

Soy Perfect

Soybeans have been part of the human diet for almost 5,000 years. High in protein and dietary fiber and low in saturated fat, soy is also cholesterol-free and an excellent source of phytochemicals and minerals like calcium, iron and phosphorus. Soy is also touted as the "yellow jewel" since ancient times due to its unique characteristics.

Excellent Source of Plant Protein

[Rich in Wholesome Protein]

Soy is rich in protein, unlike many plant foods. Made up of 36%–56% protein, soy is one of the most abundant sources of plant protein. It has twice as much protein as meat, four times that of chicken eggs and 12 times that of cow's milk. Like animal protein, soy protein is complete in that it provides all the essential amino acids needed for human health.

What's more, soy protein is better than animal protein derived from meat and milk, as the human body cannot break down animal protein effectively. Recent studies have indicated that excess animal protein, which remains undigested, may cause allergies. In addition, diets high in animal protein cause calcium to be excreted through urine, and heighten the risk of osteoporosis. At the same time, research has shown that unlike animal protein, soy protein will not burden or damage the kidneys.

Soy protein has a complete range of different amino acids, especially lysine, which is lacking in most grains. Hence soy is an ideal choice of protein for health-conscious people, vegetarians, and those managing their weight with low-calorie diets.

[Phytoestrogens]

Phytoestrogens from plant foods are highly beneficial to the human body. They may lower the risk of estrogen-dependent cancers, such as breast cancer. Phytoestrogens fill estrogen receptor sites on cells, keeping cancer-causing estrogen from promoting growth of malignant cells.

Human estrogens will stimulate tumor growth when the body produces cancer cells. Phytoestrogens help prevent tumor growth without any ill effects.

Soy contains natural phytoestrogens, mainly isoflavones, phytosterols, saponins and lignans. The estrogenic effect is obvious when these natural phytoestrogens are concentrated together. Isoflavones are very important to good health. To date, soy is the most important and best known source of isoflavones. Unlike consuming estrogen pills, soy phytoestrogens are wholesome and have gentle estrogenic effects, and therefore will not cause any ill effects.

健康完美的食品——大豆

人类食用大豆的历史已有五千多年，大豆所含的丰富营养对人体非常有益，例如蛋白质、高纤维、低饱和脂肪、无胆固醇、丰富植物营养素以及钙、铁、磷等矿物质。自古以来，大豆因为其独特的性质备受推崇，并且被称为“黄宝石”。

天然完美的植物性营养

[丰富健康的蛋白质]

不同于大多数植物性食物，大豆富含蛋白质。它由36%–56%的蛋白质组成，是最丰富的植物蛋白质来源之一，其中的蛋白质含量为肉类的两倍，鸡蛋的四倍和牛奶的十二倍。而更为独特的是，大豆蛋白质还能如动物性蛋白质一般提供完整蛋白质。

不仅如此，大豆的蛋白质比来自肉类或乳类的动物性蛋白质更好，这是因为人体不能有效地分解动物性蛋白质。并且研究表明过量的动物性蛋白质容易积累在人体内无法被消化，进而可能引起过敏；过量的动物性蛋白质也会导致人体内的钙从尿液中流失，从而增加罹患骨质疏松症的风险。同时，也有研究显示不同于动物性蛋白质，大豆蛋白质不会给肾脏带来任何负担和损伤。

此外，大豆蛋白质所含的氨基酸种类齐全，尤其富含赖氨酸，正好补充了谷物赖氨酸不充足的缺陷。因此无论是对于健康人士的日常生活，还是素食主义者，抑或是想要通过低卡路里饮食来控制体重者，大豆都是补充蛋白质的绝好选择。



[优质的植物性雌激素]

来自天然植物的雌激素对人体助益良多。细胞上的雌激素受体如果与会导致癌症的雌激素结合，就会提高罹患癌症的风险。植物性雌激素能抢先与雌激素受体结合，阻止容易引发癌症的雌激素与受体结合，从而阻止恶性细胞的生长。因此从植物性食物中获取的植物性雌激素可降低罹患雌激素依赖型癌症（如乳腺癌）的风险。

