

Asparagus in the Home Garden

by Henry G. Taber and Vince Lawson

Asparagus, one of the most popular spring vegetables, is a hardy perennial plant that produces edible spears earlier than any other garden vegetable. Asparagus (*Asparagus officinalis*) is a native of central Asia but is grown throughout the world. For more than 2,000 years, it has been cultivated for food and valued for its medicinal properties. Early colonists brought it to America as seed.

Asparagus is a wholesome, nutritious food whether used fresh, frozen, or canned. It is low in calories but high in flavor. A serving of four spears of asparagus contains just 10 calories and only traces of fat. Compared to other vegetables, asparagus is a good source of vitamins A, B1, B2, riboflavin, and thiamin.

Asparagus requires little care. Plantings will produce good crops for 15 to 20 years if soil conditions are favorable and if good cultural practices are followed.

Site Selection

Asparagus grows on almost any type of well-drained soil. It will not tolerate poorly drained soil. A deep loam or sandy loam is best. Select a location on the edge of the garden or nearby that does not interfere with annual garden tillage and management.

The site should receive full sunlight and not be shaded by trees or buildings. Plant on the north side of the garden to avoid shading other vegetables.

Soil Preparation

Since asparagus occupies an area for several years, give careful attention to soil preparation before planting. If manure is available, turn it under in the fall, preceding planting. If you only have a small amount of manure, put it in the bottom of the furrow at planting. Leaves, sawdust, or other organic materials may be used if manure is not available. If coarse, fibrous material is used, supplemental nitrogen fertilizer should be added to aid decomposition and to prevent a nitrogen deficiency. See PM 820, *Garden Soil Management*, for more information on soil amendments.

A soil test to determine fertility needs and soil pH is advisable. A neutral to slightly acidic (pH 6.7–7.0) soil is optimum although good production can be expected on slightly alkaline soils (pH 7.0–7.4). If a soil test indicates a pH below 6.0, apply limestone.

A soil test also determines the levels of essential plant nutrients in the soil. For small plantings, a “complete” fertilizer may be used if a soil test has not been made. Apply a 10-10-10, 12-12-12, or similar analysis fertilizer at 1.5 to 2 lb. per 100 sq. ft.



Space asparagus crowns 12 to 18 in. apart in the furrow. Spread the roots out to avoid crowding.

Cultivars

Many new asparagus cultivars have been introduced in recent years. Many of these new cultivars are “male” hybrids. Asparagus is a dioecious plant, meaning there are separate male and female plants. Female asparagus plants produce berries that drop from the plant, self-seed, and can create a crowded planting. Male plants live longer, yield more, and eliminate the seedling weed problem. Yields of the male hybrids can be 1.5 to 3 times higher than Martha Washington and Watham Washington cultivars. Jersey Giant and Jersey Knight are rust-resistant, fusarium-tolerant male-hybrid cultivars recommended for Iowa gardens.

Purple Passion is a distinctive cultivar that home gardeners may wish to try. It has large spears with purple coloration and a taste sweeter than other cultivars.

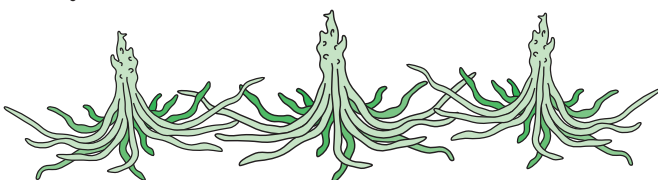
Home gardeners find it more convenient to buy crowns for planting than to grow from seed. (Commercial growers often produce their own crowns from seed to reduce planting costs, but this procedure requires an extra year before the asparagus comes into production.)

One-year-old crowns are better than 2- or 3-year-old crowns for transplanting. It is not advisable to establish a new bed with old crowns from an old planting. Older crowns are difficult to dig and are injured in the process, resulting in reduced yields.

Planting

Early spring is the best time for planting. Research in Iowa has shown heavy plant loss from fall planting. Planting depth varies with soil type. A planting depth of 6 to 8 in. (6 in. from the top of the crown to the soil surface) is sufficient on light, sandy soils. A 4-in. planting depth is recommended on heavier soils.

