

## Bare-Root Fruits and Vegetables

Asparagus | Blackberry | Blueberry | Horseradish | Raspberry | Rhubarb | Strawberry | Currants | Gooseberries

*Thank you for ordering plants from Harris Seeds. We know you will enjoy the pleasures of growing and harvesting your own fruits and vegetables. Below you will find some general guidelines on transplanting, growing, and pruning your plants, resulting in high quality, fresh produce you are sure to enjoy!*

### An important note about bare-root plants

You may be a little startled when you first encounter a 'bare-root' plant. This is simply a plant that has had the soil washed from its roots to facilitate shipping, and to help prevent the transfer of soil-borne pathogens and pests. Our bare-root plants are shipped to you in a dormant state, just prior to your planting season. Be sure to plant them as soon as possible, ideally within 48 hours, before the plants break their dormancy. If you must delay planting, bare-root plants may be stored in the refrigerator for several days, or in a cool area at 32-45°. Before planting, unpack your plants and submerge the roots into a bucket of water for 1 hour so the roots will begin to absorb moisture (except for asparagus roots, which should be kept dry).



### Asparagus, Horseradish, Rhubarb, and Strawberry plants

At shipping time, your plants will just be emerging from dormancy. Try to plant them immediately to avoid any plant injury. Be sure to water plants regularly to help get them established. Asparagus crown roots may have a small amount of mold on them, and that is normal. This can be cleaned off before planting with a cap full of bleach mixed with a gallon of water.

## Asparagus

Asparagus grows best in well-drained, fertile soils with a pH range of 6.8-7.2. Apply enough lime to bring the pH up to the necessary level. When choosing your site, plan for a permanent spot that is in a sunny location.

### Planting

In early spring, apply a balanced garden fertilizer, such as 5-10-10 at a rate of 5 lbs. per 100 sq. ft. Till your soil deeply, making sure to work in all of the fertilizer. Make sure your bed is free of weeds, then make furrows about 8-10" deep and 4-5' apart. Plant the asparagus crowns approximately 12-14" apart within the row. Cover with only 2" of soil.

As the plant produces ferns, slowly fill in the trench. By the end of summer, the trench should be at soil level. In early August, side-dress the plants with 5-10-10 at a rate of 1 lb. per 20 linear feet. Work lightly into soil, being careful not to disturb the crowns and fern. Allow the ferns to grow all season, keeping it weed-free and irrigating as needed.

### Maintenance

In early spring of the following year, cut the old ferns to ground level. Broadcast lime and 5-10-10 at a rate of 1½ lbs. per 100 square feet. Work lightly into soil taking care not to injure the crowns. Each year, a split application of 5-10-10 before and after harvest should be enough to maintain healthy plants.

### Harvesting

You should be able to begin harvesting your asparagus the year after planting, but only cut for about 2 weeks. The next year cut only for about 4 weeks. The 3rd season you should be able to harvest for the entire season. Probably the easiest method of harvesting is to simply snap the spear off at its base. After harvest, be sure to maintain good growing conditions. Allow the ferns to grow throughout the entire season and remove only after they have naturally died back. The ferns help to nourish the crowns, which should increase in size each year.

# Blackberries and Raspberries

## Soil Preparation

Blackberries and Raspberries will perform best in well-drained loamy soil, with a pH of approximately 6.5 to 7.0, that has been supplemented with compost or manure. Plant in a sunny location.

## Planting

Plant once the ground is workable. Dig a hole 12" wide and deep enough so that when set, the stem will be approximately 2" lower than they were in the nursery. (You should be able to tell by the dried soil line on the stem.) Make a small cone in the middle of the hole and spread roots evenly around cone. Fill hole with soil, tamping firmly as you go. Water well.

Raspberries should be planted 30" apart in 7-8' rows. Blackberries should be planted 3' apart in 8' rows. Both types should NOT be planted in areas where eggplants, peppers, potatoes or tomatoes have been grown in the previous 3 years due to possible infection of verticillium wilt fungus.

## Fertilization

At planting time, sprinkle a balanced garden fertilizer such as 10-10-10 on top of the soil once the plants are planted, at a rate of ½ to ¾ lb. per 100 sq. ft. For established beds, apply 1¼ lbs. per 100 sq. ft. early in the season.

## Pruning

**Raspberries:** Raspberries can be pruned in a couple of different ways. The summer fruit is produced on canes that developed the previous season. The fall fruit is produced on canes that develop in the current season. If you want fruit both in summer and fall, keep in mind that the summer fruit will generally be smaller than the fall fruit. In early spring before the buds open, prune out the dead, weak or damaged canes, leaving about 4-6 healthy canes per square foot.

