

# GROWING AND MARKETING CROSNES



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## Chinese Artichokes or Crosnes: An Introduction

Chinese artichoke is a root vegetable belonging to the mint family, i.e. Lamiaceae. Scientific name of Chinese artichoke is *Stachys affinis*. Chinese artichokes are also known as Crosnes. It is a perennial herb and is commonly cultivated for its small, whitish, edible rhizomes which are used as a root vegetable in many countries.

### Taxonomy

<b>Kingdom</b>	Plantae
<b>Order</b>	Lamiales
<b>Family</b>	Lamiaceae
<b>Genus</b>	Stachys
<b>Species</b>	<i>S. affinis</i>

### Origin and Distribution

Crosnes are believed to be a native of South East Asia, specifically Chinese mainland; and hence it is popularly known as Chinese artichokes. It is widely grown in China, Japan and many other South East Asian countries. Some wild species of these plants are abundantly seen in Northern China. Crosnes are known by different names in different countries. For example, in china it is known as Tsanyung-tzu, while in Japan it is known as Chorogi. Other popular names of this plant are ‘knot root’, ‘Japanese artichoke’, ‘spirals’ and ‘artichoke betony’.

They were introduced to Europe in the 1880s. Chinese artichokes commonly called as ‘Crosnes’ because they are first cultivated in France near Crosne when they were introduced in Europe for the first time and there they enjoyed wide popularity as a popular root vegetable until the 1920s.



## Nutritional Value

A portion of edible tuber consists of 16.6 per cent of carbonaceous ingredients; 3.2 per cent of nitrogenous ingredients and 78.3 per cent water.

## Botanical Description

**Plant:** Chinese artichoke is a low-growing, herbaceous perennial that reaches up to 50 cm in height upon maturity with an equal width of canopy spread (i.e. 50cm across). Leaves are rough, oval-shaped, and bright-green in color. Flowers are small that appear in small spikes and flower color ranges from white to pale pink. Chinese artichokes are grown for their edible tubers.

**Tubers:** Tubers of Chinese artichokes are modified underground stems. Small, ridged tubers that resemble a string of misshapen mottled pearls are formed at the tips of the creeping underground stems. Each of these spiral-shaped tubers is approximately 4-6 cm long with a diameter of about 5cm across. These tubers have an attractive pearly-like sheen because of their ivory-white colored thin skin.

## Food Uses

Since tubers of Chinese artichokes are with a crisp, crunchy texture and the flavor of the tubers is delicate and delicious (a sweet, nutty flavor), it is widely used as an attractive gourmet vegetable in continental cuisines. Chinese artichokes can be eaten raw in salads. Prepare the fresh tubers by blanching them unpeeled before adding in salads. Boiled tubers are also nutritious. Boiled tubers are mashed to prepare a delicious vegetable dish. They can also be stir fried, roasted, baked or added in soups and served with a sauce. Tubers can also be dried, for later use.

Pickled tubers are a priced delicacy in China. In Japan, these tubers are an essential ingredient of Osechi cooked for celebrating Japanese New Year. In France, cooked tubers of Chinese artichokes are often served alongside dishes named japonaise (means 'Japanese styled').

## **Production Practices**

In China and Japan, Chinese artichokes are cultivated on a large-scale. In India it is still considered as a rare vegetable and its cultivation is highly limited in certain pockets. In Europe, France is the only country that grows Chinese artichokes on a large scale.

### **Field Preparation before Planting**

Top soil of the main field should be mixed with farm yard manure and compost to enrich soil fertility.

### **Planting**

Ideal planting time for Chinese artichokes in Asian countries is the spring season. The plants are grown from carefully selected mother tubers. Plant the tubers in March to April in a well prepared field where direct sunlight is available. The plants are relative easy to grow and not much care is needed for the cultivation of Chinese artichokes. Plants are highly productive even under minimal care. Plants generally do not require staking and earthing-up. A light watering is necessary soon after planting the tubers. Care should be taken to keep the field free of weeds. Soil needs to be kept moist always because allowing the growing plants to dry out will make them go dormant during winters.

### **Spacing**

Place tubers 9 inches apart and 4 inches deep. Space rows 18 inches apart.

### **Soil Requirements**

Chinese artichokes prefer well-drained highly fertile soils. Loamy soils are considered to be ideal for their cultivation. Ideal pH is 6.6 to 7.5.

## Harvesting

Harvesting may start from the month of October and may last up to December. The tubers of Chinese artichokes are generally harvested when the leaves have died off during winter. Do not allow even the smallest tuber to be left in the field unharvested as it is a vigorously growing plant it may soon become a menacing weed in the field

## Post Harvest Management

Optimum Storage temperature for Chinese artichoke is 0°C or 32 °F and the desired level of Relative humidity is at 90 – 95 %. Tubers have an estimated storage life of 1 – 2 weeks under room temperature.

## Storage

The best place to store Chinese artichokes is in the ground, so harvest only as much as required at a time. If surplus tubers are harvested, store them in sand

## Marketing

Major markets for Chinese artichokes are France and other European countries, the United States of America, Japan and Chinese Mainland.





**Chinese Artichoke Tubers**

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