	⊕	⊕	⊕	90
Prunes (4)	47	⊕	⊕	⊕	⊕	⊕	90
Grapes (1 cup)	45	⊕	⊕	⊕	⊕	⊕	100
Nectarine (1)	44	⊕	⊕	⊕	⊕	⊕	60
Peach (1)	44	⊕	⊕	⊕	⊕	⊕	60
Plums (2)	44	⊕	⊕	⊕	⊕	⊕	60
Cherries (1 cup)	44	⊕	⊕	⊕	⊕	⊕	90
Pear (1)	42	⊕	⊕	⊕	⊕	⊕	80
Figs, dried (¼ cup)	39	⊕	⊕	⊕	⊕	⊕	90
Apple (1)	34	⊕	⊕	⊕	⊕	⊕	80
Currants, dried (¼ cup)	34	⊕	⊕	⊕	⊕	⊕	100
Peaches, canned (½ cup)	29	⊕	⊕	⊕	⊕	⊕	60
Pineapple, canned (½ cup)	29	⊕	⊕	⊕	⊕	⊕	80
Dates, dried (6)	29	⊕	⊕	⊕	⊕	⊕	120
Fruit cocktail, canned (½ cup)	24	⊕	⊕	⊕	⊕	⊕	60
Raisins (¼ cup)	24	⊕	⊕	⊕	⊕	⊕	120
Cranberries (½ cup)	20	⊕	⊕	⊕	⊕	⊕	25
Pears, canned (½ cup)	18	⊕	⊕	⊕	⊕	⊕	60
Applesauce, unsweetened (½ cup)	14	⊕	⊕	⊕	⊕	⊕	50
Cranberries, dried (¼ cup)	13	⊕	⊕	⊕	⊕	⊕	120

## Recommended Daily Intakes

- Carotenoids: 6,000 mcg<sup>1</sup>
- Vitamin C: 90 mg
- Potassium: 4,700 mg
- Folate: 400 mcg
- Vitamin K: 120 mcg
- Fiber: 28 g
- Calcium: 1,200 mg
- Iron: 18 mg
- Magnesium: 420 mg

<sup>1</sup> Estimate based on available research.

Source: U.S. Department of Agriculture National Nutrient Database for Standard Reference, Release 28.

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# Pick Your Own

FRUIT	WHAT TO SHOP FOR	HOW TO STORE	TIPS
<b>Apples</b>	Well-colored, firm fruit with a pleasant smell.	In the fridge in a plastic bag for up to 3 weeks.	Don't skip the skin. It contains about half the apple's fiber.
<b>Apricots</b>	Uniform golden-orange, plump fruit. When ripe they yield to gentle pressure.	At room temperature until ripe. Then in the fridge in a plastic bag for 3-5 days.	Avoid soft, pale, or greenish-yellow fruit.
<b>Bananas</b>	Bright, firm fruit with slight green color on the stem and tip.	At room temperature until ripe.	They lose flavor and the skins turn black if you store them in the fridge.
<b>Blueberries Raspberries Strawberries</b>	Bright, plump berries with good, uniform color and dry, clean appearance.	In the fridge in the container they were sold in for 10-14 days (blueberries) or 1-3 days (others).	To prevent berries from getting soft and moldy, don't wash them until you're ready to serve.
<b>Cantaloupe Honeydew melon</b>	Melons with a strong aroma that are heavy for their size. The stem end should have a smooth, round, depressed scar that yields to gentle pressure.	At room temperature until ripe. Then in the fridge cut and in a container or whole for up to 5 days (cantaloupe) or 2 weeks (honeydew).	A ripe cantaloupe has a yellowish cast to its rind. It's harder to tell when honeydew melons are ripe. Look for a creamy yellow color.
<b>Cherries</b>	Firm, plump fruit with a bright red to black color, smooth, glossy skin, and stems attached.	In the fridge for up to 10 days.	To prevent cherries from getting soft and moldy, don't wash them until you're ready to serve.
<b>Figs</b>	They're ripe when they're soft to the touch (but not mushy).	In the fridge in a plastic bag for up to 2 days.	The skin is edible.
<b>Grapefruit</b>	Fruit that is heavy for its size and firm yet springy to the touch, with thin skin.	At room temperature for up to 1 week or in the fridge for 2-3 weeks.	Grapefruits are picked when ripe, and are ready to eat when you buy them.
<b>Grapes</b>	Well-colored, plump fruit attached to pliable stems.	In the fridge in a plastic bag for up to 1 week.	Don't wash until ready to serve.
<b>Guava</b>	Fruit that yields to gentle pressure and is free of blemishes.	At room temperature until ripe. Then in the fridge for up to 4 days.	There's no need to peel. The rind is edible.
<b>Kiwi</b>	Plump, firm, unwrinkled fruit. When ripe, they yield to gentle pressure.	Store unripened in a plastic bag in the fridge for up to 6 weeks.	Try golden kiwis. Their skin is smoother and their yellow flesh is sweeter than green kiwis.
<b>Mango</b>	Fruit that gives slightly when squeezed gently, with a sweet aroma. Avoid fruit with sap on the skin.	At room temperature for 2-3 days. Store ripe mangos in the fridge for up to 5 days.	Color isn't a good way to tell whether a mango is ripe.
<b>Oranges Tangerines</b>	Firm, heavy fruit with bright-looking skin.	At room temperature for 1-2 days or in the fridge for 1-2 weeks.	Look for Cara Cara or blood oranges to add a pop of color to winter salads.
<b>Papaya</b>	Firm fruit with unblemished skin and yellow streaks.	At room temperature for 2-3 days until they are totally yellow or orange.	Best to eat when the skin is mostly yellow-orange.
<b>Peaches Nectarines</b>	Firm fruit with no trace of green in the skin. Should yield to gentle pressure when ripe.	At room temperature in a closed paper bag until ripe. Then at room temperature for 1-3 days.	Ripe peaches have a yellowish color with a red blush.
<b>Pears</b>	Fruit that is firm. Color at ripeness varies based on variety.	At room temperature in a closed paper bag until ripe. Store ripe pears in the fridge.	Pears are ripe when the flesh around the stem yields to gentle pressure.
<b>Pineapple</b>	Large fruit with a strong aroma, fresh and deep-green crown leaves, and a slight separation of the "eyes" on the skin.	Eat as soon as possible. Store cut fruit in the fridge for up to 3 days.	Avoid pineapples with soft or dark spots and dry-looking leaves.
<b>Plums</b>	Plump fruit that is beginning to soften. Color at ripeness varies based on variety.	Store ripe fruit in the fridge.	Avoid fruit that's soft or too hard. Don't wash until ready to serve.
<b>Pomegranate</b>	Fruit that is heavy for its size and has a bright red rind.	In a cool, dry place for 1 month or in the fridge for up to 2 months.	Some people swallow the seeds. Others spit them out.
<b>Watermelon</b>	Fruit with a rind that's slightly dull. A whole melon that's heavy for its size and symmetrical. A cut melon with deep red flesh free from white streaks.	At room temperature (whole), or in the fridge for up to 5 days (cut and in a container).	The yellower the underside, the riper the watermelon. Seedless watermelons are just as tasty as ones with seeds. 🍉

