

# STRAWBERRY PLANTS

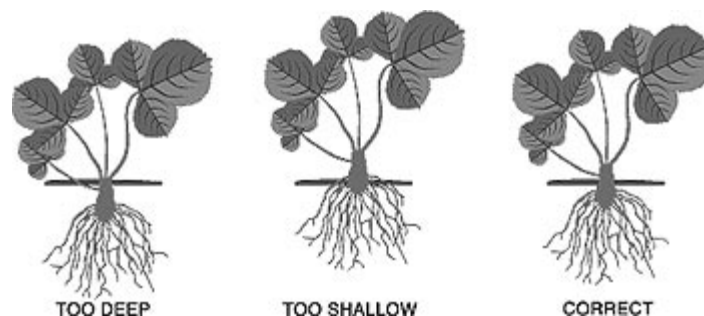
## SITE SELECTION AND PREPARATION:

Strawberries require full sun for optimum fruit production. Plants which receive a minimum of six hours of direct sunlight each day should grow well and produce a harvestable crop, but berries will be fewer and fruit quality reduced compared to plants receiving more sun. Ten or more hours of sunlight each day is ideal. Choose a site located away from trees and buildings which will cast shade for more than a few hours each day. Because trees will compete for water and nutrients as well as cast shade, the strawberry bed should lay beyond the root zone of large trees. The root zone roughly corresponds to the canopy of a tree. Soil should be both water-retentive and well-drained as strawberry plants will tolerate neither drought nor standing water. Excessively drained soils should be amended with peat or compost to improve water retention, while heavy clay soils will benefit from the addition of a mixture of peat and a coarsely textured organic material such as chopped leaves or straw to improve drainage and aeration. Strawberry plants perform best in slightly acid soil, a pH of 5.3 to 6.5 is optimum, but readings from 5.0 to 7.0 are acceptable. Conduct a soil test to determine any necessary pH adjustment as well as fertilizer needs. For professional soil testing, please contact your local Agricultural Office. The site selected should be free from weeds, grubs and soil-borne diseases. For this reason, a site composed of newly-dug sod may present problems since such a site is prone to attack by grubs and perennial weeds. Because solanaceous plants (tomatoes, peppers, eggplant and potatoes) can carry a soil borne disease known as Verticillium Wilt, to which strawberries may be susceptible, avoid planting where these plants have been recently grown. If avoidance is not possible, choose resistant cultivars.

## PLANTING:

Plant in spring as soon as the soil can be worked. When you purchase your planting stock from our nursery, plant as soon as possible after receipt. Dormant plants may be stored in a cool place for several days if immediate planting is not possible. Do not store plants close to ripening fruits as they could be damaged by gases given off during the ripening process. Do not allow the packing material surrounding the roots to dry out or become soggy. A cool, cloudy planting day will place the least stress on new transplants. At planting time, damaged roots should be trimmed and excessively long roots cut to 4 - 5 inches (10 - 12cm) in length. In addition, all flowers, runners and old leaves should be removed. Keep the plants protected from direct sunlight and drying winds during planting. Strawberry plants should always be set with the roots pointed downward and forming a moderate fan. Planting depth is critical (Figure 1). If the plants are set too shallow, the crown may dry out, while a too-deep position may result in crown damage or rot. Set the plants deep enough so the midpoint of the crown is even with the soil surface. After setting in, firm the soil around the plant and thoroughly water.

Figure 1. Set plants deep enough so all of the roots are covered but the crown is above the soil line. The plant on the left is too deep and the one in the centre is set too shallow. The roots should extend straight downward.



Planting Systems:

Strawberries are normally grown using one of three systems. In order of increasing maintenance, they are the 'matted row,' 'spaced matted row,' and 'hill' systems. In the matted row system, the original ('mother') plants are spaced 18 - 24 inches (45 - 60 cm) apart in rows 3 - 4 feet (0.9- 1.2 mtr) apart and allowed to produce and set runner ('daughter') plants freely. If the spaced matted row system is employed, initial spacing is the same, but daughter plant populations are kept low by allowing only a few runners to remain. Those daughter plants which are selected are pinned into place so that rooting occurs at a set distance, usually 6 - 12 inches (15 - 30 cm) from other plants. The careful spacing used in the spaced matted row results in increased yield and decreased incidence of disease. In both the matted row and spaced matted row systems, rows are allowed to become 12 - 18 inches (30 - 45 cm) wide. The hill system is often used for day neutral or everbearing cultivars and frequently is used in conjunction with raised beds. Mother plants are planted only 12 inches (30 cm) apart in a row, or a 6" (15 cm) staggered double rows are often used. Because these plants become less productive over time, they are normally replaced every 1 - 3 years.

