

Tomatoes: health benefits and origins



**ASSIGN
BUSTER**

Biology/Natural history:

Tomato, also known as *Solanum lycopersicum*, is one of the oldest domesticated species of the human civilization. Tomato belongs to that family of plants whose all members have the innate ability of being domesticated. Today, almost all the regions of the world use tomato as a food product and majority also cultivate it as their main crop. It is a self-pollinating species of plants and both its seeds and pollens have strong and longer life spans as well as the ability to introduce different sorts of variations in the plant too.

Tomato originated in the coastal highlands of western South America and after its discovery, it spreads rapidly from South to Central America. For the first time in history, tomatoes were domesticated by the people belonging to the region of Andes (Harvey, Quilley, & Beynon, 2002). The ancient Peruvian civilization then undertook the domestication of the plant and sometime later, this process was adapted by the Aztecs who considered this plant same as tomatl or Husk Tomato (*Physalis ixocarpa*), about which they already had quite enough information (Dessler, 1953).

It was during the mid-sixteenth century that the tomato started to be used in Southern European regions and in this way, the tomato was introduced in the Britain. However, for a long time, this used was only for ornamental purposes and not for cooking or eating purposes. Later on, this approach was changed when the medicinal value of tomatoes were found out. Finally, by the end of the nineteenth century, pre-processed products of tomato were used as a regular feature of consumption in the entire different social classes of

European regions in different eating forms (Harvey, Quilley, & Beynon, 2002).

Human health:

As far as the human health is concerned, tomato again is a very important plant species. Even though, previously it was thought to be a poisonous plant, but now it has been established that tomato is very beneficial for human health. In the third volume of the horticultural register and gardener' magazine, it has been stated that tomato is a wholesome plant present in the entire plant kingdom and it very beneficial. Moreover, the effects of tomato on the liver and other body parts are also very promising. Especially in case of liver and kidneys, the functions performed by tomatoes are the marvelous of all the plant species. Tomato is also used to remove concretions from the kidneys and is also used as a diuretic in different countries of the world (The Horticultural Register and Gardener's Magazine, 1837).

Agarwa and Rao (2000) found in their study that tomatoes are a main resource of antioxidant lycopene and that is why intaking of tomatoes is related to decline in the rate of cancer as well as cardiovascular diseases. Moreover, the fruit of tomato contains red color which is due to the presence of carotenoids inside the fruit (Zeb, & Mehmood, 2004). Different researchers (Fraser et al., 1994; Khachik et al., 2002; Burns et al., 2003; & Paetau et al., 1998) have found different carotenoids in tomatoes like lycopene, violaxanthin, neoxanthin, lutein, zeaxanthin, β -cryptoxanthin, β -cryptoxanthin, β -carotene, β -carotene, β -carotene, β -carotene, neurosporene, phytoene, phytofluene, cyclolycopene and β -

carotene 5, 6-epoxide. β -carotene, β -carotene and β -cryptoxanthin are the carotenoids that are transformed into retinal in mammals and so they exhibit pro-vitamin A activity (Burns et al., 2003).

Halevy et al., (1957) found several minerals as well as vitamin C as the main components of tomatoes. Different environmental conditions are responsible for different amounts of these nutrients produced. When organic substrates are used for cultivation as opposed to hydroponic media, more calcium and vitamin C are formed inside the tomatoes while the amount of iron is reduced. Premuzic et al., (1998) showed that both these mediums are same in terms of the production of P and K. Different researchers (Raffo et al., 2002; Chapagain et al., 2003; & Santamaria et al., 2006) have shown oxalic acid and nitrates to be found in tomatoes as well.

Tomatoes are good antioxidants and their this property has also been thoroughly studied and it has been found that depending on the variety of the tomato and the assay method, the antioxidant ability of the tomatoes can be easily changed. Lycopene, ferulic and caffeic acids have been found to be associate with antioxidant properties as well (Martinez-Valverde et al., 2002).

Lycopene is an important component of the tomatoes and more than 85% of tomatoes contain this component (Rao et al., 1999). Prostate cancer is the most commonly studied type of cancer that has been found to be easily treated with lycopenes, the first publication being done in 1995 (Giovannocci et al., 1995).. Moreover, these lycopenes also have the capacity to neutralize the effects of the oxidative stress that is harmful for the human health. At a

current conference on the function of processed tomatoes in human health, data was provided for the defensive role of lycopene in the avoidance of emphysema in Japanese inhabitants (Agarwal and Rao, 1998).

Ingestion of tomato and tomato-based food goods contributes to the assimilation of a extensive variety of carotenoids in human serum and tissues. Current epidemiological studies have recommended that the utilization of tomatoes and tomato-based food products decrease the danger of prostate cancer in humans. This defensive result has been credited to carotenoids, which are one of the main classes of phytochemicals in this fruit. Carotenoids may also play a vital role in the deterrence of age-related macular degeneration, cataracts, and other blinding disorders (Khachik, 2002).