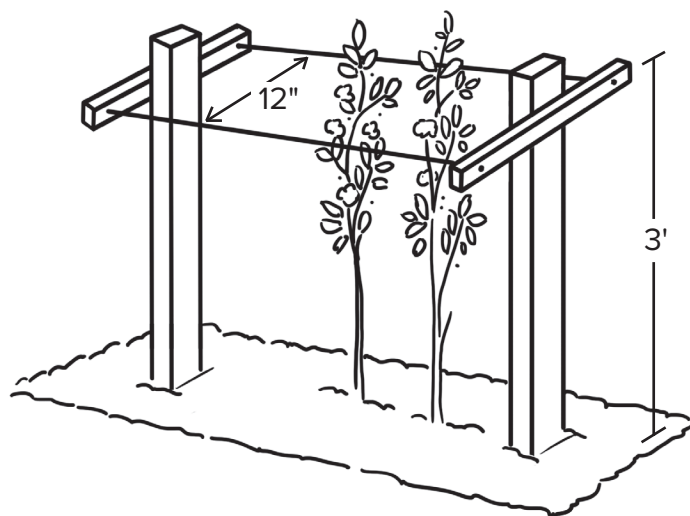
Then prune the remaining canes to about 4-5'; that is where the majority of fruit production occurs. If you want only fall fruit (this will cause the plants to produce a particularly heavy fall crop), cut or mow the entire plant back to 1-2" in the fall, after all leaves have dropped. (All refuse should be either burned or put in the trash, because they can harbor disease. DO NOT put them in your compost!)

Because raspberries propagate themselves by underground suckers, pull out the suckers you don't want. Pruning them will only cause more suckers to grow.

**Blackberries:** Blackberries produce fruit on the previous season's wood. In mid-summer, snipping the tips off the new canes when they are about 3' tall will cause them to send out lateral branches that could more than double fruit production the following season. In the spring, remove all but 3-5 strong canes and cut the laterals back to about 8-10". Each bud on the laterals will bear several clusters of berries. Once the fruit-bearing canes have finished producing, they should be cut back.

## Bird Protection

Birds love raspberries and blackberries! To protect your harvest, you may want to consider bird netting such as Bird-X, or a light, non-woven covering such as any of the floating row cover products listed in our Harris Seeds catalog and at harriseseeds.com.



## Trellising

Trellising your raspberries will help keep them manageable as well as provide better aeration and light infiltration. A recommended trellis is the T-bar system that supports 2 wires, 12" apart at 3' above the ground. Plants should be trained to grow between the 2 wires.

## Blueberries

Your order of blueberries includes two different varieties, because blueberries are self-sterile, and two separate varieties are necessary for cross-pollination and flower and fruit set. Therefore, it is important that both varieties be planted near each other to ensure cross pollination. Plant them in a sunny location. Once established, your blueberry plants may last well up to 20 or more years provided they are well cared for.

### Soil Preparation

Blueberries like an acidic soil with a pH range of 4.0 to 5.0. If your soil is more alkaline, add ammonium sulfate. It is best to adjust the pH well in advance of planting; test your soil in the fall before spring planting.

### Planting

Space your blueberries about 5' apart. Dig a hole double the size of the root system and plant the blueberries using a combination of soil and peat moss to fill the remainder of the hole. Do not plant too deep; try to keep the lower roots no more than 5" below the soil line and the top roots no more than 1" below the soil line. Once planted, tamp soil firmly around roots and water thoroughly. Now prune  $\frac{1}{3}$  to  $\frac{1}{2}$  of top growth. By reducing top growth, root development is stronger and new vegetative growth will increase. This helps the root system become well established.

### Fertilization

Blueberry roots are very fine and cannot absorb strong fertilizers. Over-fertilization may cause burn. Ammonium sulfate is probably best used when the plants are well established, using no more than 1 tsp. for a 5-6' tall plant.

### Mulching

Mulching your blueberry plants will help with water retention and general plant health. Apply a heavy layer of wood chips, bark or aged sawdust.

### Pruning

Prune your blueberry bushes in early spring, prior to breaking dormancy. Remove thin, weak and old wood. If you find that your plants are producing numerous, but small berries, try cutting back the tips of the canes so that only 4-5 fat flower buds are left on each twig.

### Bird Protection

Since birds enjoy blueberries as much as humans do, you may want to consider covering your bushes in bird netting once the fruit has set. We recommend the Bird-X that is listed in the Harris Seeds catalog and at [www.harriseseeds.com](http://www.harriseseeds.com).



## Strawberries

### Soil Preparation

Strawberries will perform best in full sun and well-drained soils with a pH at 6.5-6.8. Avoid areas where peppers, potatoes or tomatoes were grown in the previous 3 years due to possible infection of verticillium wilt fungus. You may want to consider planting your strawberries on a raised bed. This is especially useful for soils with poor drainage and also promotes larger berries. Into the top 8-12" of soil, dig in a 2-4" layer of well-rotted manure or compost OR work in a 10-10-10 garden fertilizer at a rate of  $\frac{1}{2}$  lb. per square foot.

