

digestion digest

The Path to...

...Digestive Health

A holistic guide to addressing common digestive upsets and improving overall wellness.



SABINSA CORPORATION

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GUT HEALTH BASICS



PROBIOTIC BENEFITS



FOODS AND RECIPES



Guide to gut health

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Plus, ask questions about the digestive health, and share your tips and recipes.



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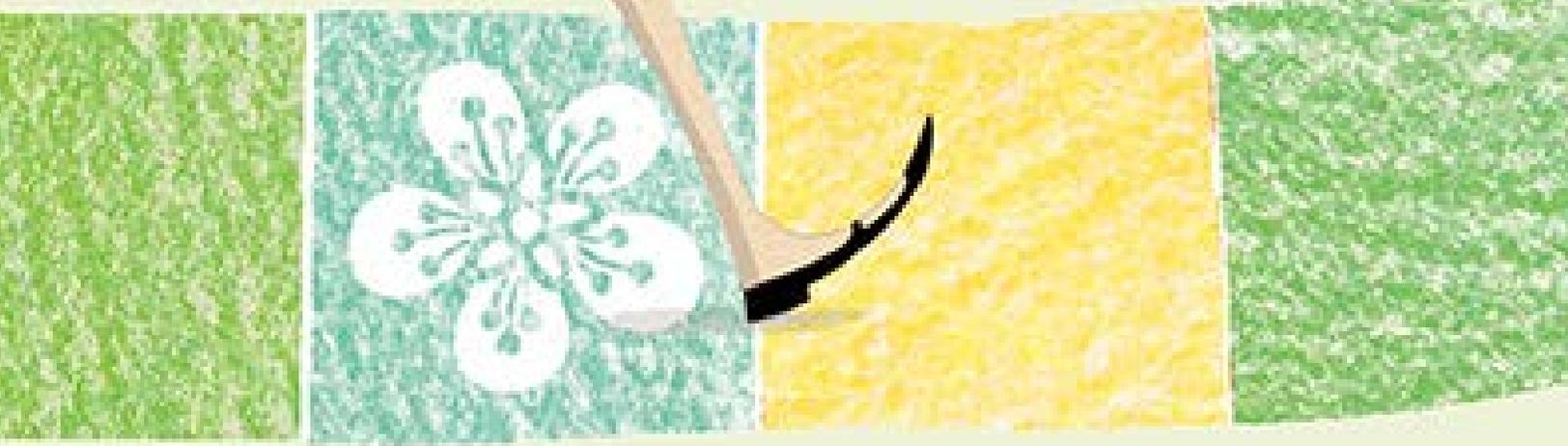


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1 in 3

number of adults
who have a
digestive disease



Guide to gut health



Belly doing flip-flops again? For most people, abdominal upset is an occasional fact of life. “It affects everyone some of the time, and some people all of the time,” says Victor Sierpina, MD, professor of family and integrative medicine at the University of Texas Medical Branch, and author of *The Healthy Gut Workbook* (New Harbinger, 2010). In fact, one in three adults has a digestive disease, such as irritable bowel syndrome (IBS), gastroesophageal reflux disease (GERD), food intolerances, or leaky gut syndrome. The rest of us have periodic bouts of heartburn, diarrhea, constipation, gas, and bloating.

To understand why tummy troubles are so common, visualize this: The gastrointestinal tract—mouth, esophagus, stomach, small and large intestines—has an absorptive surface the size of a tennis court. “It’s one of the major routes where the outside world meets the inside of our body,” says Angelica S. Vrablic, PhD, manager of nutrition research for NBTY, a dietary supplement manufacturer. It’s exposed to toxins, allergens, viruses, and bacteria, as well as food. Good thing, then, that 70 percent of immune cells are in the GI tract, ready to defend against anything that comes in. The downside to this hypervigilance is that the digestive system’s reactions to invaders—real or perceived—often cause unpleasant symptoms.

The link between aging and gut health

Aging can aggravate the situation: Declining production of stomach acid—which helps activate enzymes—tends to mean weaker digestion. Ironically, you *feel* stomach acid more as you get older. “The valve between the stomach and esophagus gets weaker and floppy,”

Curb digestive upsets and improve overall wellness, too

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Vrablic says. This lets stomach acid splash up, leading to heartburn and reflux. Proton-pump inhibitors—drugs like Prevacid and Prilosec—tend to worsen the cycle and should be taken only as a last resort. Blocking stomach-acid production relieves irritation and may give the GI tract a chance to heal, but it also allows bacterial infections to thrive (which means food doesn't get broken down as well) and may lead to more serious problems.