但是当人体出现癌细胞时，人体雌激素会激发肿瘤生长；然而植物雌激素却不会引起有害的副作用，反而能够抑制肿瘤生长。

大豆含有天然植物性雌激素，主要包括异黄酮 (Isoflavones)、植物固醇、皂素以及木酚等。它们集中在一起后，雌激素效用明显。异黄酮对健康非常重要，大豆也是目前为止已知的最重要、最优质的异黄酮来源。不同于直接服用雌激素，来自大豆的植物性雌激素天然柔和，不会带来任何副作用。





Soy's countless benefits include:

1. Regulates estrogen levels.

Soy isoflavones can help to prevent the body's estrogen levels from being too high or low. Hence soy helps to improve complexion, alleviate menstrual discomfort, delay the onset of menopause and visible signs of aging, relieve menopausal symptoms, and may prevent hormone-related diseases, like breast, endometrial, and prostate cancer.

2. Helps prevent bone loss and osteoporosis.

Middle-aged and elderly women are at higher risk of osteoporosis due to declining estrogen levels. Phytoestrogens like isoflavones fill estrogen receptor sites on bone cells to reduce bone loss and at the same time, increase the body's absorption of calcium and increase bone density to improve bone health.

3. Helps prevent coronary heart disease.

Cholesterol is one of the most important coronary heart disease (CHD) risk factors. It is categorized into high-density lipoproteins (HDL) and low-density lipoproteins (LDL). HDL cholesterol has heart-protective effects while LDL cholesterol increases the risk of coronary heart disease. Oxidized LDL cholesterol is the main cause of hardening of the arteries. Soy isoflavones not only have antioxidant effects but can also lower LDL cholesterol while maintaining HDL cholesterol, thereby inhibiting the hardening of arteries to prevent coronary heart disease.

Heart disease is linked to estrogen. Soy isoflavones can exert estrogenic effects to increase thyroxine secretion and bile excretion to help prevent heart disease. The U.S. Food and Drug Administration (FDA) has concluded that 25 grams per day of soy protein, included in a daily diet low in saturated fat and cholesterol, may reduce the risk of heart disease.



Soy Myths

Recently, there were concerns that soy might burden health as it contains phytic acid and purine. These are unfounded as many studies have proven that soy consumption is safe and beneficial to health.

[Soy and Phytic Acid]

Soy contains moderate amounts of a natural organic acid called phytic acid. Phytic acid is present in the hulls of grains and seeds. Its unique structure enables it to bind easily to elements like calcium, iron, magnesium, phosphorus, and in particular, zinc in the intestinal tract. Hence some people think that long-term consumption of soy products will cause a deficiency of trace elements in the human body and suggest that those with zinc deficiency avoid soy products such as soy milk.

基于这些特点，大豆对人体的益处不胜枚举，包括：

1. 调节雌激素水平：

大豆中的异黄酮能够帮助调节过高或过低的雌激素水平，让其保持在正常水平。因此大豆有助于美容护肤、缓解经期不适、延缓更年期和老化、减轻更年期症状、预防因雌激素失调所引起的疾病（如乳腺癌、子宫内膜癌、前列腺癌）等。

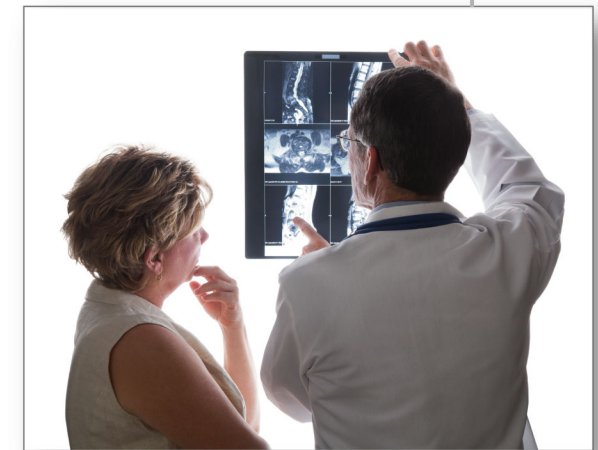
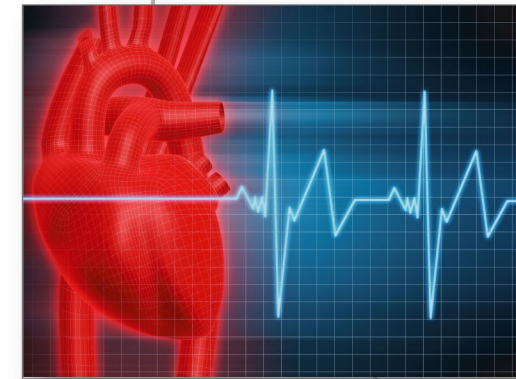
2. 防止骨质流失，预防骨质疏松：