### **CARE OF JUNE BEARING CULTIVARS:**

During the 1<sup>st</sup> year spring of planting, remove all flowers as they appear. This will allow the plants to put energy into development of healthy root systems and vigorous runners. Flower removal is often a painful task for the home gardener but is essential for future productivity. Strawberries perform best when adequate water is provided. In a week without at least 1 inch of rainfall, irrigate using a sprinkler or soaker hose. One good soaking each week should suffice in most soil types. Always water early in the day so that foliage has a chance to dry before nightfall. This practice will help to prevent leaf diseases. Because optimum fruit, root, and plant development occurs at relatively cool soil temperatures, an organic or inorganic mulch may be useful in keeping soil temperatures suppressed throughout the growing season. Additionally, a mulch will help to preserve soil moisture, control weeds and keep fruit clean. A clear or black plastic mulch is not recommended, as these types elevate soil temperature. A strawberry bed will require yearly renovation to keep it healthy and productive. After harvest is completed each year, mow off the foliage of the plants using a standard lawnmower taking care **not** to damage the crowns of the plants. This practice helps control leaf disease and stimulates runner production. After 1 - 2 weeks, the leaves will have dried out, then rotor till, or hoe to narrow the rows to half the original width (18" or 45cm). You can dress with some fertilizer at this time, please see below for more information, this will help give them a boost to start producing runners again. It will also help make the plant strong to survive the winter. The production of new runners should again result in rows 12 - 18 inches (30 - 45 cm) wide. Because fruit yield and quality decline over time, a strawberry planting should be replaced every 3 - 5 years. Because the crown of a strawberry plant may be killed at 14 deg F (-10C), winter protection is essential. After 2 or 3 frosts have hardened off the plants, cover them with 4 inches (10cm) of good quality straw. Snow is an excellent insulator and will be sufficient where snow cover is reliable. Mulch should be removed in spring when growth begins, but may be left between rows to act as the summer mulch. This will help keep the berries clean and make picking better. Because strawberries are poor competitors, keep all weeds out of the strawberry bed. Hand-weeding is recommended for home gardeners. Do not cultivate too deeply, as the strawberries' shallow root system may be damaged.

### **CARE OF EVERBEARING AND DAY-NEUTRAL TYPES:**

In the year of planting, all flowers should be removed until July 1, after which time the plants are allowed to flower and set fruit. Runners are normally removed as they appear, especially if the 'hill' system is used. Renovation is not practiced with everbearing and day-neutral types. For maximum productivity, replace the planting every 2 years. Day-neutral strawberries may also be treated as annuals. Irrigation, mulching and weed control are the same as for the June-bearing types.

### **FERTILIZER TREATMENT:**

We recommend that you apply super phosphate fertilizer before planting at the rate of 50 lbs. per 250 plants, or 1000 lbs. per acre. If not available, use a low nitrogen mix such as 6-12-12 at 500 lbs. per acre or 5 lbs. per 100 feet of row. Apply at least a week before planting and work into the soil. Side-dress 4 to 5 weeks after planting with 500 lbs. per acres of 10-10-10 or 5 lbs. per 100 feet of row. Apply about 8" from the plant down each side of the row. Should you not be satisfied with your plant growth in late July or early August, it may be advisable to apply another application of 10-10-10 at 500lbs. per acre. If you do not require this second application in August, then no later than the first week of September, apply 100 -150 lbs. per acre of ammonium nitrate, or 1-1.5 lbs. per 100 feet of row. It would be advisable to apply fertilizer when plants are dry, and brush foliage off, or during a rain that will wash the fertilizer off the foliage. Always irrigate after spreading fertilizer. (50 lbs = 23 kg) As far as fertilizing in the spring of the fruiting year, we only recommend it under weaker plant conditions, at the time of uncovering, with a maximum of 20 lbs. per acre of actual nitrogen. Excess foliage will reduce yields. We feel that if you have good vigorous plant growth in the fall there will be no need for additional fertility in the spring before fruiting.

### **HERBICIDE CAUTION:**

Never plant strawberry plants and raspberry canes in soil treated with Atrazine or any other herbicide. It would be injurious to the plants. Many growers have reduced yields because of too many years of repeated herbicide application on the same land. This reduces plant vigor, particularly runner production. We highly recommend a minimum of 2 years between crops, especially when fruiting crops for 3 or 4 years. Perhaps you could consider soil fumigation before planting.

*We do not recommend herbicide use in home gardens.*

### **A LOT OF TENDER LOVING CARE WILL YIELD THE BEST RESULTS.**

We pack our strawberry plants in bundles of 26, allowing 4% extra to cover any errors in packing. There will be a variation in plant size, but small plants will grow as well as large ones if cared for properly.