Digestion and well-being

Digestive issues aren't just uncomfortable—they affect your total well-being. Take IBS. Although there's no known cause for this inflammatory condition, 14 percent of the population lives with its hallmark symptoms: chronic abdominal pain, bloating, and alternating diarrhea and constipation. Or consider leaky gut syndrome. Any number of factors—stress, food allergies, heavy alcohol use, infections, medications such as antibiotics and nonsteroidal anti-inflammatory drugs like ibuprofen—can damage and inflame the gut's lining, allowing

undigested food molecules to pass directly into the bloodstream. The body can't absorb nutrients from these large molecules and the immune system begins attacking them as bloodstream invaders, stimulating inflammation and allergic reactions elsewhere in the body. "The prevalence [of leaky gut] is underestimated, and it causes or worsens many conditions," says Sierpina—especially autoimmune ones like rheumatoid arthritis, lupus, chronic fatigue, and psoriasis.

"If digestive health is not in balance, you're not going to feel well, and you may have systemic consequences," says North Carolina-based Liz Lipski, PhD, CCN, clinical nutritionist and author of *Digestive Wellness* (McGraw-Hill, 2011). "It's an opportunity to look more deeply." Read on for solutions to common digestive issues as well as healthy habits and supplements that can help get your digestion—and wellness—back on track. Keep in mind that digestive symptoms are similar for many conditions and can also indicate something more serious; consult your health care provider if symptoms persist and before taking any dietary supplement.



10 habits for healthy digestion

1. Don't eat before bedtime

Lying down with a full stomach can push stomach contents back toward the esophagus, resulting in reflux, Vrablic says.

2. Downsize meals

Trick yourself by using a salad plate, and eat until you feel *almost* full.

3. Chew food well

You'll activate enzymes in your mouth that help break down carbohydrates, giving stomach acids time to work and minimizing the burden on the rest of the GI tract.

4. Eat bananas

"They're soothing and have an anti-inflammatory effect on the gut," which is helpful for GERD, says Sierpina.

5. Decrease stress

Stress can spike inflammation, increase indigestion, and worsen existing digestive conditions. To reduce stress, make a point to exercise, eat a balanced diet, develop a spiritual practice, cultivate a support network, and get plenty of sleep. Try deep-belly breathing for general relaxation and to control anger and anxiety, says Sierpina.

6. Eat more fiber

"The average person gets about half as much fiber as she should," Lipski says. Aim for 25 to 30 grams daily. It encourages more regular bowel movements, keeps blood sugar more even, and acts as fuel for probiotics.

7. Adopt Mediterranean diet

Focus on anti-inflammatory, fiber-rich whole grains, fruits, and vegetables. (If raw vegetables give you trouble, cook them before eating.) Choose lean proteins and healthy fats, including cold-water fish, like salmon. Eat red meat infrequently, if at all.



8. Eat mindfully

"When we say grace, it stops us and says, 'I'm here eating, and I'm thankful for this moment,'" and also helps lower heart rate, blood pressure, and stress levels, Lipski says. Notice the color, the aroma, and the texture of each bite before placing it in your mouth, Sierpina recommends. Try this for one meal a day, until it becomes habitual.

