

Sweet Potato As A Super Food

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<https://doi.org/10.5281/zenodo.8301119>

Abstract

Since ancient times, the whole sweet potato plant including the leaves, stem and root tuber, are used as traditional medicine. *Ipomoea batatas* Lam, also known as sweet potato, is a very versatile and tasty vegetable with high nutritional value. Today, sweet potato is preferred over other vegetables for its versatile medicinal properties. It is also a valuable medicinal plant with anti-cancer, anti-diabetic and anti-inflammatory properties. Today, sweet potato is considered a valuable source of unique natural products, some of which can be used in the development of drugs for various diseases and in the manufacture of industrial products.

Keyword: Sweet potato, Inflammatory, Nutraceuticals, anti-oxidant, anti-diabetic.

Introduction

Ipomoea batatas (L.) Lam, commonly known as sweet potato, belonging to the family Convolvaceae, is an important root crop is large, starchy and sweet in taste (woolfe, 2010). The plant is a herbaceous perennial vine with alternately heart-shaped or palmate leaves and medium sized sympetalous flowers. The edible tuber is long and narrow, with a smooth skin. It is appreciated for its short growing season of 90-120 days, high nutritional value and sweetness (Emmanuel, 2015). Sweet potato has played an important role in human and animal nutrition as an energy and phytochemical source. The plant has great medicinal importance and its various parts are used in traditional medicine. The Akan tribes of Ghana use the leaves to treat type 2 diabetes and inflammatory and/or infectious oral diseases in Brazil (Abel, 2012). In the Kagawa regions of Japan, various sweet potatoes were eaten raw to treat anemia, hypertension and diabetes. The stem from sweet potato has been used to treat prostatitis. The Monpa ethnic groups in Arunachal Pradesh, India uses sweet potato tubers as a staple food and leaves as fish food (Namsa *et al.*, 2016). Native to Central America, sweet potatoes are now widely cultivated and consumed worldwide. With an annual production of 115 million tons, sweet potatoes are seventh in the world among almost all food crops. About 92% of the world's supply of sweet potatoes is produced in Asia and the pacific islands, of which 89% is grown in China (Tarumoto, 2014).

Nutritional value of *I. batatas*

Sweet potato is used as a staple food, as a root (including its fleshy roots, tender leaves and stems), as a source for industrial starch extraction and fermentation, and as various processed products (Ludvik *et. al.*, 2014). Sweet potatoes have high nutritional value in addition to protein and niacin. It provides more than 90% of the nutrients most people need per calorie. The roots are a valuable source of carbohydrates, vitamins (provides 100% RDA for vitamin A and 49% RDA for vitamin C) and minerals (provides 10% RDA for iron and 15% RDA for potassium) (Zhao *et. al.*, 2015). In addition to simple starches, sweet potatoes are rich in complex carbohydrates, fibers, iron and vitamins such as beta carotene (a carotenoid that promotes vitamin A), vitamin B2, C and E. Pink, yellow and green varieties are also rich in beta carotene. Orange fleshed sweet potatoes may be one of the best sources of beta carotene. Several recent studies have shown that sweet potatoes have an excellent ability to increase vitamin A levels in the blood. This benefit may be especially true for children (Pochapski *et. al.*, 2011). Several studies in Africa have found that sweet potatoes contain 10 to 1600 micrograms of retinol activity equivalent (RAE) of vitamin A for every 3.5 ounces, on average, it is enough to cover 35% of the total requirement of vitamin A. in many cases, and sweet potatoes contain enough RAE to cover more than 90% of the vitamin A requirement. Starch is considered to be the main component of sweet potato root, followed by simple sugars such as sucrose, glucose, fructose and maltose (Bovell, 2016). Sweet potato leaves are actually more nutritious than the tuber itself. The leaves contain significant amounts of nutrients (crude protein, crude fat, crude fiber, ash, carbohydrates, moisture content and energy), vitamins (vitamin A and C), minerals (zinc, potassium, sodium, manganese, calcium, magnesium and iron), low levels of toxic substances (phytic acid, cyanide, tannins and total oxalate) and can be added to the diet to supplement essential nutrients (Anita *et al.*, 2015).

Health benefits of *I. batatas* (Sweet potato)

Sweet potatoes are one of the medium calorie starch foods, containing 90 calories per 100g compared to 70 calories per 100g for other types of potatoes (*solanum tuberosum*). However, the tuber does not contain saturated fat or cholesterol and is a rich source of fiber, antioxidants, vitamins and minerals. Its energy content comes mainly from starch, a complex carbohydrate. In sweet potato, the ratio of amylose to amylopectin is higher than *S. tuberosum*. Amylose slowly raise blood sugar compared to simply sugars and is recommended as a healthy food even for diabetics (Horton, 2016). Tubers are packed with many important vitamins, including pantothenic acid (vitamin B5), Pyridoxin (vitamin B6), thiamine (vitamin B1), as well as niacin and riboflavin. These vitamins are important in the sense that the body needs to supplement them from external sources. These vitamins act as cofactors for various enzymes during metabolism (Taira *et al.*, 2013). Sweet potatoes are rich in essential minerals such as iron, calcium, magnesium, manganese and potassium, which are important for the metabolism of enzymes, proteins and carbohydrates. Ipomoea species are used worldwide to treat a number of conditions, including diabetes, hypertension, dysentery, constipation, fatigue,



arthritis, rheumatoid arthritis, dropsy, meningitis, kidney problems and inflammation. They also have antimicrobial, analgesics', spasmolytic, spasmogenic, hypoglycemic, hypotensive, anticoagulant, anti-inflammatory, psychotomimetic and anticancer effects (Meira *et al.*, 2012). Sweet potatoes are effective in fighting cancer. It is rich in beta-carotene, which fights free radicals well. Sweet potatoes maintain fluid and electrolyte balance. *I. batatas* is good for cardiovascular health (Yoshimoto *et al.*, 2016). It is also used to treat mouth and throat tumors, asthma, insect bites, burns, catarrh, swine fever, convalescence, dyslexia, fever, nausea, Rhenus's, splenius, stomachaches (Hermes *et al.*, 2017).

Conclusion

Sweet potato is considered a super food compared to other vegetables due to its versatile and delicious taste and high nutritional value. Today, sweet potatoes are preferred over other vegetables for its versatile medicinal properties. Medicinal properties of sweet potato include anticancer, anti-diabetic, anti-inflammatory, antioxidant, antibacterial, antifungal, antiviral, anti-ulcer, and hepatoprotective, wound healing and immune modulating properties. Sweet potatoes protect smokers from emphysema. Sweet potatoes can relieve muscle cramps due to their high potassium content. Sweet potatoes contain magnesium, an important mineral that promotes relaxation, calmness and mood and nerve health. Sweet potatoes are a very versatile vegetable and are amazingly healthy for children and adults. It is a healthy alternative to other potatoes. Not only are they sweet, but they are also beneficial for cardiovascular health, longevity, diabetes prevention and reduce the risk of cancer.



Fig. 1.1 Sweet potato



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