

Vegetables

Growing Asparagus in Home Gardens

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Asparagus (*Asparagus officinalis*) is a member of the lily family. It has been grown for more than 2,000 years and is quite popular in the home garden today. Asparagus is an excellent source of vitamin A and contains significant levels of calcium, phosphorus, riboflavin, thiamine and Vitamin C.

Plant Characteristics:

Asparagus is a perennial and will produce for many years when properly planted and maintained. It has underground storage roots and compact stems called rhizomes. The roots store food and the rhizomes produce edible shoots or asparagus spears. If the spears are not harvested, they rapidly develop into fern-like bushes 4 or more feet tall. The foliage produces carbohydrates, which is again stored in the roots.

Asparagus has both male and female plants. Both sexes flower and the female plants produce small, round, red berries in the fall. Female plants do not live as long or produce as well as male plants.

Climatic Requirements:

Asparagus is a cool-season vegetable and prefers cool temperatures without frosts throughout the growing season. It is better adapted to the Cumberland Plateau and the high elevations of East Tennessee than to West Tennessee, but will survive and produce significant yields throughout the state given a suitable location.

Location:

It is best to locate asparagus plantings to the side of the vegetable garden with other perennials such as rhubarb, strawberries and brambles. This will keep the plants away from cultivation and other gardening activities. Asparagus should be planted where it will receive a minimum of seven or eight hours of sunlight on sunny days.

North or east slopes are preferable to south or west slopes, as they are slower to warm in the spring. Early-developing asparagus spears are frequently killed by late freezes.

Soil:

Asparagus will survive in any well-drained soil. The best soils for asparagus are deep and loose, such as sandy loams. Heavy-textured clays and shallow soils should be avoided, since they restrict root development and promote root rots. Extremely sandy soils may not retain enough moisture for vigorous asparagus growth. Soils that warm up quickly in the spring promote early growth and harvest. This may be a disadvantage, as developing asparagus spears grow slowly in very cold weather and will be killed to the ground by freezes. Asparagus grows best on soils with a pH of 6.0 to 6.5.



Varieties:

'Martha Washington' is an old, standard asparagus variety. 'Mary Washington' appears to be a newer, improved cultivar. 'Purple Passion' is a relatively new variety with very large spears and a high sugar content.

In the last few years there have been many new hybrid asparagus varieties released. These varieties usually produce all or nearly all male plants. This increases their yield, because male plants produce about 25 percent more than female plants and because of hybrid vigor. These new hybrid varieties have not been fully tested in Tennessee, but they incorporate considerable disease resistance, are widely adapted and appear to be suitable for Tennessee gardens. They frequently produce two to four times more than 'Martha Washington' when grown in other states. These varieties include 'Jersey Gem', 'Jersey Giant', 'Jersey Knight' and 'UC 157.'

Fertilizer and Lime:

Asparagus grows best on soils with a pH of 6.0-6.5. Take a soil sample to determine lime, phosphate and potash levels before planting. Broadcast lime before planting, and 6-12-12 fertilizer or its equivalent before planting and immediately after harvest each year according to the following table:

Lime		6-12-12 Fertilizer	
pH	Pounds per 100 square feet	Soil test level of P ₂ O ₅ & K ₂ O	Pounds per 100 square feet
6.6 and above	0	L-L	4.0
6.1-6.5	9	M-M	3.0
5.6-6.0	14	H-H	2.0
		VH-VH	1.0

In addition, before spears emerge in the spring and after harvest, annually supplement the above fertilizer recommendations with one pound of ammonium nitrate or its equivalent per 100 square feet of asparagus bed.

Planting and Spacing:

Plant asparagus early in the spring while it is still dormant, usually in February or early March.

Asparagus plants can be started from seed, but this is not recommended for home gardeners. Germination of asparagus seed is slow and weeds can be difficult to control. Plants grown from seed are transplanted to a permanent bed the following spring; so asparagus grown from seed also requires a longer time to begin bearing.

It is preferable to purchase 1-year old dormant crowns. This will cut the time before harvest by at least one year and eliminate caring for the tiny seedlings the first year.

Dig a trench 6 to 8 inches deep and place the crowns in the bottom. Space the plants 15 to 18 inches apart and leave 3 to 4 feet between rows. Spread the roots evenly and cover them with 2 to 4 inches of soil. Fill the remainder of the trench after the plants begin growth.

Do not try and fill in skips in an old planting with young plants, as the remaining old plants will inhibit the growth of smaller, younger plants. If seedlings appear in an old planting, they are best pulled out or transplanted to another area.