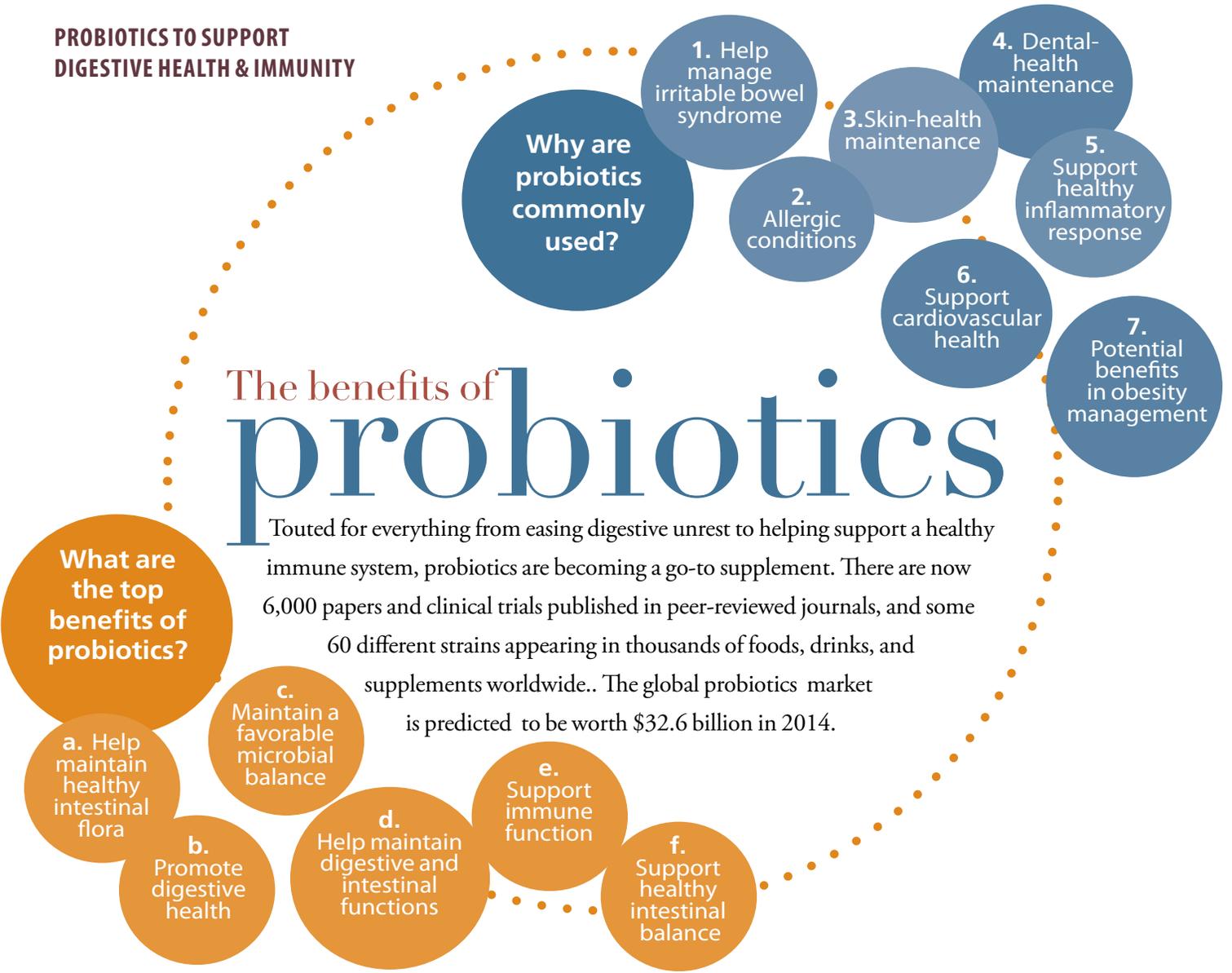
9. Take probiotics

Probiotics are critical in maintaining healthy intestinal flora, which can strengthen immune response and alleviate many symptoms associated with a range of digestive conditions.

10. Try an elimination diet

If you think you have a food sensitivity, keep a food diary for at least three days, recording everything you eat and any effects you notice. Symptoms may come on rapidly, or may not manifest for up to 12 hours. Once you've identified the likely food culprits, eliminate them for two to three weeks, Sierpina suggests. If symptoms improve, gradually add the foods back in. Eat the test foods twice a day, he says. For more elimination-diet tips, go to deliciousliving.com.

PROBIOTICS TO SUPPORT DIGESTIVE HEALTH & IMMUNITY



Why probiotics?

Probiotics, often referred to as “friendly bacteria,” are critical in maintaining healthy intestinal flora, which can support a healthy immune response and alleviate symptoms associated with a range of digestive conditions.

How do probiotics work?

Research has shown that probiotics have many health benefits, thanks to helping to produce lactic acid and antibiotic-like substances called bacteriocins that suppress the growth of potentially harmful microorganisms in the gastrointestinal tract. Probiotics in the gastrointestinal tract can help people suffering from impaired digestion due to lack or dysfunction of the inherent digestive enzymes by pre-digesting ingested food components.

