



# Superfoods Fact Sheet

## Banana (*Musa spp*)



**Parts used:** Fruit

One of the most widely eaten fruits, the banana comes in hundreds of varieties, and is considered a staple food in many South American and African countries. The banana is also called the plantain.

### Historic and Traditional Uses

Some biblical scholars argue that the fruit Eve tasted in the Garden of Eden was not an apple, but the much more suggestively shaped banana! Whatever the truth is, archaeologists can date banana cultivation in the Kuk valley of New Guinea to around 8,000 BCE. From here it is thought to have spread throughout Southeast Asia and the South Pacific. They were recorded being grown in India in 327 BC by Alexander the Great's army and bananas were first introduced into Africa by Arabian traders. In 1482 Portuguese explorers took them to the Americas.

Colonial plantations used banana plants as valuable inter-cropping plants, with their towering leaves providing much-needed shade for coffee, cacao and pepper plants. In addition, the banana crop provided high-energy food for the brutal manual slave labour used to run the plantations.

The development of refrigeration and rapid transport during the 20<sup>th</sup> century ensured these fragile fruits have become a staple in most countries around the world.

Bananas have traditionally been more important for their use as a staple food, nutritious and energy-giving. They have also long been used to relieve constipation, as well as an anti-wrinkle treatment, mashed up and put on the face. Banana skin taped inside out onto a wart is a home-remedy that is said to work to remove warts over a period of weeks, and banana peel has also been used for any kind of itchy rash. A banana milk shake, mixed with honey, is said to be a hangover cure and bananas are also said to cure leg cramps.

Banana skins have also been used to polish up leather handbags and shoes, and are said to be particularly beneficial for roses. Drape the skin around the base of a rose bush and as it rots down it provides good compost.

### Health Benefits

There are a wide range of benefits attributed to bananas, but very little has been subjected, as yet, to research. The major claim which has been researched concerns its folklore reputation.

#### Ulcers

Bananas and plantains first emerged in medical literature as a cure for ulcers in the early 1930s, following on from their folklore reputation as a treatment for both peptic and duodenal ulcers. Teams of both British and Indian researchers have investigated how plantains help to both prevent and treat ulcers.<sup>1</sup> They work by strengthening

<sup>1</sup> Best R et al The anti-ulcerogenic activity of the unripe plantain banana. *Br J Pharmacol* 1984;82:107-118. Goel RK et al Anti-Ulcerogenic effect of banana powder and its effect on mucosal resistance. *J Ethno-Pharmacol* 1986;18@33-44

the surface cells of the stomach lining, to form a sturdy barrier against acid being able to reach tissue cells. Indeed, the special mucosal lining of the stomach was actually *visibly* much thicker in rats fed banana powder in an experiment. They concluded that banana stimulates the proliferation of cells in the stomach lining and also triggers the release of a protective layer of mucous that rapidly seals off the surface, preventing stomach acid from causing damage. It seems folk medicine knew what it was talking about!

### **Cardiovascular Benefits**

Unripe bananas contain high levels of hemicellulose fibre, and it is this that has been credited with not only lowering detrimental LDL cholesterol levels by up to a third, but also increasing beneficial HDL cholesterol. Fibre from ripe bananas didn't work in the same way.<sup>2</sup>

The role of fibre in helping prevent heart disease was demonstrated in a study published in 2003, carried out over 19 years, with high fibre foods such as banana contributing to 12% reduction in coronary heart disease, and 11% less cardiovascular disease compared to those on a low-fibre diet.<sup>3</sup>

Ordinary bananas have also been found to be high in pectin – on a weight basis, even higher than apples which are a confirmed cholesterol lowering fruit, and it is thought that this will also have a beneficial effect on cholesterol.

### **Blood Pressure**

The essential role of potassium for maintaining correct blood pressure is well known and given that the average-sized banana contains a huge 467 mg of potassium it is reasonable to assume that bananas will help maintain blood pressure. Indeed, a number of studies have shown the role potassium-rich foods play in lowering blood pressure.<sup>4</sup> A diet high in potassium-rich foods has a substantially reduced risk of stroke.



### **Elimination and Detoxification**

Not only does the high fibre content of bananas help to ease constipation and ensure an improvement in transit time, but much of the fibre is in the form of soluble fibre, which helps to bind and carry toxins out of the gut, as well as normalise movement through the digestive tract.. In addition, if you are suffering from diarrhea you quickly lose important electrolytes from the body. The potassium in bananas replenishes this important electrolyte, and helps reduce fluid loss.<sup>5</sup>

### **Eyesight**

Eating one banana a day can take you a third of the way to the daily goal of eating three portions of fruit in order to minimize the risk of age-related macular degeneration by up to 36%. The study was conducted on over 100,000 men and women over a number of years and clearly showed that a minimum intake of 3 serving of fruit daily had a protective effect.<sup>6</sup>

<sup>2</sup> Usha V et al Effect of Dietary fiber from Banana on Cholesterol Metabolism. Ind. J Exerim. Biology Oct 1984;22:550-554

<sup>3</sup> Bazzano LA, He J, Ogden LG, Lora CM, Whelton PK. Dietary fiber intake and reduced risk of coronary heart disease in US men and women: The National Health and Nutrition Examination Study. Arch Intern Med 2003 163 (16):1897-904

<sup>4</sup> Ascherio A, Rimm EB, Hernan MA et al Intake of potassium, magnesium, calcium and fiber and risk of stroke among US men. Circulation 1998 98(12):1198-204.

