CORNELL Cooperative Extension
of Chemung County

Human Resources Center
425 Pennsylvania Avenue
Elmira, NY 14904-1766
Tel: 607-734-4453
Fax: 607-734-7740
www.cce.cornell.edu/chemung

Growing Strawberries in the Home Garden

Growing strawberries can be a satisfying experience and can provide you and your family with flavorful fruit, rich in vitamin C and minerals. Strawberries can be successfully grown throughout New York State if certain practices are followed.

• Pre-Plant Decisions.

Site selection. (Year 1) Strawberries grow best in a sunny location on a well-drained, sandy loam soil with a pH of 6.2. However, they can be productive over a broader range of soil types. Strawberries are not tolerant of extremes in pH (less than 5.5 or greater than 7.0), so this should be tested the year prior to planting.

The site you choose should be free of perennial weeds such as dandelions or quackgrass. These weeds are extremely difficult to remove once the strawberries are planted. A site which has been previously cultivated would be preferable to a new site, but only if tomatoes, potatoes, peppers, eggplants, raspberries or strawberries have *NOT* been grown there before. These crops will leave certain diseases in the soil that will adversely affect strawberry growth.

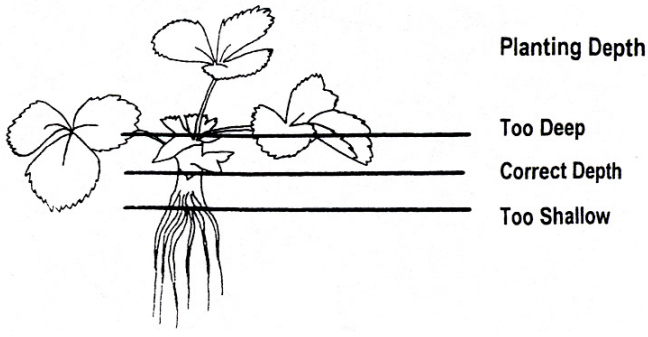
Soil preparation. (Year 1) One should prepare the site for strawberries at least one year *PRIOR* to planting. This would include modifying the pH with lime or sulfur if necessary, fertilizing with manure or with one pound of 10-10-10 for every 150 square feet, and working organic matter (compost, sawdust, peat moss, etc.) into the top four inches of soil with a rototiller or shovel. Deeper cultivation will do more harm than good. A soil test can provide more specific recommendations for pre-plant fertilization.

Cultivar selection. (Year 1) Most nursery catalogs will list cultivars adapted to northern climates, and these should do well in New York. However, some have the potential for doing better than others. Unfortunately, no one can tell you which cultivar will do best in your particular garden. Some cultivars are more susceptible to diseases, others are less tolerant of cold temperatures, some fruits will freeze better than others, differences exist in the time of ripening, and there are also flavor differences. In addition, everbearing and day-neutral cultivars will produce fruit throughout the summer and early fall.

Perhaps the best way to decide which cultivars to purchase is to find out what your neighbors have grown successfully. Don't hesitate to try several different cultivars at first, before planting a large area in a single cultivar. Best results will be obtained with virus-free plants purchased from a reliable nursery.

• Planting. (Year 2)

Spacing. Plants should be placed in the soil as soon as possible in the spring. If the soil is still frozen when your plants arrive, place them in a refrigerator until the soil can be worked. Remove any black or moldy roots before planting. Roots should extend vertically into the soil and be completely covered to the crown level.



Do *NOT* bury the crowns. It may be necessary to cut the roots back to 4 inches before setting. Be sure plants have adequate water during the first few weeks after planting.

Strawberries are grown under many different cultural systems. The easiest system to maintain is the matted row. Plants are set 18-24 inches apart within a row, and 48 inches between rows. Runners will fill the row the first year, and fruiting occurs throughout the row in subsequent years.

Many growers limit the number of runners produced by each plant. Six to eight runner plants spaced 6 inches apart within the row, with all other runner plants clipped as they appear, tends to increase both plant and fruit size in the fruiting year. Others like to clip all the runners on their plants and decrease the spacing between plants. Some growers on extremely wet sites plant their strawberries on raised beds.

- ## Maintenance.

Flower removal. (Year 2) Several weeks after planting, many plants will flower. These flowers should be removed immediately to prevent fruiting. Fruit on first-year plants will rob energy necessary for growth, runner production and winter survival. Everbearers and day-neutrals can be allowed to flower the first year, but *ONLY* after July 1.

Weed control. (Years 1, 2 & 3) Weeds can be removed by cultivation, hand hoeing or pulling. One should not cultivate deeper than 2 inches after planting because strawberry roots are very shallow. Many growers successfully control weeds with black plastic or sawdust mulch. Others choose one of several herbicides depending on the types of weeds (e.g., DCPS, diphenamid, 2,4-D, etc.). Herbicides should be selected and applied with care. Mistakes may not only damage your strawberries but also be hazardous to your health. Read the directions carefully.

Insect and disease control. (Years 2 and 3) Many insects feed on unripened fruit and young vegetative growth. Malathion and captan sprayed at intervals of 10 days from early bloom to harvest will alleviate nubby berries and other insect and disease problems. However, fruit cannot be eaten for 3 days after spraying, and bees that pollinate flowers may also be killed. Many gardeners would rather tolerate some insect damage than use pesticides. Growers may contact the cooperative extension service for help with serious pest problems.

Irrigation. (Years 2 & 3) It is important that your strawberries receive an inch of water each week, and this can be applied most any time during the day. One should avoid watering in early morning or late evening so plants are not wet for long periods of time. The use of a sprinkler during bloom may also prevent frost damage. Sprinklers should deliver a fine mist over the planting from the time the temperature falls below 33^{o} F. until the ice melts in the morning. Ice on the plants will actually prevent the flowers from freezing if a mist is continually applied.

