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Probiotics: Are enough in your diet?

Yogurt has a reputation as a health food for a reason: It contains “friendly” bacteria that take up residence in your intestines, where they may help relieve symptoms of common digestive disorders, rev up the immune system, and perhaps provide other benefits.

Scientific interest in these bacteria, known as probiotic (“for life”), is blossoming. Though the research has yielded few conclusive findings—including whether healthy people reap significant benefits from consuming probiotics regularly—Americans have started to take notice.

Sales of yogurt products reached an all-time high of \$2.87 billion in 2004, according to the ACNielsen market research firm. Sales of probiotic nutritional supplements have risen an average of about 10 percent annually since 1998 to \$177 million in 2003, says the *Nutrition Business Journal*, which tracks the industry.

To find out whether it makes sense to leap on this bacteria bandwagon, we assessed the medical research. We also had two independent labs test 14 capsule, tablet, or soft-gel supplements; 4 liquid supplements; 5 yogurts; and 4 yogurt drinks for live probiotic organisms, including the kind credited with health effects.

Many products list their amount of probiotic bacteria, and some peg it to the date of manufacture, after which levels could change. We tested products when you’d buy them, after manufacture and before expiration, to see what amounts they actually contained. We tested for contaminants, too. Results showed:

- All products contained the major groups, or genera, of probiotic bacteria labeled, but seven supplements—four pills and three liquids—had far less than the amount claimed at the time of manufacture.
- No yogurt or yogurt drinks listed an amount of specific probiotics, yet they had reason to boast: Most had far higher counts per serving than the supplements.
- No products had detectable levels of harmful bacteria, and none had enough yeast or mold to indicate contamination.

Even if products were uniformly pure and labeled to reflect probiotic amounts at the time of purchase, choosing among them would be confusing. The main probiotic genera in yogurt and supplements are *Lactobacillus* and *Bifidobacterium*. You may not be familiar with them, but they already live in your intestines, where they help break down foods and drugs and prevent disease-causing bugs from settling in. They also may boost immune-cell activity and produce antimicrobial substances. Consuming extra probiotics should help increase their numbers, which could be beneficial if normal levels are low because of gastrointestinal disorders or the use of antibiotics.

Within these genera are dozens of species, such as *Lactobacillus acidophilus*, or strains, such as *Lactobacillus GG*, and research results involving one do not necessarily apply to another. “It gets complicated,” says Mary Ellen Sanders, Ph.D., an industry consultant and president of the International Scientific Association for Probiotics and Prebiotics, a nonprofit group. “These bacteria are very different.”



EAT YOUR BACTERIA
Our tests found higher numbers of beneficial bugs in most yogurt products than in supplements.

There are also no officially recommended dosages for health effects and no established limits for safe consumption of probiotics, which are measured in colony forming units (CFUs). However, the research and experts we consulted indicate that a daily dose of at least 1 billion CFUs is needed to reap meaningful benefits. Our tests showed that most products far exceed that dose: The yogurt products provide about 15 billion to 155 billion CFUs per serving; the supplements, about 20 million to 70 billion CFUs per daily dose.

Ratings *Probiotic products*



A RANGE OF CHOICES These products, and many others listed below, have probiotics in amounts that may benefit health.

Quick Ratings *Probiotic products*

Within groups, in alphabetical order.

Probiotic levels	Cost
HIGHEST	
STRAWBERRY YOGURTS	
Breyers Fruit on the Bottom Lowfat	\$.85
Colombo Light	.85
Dannon Fruit on the Bottom Lowfat	.60
Stonyfield Farm Organic Lowfat	.90
Yoplait Original Lowfat	.70
STRAWBERRY YOGURT DRINKS	
Breyers Creme Savers Smoothie	\$.95
Dannon Light 'n Fit Smoothie	.90
Stonyfield Farm Organic Smoothie	1.60
Yoplait Nouriche Light Breakfast Smoothie	1.65
SUPPLEMENTS	
Bio-K Plus Acidophilus/Casei (liquid) ¹	\$4.50
Continental Natural Acidophilus Culture (liquid) ¹	1.17
Dannon DanActive Immunity (liquid)	.60
TwinLab Super Acidophilus	.90
HIGH	
SUPPLEMENTS	
Country Life Power-Dophilus	\$.36
Natrol Acidophilus	.15
Nature Made Acidophilus	.40
Nature's Bounty Extra Strength Acidophilus with Pectin	.17
Natures Way Primadophilus Reuteri ¹	.42
Nutrition Now PB-8 Acidophilus	.37
Solaray Acidophilus plus Goat's Milk ¹	.24
Solgar Advanced Acidophilus ²	.18
Vitamin World Milk Free Acidophilus ¹	.18
LOWER	
SUPPLEMENTS	
American Health Acidophilus (liquid) ¹	\$1.89
Enzymatic Therapy Acidophilus Pearls	.46
Garden of Life Primal Defense HSO	1.20
Origin (Target) Acidophilus ¹	.06
Sundown Acidophilus XTRA	.17
¹ When tested, had lower level of probiotics than label claimed at time of manufacture. ² May be in limited supply at time of publication.	