Probiotics also help with the production of vitamin B and improve the bioavailability of minerals and other nutrients. Because digestion is so key to overall health, probiotics are linked to healthy immune-system support.

Choice of probiotics

One common concern about probiotics is that they are not stable enough to endure processing, transportation, and time sitting on retailers’ shelves.

So the choice of the probiotics is very important. Spore-forming bacteria have the unique ability to form a protective covering on themselves, which can make them more tolerant to storage conditions and even work better in the gut because of their resistance towards the acid in the stomach.

Specifically, spore-forming probiotic *Bacillus coagulans* has a long history of human consumption and has been shown to be room-temperature shelf stable, giving it a range of applications in functional foods and supplements without requiring refrigeration; additionally, they are a temporary resident of GI tract. The spores of *B. coagulans* germinate and proliferate in the GI tract and help maintain the healthy microbial flora.

In the spore forming bacteria, *Bacillus coagulans* stands apart with a better stability towards the manufacturing stresses, long shelf life at room temperature, and more probiotic benefits in the gut.

Should my kids take probiotics – and if so, when?

Probiotics can be especially helpful for children who are lactose intolerant or tend to have digestive upset. They are extremely safe, so there's nothing wrong with long-term, daily use. Probiotics also fit the bill for occasional short-term use when diarrhea hits, during the use of antibiotics (to reduce the risk of diarrhea), while traveling internationally, or in the midst of cold and flu season.

Yogurts or kefirs certainly can be good choices as well, but be sure your child eats 4 ounces per day of a product labeled with the "live & active cultures" seal, which ensures that it contained at least 100 million cultures per gram at the time of manufacture. And probiotic supplements don't contain the high sugar content of many kids' yogurts (which can contain 4 teaspoons of sugar in just 4 ounces). Excess sugar consumption suppresses the immune system.

When giving probiotic supplements to small children or babies, it's easiest to sprinkle the powder from a capsule into yogurt or another food that's not heated. Or try sugar-free chewable tablets.



About Our Sponsor

Sabinsa Corporation, founded in 1988, is a manufacturer and supplier of herbal extracts, cosmeceuticals, minerals, and specialty fine chemicals. Sabinsa's mission is to provide alternative and complementary natural products for human nutrition and well-being. Sabinsa's probiotic ingredient (*Bacillus coagulans* MTCC 5856) is sold under the branded name LactoSpore®, which has earned self-affirmed GRAS status for food products. Sabinsa has been providing the probiotic *Bacillus coagulans* for over 20 years. This strain has good stability against manufacturing stresses and delivers room temperature stable product.

The company also entered the finished product realm. It now sells three LactoSpore products under the America's Finest Inc. brand name: LactoSpore Probiotic, Gugulipid + LactoSpore, and LactoSpore chewables. These dietary supplements are sold exclusively via catalogues and the company's website.

Sabinsa makes LactoSpore in its own factories in India and ships it directly to Utah. Sabinsa even supplies the *Bacillus coagulans* as a pharmaceutical-grade probiotic to major pharma companies around the world. Hundreds of food companies are already using LactoSpore in finished products, everything from white and wheat breads in Latin America to a frozen yoghurt called Tutti Frutti.

Probiotic features of *Bacillus coagulans*

Five published clinical trials document *Bacillus coagulans*' health benefits for gas, bloating, diarrhea, regularity, and basic immune support. Two more human clinical trials are under way using Sabinsa's branded LactoSpore ingredient.

When ingested, spores of *B. coagulans* can withstand the acidic environment of the stomach. Once within the GI tract, the spores germinate and proliferate. After germination, *B. coagulans* is metabolically active as part of facultative anaerobes in the intestine, producing L(+)Lactic Acid, as a primary product of fermentation.

Nuts for guts

In addition to providing ample protein, vitamin B6 and thiamin, new research conducted at the Human Nutrition Research Center in Beltsville, Md., found that people who ate 3 ounces—a couple handfuls—of pistachios daily for 19 days had elevated levels of probiotics (good bugs) in their digestive tracts.

Specifically, pistachios promoted butyrate-producing flora—microbes believed to maintain colon health and even reduce colon cancer risk. Scientists think pistachios' abundant dietary fiber and phytochemicals may be the reasons behind these benefits.



This drink is said to purify the blood and cleanse the digestive system.

