

# The East London Garden Society

## Plant Facts

### The Wonder of Tomatoes



Tomatoes are possibly the most grown plant in the world and therefore the most popular. They can be eaten raw or transformed into many forms through sauces and in salads. Tomatoes found by the Spanish when colonizing South America in the 16th Century, have proved a versatile fruit, although usually cooked as a vegetable.

The tomato belongs to the nightshade family. The plants typically grow to one to three metres in height and have a weak stem that often sprawls over the ground and vines over other plants. It is a perennial in its native habitat, although often grown outdoors in temperate climates as an annual.

There are around 7,500 tomato varieties grown for various purposes. Heirloom tomatoes are becoming increasingly popular, particularly among home gardeners and organic producers, since they tend to produce more interesting and flavourful crops at the cost of disease resistance and productivity.

Hybrid plants remain common, since they tend to be heavier producers and sometimes combine unusual characteristics of heirloom tomatoes with the ruggedness of conventional commercial tomatoes.

Tomato varieties are roughly divided into categories based mostly on shape and size.

- 'Slicing' or 'globe' tomatoes are the usual tomatoes of commerce, used for a wide variety of processing and fresh eating.
- Beefsteak tomatoes are large tomatoes often used for sandwiches and similar applications. Their kidney-bean shape, thinner skin, and shorter shelf life make commercial use impractical.
- Ox-heart tomatoes can range in size up to beefsteaks and are shaped like large strawberries.
- Plum tomatoes are bred with higher solids content for use in tomato sauce and paste and are usually oblong.
- Pear tomatoes, as their name implies, are pear-shaped and are based upon the San Marzano types for a richer gourmet paste.
- Cherry tomatoes are small and round, often sweet and generally eaten whole in salads.
- Grape tomatoes, a more recent introduction, are smaller and oblong and a variation on plum tomatoes which are used in salads.
- Campari tomatoes are also sweet and noted for their juiciness, low acidity, and lack of meatiness. They are bigger than cherry tomatoes but are smaller than plum tomatoes.

Early tomatoes and cool-summer tomatoes bear fruit even where nights are cool, which usually discourages fruit set. There are also varieties high in beta carotenes and vitamin A, hollow tomatoes and tomatoes that keep for months in storage.

Tomatoes are also commonly classified as determinate or indeterminate. Determinate, or bush, types bear a full crop all at once and top off at a specific height; they are often a good choice for container growing. Determinate types are preferred by commercial growers who wish to harvest a whole field at one time, or home growers interested in canning. Indeterminate varieties develop into vines that never top off and continue producing until killed by frost. They are preferred by home growers and local-market farmers who want ripe fruit throughout the season.

As an intermediate form, there are plants sometimes known as vigorous determinate or semi determinate; these top off like determinates but produce a second crop after the initial crop. The majority of heirloom tomatoes are indeterminate, although some determinate heirlooms exist.

Tomatoes are now eaten freely throughout the world, and their consumption is believed to benefit the heart, among other organs. They contain the carotene lycopene, one of the most powerful natural antioxidants. In some studies, lycopene, especially in cooked tomatoes, has been found to help prevent prostate cancer, however other research contradicts this claim.

Lycopene has also been shown to improve the skin's ability to protect against harmful UV rays. A study done by researchers at Manchester and Newcastle

universities revealed that tomatoes can protect against sunburn and help keep the skin looking youthful.

Natural genetic variation in tomatoes and their wild relatives has given a genetic plethora of genes that produce lycopene, carotene, anthocyanin, and other antioxidants. Varieties of tomatoes are also available with double the normal vitamin C, 40 times normal vitamin A, with high levels of anthocyanin resulting in blue tomatoes, and two to four times the normal amount of lycopene.

### Medicinal Properties

Lycopene has also been shown to protect against oxidative damage in many studies. In addition to its antioxidant activity, other metabolic effects of lycopene have also been demonstrated. Tomato consumption has been associated with decreased risk of breast cancer, head and neck cancer, and is strongly protective against neurodegenerative diseases. Tomatoes, tomato sauces and puree are said to help lower urinary tract symptoms.

Tomato consumption, as well as being of benefit against cancers, is also known as being beneficial for reducing cardiovascular risk associated with type 2 diabetes.