GUIDE TO THE RATINGS

Probiotic bacteria are measured in colony forming units (CFUs). 1 billion CFUs is the minimum per day thought to benefit health. **HIGHEST**-level products had at least 10 billion CFUs of "good" bacteria—including the kind thought to provide health benefits—per serving (yogurt products) or per day (supplements). **HIGH**-level products had 1 to 10 billion CFUs. **LOWER**-level products had less than 1 billion CFUs. Cost is based on approximate retail price. Cost of yogurts is per serving; of supplements, per day. Yogurts are 6 oz. or 8 oz. per serving; yogurt drinks, 7 to 11 oz. Recommended daily dose for supplements is usually 1 to 3 pills or about 3 fl. oz. of liquid supplements.

Health benefits

Some of the strongest evidence for probiotics comes from research involving people with digestive disorders and allergies. There has been very little published research about healthy people. Here's a brief summary of what is known:

Gastrointestinal relief. In clinical studies involving more than 1,900 infants and children with acute diarrhea, mostly from viral infection, various *Lactobacillus* supplements reduced bouts by about a day. Other studies involving nearly 200 patients with irritable bowel syndrome suggest that taking *Lactobacillus acidophilus* or other probiotics may relieve major symptoms. Some research indicates that *Lactobacillus GG* reduces the rate of antibiotic-associated diarrhea in children.

Allergies. Research suggests that probiotic bacteria may help alleviate atopic eczema, an allergic reaction to milk or other foods, in some children.

Respiratory infections. Research involving more than 500 children ages 1 to 6 who attended day-care centers showed that kids who drank milk with *Lactobacillus GG* had fewer days of absence because of respiratory infections.

Urological infections. Some clinical evidence suggests that yogurt with *Lactobacillus acidophilus* may boost immune cells that help protect against abnormal microbes in the urogenital tract and help reduce the incidence of vaginal bacterial infections. Yogurt may also help prevent yeast infections.

Cancer. Laboratory and animal research suggests that consuming probiotics and prebiotics--nutrients that stimulate probiotic growth--may help prevent cancerous changes in the large intestine and thus help protect against colon cancer.

Behind the Labels

Labels can be confusing, incomplete, or wrong. Four of five yogurts and three of four yogurt drinks listed the probiotic genera and species, but none specified the amount. Instead, some yogurt products display the National Yogurt Association's Live & Active Cultures seal, which simply indicates that when manufactured they contained at least 100 million CFUs of viable yogurt bacteria per gram.

All of the supplements' labels note genera and species, and most note bacterial count at time of manufacture. But at testing time, 4 of the 14 pill products had no more than half of their claimed number of probiotics, on average. For example, Origin *Acidophilus*, sold at Target, claimed to have more than 100 million CFUs per serving when produced, but our sample had 20 million. Three of the four liquid supplements listed bacterial count but fell far short of those numbers when we tested.

How to choose

If you want to try probiotics and have no conditions that might rule that out:

Check the Ratings. Pick a product with at least 1 billion probiotic units, the minimum thought to benefit health. Products with 1 billion to 10 billion units tended to cost a bit less than those with higher levels.

Check the bacteria. Look for products with well-studied types, such as *Lactobacillus* and

Bifidobacterium.

Be wary of claims. Statements that probiotics can “strengthen” the body’s defense system or promote “overall better health” don’t require approval by the U.S. Food and Drug Administration.

Pick yogurt or supplements. Factor in that yogurt products contain calcium, protein, and other nutrients. All the pills we tested disintegrated properly, which means that their bacteria are released in the body, but not necessarily in the intestines. In theory, enteric-coated pills may help organisms reach and colonize the intestines, experts said.