



Growing Tomatoes on Long Island

Once a garden curiosity the tomato has now become one of the most popular vegetable crops. The tomato can be grown in many areas under many different conditions. Because it is well adapted, and because people get a great deal of satisfaction from growing tomatoes this vegetable is grown in almost every home vegetable garden on Long Island.

Select a Good Site

Adequate sunlight is one of the most important requirements for a good vegetable garden. Tomatoes require a great deal of light especially for setting fruit. For this reason a garden should be located in an open area away from shade-producing trees and buildings. If the garden must be located near a shaded area, it is best to place it so that the plants are exposed to the south. In this way, the plants can receive the direct sunlight for the greatest length of time.

In addition to having adequate light, the site should also be well drained with soil that is easy to work. Areas where water will stand on the surface should be avoided because tomatoes cannot stand “wet feet” for long periods of time.

Limestone and Fertilizer

In the natural state, Long Island soils are very acid and require liming to raise the pH. To be sure, especially if the garden is in a new location, a pH test is necessary. Contact our office for information regarding soil pH testing. Tomatoes grow best when the soil pH is kept between 6.2 and 6.5.

The limestone used should be finely ground dolomitic limestone. Dolomitic limestone contains magnesium, a nutrient, which is often deficient in soils with a low pH. Limestone should be added before planting and spaded or rototilled into the top 6 to 8 inches of soil. It is always best to have a complete nutrient test run to determine your soils exact fertility needs. Contact our office for information on having a soil nutrient test run. Nutrients can be provided by adding granular fertilizer (derived from organic sources or chemical sources) or by adding slightly aged (not fresh) manure. Compost is another possibility. If a soil test is not run start with a complete fertilizer such as 5-10-5 or 5-10-10 at the rate of 4 to 5 pounds for each 100 square feet. On soils that have been well fertilized for many years decrease the rate to 1 to 2 pounds. If you would prefer to use horse, cow or hog manure apply it at a rate of about 2 bushels per 100 sq. ft. Poultry and sheep manure generally contain more nitrogen and can be used at a rate of 1 bushel per 100 sq. ft.

Before applying the fertilizer, the soil should be spaded or rototilled. The fertilizer or manure is then spread and worked in with a rake or rototiller. Be sure to work it into the top 3 or 4 inches of soil before planting.

Because tomatoes are heavy feeders, side-dressing with a small amount of fertilizer or manure at fruit set will be worthwhile. Over-fertilizing can cause plants to grow rapidly, but will also make the flowers drop without producing fruit.

Organic Matter

Because some of our soils are very sandy, it is important to maintain good soil organic matter level to help retain soil moisture and fertilizers. Organic matter also supplies the plants with additional nutrients. Adequate soil organic matter is essential for important microorganisms which are beneficial to overall plant and soil health. Organic matter should be considered as an additive in most garden soils.

Manure is a good source of organic matter, but it should be well rotted. If not, it should be rototilled or spaded in deeply. Avoid manure that contains a great deal of straw.

Peat moss is expensive but is a good source of organic matter.

Compost is another good source of organic matter and is not expensive. It is also a good way to get rid of leaves and other plant material. It should be well rotted before it is used on the garden. Do not compost diseased vegetables because the pile can become a source of disease inoculum for your garden in the future. Composting is very simple - contact our office for information on starting a compost pile.

Healthy Plants Are Essential

Whether you grow your own plants from seed or buy plants already started you - should be sure that the plants are healthy and in good condition to transplant. The tomato plants should be stocky, medium sized (8 to 10 inches high), relatively young (no more than 5 to 6 weeks old), have a good green color, and free of diseases and insects. Too often the plants are lanky, and when planted out, will not withstand any wind or warm weather. On the other hand, the plants should not be too hard (this is indicated by a dark green color) so that it takes a long time after transplanting to start growing again.

To grow your own plants in containers, cell packs, etc. seed at least two tomato seeds per container and keep the temperature at least 60⁰ F. at night and 70⁰ to 75⁰ F. during the day. Be sure to keep the growing media moist at all times, but avoid continued saturation. A suitable growing media can be purchased for starting seeds or you can make your own out of peat moss and vermiculite or perlite. Avoid using out-door soil which could contain diseases and usually does not drain well when placed in a container. Once the tomatoes germinate, they should be placed in an area where there is adequate light. Artificial lights are good, but have to be very bright and close (6 inches above the plants) to be beneficial. Therefore, it is best to have the plants exposed to the sunlight 8 to 10 hours a day, if possible. At this rate, they should be ready to plant in 5 to 6 weeks. Consider building a coldframe, which will allow plants to be set outside during the day. When the plants have the first true leaves, thin them so that you have one plant per container.

Transplanting

As a rule, home gardeners are too anxious to grow tomatoes. Quite often they will start tomato seeds much too early indoors and plant transplants out-of-doors too early as well. Early varieties of tomatoes can be planted around mid-May if they are covered with a frost protection device (cap). Main season varieties should be planted no earlier than the third week of May, preferably around May 30. Over the years we have seen many gardeners have poor results due to early planting.

Spacing

Spacing tomatoes correctly is quite important. This depends mainly on whether or not the plants are staked or caged. If you will be growing plants directly on the ground they should be spaced 3 to 4 feet apart in the row. Those plants which will be staked or caged can be spaced 1 ½ to 2 ½ feet apart in the row. Spacing between rows can vary. By having adequate room in the rows this will make weeding, harvesting and other chores more convenient. Staking or caging plants will allow you to grow more plants in your garden; will make it easier for you to harvest, and keeps the fruit off the ground.