Sources: Adapted from U.S. Department of Agriculture and *Fruits & Veggies—More Matters*.



## RIGHT STUFF

### You're the Cream in My Coffee...



"Whether you use it every AM or want to occasionally enhance your cup o' joe, our creamers are the ultimate creamy, smooth, wholesome fix to routine," says the Califia Farms website.

Non-dairy "milk" creamers have been around for years. Until recently, they came down to a choice between soy and soy.

But today, where there's soy, can almond be far behind?

Our favorite: **Califia Farms**, which makes a **Better Half** line (**Original** or **Unsweetened**) and an **Almond-milk Creamer** line (**Unsweetened**, **Vanilla**, **Hazelnut**, or **Pecan Caramel**).

Califia's creamers add a touch of coconut cream to mimic the richness of dairy half and half, but with half the saturated fat (just ½ gram per tablespoon).

Better Half Original (our top pick) has less than a gram of sugar per tablespoon, while the flavored creamers have 2 grams. That keeps the calories to about 10 to 15.

Just remember: many people (not you, of course) keep pouring beyond the first tablespoon, especially with 12 oz. coffee mugs.

Can't find Califia? Try (slightly sweeter, but still delish) **Silk Vanilla Almond Creamer** (4 grams of sugar, no sat fat, and 20 calories per tablespoon).

Either way, it's nuts to you.

[califiafarms.com](http://califiafarms.com)—(844) 237-4779

Photos: Califia Farms (top left), TGI Fridays (top right), Kate Sherwood/CSPi (center).



## FOOD PORN

### Dead End(less)

"Effective immediately, guests can enjoy Fridays' most popular appetizers for just \$10 per person with endless refills and endless choices," said the February press release.

That could mean only one thing: **TGI Fridays Endless Apps** are back. "Only this time it's for good," says the TV commercial. "Endless Apps just got endlesser."

Yippee! Now you can lay down a tenner and just keep the plates of **Mozzarella Sticks**, **Loaded Potato Skins**, **BBQ Chicken Flatbread**, **Pan-Seared Pot Stickers**, **Meatballs**, **Fried Pickles**, and **Boneless Wings** coming.

Endless apps deliver, well, endless calories. But let's assume you stick to just three rounds. (Fridays' Twitter feed eggs people on to keep going.)

The potato skins, followed by the buffalo wings with blue cheese and the meatballs, will set you back 2,940 calories (about 1½ days' worth), 59 grams of saturated fat (a three-day supply), and 6,300 milligrams of sodium (enough for Monday through Thursday).

And that's not even the worst combo.

"Endless good times?" At least until your current pants size ends.

[tgifridays.com](http://tgifridays.com)—(800) 374-3297



## quick tip

To "sauté" means to cook in a shallow pan in a small amount of oil that's hot enough to make the food sizzle. If there's too much food in the pan, it will steam. You want the food to brown.