As for the nutritional components of tomatoes, they are rich in a variety of vitamins especially in Vitamin A and Vitamin C. Lung, bladder; cervical and skin cancers can be treated by the use of tomatoes as they possess vitamin A- an important factor in reducing these diseases. Vitamin C increases in amount inside a tomato as it increases in size, being helpful as it provides ascorbic acid needed for different medicinal benefits, especially for the diseases of gums and mouth (Heuvelik, 2005).

Tomatoes have also been said to be beneficial for the treatment of diarrhea, violent bilious attacks, and dyspepsia as well. Moreover, tomatoes have also been found to provide a very important substance, named as calomel, also called mercurous chloride- a substance that is very commonly used as a purgative as well as for many other purposes. It is now expected that the

chemical substances obtained from the tomatoes are so beneficial that they can overcome the effects of calomel and they, alone, would be able to perform the functions of calomel very effectively and efficiently (Smith, 1994).

No doubt, there was a time when the tomatoes were believed to be a poisonous plant species, but this approach has now been completely changed. At first, when they were introduced, tomatoes were strictly believed to be poisonous in Spain. They were only used for the purpose of decoration and ornamentation. It was an American doctor called John Cook Bennett who gave research evidence about the medicinal properties of tomatoes and it was his findings that led people to overcome their fears regarding tomatoes and people started using this plant as a delicious as well as a wholesome food (Morganelli, 2007).

Social/Cultural:

The combination of proteins with tomatoes is the best one. Moreover, tomatoes are also used in salads of all types. They are cooling and energizing in beverages, and are particularly good in giving flavor to soups. Tomatoes can be used to provide color, and make green salads more appealing. In many of the sanitariums in Europe tomatoes are used as a poultice for a variety of situations in the body. There is a false conviction that tomatoes are not good for those who have rheumatism and gout. People with these situations should mix tomato juice with other vegetable juices to shun a response that may be too tough. Tomatoes are very high in vitamin worth. They are astonishing as a blood filter, and exceptional in removal diets. However, they should not be used to surplus on a habitual basis.

<https://assignbuster.com/tomatoes-health-benefits-and-origins/>

Tomato juice can be used in recuperative diets, in mixture with other raw vegetable juices such as celery, parsley, beet, and carrot juice (Rick, 1978).

The hypothetical relatives of all modern tomato varieties are reported to be *Lycopersicon esculentum* var. *cerasiforme* but some also ponder *Solanum pimpinellifolium*, as their grandparents. Aztecs gave distinctive terms like *tomatl* simply meant “ plump fruit”, *xtomatl* simply meant “ plump fruit”.

When the tomato was initial in utilization in Europe about 1523, it was not well conventional. People used to think over it toxic and were cultivated only for the ornamental reason. Italy was the first European country which introduced it utilizing as a food and initiated the farming on the large degree. Its Italian name *pommi dei mori* was altered during translation to the French as *pomme d’amour* or “ love apple”.

A captivating query about tomato is whether it is a fruit or vegetable. Even though it is a fruit but in 1833 U. S. Supreme Court clear the tomato was lawfully a vegetable. This was a outcome of a court case brought by a New Jersey importer John Nix, who rejected to give a important tariff on his tomatoes, quarrelling that abstractly tomatoes were fruits. The court acknowledged that botanically tomatoes were fruits, however it was clear that generally they were used as vegetables, so they must be pondered as vegetables (Smith, 1994).

There are more than 300 varieties of tomato, ranging from tiny currant type to the beefsteak king. They also come in distinctive forms (extended, plum shaped or vaguely squarish and even pear shaped). Now- days tomatoes are

extensively used and are a necessary part of any recipe. They can be used raw, in form of clean or after conservation (Wein, 1997).

Tomatoes, which are really a fruit and not a vegetable, are weighed down with all sorts of gains to the fitness of the body. They are, in fact, an immoderately energetic good health product and due to their equally adjustable preparation choices, there's really no incentive to neglect the tomato as part of a regular foodstuffs (Rick, 1978).

Researches regarding the tomato have cropped up all over the world of medical science. There are additionally health profits resulting of consuming a tomato than the scientific people can mark, at least yet. These researches have entrenched not only the advantages in preventing cancer, heart disease, as well as high cholesterol (Rick, 1978).

The Tomato Art Fest, enjoying its 7th anniversary this Saturday August 14th, is one of Nashville's very preferred festivals. In fact, it was voted the best carnival for each of the past three years by the Nashville Scene. What started out as an little grape tomato is now a huge beefsteak tomato, with over 20, 000 tomato lovers from all over the country. It now includes art, music stages, the King and Queen of the Tomato Art Fest, a parade, Bloody Mary contests, tomato bobbing, recipe competitions and more. It is pretty mind boggling what a tomato can do for a town (Elizabeth, 2010).