<sup>5</sup> Rabbani GH, Teka T, Saha SK, Zaman B, Majid N, Khatun M, Wahed MA, Fuch GJ Green banana and pectin improve small intestine permeability and reduce fluid loss in Bangladeshi children with diarrhea. Dig Dis Sci 2004; Mar:49(3):475-84

<sup>6</sup> Cho E, Seddon JM, Rosner B, Willett WC, Hankinson SE. Prospective study of intake of fruits, vegetables, vitamin and carotenoids and risk of age-related maculopathy. Arch Ophthalmol. 2004; 122(6):883-92

## **Digestion**

As a rich source of FOS bananas help to nourish and increase substantially levels of good, probiotic bacteria. This is important as these bacteria help with digestive function and also produce some vitamins and digestive enzymes. Good levels of these will ensure good absorption of nutrients and a healthy gut lining, helping to mend gut permeability.<sup>7</sup>

## **Cancer**

Research published in the International Journal of Cancer suggests that regular consumption of whole fruit and vegetables, especially bananas, can have a protective effect, especially for kidney cancer. Women eating bananas 4 – 6 times a week with other fruits, halved their risk of developing the disease compared to those who ate other fruits but not bananas. It is thought the antioxidant compounds may be the active constituent here.<sup>8</sup>

## **Bone Health**

According to the University of Maryland Medical Centre, and the University of Kansas Medical Centre, you can reduce your risk of osteoporosis by ensuring good level of potassium intake in order to counteract the increased urinary calcium loss caused by high salt diets. As a high-potassium food bananas are an excellent food to take for this, and have also been linked with an increase in calcium up-take in the gut.

## **Depression**

The high levels of tryptophan contribute to bananas being recommended to help alleviate mood. The tryptophan is converted to 5-HTP, and then serotonin which helps to prevent depression by encouraging feelings of well-being and relaxation. Additionally Vitamin B6 in bananas can also help in this regard.

## **Other Benefits**

Amongst the numerous other benefits which have yet to be researched, recorded for bananas are:

**Heart burn** – bananas contain a natural antacid and can soothe mild heartburn.

**Prevent morning sickness** – their calming properties can help with morning sickness, calming the queasy feeling and any blood sugar imbalances that may also contribute.

**Quitting smoking** – bananas are rich in vital vitamins and minerals which can help to minimise the effects of nicotine withdrawal. It is recommended a banana is eaten whenever the craving occurs.

**Menstrual pains** – bananas are said to help with relieving menstrual pains

**Mosquito bites** – banana peel rubbed on bites can help relieve itching and swelling

**Aphrodisiac** – regarded as a symbol of fertility by Hindus, the mixture of nutrients in bananas is said to increase male libido

**HIV protection** – a study in the Journal of Biochemistry in March 2010 found a lectin protein in bananas called BanLec can bind to HIV-infected cells, enveloping them and preventing their replication.<sup>9</sup>

## **Nutrients:**

Containing more nutrients and vitamins than apples, few people realise how nutritious bananas are, and the variety of health benefits they offer as a result.

Bananas are an excellent source of potassium, a vital mineral for muscle and nerve function, which also helps to regulate blood pressure. They also contain good levels of Vitamin C, B vitamins, particularly Vitamin B6 and

---

<sup>7</sup> Chow J Probiotics and prebiotics: a brief overview. J Ren Nutr 2002;12(2):76-86

<sup>8</sup> Rashidkhani B, Lindblad P, Wolk A. Fruits, vegetables and risk of renal cell carcinoma:prospective study of Swedish women. Int J Cancer 2205;113(3):451-5

<sup>9</sup> [http://www.naturalnews.com/031024\\_HIV\\_transmission\\_bananas.html](http://www.naturalnews.com/031024_HIV_transmission_bananas.html)

manganese, a trace mineral essential for a healthy nervous system as well as many enzyme functions in the body. It also contains plenty of heart healthy soluble fibre.

In addition, bananas contain adequate levels of minerals like copper and magnesium. They also have small amounts of poly-phenolic antioxidants such as aslutein, zeaxanthin and  $\beta$  and  $\alpha$ -carotenes.

Bananas also contain good levels of the amino acid tryptophan, which is converted in the body in 5-HTP, a precursor to serotonin, an important neurotransmitter for aiding mood and depression. Another compound they are rich in is fructooligosaccharide, called FOS, which is a prebiotic and nourishes the probiotic or friendly bacteria in the gut.

Athletes often use bananas to give them a quick energy boost, and ripe bananas contain a high level of natural sugar which is released quickly into the bloodstream. They are a high calorie fruit with 100 g of fruit providing 90 calories.

Ripe banana is easy to digest . Unripe banana contains what is called 'resistant' starch, which can't be digested in the small intestine and often leads to fermentation and wind. As the banana ripens, most of the starch is turned to sugar, improving its digestibility.

**Per 100 mg**

Calcium	5mg
Iron	0.26 mg
Magnesium	27 mg
Phosphorus	22 mg
Potassium	358 mg
Sodium	1 mg
Zinc	0.15 mg
Vitamin C	8.7 mg
B1	0.031 mg
B2	0.073 mg
B3	0.665 mg
B6	0.367 mg
Folic acid	20 $\mu$ g
Vitamin A	64 iu
Vitamin E	0.1 mg
Vitamin K	0.5 $\mu$ g

Source: USDA National Nutrient Database

