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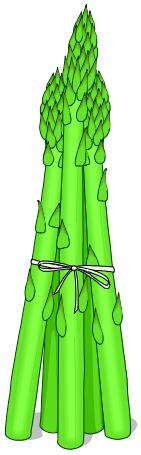

Asparagus

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Asparagus is a perennial vegetable which lives for many years if properly planted and cared for. It may be harvested early in the spring to provide a healthful and palatable fresh vegetable. It may also be canned or frozen. Fresh asparagus deteriorates rapidly after cutting, losing the original tenderness and sugar content. Best quality is enjoyed by cooking, canning, or freezing immediately after harvesting. Asparagus is valuable not only because of its delicate flavor but also for its high nutritive content. A cup of cooked asparagus provides ⅔ of the recommended daily adult requirement of vitamin C, ⅓ of the vitamin A, and 1/10 of the iron. Also, it is so low in sodium that it is an ideal vegetable for those on low sodium diets.

Soils

Sandy loam or loam soils that have a well-drained subsoil and are above average in fertility and organic matter content are particularly adapted for growing asparagus. Heavier soils may be improved for growing asparagus by adding well-rotted manure to improve the structure and tilth of the soil. Soils with an impervious layer, or hardpan, or those with a water table within 3 feet of the surface should be avoided. Since asparagus will remain for many years, it is important to prepare the soil carefully by removing any rocks or perennial weeds which will impair the emergence of the tender asparagus spears and reduce yields.

Varieties

Asparagus plants are dioecious, having male and female flowers on separate plants. Asparagus researchers have been interested in developing clonal varieties of male plants. The principal advantage is that less energy is required of the plants if they do not produce seed. Also, the many seeds which are dropped from the mature plants become weeds and compete with the stand of asparagus. With the use of tissue culture, it has been possible to produce all-male plants of excellent productivity and uniformity. The first of these cloned hybrids is Jersey Giant. Other Jersey hybrids which may become available are Jersey King, Jersey Greenwich, Jersey Titan, Jersey Knight, Jersey Gem, Jersey Prince, Lumbras, Lucullus, and Centennial.

Selections, such as 500 W and US 157 from California, may not be as well adapted to the

cooler climates of Utah. The variety Viking KB3 selected by the Stokes Seed Company in Buffalo, New York, is well adapted to the cooler climates of the United States and Canada.

Growing Asparagus Crowns

If only a few plants are to be grown in the home garden, it is best to purchase one-year-old crowns from a seedsman or nurseryman. On the other hand, if a larger planting is desired, or if the newest varieties are not available as crowns, or if one desires to grow asparagus from seed rather than risk the introduction of root rots, the following procedure should be used. Asparagus seed grown in the garden may emerge as plants 4-6 weeks later, depending on the soil temperature, moisture, and depth of covering. Asparagus seed absorbs water and germinates slowly at temperatures below 70 degrees. The best temperature for germination is 75–85 F. In order to enhance germination, the seed should be soaked in 85–95 F water for 4 or 5 days. After soaking, the seeds should be placed on dry newspapers to absorb the surface water and then planted at once. It is important to plant the seed for the crowns early in the season so that vigorous plants will be produced which will develop large roots for transplanting. Space the seeds so the crowns will be 6" apart in the rows. Since the seed germinates slowly in the garden, it would be wise to sow radish seeds in the row of asparagus seed. This will help to mark the row to facilitate cultivation. The radishes should be removed as soon as the asparagus plants emerge. There is an advantage in growing your own crowns in the garden; these crowns may be replanted immediately after digging from the seed row. If crowns are allowed to dry from the time they are dug until the time they are transplanted, the recovery and yield will be reduced.

Growing Transplants

One other method of growing asparagus is to plant seeds in small, independent pots or trays in the greenhouse 9–12 weeks before transplanting in the garden. The ideal timing for transplanting directly-grown seedlings in the garden is in April, depending on the earliness of the season. These transplants should be planted in place as the asparagus bed is established, just as the root crowns would be planted.