Irrigation:

During the first growing season, apply sufficient water to wet the soil 1 foot deep once a week. If it doesn't rain, this may require as much as 1 inch of water. After the first growing season, watering every other week is usually sufficient. A 2-inch layer of an organic mulch such as shredded leaves or pine needles will be of considerable help in retaining moisture, as well as in reducing weed growth. Mulch will also reduce fluctuations in soil temperature during the winter which, in turn, will reduce the incidence of crown rot.

Trickle or drip irrigation is preferable to sprinkler irrigation, as it reduces the possibility of foliage diseases. These systems may need to be run for two or more hours to wet the soil to the required depth of 1 foot.

Weed Control:

Weeds must be controlled if asparagus is to perform well. They can be pulled or removed with a hoe, cultivator or rototiller, but cultivation must be shallow to avoid damage to the asparagus roots.

Organic mulches such as grass clippings, straw or leaves help control weeds, as well as retaining moisture. Apply a 2- or 3-inch layer in the fall after the foliage dies. This will reduce weeds throughout the year. The asparagus spears will emerge through the mulch in the spring.

Do not use table salt or other salts to control weeds in asparagus. They build up in the soil and reduce yields, as well as shortening the lifespan of the asparagus planting.

Disease Control:

Asparagus is subject to asparagus rust and fusarium root or crown rot.

Rust appears as small, reddish-yellow spots on the stems near the ground. Spores may be scattered by the wind and, if sufficient moisture is present, all the plants may be infected. Rust is most effectively controlled by planting resistant varieties, such as those listed in this factsheet. Chemical controls are also suggested in Extension PB 1215, "**Disease Control in the Home Vegetable Garden.**" This publication is free to Tennessee residents at county Extension offices.

Fusarium rot attacks feeder rootlets, main storage roots and plant crowns. It weakens and eventually kills plants. It rarely produces wilt symptoms, except on young shoots of seedlings. The fungus builds up in the soil and persists for many years. Asparagus spears infected with fusarium may show a brown surface discoloration. The varieties in this publication have some tolerance to fusarium. In addition, gardeners should always plant asparagus in well-drained soil, avoid replanting in old asparagus beds and keep crowns cool during the winter by using organic mulches.

Insect Control:

Asparagus beetles are the main insect attacking asparagus. They are 1/4 inch long, blackish beetles with yellow-to-orange markings on their wings. They overwinter as adults in trash around the garden and in old asparagus stalks. The adults feed on young spears and attach tiny, black eggs to both spears and foliage. Larva hatch from the eggs and feed on the plant. In severe infestations, most of the foliage may be damaged.

Begin control of asparagus beetles by removing old foliage as soon as it is killed by freezing weather. Burn this

residue or turn it under. Asparagus beetles are easily killed by available home garden chemicals. Specific recommendations are found in Extension PB 595, "**You Can Control Garden Insects.**"

Harvesting:

Asparagus should **not** be harvested the year it is planted. A light harvest of about two weeks the second year will increase the number of buds on the crowns and result in subsequent higher yields. Harvest for about four weeks the third year and six to eight weeks thereafter.

Harvest by snapping the spears off at the ground level when they are 6 to 10 inches tall. This will result in less damage to unemerged spears and less chance of introducing disease into the plant than the traditional harvesting method of cutting the spears below the ground level. It is desirable to harvest at least every other day during cool weather and every day during warm weather to prevent spears from growing too tall. Too many spindly spears indicate weak storage roots. Cease harvest for the season if too many spindly spears appear. Additional fertilizer may be needed and the harvest season may need to be shortened in future years.

Useful References:

There are many other Tennessee Agricultural Extension Service publications which contain information useful to home gardeners. Some of the more popular are listed below:

- PB 595 You Can Control Garden Insects
- PB 901 Growing Vegetables in Home Gardens
- PB 902 Growing Small Fruits in Home Gardens
- PB 1215 Disease Control in the Home Vegetable Garden
- PB 1228 Gardening for Nutrition
- PB 1391 Organic Vegetable Gardening
- SP 291-A Growing Vegetable Transplants for Home Gardens
- SP 291-B Growing Vegetables From Seed
- SP 291-C Soil Preparation for Vegetable Gardens
- SP 291-D Care of the Vegetable Garden
- SP 291-E Growing Sweet Corn in Home Gardens
- SP 291-G Fall Vegetable Gardens
- SP 291-H Mulching Home Gardens
- SP 291-I Weed Control in Home Gardens
- SP 291-K Tomatoes for the Home Garden
- SP 291-L Fresh Vegetable Storage for the Home Owner
- SP 291-M Planning the Vegetable Garden
- SP 291-N Raised Bed Gardening
- SP 291-O Guide to Spring-planted, Cool-season Vegetables
- SP 291-P Guide to Warm-Season Vegetables
- SP 291-Q Rhubarb in Home Gardens

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