- 1 cup orange juice**
- 1 cup peeled and sliced papaya**
- 1 cup sliced strawberries**
- 1 cup water**
- Ice (to taste)**

1. Blend orange juice, papaya, and strawberries until mostly smooth. Add water and ice and blend until frothy. Serve immediately, not over ice.



Ginger is a great detoxifier and aids in digestion, and oranges contain limonene, a compound that inactivates toxins and hurries them out of the body.

- 1 tablespoon olive oil**
- 1 pinch dried red pepper flakes**
- 1 yellow onion, diced**
- 2 tablespoons minced fresh ginger**
- 4 carrots, peeled and diced**
- 2 russet potatoes, peeled and diced**
- 2 cups low-sodium vegetable broth**
- 3 cups water**
- 1 teaspoon dried thyme**
- 1 teaspoon ground cardamom**
- 1 orange (juice and zest)**
- Salt and pepper (to taste)**
- Crystallized ginger (for garnish)**

1. Set a soup pot over medium to medium-high heat for about 30 seconds. Add olive oil, red pepper flakes, onion, and ginger and quickly sauté for 2–4 minutes, or until onion is translucent. Add carrots, potatoes, broth, water, thyme, and cardamom. Bring to a boil; reduce heat and cook until carrots and potatoes are soft, 12–15 minutes.

2. Remove from heat. In batches, purée soup in a blender or food processor until smooth. Add orange juice and zest; add salt and pepper to taste. Purée again, return to stovetop, and heat through. Serve, garnished with crystallized ginger.

This soup delivers live probiotics through miso, plus valuable minerals from nori, a dried seaweed..

- 2 ounces fresh (shiitake mushrooms)**
- 1 cup water**
- 1 cup low-sodium vegetable broth**
- 1/2 cup roughly chopped red onion**
- 1/3 cup thinly sliced carrot**
- 1 cup cooked brown rice**
- 4 ounces soft tofu (cut into 1/2-inch cubes)**
- 1/2 ounce tender ramps or green garlic (or 1 green onion) (cut into small slivers)**
- 2 1/2 ounces baby spinach**
- 1/3 cup chickpea miso paste**
- 1/2 cup warm water**
- 1 ounce spicy nori (cut into strips)**

1. Remove stems from mushrooms and discard. Slice caps.

2. In a saucepan, heat 1 cup water and broth; add mushrooms, onion, carrot, cooked rice, and tofu. Bring to a low boil and cook for 5 minutes. Remove from heat. Add ramps or green garlic and spinach; stir until spinach begins to wilt.

3. Combine miso with warm water, stirring to dissolve all lumps. Add to soup and mix. Serve in large soup bowls, topped with nori strips.



FOODS & RECIPES FOR A HEALTHY GUT

Get a nutrient-packed glass of digestion soothing ingredients in this great-tasting juice.



- 3 cucumbers**
- 1 (3-inch) piece fresh ginger**
- 1 large fennel bulb and tops**
- 1/2 head of celery (4-5 stalks)**
- 1 small bunch fresh cilantro**
- 2 Granny Smith apples**
- 1-2 tablespoons fresh lime juice (juice by hand)**
- Dash of sea salt (optional)**

1. Process everything in a juicer (except lime) in the order listed. Stir in lime juice and salt. Serve.

Miso introduces enzymes and probiotics into the digestive tract—and it's delicious, making this soup an ideal start to a meal. Seaweed provides iodine and trace minerals, and tofu adds easily digested protein.

- 6 cups cold water**
- 1 6x1-inch strip kombu seaweed, broken in half**
- 3 cups shaved bonito fish flakes (about 1 ounce by weight)**
- 2 tablespoons low-sodium tamari**
- 1 tablespoon mirin**
- 1 tablespoon sake**
- 2 2 tablespoons crumbled wakame seaweed**
- 12 ounces extra-firm tofu, cut into 3/8-inch cubes**
- 1/3 cup mellow white miso**
- 4 scallions, thinly sliced**

1. Place water and kombu in a pot over low heat. When water is hot but not boiling, remove from heat and add bonito flakes. Stir briefly and let sit about 1 minute. Strain through a fine sieve into a clean pot, discarding kombu and bonito flakes. Add tamari, mirin, sake, wakame, and tofu.