Planting the Bed

Asparagus crowns or transplants should be planted in well-prepared wide furrows approximately 8" deep on sandy loam soil. The planting is usually 6" deep on heavier soil. Since asparagus crowns thicken, spread, and grow a little nearer to the surface each year, it is important to plant them deeply enough so that the fern which develops after the cutting season may be removed and the asparagus rows rotovated in the early spring without injuring the crowns. It is possible to hill an inch or two of soil over the crowns in older beds so that tilling will not injure the crowns as they become larger.

Maximum spear size of asparagus develops with approximately 5" of soil over the crown during the harvest. Each crown should be placed in the bottom of the furrow with the roots spread and the buds facing upward. The crowns should be covered with 2" of soil, lightly tamped down, and then irrigated to settle the soil firmly around the roots. Transplants are also placed in the bottom of 6" or 8" deep furrows. As the small fern develops, the soil is gradually filled around the developing ferns until the furrow is filled in, about the later part of summer.

Irrigation

The soil around the roots should never be allowed to become dry. This is particularly important because when first planted, only about 2" of soil is placed over the crowns. As the soil is filled in, irrigation water should be provided to maintain a good moisture content throughout the growing season. Maximum growth occurs when the soil is well supplied with moisture. This is particularly true for new plantings. Trickle irrigation would be a very effective means of supplying adequate irrigation because soil moisture can be maintained almost continuously in an ideal range by frequent applications of controlled amounts of water.

Harvesting

No asparagus should be harvested from a new bed during the first season. It may be possible to cut a few spears from the highly vigorous hybrids, such as Jersey Giant, in the second season. By the third season, the cutting might continue for two or three weeks. The harvest may last 6-8 weeks in the fourth and later seasons. Harvesting should be stopped when there is a general decrease in the length and diameter of the spears.

One method of harvesting is to simply snap off the spears after they have developed 6–8"of growth above the level of the soil. Another method is to use a special asparagus knife with a long blade which is placed near the shoot to be cut and the blade is forced straight down to the desired depth before tilting the knife to make the cut. The cut spears are usually 9–10" long. When using a knife, the spears should be cut no closer than 2" from the crown. Careless cutting with a knife will injure other spears that are developing below ground so they will be deformed and misshapen.

Fern Renovation

After the cutting season, the ferns should be allowed to develop in order to manufacture sufficient food material to produce spears for the following spring. To insure maximum growth of ferns, it is well to fertilize the bed after the cutting season with 1 lb of 10-20-0 (or its equivalent) per 100 sq ft. After spreading the fertilizer, it should be rotovated into the top 3" of the bed. Care should be taken not to rotovate more deeply, or injury may result to the root crowns.

The ferns are then allowed to grow throughout the remainder of the season. As the cold weather approaches and the ferns turn brown, they may be rotovated into the surface of the soil with the addition of 1 lb of ammonium nitrate per 100 sq ft of area. If a large amount of fern develops which may not easily be rotovated into the soil, it may be possible to compost this organic material. The fern growth should be saved as a compost or rotovated into the soil, as it is the equivalent of approximately 8 tons of manure per acre on the basis of the organic matter it contains. The ferns should not be cut or rotovated until they are completely brown because food material is being translocated into the root whenever there is any life in the ferns.

Disease Control

The principal diseases which affect asparagus are rust, and fusarium root and crown rots. The new hybrids carry a good resistance to asparagus rust. The best control for fusarium rots is to plant asparagus on new soil which has not previously grown asparagus and then be careful not to cut the spears to the point of weakening the plants before the fern is allowed to grow in order to

replenish the food reserve in the crowns. If the spears are cut too long, the plants become weak and are more susceptible to the fusarium rots.

Insect Control

Several insects may be troublesome on asparagus plantings but usually they are not present at the same tine and those that are observed may be controlled by appropriate insecticides. Common insect pests are aphids, thrips, slugs of asparagus beetles, and cutworms. If insects are observed, they should be identified and control measures applied according to current recommendations in gardening bulletins.