

Background on Functional Foods

International Food
Information Council
(IFIC) Foundation

February 2004

“Functional Foods” are foods or dietary components that may provide a health benefit beyond basic nutrition. You can take greater control of your health through the food choices you make, knowing that some foods provide specific health benefits. Examples include everything from fruits and vegetables to fortified or enhanced foods. Biologically active components in functional foods impart health benefits or desirable physiological effects. Functional attributes of many traditional foods are being discovered, while new food products are being developed with beneficial components.

Demand

Consumer interest in the relationship between diet and health has increased the demand for information on functional foods. Rapid advances in science and technology, increasing healthcare costs, changes in food laws affecting label and product claims, an aging population, and rising interest in attaining wellness through diet are among the factors fueling U.S. interest in functional foods. Credible scientific research indicates many potential health benefits from food components. These benefits could expand the health claims now permitted to be identified by the Food and Drug Administration (FDA).

Scientific Criteria

Many academic, scientific, and regulatory organizations are considering ways to establish the scientific basis to support claims for functional components or the foods containing them. FDA regulates food products according to their intended use and the nature of claims made on the package. Five types of health-related statements or claims are allowed on food and dietary supplement labels:

- 1) Nutrient content claims indicate the presence of a specific nutrient at a certain level.
- 2) Structure and function claims describe the effect of dietary components on the normal structure or function of the body.

- 3) Dietary guidance claims describe the health benefits of broad categories of foods.
- 4) Qualified health claims convey a developing relationship between components in the diet and risk of disease, as approved by the FDA and supported by the weight of credible scientific evidence available.
- 5) Health claims confirm a relationship between components in the diet and risk of disease or health condition, as approved by FDA and supported by significant scientific agreement.

A large body of credible scientific research is needed to confirm the benefits of any particular food or component. For functional foods to deliver their potential public health benefits, consumers must have a clear understanding of, and a

strong confidence level in, the scientific criteria that are used to document health effects and claims. The scientific community continues to increase its understanding of the potential for functional foods and their role in health.

Functional foods are an important part of wellness that includes a balanced diet and physical activity. Consumers should consume a wide variety of foods, including the examples listed on the following page. These examples are not “magic bullets.” The best advice is to include foods from all of the food groups represented on the Food Guide Pyramid, which would incorporate many potentially beneficial components.

Examples of Functional Components*

For More Information:

General Inquiries

Wendy Reinhardt, MS, RD
Shelley Goldberg, MPH, RD

Media Inquiries

Media Relations
IFIC Foundation
1100 Connecticut Ave., NW
Suite 430
Washington, DC 20036
202.296.6540 phone
202.296.6547 fax
<http://ific.org>

