

Selecting and growing tomato plants.

When choosing tomato plants one is confronted by the determinate/indeterminate designation. The difference is significant. Tomato plants are sometimes referred to as "vines." They do not have tendrils or clasping mechanisms, like those on true vines such as clematis, morning glory, or Boston ivy. But they do have the characteristic of continued growth at the top of the plant. If you can picture a tomato plant growing in the wild (Ecuador and Peru are regarded as the epicenter of the origin of tomatoes), you would visualize the plant lying on the ground. As it lies on the ground, it constantly sends out new roots along its main stem---these roots then reach the earth and begin providing nourishment to the actively growing plant. In your own garden, you have probably seen tomato plant with roots sprouting from the lower part of the stem. When these new roots develop and sink into the ground, the plant is capable of more top growth and more flowers, hence more fruit. In American gardens, the plants are typically supported by a stake or in a cage, so fruit is easier to pick, and the yield per square foot can be maximized. Even though any supplemental roots do not reach the soil as a result of the upright growth, the tomato plant continues to grow taller. (This is why we recommend planting tomato plants deep---greater root development.) This continued growth is one characteristic that defines a plant as indeterminate. As long as the weather is favorable, and as long as the roots can support new growth, the plant continues to grow, flower, and fruit. The resulting long production season is the second defining characteristic of indeterminate plants.



Originally, all tomato plants were indeterminate. In the early 1900's, the first determinate plant was discovered. Instead of continuing to produce new growth like the indeterminate types, the determinate plants reached a certain size (often just two to four feet tall) and flowered and produced fruit. Once that fruit was harvested, the plant was, for the most part, finished with fruit production. Commercial growers especially like determinate plants because the fruit tends to ripen all at the same time, more or less. This was good for large scale commercial producers, because they often harvest fruit mechanically. As far as the home gardener is concerned, determinate plants were smaller and more manageable so they are ideal for container gardening. Still, some determinate varieties benefit from the support of a cage---the fruit is easier to harvest, and the large fruited varieties are less likely to be damaged. Tomato aficionados generally agree that the flavor of determinate varieties does not match up to that of indeterminate types---but that is for the gardener to decide. Many gardeners are very happy growing determinate tomatoes and do so year after year.

A review of indeterminate and determinate characteristics.

INDETERMINATE: The plant forms a "vine" and must have support. Mature height is usually six to eight feet. Usually bears fruit until frost. Normally, it is much more productive than determinate varieties. Note: If the plants grow taller than you want, they can easily be clipped.

DETERMINATE: The plant forms a "bush," usually two to four feet tall. Tends to bear fruit over a relatively short time period. Oftentimes used when growing tomatoes in containers.

Enthusiastic tomato growers enjoy checking on their plants frequently. But once the plants are in place, staked or caged, fertilized and watered, there is little to do but watch them grow. Perhaps this is why so many gardeners enjoy pruning their tomatoes. By pruning, we mean removal of the "axils" or "suckers" that form between the main plant stem and the primary side leaves. (see photos)



The result of this type of pruning is a less bushy plant, because the growth is directed upward rather than sideways. Another result is fruit production will be slightly earlier, but the overall quantity is lower. As you can imagine, this creates vehement controversy in tomato circles. This much is certain: there is no known scientific study that confirms that either method of plant care is superior. Still, both the pruning and the non-pruning camps remain firm in their conviction. Which method do I like? I am still experimenting. Currently, I prune the axils for the first four to six weeks of growth, and then I let the plant branch out. I like the idea of heavier foliage during the hottest part of the summer, because it can protect the fruit from sun scald. One viewpoint that makes sense to me is that of Carolyn Male, renowned tomato expert. She says the primary means for the plant to acquire energy is through photosynthesis. This process only comes through the leaves, so she feels the more leaves the better---she is firmly against pruning. We'd like to hear your comments on this issue.