中老年妇女因为雌激素水平的下降容易患上骨质疏松；而异黄酮等植物雌激素可与骨细胞上的雌激素受体结合，减少骨质流失，同时增加机体对钙的吸收、增加骨密度，有助于骨骼健康。

3. 预防心血管疾病

心血管疾病（CHD）为多因素疾病，其中胆固醇起着重要作用。胆固醇分为高密度脂蛋白（HDL）和低密度脂蛋白（LDL）；前者对心血管有保护作用，后者偏高则会增加心血管疾病的风险。胆固醇中LDL的氧化，是引发动脉硬化的关键因素。大豆中的异黄酮不仅具有抗氧化作用，还能在维持HDL浓度的同时有效降低LDL的浓度，从而防止动脉硬化，预防心血管疾病。

心脏病也是一种与雌激素相关的疾病。大豆中的异黄酮能够发挥雌激素的作用，促进甲状腺素分泌、促进胆汁排泄，帮助预防心脏病。因此美国食品及药物管理局（FDA）指出，每天以低饱和脂肪、低胆固醇的饮食，再配合食用25克大豆蛋白质，能够降低罹患心脏疾病的风险。



大豆与健康误区

近期，坊间有人会因为大豆中所含的植酸与嘌呤对大豆产生担忧与误解，认为食用大豆会带来健康负担。其实不然，众多科学研究早已证实食用大豆是安全有益的。

【大豆与植酸】

大豆中的植酸（或称为肌醇六磷酸）含量较高。植酸是一种有机酸，广泛存在于谷物的外壳和种子中。由于其独特的结构，植酸容易螯合钙、铁、镁、磷等元素，尤其容易结合肠道内的锌元素。因此有人认为长期食用豆制品人体容易缺乏微量元素；并且建议缺锌的人最好不要食用如豆浆等豆制品。



In fact, soy is rich in iron and calcium that are easily absorbed by the human body. It is also rich in fructooligosaccharides (FOS), which can increase the good bacteria in the intestine and also promote absorption of calcium and magnesium, thereby making up for the metallic elements bound to phytic acid. In addition, fermented soy (such as preserved bean curd, preserved soybeans and natto) can also alleviate the phytic acid problem. During fermentation, microorganisms break down the phytic acid in soy so that minerals present in soy such as calcium, iron and zinc can be more easily absorbed by the human body. Also, the medical community has discovered that phytic acid may prevent colon cancer.

Hence phytic acid in soy will not have a major effect on mineral absorption when there is moderate or suitable consumption of soy products coupled with a balanced diet. In fact, phytic acid may be beneficial to health with its anti-cancer effects. If you are still concerned, you can soak soybeans before removing their skin to reduce their phytic acid content.

[Soy and Purine]

Gout commonly affects men above 40 years old and menopausal women. It is a disorder of purine metabolism. Purine is an organic compound that occurs naturally in the human body. It is the main component of DNA and RNA and is essential for providing energy, regulating metabolism and forming coenzymes. However, aging body cells or excessive consumption of purine-rich foods such as organ meats and seafood can lead to excessive amounts of purines in the body.

Uric acid is produced when the body breaks down purines. If the body cannot remove excess uric acid in time or the uric acid excretion mechanism degenerates, there will be high levels of uric acid in blood that can cause painful uric acid crystals to form in joints, tissues and kidneys, causing the immune system to mount an attack against these crystals as they do not belong there. This immune reaction causes inflammation and induces gout.