Mulching. (Years 2 and 3) A strawberry planting should be mulched in the fall to prevent low temperature injury and keep the fruit clean the following season. Mulch should be applied when nightly temperatures approach 20^{o} F. Mulch should cover the plants to a depth of 2 inches, and not be removed until the new leaves have grown 2 inches. At this time, half the mulch should be removed and placed between rows. This practice will also inhibit weed growth. Mulching is very important on clay soils or those that remain wet for much of the year.

- ## Renovation. (Year 3)

If plants are vigorous and productive during the first fruiting year, and the site is relatively free of weeds, the planting should be renovated for next year's crop. Renovation consists of mowing the plants to a height of 3

inches immediately after harvest, and rototilling the mulch into the alley between rows. Fertilizer should also be applied around the plants (5 pounds of 10-10-10 per 100 feet of row). Never fertilize before harvest or in late autumn. This will reduce fruit production and make plants susceptible to winter injury. Inexperienced growers tend to over fertilize and under-irrigate.

Matted rows should also be narrowed to 12 inches. Wider mats are not necessarily more productive than narrow mats because most fruit production occurs along the edges. Do not hesitate to till under strawberry runner plants that stray into the alley. Renovation is a critical time for herbicide application. A properly managed bed can remain productive for several years.

- **Harvesting**. (Year 3)

Fruit should be picked a day or two after full coloration to maximize sweetness and flavor. However, many people prefer to use some unripe berries for making jam. One can expect a pint of fruit per foot of matted row under favorable conditions. Over-ripe berries should be removed as they will harbor diseases and attract insects.

The home gardener often competes with birds for fruit. Although birds do damage a small proportion of fruit, they also eat a number of harmful insects. The solution is to grow enough fruit for both the birds and your family.

By following these recommendations and making careful decisions, you will be rewarded with a convenient source of fresh, delicious strawberries for several years.

Comparison of Strawberry Cultural Systems

System	Advantages	Disadvantages
Matted row	Low maintenance, low initial cost	Lower yields, smaller fruit
Hills	Low initial costs, large fruit size	Labor intensive, lower yields
Ribbons	High yields, large fruit size	High initial costs, labor intensive
Flat beds	Low maintenance, lower initial costs, better moisture retention, fewer weeds	Less light interception, poor root aeration, difficult picking
Raised beds	Good light interception, good root growth, ease of picking	High maintenance, high initial cost, extensive weed growth, irrigation required
Mulching	Moisture retention, less weed growth, builds soil structure, adds organic matter, protection from cold temperatures, fruit stays clean	Expensive, requires additional nitrogen, provides home for rodents, can blow off, may be a fire hazard
No mulching	Inexpensive, ease of cultivation	More weed growth, soil dries rapidly, susceptible to cold, fruit can get dirty

Strawberry Cultivars for New York

The following ratings are based on average values from states through the Northeast and Midwest, and may vary under different environmental conditions and cultural systems. No attempt was made to evaluate flavor as this is subject to individual preference. These ratings should help the grower make informed decisions when selecting suitable cultivars. Values range from **3** (superior) to **1** (poor).

Cultivars	Relative Yield	Berry Size	Firmness	Freezing Quality	Red Stele Resistance	Verticillium Wilt Resistance	Cold Hardiness
Early							
Catskill	3	2	1	2	1	3	3
Crimson King	1	2	2	2	?	?	3
Darrow	2	2	2	3	3	2	2
Earlibelle	1	2	2	3	1	1	1
Earlidawn	1	2	2	3	1	1	1
*Earliglow	2	2	3	3	3	2	2
Lester	2	3	3	1	3	1	2
Redglow	1	2	1	2	3	1	2
Robinson	1	2	1	1	1	3	3
Sunrise	1	2	1	1	3	3	2
Mid-Season							
*Allstar	3	3	3	3	3	2	2
Atlas	2	1	1	1	1	2	1
Cardinal	1	3	3	3	1	1	1
Garnet	2	2	2	1	1	1	2
*Guardian	3	2	3	1	3	3	2
*Holiday	2	3	3	3	1	2	2
*Honeoye	3	3	2	3	1	2	3
*Jewel	2	3	3	3	1	1	3
*Kent	3	3	2	2	?	?	3
*Midway	2	2	2	2	3	1	3
Pocahontas	2	3	2	2	1	1	1
*Raritan	3	3	2	1	1	1	3
*Rechief	2	2	3	3	3	2	2
Redcoat	2	2	1	2	1	1	3
Scarlet	2	2	1	1	1	1	1
*Scott	3	3	3	3	3	3	2
Stoplight	2	3	2	3	1	1	3
Surecrop	2	2	2	3	3	3	2

*These cultivars have performed consistently well in New York.

Cultivars	Relative Yield	Berry Size	Firmness	Freezing Quality	Red Stele Resistance	Verticilliu m Wilt Resistance	Cold Hardiness
Late							
*Bounty	3	2	2	2	1	1	2
*Canoga	2	3	3	3	1	1	2
*Delite	3	3	1	1	3	3	3
*Fletcher	2	2	2	3	1	1	3
Jerseybelle	2	3	1	1	1	1	2
Marlate	2	3	2	2	1	1	2
*Micmac	2	3	2	2	1	1	2
Sparkle	2	1	2	3	2	1	2
Vesper	2	3	1	1	1	1	3
Day-Neutrals							
*Tribute	3	2	3	2	3	3	2
*Tristar	3	1	3	2	3	3	2
Everbearing							
Ozark Beauty	1	2	1	2	1	1	3

*These cultivars have performed consistently well in New York.

Prepared by Marvin P. Pritts, Extension Faculty, Dept. of Pomology, Cornell University

10/1999 Updated