Space the crowns 12 to 18 in. apart in rows 4 to 5 ft. apart. The bottom of the furrow should be wide enough to accommodate the roots without crowding. Spread the roots, with buds up, and cover with soil. It is not necessary to fill the furrows in gradually when planting the hybrid cultivars.



Weed Control

Weeds can become a major problem in asparagus production. In established plantings (3 years after transplanting), a thorough tilling before spring growth begins is a helpful control measure. Another shallow tilling about May 15 with a third tilling when the cutting season ends will usually keep most weeds under control.

Common salt is not effective in controlling weeds in asparagus. Furthermore, continued use may eventually cause undesirable soil structure and reduce yields in future years.

Asparagus grows naturally on the banks of streams and near salt marshes, where the salt content of the soil is high and the pH somewhat alkaline. Asparagus will thrive in soils having a salt content too high for many other vegetables. However, research at Iowa State University has shown that salt killed broadleaf weeds, such as pigweed and lamb's-quarter, but only stunted the grasses. They also found that the grasses quickly recovered after a rain. No evidence was found of salt benefiting the asparagus. In many instances, the salt reduced the stand and yield.

Several chemicals for controlling weeds in asparagus have come into use in recent years. These can be expected to give good results if carefully applied at the proper time (see table 1). Follow label directions and precautions to prevent damage to sensitive vegetable or ornamental crops. Do not spray asparagus after the spears have emerged. It is a good idea to reserve one sprayer tank for weed control only. If the same tank is used to apply pesticides to sensitive crops, it should be cleaned thoroughly several times with water containing a detergent.

Insect Pests

Asparagus Beetles

Two closely related but different-looking insect pests, the asparagus beetle and the spotted asparagus beetle, occasionally attack asparagus beds in Iowa. When the shoots appear in the spring, these beetles emerge from their sheltered, overwintering locations to chew on the tips and buds of spears. Shoots are disfigured, scarred, and brown.



Both species of the asparagus beetle are oval shaped and about 6 mm long (.25 in.). The asparagus beetle is a brilliant, metallic blue-black with 6 large, square, yellowish spots. The spotted asparagus beetle is reddish orange with 12 prominent spots.

Asparagus beetles feed on asparagus spears causing them to be disfigured, scarred, and brown. They also will weaken plants.

The beetles lay eggs on the shoots. Larvae of the asparagus beetle are dark green to gray, black headed, grub-like, and about 6 mm long (.25 in.). Larvae feed on the shoot tips and foliage and produce a brown stain on the spears. This makes much of the crop unusable and also weakens the plant, reducing yields the following year. Larvae of the spotted asparagus beetle are similar in size and appearance to larvae of the asparagus beetle, but they are orange. They bore into the developing berries to feed.

Control

Keeping weeds and debris out of asparagus beds reduces sites for the adult beetles to overwinter. A prompt and complete harvest also helps prevent establishment of

larvae. If you have a limited number of plants and beetles, handpicking may be an appropriate control. Populations of the spotted asparagus beetle larvae can be reduced by gathering and destroying infested berries. Natural and domestic predators (ducks, chickens) can help slow population buildup during the summer.

Insecticide dusts or sprays can be applied to spears or foliage as needed when adults or larvae are present. Labeled compounds include methoxychlor and Sevin. Read and follow all label directions before use.

Aphids

Large populations of aphids occasionally build up on asparagus ferns. These can be easily controlled by “washing” the aphids from the plants with a forceful stream of water from the garden hose. Detergent sprays made by mixing liquid dishwashing detergent in water (prepared to a concentration of 1 to 2 percent detergent) also will be effective. The insecticides mentioned under asparagus beetle control will help control aphids.

Harvesting

Allow asparagus plants to become well established before any spears are harvested. No spears should be cut the first year. Harvest only for 4 weeks the second year. Extended harvesting the first 2 years after planting will slow the development of the crowns and reduce future yields. Harvest in the third and following years should

