

Department of Plant Sciences

ASPARAGUS FOR THE TENNESSEE VEGETABLE GARDEN

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Crop Description

Asparagus (*Asparagus officinalis*) is a monocot, like onions and garlic, and is one of the few perennial crops common in the vegetable garden. If well maintained, this perennial crop can be productive for 10 to 20 years. Asparagus is a cool-season crop that may perform better in eastern or higher elevation areas of Tennessee, but it can be grown throughout the state if planting locations are carefully selected.

Asparagus is one of the earliest vegetables to be harvested from the garden each year, making it a favorite of those who crave something green in spring. It is also a source of vitamins A and C as well as several minerals.



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Planting and Growing

The key to planting asparagus is finding a place where it can grow undisturbed year after year. It is best to plant this perennial crop on the border of traditional gardens or in a separate raised bed or planting area. North- or east-facing locations warm up slower in the spring and can reduce the chance of early season growth being damaged by late spring low temperatures. Sites should have six to eight hours of light each day and have soil with good drainage and a pH of 6.5 to 7.0. Asparagus does not grow well in highly acidic soils, and keeping the pH around 7.0 can reduce the threat of Fusarium. Sandy loam is preferred, and heavy, clayey soils can slow root growth and increase the chance of root diseases.

To establish the planting area, eliminate perennial weeds by plowing deeply and removing all plant parts from the area. Incorporate compost or organic matter to help drainage and apply fertilizer as recommended in the soil test report.

Dig a trench around 6 inches deep for clay soils or up to 10 inches deep for sandy soils. In the spring when soil temperatures have reached 50 F, place the dormant asparagus crowns in the trench with the roots spread out. The crowns are placed around 12 inches apart in the row with about 3 to 4 feet between rows. Place the crown bud side up and slightly higher in the trench than the roots. Cover the crowns until the trench is half full (3 to 5 inches of soil). When the

asparagus sprouts the first year, the trench can be filled the rest of the way. Asparagus can be grown from seed, but it is usually preferred to purchase high-quality, 1-year-old crowns.

In Tennessee, asparagus may need additional summer watering with a soaker hose or drip tape. Adding a layer of mulch in the summer once the ferns (asparagus shoots that grow throughout the season) have developed will help to moderate soil temperature. Light, shallow cultivation at frequent intervals is the best method of weed control. Hand-weeding is typically used because asparagus is a poor competitor against weeds.

In the first few years of establishment, asparagus can be spring fertilized with other garden crops. After three to five years, fertilize asparagus in summer after harvest is complete to support growth of the fern structure that will produce carbohydrates for storage in the roots. Asparagus can benefit from a layer of compost added to the soil surface as a mulch/fertilizer. This is also an asset because crowns tend to grow closer to the soil surface over time.

Male and Female in the Asparagus World

Asparagus is a dioecious plant, which means there are male and female plants that each produce male and female flowers, respectively. Both produce harvestable spears, but male plants generally have a higher yield. So, many hybrid varieties have been selected to be largely male. Older cultivars, such as Mary Washington (that have male and female) will not match the production of these hybrid lines. Rutgers University has bred a line with cultivars including Jersey Gem, Jersey Knight, Jersey King, Jersey Giant and Jersey Supreme. Purple Passion is another hybrid line that has tender, sweet purple spears that turn green when cooked. Keep in mind you need to select the most productive and disease resistant cultivar possible since it may be a decade or more before you plant again.

Harvesting and Storage

Asparagus planted from crowns sometimes can be harvested lightly the year following its planting, although many plantings can benefit from waiting until the third year to harvest. If you choose to harvest in the second year, it should only be for a couple weeks, then the spears (which are shoots) should be allowed to grow and mature to photosynthesize and add carbohydrates back to the plant. In the third year, spears can be harvested for about a month, with harvests increased to six or eight weeks in following years.



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Morning harvests are best when the temperatures are cool and the plants are well hydrated. Snap off spears that are 6 to 10 inches long at ground level. Shorter harvest heights may be needed under warmer conditions to maintain tender spears. Breaking can reduce the opportunity to introduce diseases that are possible when spears are cut below ground level. Spears grow quickly and daily or every other day harvests will likely be needed during the main harvest season. An interesting note for gardeners is that small spears actually may be less tender than larger ones because most of the fiber is in the skin.

It is suggested that all spears be harvested during the harvest period. Then, after that designated period of time, allow the stalks to grow into fern-like shoots that carry out photosynthesis to support the plant and future harvests. Pencil-sized spear diameter in three-quarters of the spears is often used as a guide to know when to discontinue harvests.

Asparagus is best stored at 32-35 F at a high relative humidity (95-100 percent), and it can be held for a couple weeks. However, for home growers, those conditions can be hard to replicate, and asparagus is usually processed or eaten soon after harvest. For short-term storage in the refrigerator, fill a drinking glass with a couple inches of water and put the cut ends in the water.

Common Pests, Diseases and Issues in Asparagus

Asparagus beetles are the main insect pest. These small (1/4 inch) black beetles have yellow/orange markings and feed on young spears while attaching their eggs to the plant material. They can be treated with insecticide in season. The removal of old foliage as soon as it is killed by freezing weather is also important to reduce sites for overwintering.

Rust is a common disease that can infect asparagus, and resistant cultivars are the best option for control. Fusarium, a root-borne disease, is also a threat to small and large roots and plant crowns. Infected spears will show a brown discoloration, and the plant will decline in productivity over time. Maintaining good soil drainage and selecting resistant cultivars are the best control methods as the pathogen persists in the soil and rotation is not possible for this perennial crop.



Image credits: Bob Hammon, Colorado State University, Bugwood.org



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