

## Globe Artichoke: A Fantastic Edible

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Globe artichoke (thistle-like plant), scientifically known as *Cynara scolymus* belonging to the family Asteraceae/ Compositae, with chromosome number-  $2n=2x=34$ , has traced its origin in the Mediterranean region wherein it is a traditional component in the diet. *Cynara cardunculus* is said to be the progenitor of Globe Artichoke. It is a main source of income for Mediterranean countries due to its highest contribution to the economy. Italy is the largest producer of Globe artichokes in the world. This underexplored vegetable is cultivated mainly for its large immature edible flower heads. These edible parts appear as tender inner bracts and the receptacle, generally known as "Heart" amounts to 35-55 % of the fresh weight of the head. This fantastic edible shows bioactive properties that are mainly due to the huge amount of polyphenolic compounds present in flower heads and leaves (hydroxycinnamates and flavonoids). The leaves are a rich source of polyphenols that find their place in pharmaceutical industries for generating commercial extracts while insulin is present in roots and flower heads and is used as a pre-biotic ingredient in functional foods. This plant can go up to four to five feet tall with stiffly serrated silvery green leaves. The more matured and opened buds resulted in large, fragrant flowers that are very attractive. Greeks believed it to be the favorite of the Greek God Zeus and exclaimed it to be the "Vegetable of the Gods".

### Health Care Benefits of Globe Artichoke

This beautiful plant is known to provide the following benefits to the human body.

#### Provides Support to the Liver System

Due to the incredibly bitter taste of globe artichoke, it will activate the bitter taste receptors, that are present all over the body. This helps in initiating a chain of reactions that ultimately keeps the liver functioning better.



### Helpful in Digestion

Globe artichoke helps benefit the slow-moving digestive system that occurs due to modern diets and lifestyles. It stimulates more effective digestion by enhancing bile production and permits digestive juices and enzymes to break down food more deftly.

### Regulates Blood Sugar Level

It is known to slow down the activity of alpha-glucosidase, an enzyme that degenerates starch into glucose, especially impacting blood glucose levels.

### Rich Source of Antioxidants

Both the leaves and head of this fantastic edible are a rich source of phenolic compounds of various classes like benzoic and cinnamic derivatives, flavonoids, and tannins. So, they play an important role in preventing and curing various diseases of radical origin or are also utilized as food preservatives.

### Status in India

Globe artichoke requires proper climatic conditions for the best production. They are salt-tolerant plants and performs best under frost-free coastal areas along with cool foggy summers. The best growth occurs when the day temperature is around 24°C and the night temperature is below 13°C.

In India, they are grown in June-July or August- September i.e., 2 times in the lower hills and April- May in the high hills. This is grown as an annual crop when raised from the seeds.



The other method of cultivating it is from the crown divisions or side shoots. Old crowns are separated into several pieces with the stem attached. Then these split stems are placed in the field 15-20 cm deep. To prevent disease infestation, the old crowns should be treated with fungicides before planting. The general fertilizer recommendations for this crop include FYM: 20-25 tonnes/ha, Nitrogen: - 112-250kg/ha, phosphorus: - 56-200kg/ha, and Potassium: - 34-200kg/ha.

The harvesting of artichokes generally varies once or twice a week according to climatic conditions. When the buds achieve the maximum size and appear big but before bracts turn purple should be the accurate time of harvesting artichokes. Delay in harvesting makes the buds bitter, woody, and with less edible tender fleshy tissue. The average

production is 10-12 heads per plant with a yield of 100-150 q/ha.

Forced air cooling is an effective method of storing the artichokes near 0°C. This increases the shelf life of the head up to 3-4 weeks.

### Slashing and Stumping Techniques

To manipulate the growth cycle of globe artichoke, these two techniques are of vital importance. In perennial crop production, the crop is slashed or stumped down after the harvesting process. In slashing, the plants are cut down 20 cm above the ground while in stumping, the plants are cut below up to 5 cm of the ground level. Stumping helps in the faster regeneration of plants than slashing.

### Conclusion

Globe artichoke has an important place in one of the most important vegetable crops in the nations surrounding the Mediterranean Region. Also, it is rich in nutritional value due to the presence of high amounts of bioactive phenolic compounds like caffeoylquinic derivatives and flavonoids, insulin, fibers, and minerals. It is considered the most efficacious plant that can cure liver complaints. Hence, there should be more research conducted on this therapeutic plant owing to the presence of insulin in its root system. Along with this, toxicological studies should be regulated so just to acknowledge the boundary between beneficial effects and the risk of toxicity of this plant on human health.

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