Tomato Types

There are two basic types of tomatoes - *indeterminate* and *determinate* types. Indeterminate types of tomatoes form fruit clusters at intervals along their ever-elongating stems. Determinate types on the other hand form fruit at the ends of their branches. Indeterminate tomato types are the ones which should be considered for staking. Determinate types would be reduced to a single short stem with little or no fruit due to the pruning involved in the staking process. Indeterminate types will often bear fruit up until autumn frosts and if let go can assume heights of 6 or more feet in cages or on stakes. Determinate types stop growing when fruit sets on the terminal bud. Their growth habit is more compact and they therefore need less support. In general their fruit tends to ripen over a shorter period of time.

For information on recommended tomato and other vegetable varieties contact our office for information on ordering the current *Selected List of Vegetable Varieties for Home Garden Use in New York State*.

Staking or Caging

In most gardens, it is advisable to stake or cage tomatoes to increase your yield and to conserve space. Four popular methods are: using one stake per plant; attaching a cord to a wire over the plants; by using parallel wires or cords to hold the plants erect; or by growing them in wire tomato cages or towers.

If you use stakes, be sure that they are driven into the soil enough so that they will support the weight of the plants and fruit. The stakes should be at least six feet high. Strings or wire “twist-ems” are used to hold the plant to the stake. All side shoots and suckers are removed so the plant has only one stem.

Heavier posts may be set every 10 or 12 feet from which a heavy wire is stretched across their tops. Heavy strings should lead down from this wire to the individual plants. A loose loop is tied around the stem just above the soil, and as the plant grows, the stem is twisted around the string at least once a week. As with using stakes, all new side branches are removed, so only one main stem remains.

Pruning is not necessary if you drive posts (at least three inches wide) every ten or twelve feet along the row and run parallel lines of either wire or heavy cord along both sides of the row. These lines placed every six to eight inches will hold the plant erect and will have the same advantages of the other methods without requiring pruning.

Cages can be constructed of sturdy galvanized wire mesh (reinforcing wire.) They should be from 12 to 30 inches in diameter. You need about 3 feet of material for every 1 foot of diameter. The cage should be at least 5 feet tall and supported by one or two stakes driven into the ground. Plants are usually allowed to grow without pruning.

Mulching

There are several advantages in using mulch on tomatoes. Listed below are several of these advantages as well as some of the disadvantages

Black Plastic - this is used in many areas to control weeds in vegetables. It helps conserve moisture and it is used to keep the fruit from touching the soil. This plastic does not break down and has to be picked up after the season is over. Be sure the soil is moist before laying down black plastic or the soil may remain too dry under the plastic.

Straw, salt hay, sawdust, and shavings - are good mulches used to control weeds. However, these mulches act as insulation and if applied too early, will keep the soil abnormally cold. Some straws may bring weed seeds into the garden.

Grass clippings - make excellent mulch. Avoid using clippings which have been recently treated with weed killers, insecticides or fungicides. Also avoid those clippings which may have troublesome weeds present.

Problems with Tomatoes: Listed below are a few of the diseases and problems affecting tomatoes:

Failure to set fruit - Every year many gardeners have tomatoes that flower, but do not set fruit. This is caused by low night temperatures (below 55⁰ F.), abnormally hot weather, low soil moisture, or excessive shading. If you want early tomatoes it is essential to use early varieties that will set well during the cold periods in May and June.

Blossom-end rot - This disorder causes the fruit to have a dark sunken area on the blossom end. This can be prevented by maintaining good even soil moisture at all times. Excessive moisture (wet feet) for an extended period can also be as damaging as lack of moisture. Contact our office for information on ordering the fact sheet, *Blossom End Rot of Tomato*.

Wilt diseases - both *Fusarium* and *Verticillium* can cause early dying of tomatoes. These diseases cause the plant to wilt even with good soil moisture. If you cut the stem of the plant, the vascular or conducting tissue will be discolored.

Both wilts are soil borne and widespread on Long Island because they also infect potatoes, peppers, eggplant, melons and many other vegetables and some ornamentals. The best solution is to use resistant varieties.

Other fungus diseases - there are a number of fungi that are important diseases of tomatoes. Early blight causes spotting on the leaves and fruit. Anthracnose causes sunken blemishes on the fruit. Several other leaf spot diseases can occur on tomatoes. Contact our office for current recommendations for control of these problems

Herbicide injury - hormone-type herbicides which are commonly used on lawns to control certain weeds can cause serious damage on tomatoes. The symptoms are downward curling leaves and twisting of the new growth.

Harvesting

Tomatoes should be harvested twice weekly as they ripen. All rotten and damaged fruit should be removed to protect the healthy ones. Just before the first frost in the fall, you can pick the mature green fruit and ripen them inside. Do not hold green tomatoes at temperatures below 55⁰ F., or they will not develop a good flavor when ripened later. As you use these, ripen a few at 65⁰ to 70⁰ F. Higher temperatures will cause them to soften.

A new variety known as *Long Keeper*® is available, which can be picked late in the season and stored through much of the winter. This variety should be started and planted out-of-doors much later than main season varieties.

Tomatoes can give you a great deal of satisfaction in your vegetable garden. They are not really very difficult to grow if you are willing to put in the time and effort as suggested.

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