Class/Components	Source(s)*	Potential Benefit(s)
Carotenoids		
Beta-carotene	carrots, various fruits	<ul style="list-style-type: none"> neutralizes free radicals which may damage cells; bolsters cellular antioxidant defenses
Lutein, Zeaxanthin	kale, collards, spinach, corn, eggs, citrus	<ul style="list-style-type: none"> may contribute to maintenance of healthy vision
Lycopene	tomatoes and processed tomato products	<ul style="list-style-type: none"> may contribute to maintenance of prostate health
Dietary (functional & total) Fiber		
Beta glucan**	oat bran, rolled oats, oat flour	<ul style="list-style-type: none"> may reduce risk of coronary heart disease (CHD)
Insoluble fiber	wheat bran	<ul style="list-style-type: none"> may contribute to maintenance of a healthy digestive tract
Soluble fiber**	psyllium seed husk	<ul style="list-style-type: none"> may reduce risk of CHD
Whole grains**	cereal grains	<ul style="list-style-type: none"> may reduce risk of CHD and cancer; may contribute to maintenance of healthy blood glucose levels
Fatty Acids		
Monounsaturated fatty acids (MUFAs)	tree nuts	<ul style="list-style-type: none"> may reduce risk of CHD
Polyunsaturated fatty acids (PUFAs) & Omega-3 fatty acids - ALA	walnuts, flax	<ul style="list-style-type: none"> may contribute to maintenance of mental and visual function
PUFAs - Omega-3 fatty acids - DHA/EPA	salmon, tuna, marine and other fish oils	<ul style="list-style-type: none"> may reduce risk of CHD; may contribute to maintenance of mental and visual function
PUFAs - Conjugated linoleic acid (CLA)	beef and lamb; some cheese	<ul style="list-style-type: none"> may contribute to maintenance of desirable body composition and healthy immune function
Flavonoids		
Anthocyanidins	berries, cherries, red grapes	<ul style="list-style-type: none"> bolster cellular antioxidant defenses; may contribute to maintenance of brain function
Flavanols - Catechins, Epicatechins, Procyanidins	tea, cocoa, chocolate, apples, grapes	<ul style="list-style-type: none"> may contribute to maintenance of heart health
Flavanones	citrus foods	<ul style="list-style-type: none"> neutralize free radicals which may damage cells; bolster cellular antioxidant defenses
Flavonols	onions, apples, tea, broccoli	<ul style="list-style-type: none"> neutralize free radicals which may damage cells; bolster cellular antioxidant defenses
Proanthocyanidins	cranberries, cocoa, apples, strawberries, grapes, wine, peanuts, cinnamon	<ul style="list-style-type: none"> may contribute to maintenance of urinary tract health and heart health
Isothiocyanates		
Sulphoraphane	cauliflower, broccoli, broccoli sprouts, cabbage, kale, horseradish	<ul style="list-style-type: none"> may enhance detoxification of undesirable compounds and bolster cellular antioxidant defenses
Phenols		
Caffeic acid, Ferulic acid	apples, pears, citrus fruits, some vegetables	<ul style="list-style-type: none"> may bolster cellular antioxidant defenses; may contribute to maintenance of healthy vision and heart health
Plant Stanols/Sterols		
Free Stanols/Sterols**	corn, soy, wheat, wood oils, fortified foods and beverages	<ul style="list-style-type: none"> may reduce risk of CHD
Stanol/Sterol esters**	fortified table spreads, stanol ester dietary supplements	<ul style="list-style-type: none"> may reduce risk of CHD
Polyols		
Sugar alcohols - xylitol, sorbitol, mannitol, lactitol	some chewing gums and other food applications	<ul style="list-style-type: none"> may reduce risk of dental caries
Prebiotics/Probiotics		
Inulin, Fructo-oligosaccharides (FOS), Polydextrose	whole grains, onions, some fruits, garlic, honey, leeks, fortified foods and beverages	<ul style="list-style-type: none"> may improve gastrointestinal health; may improve calcium absorption
Lactobacilli, Bifidobacteria	yogurt, other dairy and non-dairy applications	<ul style="list-style-type: none"> may improve gastrointestinal health and systemic immunity
Phytoestrogens		
Isoflavones – Daidzein, Genistein	soybeans and soy-based foods	<ul style="list-style-type: none"> may contribute to maintenance of bone health, healthy brain and immune function; for women, maintenance of menopausal health
Lignans	flax, rye, some vegetables	<ul style="list-style-type: none"> may contribute to maintenance of heart health and healthy immune function
Soy Protein		
Soy Protein**	soybeans and soy based foods	<ul style="list-style-type: none"> may reduce risk of CHD
Sulfides/Thiols		
Diallyl sulfide, Allyl methyl trisulfide	garlic, onions, leeks, scallions	<ul style="list-style-type: none"> may enhance detoxification of undesirable compounds; may contribute to maintenance of heart health and healthy immune system
Dithiothiones	cruciferous vegetables	<ul style="list-style-type: none"> contribute to maintenance of healthy immune function

* Examples are not an all-inclusive list.

** FDA-approved health claim established for component.