### Planting

Plant as early as possible in the spring. Snow or light frost should not hurt the plants. Space plants approximately 12-18" apart. Your planting hole should be deep enough for the roots to be placed straight down into it. When planting the crown, make sure that half the crown is below the soil line and half above. Planting too deep or too shallow will inhibit growth. As runners are produced, set them in the ground (hairpins work great!) to help them in rooting. To help direct energy to establish the plant the first season, pull flowers off until late summer, giving yourself a fall crop. For following seasons, let blossoms mature for an early summer and fall crop.

### Mulching

Mulching your strawberry plants will protect the crowns from freezing and thawing in areas where average night temperatures fall below 20° F. Cover the strawberries with a 3-4" layer of clean straw or hay. In early spring, pull mulch off the plants, but keep it surrounding the plants. This will help in weed control and prevent fruit from resting on the soil.

## Horseradish

### Soil Preparation

Select a sunny site in an area that has rich, well-drained soil. Till the soil to a depth of about 12".

### Planting

Plant in spring when the soil can be worked. Dig a furrow to a depth of 6-8", spacing the roots about 18" apart, with the flat, cut end facing up. Place roots at a 45° angle, with the fatter end up and the smaller end down. Cover with 2-3" of soil. Fertilize generously with compost, manure or garden fertilizer.

### Harvesting

Allow the root to develop by not harvesting the first season. Roots can be harvested after the first killing frost or in early spring before new growth begins. Lift plants and roots with spading fork. Wash off roots and store in clean, plastic bag in the refrigerator. Leave some small roots in the garden for next year's harvest.

### Horseradish Sauce

Wash and peel roots. Grate roots into bowl, making sure you are in a well ventilated area. Mix in white vinegar and salt (if desired). Store in a tightly capped jar in the refrigerator.

## Rhubarb

### Soil Preparation

Rhubarb is easy to grow in a sunny spot and makes a fine complement to grow along with other fruits. Rhubarb is a heavy feeder so it is important to mix in a good amount of fertilizer and compost into the soil before planting.

### Planting

Space plants 3' apart and space rows 5-6' apart. When planting the bare-root clump, the new buds should be about 1" below the soil. Rhubarb can take two or three years to become fully established. It grows quickly in the spring and can be harvested until early summer. Remove seed stalks from plants as soon as they emerge for faster, more robust vegetative growth.

### Harvesting

Rhubarb is ripe when the stem is mostly red and shiny. The duller colored stems are more mature and tend to be tough. To harvest, hold the stalk near the base and pull sharply or cut with a sharp knife at ground level. For larger future crops it is suggested not to harvest the first year allowing plants become more established.

## Currants and Gooseberries

### Soil Preparation

Currants and Gooseberries will perform best in rich, well drained soils with a pH of 6.0 to 6.8. Choose a sunny or partially sunny spot, but avoid south facing slopes as too much sun exposure can be damaging. For heavy clay soils or other soils with poor drainage, you may want to consider planting in raised beds. It is ideal to prepare your planting site well ahead of planting, especially in cases where amendments are needed to alter soil texture or pH. Fall site preparation is recommended for spring planting. Eradication of perennial weeds is recommended to eliminate competition. General purpose fertilizer or compost can also be added during site preparation if done well in advance. Do not add fertilizer at time of planting.

### Planting

Roots can be soaked in clean water for 1-2 hours before planting. Plant as soon as possible in early spring. Space Red Currants, White Currants and Gooseberries 3'-4' in between plants and 6'-8' in between rows. Black currants are more vigorous and should be spaced 4'-5' in between plants and 8'-10' in between rows. Before planting, trim stems to 6-10" above previous planting level. Dig a hole deep and wide enough to cover the roots. Plant at a slightly deeper depth than previous planting level. Irrigate plants well, especially during first season.

### Mulching

Mulching your currant and gooseberry plants will help with water retention and general plant health. Apply a heavy layer of wood chips, bark or aged sawdust.

### Fertilization

A balanced application of a 10-10-10 fertilizer is beneficial in spring and/or summer. Do not apply fertilizer at time of planting. Alternatively, you may use a top dressing of compost annually to provide soil fertility

### Harvesting

It is recommended to remove first year flowers/buds in order to encourage root growth. Second year harvest will be limited, with full harvest potential usually occurring in the third season.

### Pruning

Prune while plants are dormant in late winter or early spring. For gooseberries and red and white currants, fruit is produced on one, two and three year old canes. Leave a few canes of each age and remove older canes as the plant ages. Black currants produce on one year old canes. Retain strong one year canes as well as older canes with strong one year shoots.