1. Reheat soup to a bare simmer, stirring gently from time to time. Scoop out 1 cup broth and place in a small bowl; add miso and mix until smooth. Remove soup from heat and stir in miso mixture. Adjust seasoning by adding more tamari and mirin, as desired. Serve at once, garnished with sliced scallions.



This fragrant, tasty, and colorful dish enlivens an autumn or winter meal. Cabbage and fennel are anticarcinogenic, improve digestion, and are rich in antioxidants. Serve warm or at room temperature.

- 1 1/2 tablespoons fennel seeds**
- 2 medium fennel (with tops)**
- 2 tablespoons olive oil**
- 1 teaspoon sea salt (plus more to taste)**
- 6 cups (about 1/2 medium head) red cabbage, sliced into 1/4-inch strips**
- 3/4 cup water**
- 2 tablespoons apple cider vinegar**
- 1 tablespoon mirin**

1. In a heavy saucepan over medium heat, toast fennel seeds until fragrant, about 2 minutes. Transfer seeds to a clean coffee mill; grind to a powder. Set aside.

2. Trim top and bottom of fennel; reserve fronds in a bowl of cold water for later use. Core fennel; slice bulbs into 1/4-inch slices..

3. In a deep, wide sauté pan over medium heat, warm the oil; add sliced fennel and salt. Sauté 10 minutes, or until fennel begins to caramelize. Add the red cabbage, water, and apple cider vinegar. Raise heat to high to bring to a quick boil. Cover, reduce heat to low, and cook 20 minutes. Uncover and stir in the mirin and ground fennel seeds. Cook over high heat, stirring occasionally until liquid evaporates. Remove from heat.

4. Just before serving, roughly chop reserved fennel fronds; stir into cabbage mixture. Salt to taste.

Fermented foods for better digestion

In addition to taking probiotic supplements, fermented foods—which go through a process that converts carbs into alcohols or acids—was one of the only ways to preserve food. But now there are more compelling reasons (think full flavor and loads of probiotics and nutrients) to try these less familiar options.



Kefir

A tangy, fermented-milk product similar to yogurt, kefir is delicious in smoothies and salad dressings. It's filled with probiotics to help with digestion, along with calcium, protein, and potassium.

Kimchi

This traditional Korean dish is comprised of pickled vegetables such as cabbage and radishes. Thanks to lactobacilli and other beneficial bacteria, kimchi may help boost intestinal health. Make it recipe at left.



Kombucha

A beverage made from blending a colony of bacteria and yeast with black tea and sugar and then allowing it to ferment, this tea is rich in enzymes, probiotics, and antioxidants.



Tempeh

A fermented whole-soybean product originally from Indonesia, tempeh is rich in vitamin B12, fiber, and protein. The fermentation process makes tempeh's iron more bioavailable and easier to digest.

Up to 1½ quarts / Kimchi (kim-chee) contains lactobacilli, good bacteria produced by fermentation. You'll need two or three pint-size jars with screw-on lids (or halve this recipe to make less). Kimchi is best eaten raw to maximize the friendly-bacteria benefits; it's wonderful on salads, tossed with noodles and vegetables, or stuffed inside an omelet.

- 1 large or 2 medium heads napa cabbage, washed**
- 3 tablespoons coarse sea salt**
- 4 cloves garlic, peeled and roughly chopped**
- 3 tablespoons chopped fresh ginger**
- 1 leek, washed and sliced**
- 2 whole red chile peppers, such as Fresno (remove seeds for less heat)**
- 1 tablespoon low-sodium tamari**
- 1 tablespoon rice vinegar**

- 1.** Halve cabbage and remove core. Cut into 1-inch slices and place in a large bowl. Sprinkle with 3 tablespoons sea salt. Use a plate or other weight to press cabbage down for at least 2 hours. Rinse cabbage, being sure to squeeze out excess moisture.
- 2.** In a food processor, blend garlic, ginger, leek, chiles, tamari, and vinegar until finely chopped and mixed (nearly a paste). Thoroughly mix cabbage with garlic mixture and place into clean jars. Pack vegetables tightly into jars to remove air bubbles, pressing down until brine rises. Pour in remaining liquid if needed, leaving at least 1 inch at the top. Cover jars tightly.
- 3.** Allow kimchi to ferment at room temperature for 48 hours, and then transfer to refrigerator, where it will continue to slowly ferment and intensify. Refrigerated, kimchi will last at least a month.

