Broccoli Sprouts Help Prevent Cancer

Reuters Health
By Alison McCook

"Broccoli and other cruciferous vegetables contain substances that morph into isothiocyanates, which research suggests may fight cancer. To investigate further, study author Dr. Steven Schwartz and his colleagues at Ohio State University in Columbus, added isothiocyanates from *broccoli sprouts* to different lines of bladder cancer cells. As a result, they "saw a decrease in the growth of the cells," Schwartz noted, particularly in one cell line that is known to spread quickly throughout the body.

"Schwartz noted that broccoli sprouts appear to carry a higher concentration of isothiocyanates than full-grown broccoli, which suggests sprouts may be even better for the body.

"Broccoli sprouts are rich in one class of cancer protecting agents. This family of compounds or agents induce the activity of a particular class of enzymes called phase 2 enzymes. These are enzymes that assist in getting rid of or detoxifying many cancer causing chemicals in the body and increase the level of a particularly important metabolite called glutathione. As a consequence cells in the body are protected against various harmful events such as carcinogenesis, mutagenesis and other forms of toxicity and oxidative damage."

****

"There is strong evidence that just two or three tablespoons of broccoli sprouts a day can help prevent breast cancer, gastric cancer, and other diseases." *Dole Nutrition News Story*

,

Johns Hopkins University School of Medicine

Proceedings of the National Academy of Science of the USA, Xiangqun Gao, molecular scientist

"A diet high in **broccoli sprouts** is a safe, long-term approach to preventing age-related macular degeneration and blindness. It may protect the eye from damage caused by the sun's ultraviolet light, believed to be the primary cause of degeneration. Studies have shown that sulforaphane prevents tumor growth and kills stomach bacteria that lead to ulcers and stomach cancer. In one study, they showed that feeding broccoli sprouts to rats prevented high blood pressure, heart disease, and stroke."

Wheatgrass Healing Tips

http://www.drwheatgrass.com/

Wheatgrass is a powerful hemostatic agent i.e. it helps stop bleeding in open wounds, deep-seated bleeding in muscles and in the nasal passages

Back in the 1930's and 40's, substantial research into the cereal grasses, including wheatgrass, showed dramatic improvement in the cleansing and healing of infected wounds and skin ulcers.

Chronic acne causing marked disfigurement for 10 years with no response to numerous and various medical treatments; after only six weeks' treatment with topical wheatgrass showed significant improvement in appearance.

Clinical observation showed several patients with plantar fasciitis responded quite rapidly (sometimes in a day or two) to treatment using the wheatgrass-based topical application.

www.isga-sprouts.org * office@isga-sprouts.org

Health Benefits of Sprouts

ISGA
International Sprout Growers Association

This pamphlet has been put together for the ISGA. We have collected information from many sources over the years. We give credit to each source so that you will be able to more easily look into particular information in more detail. These seem like good sources to us, and the information is generally consistent with what we have been learning about…

Sprouts the Miracle Food

Bean Sprouts Identified as Potent Anti-tumor Agent

Isoliquiritigenin (ISL) inhibits ErbB3 signaling in prostate cancer cells, Biofactors. 2006;28(3-4):159-68., *Jung JI, et. Al.*

Isoliquiritigenin (ISL), a flavonoid found in licorice, shallot, and **bean sprouts**, has been identified as a potent anti-tumor promoting agent. ISL reduces cell proliferation and induces apoptosis in DU145 human prostate cancer cells and MAT-LyLu (MLL) rat prostate cancer cells.

ISL inhibits the proliferation of prostate cancer cells, at least in part, via the inhibition of ErbB3 signaling and the PI3K/Akt pathway.

International Sprout Growers Association
733A Bald Hill Road, Warwick, RI 02886 USA

Sprouts: Famed "health food"!

---Steve Meyerowitz
www.sproutman.com
sproutman@sproutman.com

Recent research shows that in addition to being a superb source of nutrients, sprouts have important curative ability. Sprouts like **alfalfa**, **radish**, **broccoli** and **clover** contain concentrated amounts of phytochemicals (plant compounds) that protect us against disease.

Studies on **canavanine**, an amino acid analog in **alfalfa**, have demonstrated benefit for pancreatic, colon and leukemia cancers.

Alfalfa sprouts are one of our finest food sources of another compound, **saponins**. Saponins lower the bad cholesterol and fat but not the good HDL fats. Animal studies prove their benefit in arteriosclerosis and cardiovascular disease. Saponins also stimulate the immune system by increasing the activity of natural killer cells such as T-lymphocytes and interferon. The saponin content of alfalfa sprouts multiplies 450% over that of the unsprouted seed.

Saponin Content in Raw Sprouts

	(mg / g dry weight)
Alfalfa	87 - 95
Soy Bean	~ 56
Lentil	~ 40
Pea Bean	25 - 36
Clover	(no figures available, but known to contain saponin)
Mung Bean	(no figures available, but known to contain saponin)

Dr. Xia Xu, University of Minesota

Sprouts also contain an abundance of highly active **antioxidants** that prevent DNA destruction and protect us from the ongoing effects of aging. It would be conceivable to find a fountain of youth here. After all, sprouts represent the miracle of birth.

Phytoestrogen Content of Raw Sprouts (mg/100g wet weight)

	Coum	Form	Bioc	Dein	Gein	Glyc
Alfalfa	4.68	0.69	0.85	-	-	-
Clover	28.06	2.28	0.44	-	0.35	-
Mung Bean	-	0.61	-	0.01	0.18	-
Soy Bean	38.55	-	-	4.66	7.38	1.10

Dr. Xia Xu, University of Minesota

Plant estrogens are also abundant in sprouts. They increase bone formation and density and prevent bone breakdown or osteoporosis. They are also helpful in controlling hot flashes, menopausal, and PMS symptoms and fibrocystic breast tumors.

For a very complete sprout nutrition database visit:
http://www.sproutnet.com/Nutrition/wellness_and_prevention.htm

Sprouting of Peas Improves the Bioavailability of Zn and Mg

International Journal of Food Science & Technology, Volume 41 Issue 6 Page 618-626, June 2006, Gloria Urbano, et. al.

Sprouting for 2 and 4 days improved the bioavailability of Zn and Mg from pea seeds.

- from 32.2 to 88.6–108.0 µg retained Zn per day of sprouting
- from 1.64 to 2.97–4.79 mg retained Mg per day of sprouting

in raw and sprouted pea flour diets, respectively. The presence or absence of light during the germination process did not affect the results. We conclude that sprouting of peas for 4 days was the most effective treatment to improve the bioavailability of Zn and Mg in pea seeds.

The Institute of Food Science & Technology

Through its Public Affairs and Technical & Legislative Committees, the IFST has authorized the following Information Statement, dated October 2001.

Phytoestrogens have oestrogenic activity in humans, but this activity is much lower than that of human oestrogens; as a consequence phytoestrogens inhibit the activity of human oestrogens and may have desirable effects, for example reduce the risk of breast cancer. Some epidemiological studies suggest that diets high in phytoestrogen-containing foods may be beneficial, but there is no evidence that this effect is due to the phytoestrogens.

Research into the possible benefits of phytoestrogens has focused on the following areas:

a) Cancer - breast and prostate in particular
b) Menopause
c) Osteoporosis
d) Heart disease (antioxidant activity)

Other potential areas of benefit include diabetes and cognitive function.