A myth is circulating that gout patients should avoid soybeans and soy products, especially soy milk, as they are rich in purine, which is highly hydrophilic and increases greatly after soybeans are ground into soy milk. That is not true. The amount of purine in soy is moderate; it is lower than purine-rich foods (e.g. organ meats) but higher than foods low in purine (e.g. fruits and vegetables). Excess water is removed during the manufacturing process of many soy products such as tofu, thus removing excess purines. 500g of soybeans can produce 2,500ml of soy milk. Hence the amount of purines in 500ml of soy milk is insignificant. A Japanese study by Yamakita and co-workers of Hyogo College of Medicine concluded that tofu is a safe source of protein for gout patients due to its small and transient effect on plasma urate levels. A 12-year study by Hyon K. Choi and co-workers involving more than 45,000 men found that higher levels of meat and seafood consumption are associated with an increased risk of gout, whereas moderate intake of purine-rich vegetables is not associated with an increased risk of gout.

In addition, estrogens help inhibit formation of uric acid. Soy isoflavones can restore balance to men experiencing irregularities in uric acid elimination due to interference from male hormones, and replenish estrogens in menopausal women, thereby reducing gout incidence. Compared to fish, meat, seafood and freshwater delicacies, soy and soy products are relatively safer and more ideal sources of protein.



其实，大豆本身含有丰富的、极易被人体吸收的钙质和铁质，以及一种被称为果寡糖（FOS）的物质，能够增加肠道内有益菌的比例，促进人体对钙和镁的吸收，从而能够极大地弥补植酸所结合的金属元素。此外，大豆通过发酵（如制成腐乳、豆豉、纳豆等）也能改善植酸问题：发酵过程中，微生物分解了大豆中的植酸，使得其中所含的钙、铁、锌等矿物质更容易被人体吸收。不仅如此，医学界还发现其实植酸能够抑制结肠癌的发生。

因此只要适量食用，或是选择适合自己的豆制品，再加上均衡的膳食，大豆中的植酸并不会对人体吸收矿物元素造成很大的影响，甚至还因为其抗癌功效对人体有益。若对大豆中的植酸心存顾虑，也可将大豆浸泡后去除外皮，以降低其中的植酸含量。

[大豆与嘌呤]

痛风是困扰很多人的疾病，特别常见于40岁以上的男性和绝经期后的女性。产生的原因是人体内的嘌呤物质长期代谢紊乱所致。嘌呤是人体内的一种有机化合物，是构成DNA和RNA的主要成分，对能量供应、代谢调节及辅酶的组成等都十分重要。然而由于人体细胞的老化，或是过度食用动物内脏、海鲜等高嘌呤食物，都会导致人体内嘌呤含量过高；这些嘌呤进一步氧化生成过量的尿酸，如果过量的尿酸来不及排泄或者尿酸的排泄机制退化，就会使血尿酸浓度升高，进而形成晶体沉积在关节、软骨和肾脏中，导致机体免疫系统过敏而诱发痛风。

近期坊间流传说大豆及豆制品中富含嘌呤，尤其豆浆，因嘌呤的亲水性，导致大豆在磨成豆浆后嘌呤含量又多出好几倍；因此，痛风病人应少吃大豆及豆制品。其实不然。大豆的嘌呤含量适中，低于高嘌呤食物（如动物内脏），却高于低嘌呤食物（如水果和蔬菜）。而许多豆制品，如豆腐，在加工过程中要挤去多余的水分，多数嘌呤会随水分流失。再如豆浆，一斤大豆可以做五斤豆浆，因此每斤豆浆的嘌呤含量其实很低。日本兵庫医科大学（Hyogo College of Medicine）的Yamakita及他的同事指出，豆腐对血尿酸浓度的影响很小并且短暂，对痛风病人来说是一种安全的蛋白质补充食物。而Hyon K和他同事经12年对4.5万男性跟踪研究，结论也表明：过量食用肉类和海鲜容易导致痛风，而适当食用高嘌呤的植物性食物并不会增加罹患痛风的风险。

此外，雌激素对尿酸的形成有抑制作用：大豆异黄酮可以平衡男性由于雄性激素的干扰引起的尿酸排泄异常，也可以补充绝经期后女性体内的雌激素，从而降低痛风的发病率。因此相比起大鱼大肉、海鲜河鲜，大豆及豆制品对于各类人群来说，都是补充身体蛋白质安全理想的来源。