Table 1. Herbicides for asparagus

Herbicide formulation	When to apply	Amount to apply	Weeds controlled	Remarks
Poast 1.5E	Apply to actively growing grass.	A 1% solution plus crop oil. Spray emerged grasses.	Annual grasses, except bluegrass	Do not apply more than twice per season.
Sencor 50W or 4F or Lexone 50W or 4L or 75DF	Apply in spring before spears emerge.	$\frac{3}{4}$ –1½ oz./1,000 ft. ² of 50W or 1½–3 tbsp./1,000 ft. ² of 4L or 4F or 0.4–1 oz./1,000 ft. ² of 75DF	Annual grasses and broadleaves	Do not use on newly seeded asparagus. Total dosage should not exceed 2 lb. active ingredient/A/yr. Two applications may be necessary for good season-long control. 6–8 wks. residual activity.
Roundup Ultra	Apply immediately after the last harvest when all spears are snapped off.	3 fl. oz./gal. of water; apply to foliage until runoff.	Emerged milkweed, field bindweed, quackgrass, and other perennial weeds	Apply immediately after harvest. Do not let herbicide contact emerged spears or fern growth.
Treflan EC	Apply and incorporate in early spring after old fern growth is removed, yet before spear emergence.	2.25–4.5 tsp./1,000 ft.	Annual grasses and some broadleaves	Established plantings only. 4–6 wks. residual activity.

To treat 1,000 sq. ft., use 1 to 3 gal. of water. Where more than one rate is given, use the lower rate for lower organic matter, sandy soils, and the higher rate for higher organic matter, fine-textured soils.



Harvest asparagus spears when 6 to 8 in. long. Discontinue harvesting established beds by June 15.

not continue beyond June 15 in Iowa. This allows the plants to develop strong, healthy tops and to produce enough food reserves in the crowns for next year's production.

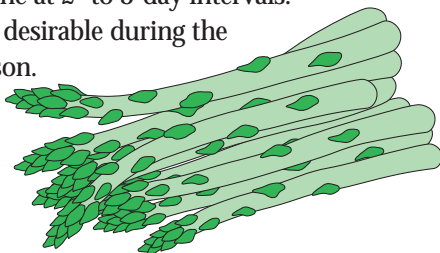
The previous season's topgrowth can be used as a guide for the harvest period. The greater the topgrowth, the greater the next season's crop. If you start harvesting early because of warm spring weather (before April 15), be sure to stop before the June 15 date. Production from an asparagus planting should increase annually up to the seventh or eighth year and then continue at or very near this high level for several seasons. A poor, first-year stand is the greatest single cause of poor yields.

For maximum yield, spears should be 6- to 8-in. long when harvested. Tender spears are sensitive to frost damage; so in early spring it is advisable to cut the spears prior to the 8-in. height. Harvest by cutting or snapping the spears. Use a sharp knife to cut the spears at the soil surface. Cutting below the soil surface may damage spears that have not yet emerged. Breaking or snapping also is a satisfactory method for harvesting asparagus. Break or snap the spears slightly above the ground.

How often one should harvest depends on temperature and moisture conditions. If temperatures are high, it may be necessary to harvest every day. In cooler periods, cutting may be done at 2- to 3-day intervals.

"Clean cutting" is desirable during the entire harvest season.

Any fern growth will delay or stop the development of new spears.



Asparagus deteriorates rapidly after harvest. Keep the spears cool (35° to 40°F) in order to retard fiber development.

After Harvest Care

The care an asparagus planting receives after the harvest season is important to future yields and quality.

Incorporate approximately 50 lb. of manure per 100 sq. ft. into the soil when the asparagus tops are tilled in late fall or early spring. Adding manure eliminates the need to apply 1 to 1.5 lb. of a 1-1-1 fertilizer ratio, such as 10-10-10 or 12-12-12, per 100 sq. ft. in the spring before the spears emerge. After the last harvest in mid-June, apply .10 lb. of actual nitrogen per 100 sq. ft. (such as .3 lb. of ammonium nitrate 33-0-0).

Allow asparagus tops to grow after final harvest. This topgrowth provides the food material stored in the fleshy roots and crowns. Removing the tops during the growing season can seriously reduce future yields. Leave the tops standing over winter to catch and hold snow. This prevents deep freezing and sudden changes in soil temperature. Remove the dead tops early in spring before growth begins.

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The potential for contamination of surface and groundwater with pesticides is increased by usage that does not conform to label directions. Iowa State University Extension recommends that pesticides be selected and applied in accordance with label directions. It is illegal to apply a pesticide in a manner inconsistent with its labeling. Applicators should read and follow all label directions, including the use of protective clothing, mixing and handling precautions, rates and methods of application, and environment hazard warnings.

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