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## STAKING AND TRAINING TOMATO PLANTS

Dr. John M. Gerber  
Vegetable Specialist

Garden fresh tomatoes are truly America's favorite vegetable. More tomatoes are grown in stateside gardens than any other vegetable. This would be equally true for Virgin Islands gardens were it not for the special problems we face growing tomatoes in our islands.

During the dry season, tomato plants wilt badly and flowers drop off due to continuous hot weather. Although we can avoid the heat and drought problems by growing tomatoes during the rainy season, we face more disease and insect problems at that time. Heavy rains and high humidity increase the occurrence of insect pests, leaf blights and fruit rots. When tomato plants are allowed to grow in contact with wet soil, the humidity under the plant increases and insect and disease problems are more severe. Keeping plants off the ground will help avoid leaf blight and reduce fruit rots. Although staking tomatoes is a time-consuming job, it is well worth the effort for the home gardener.

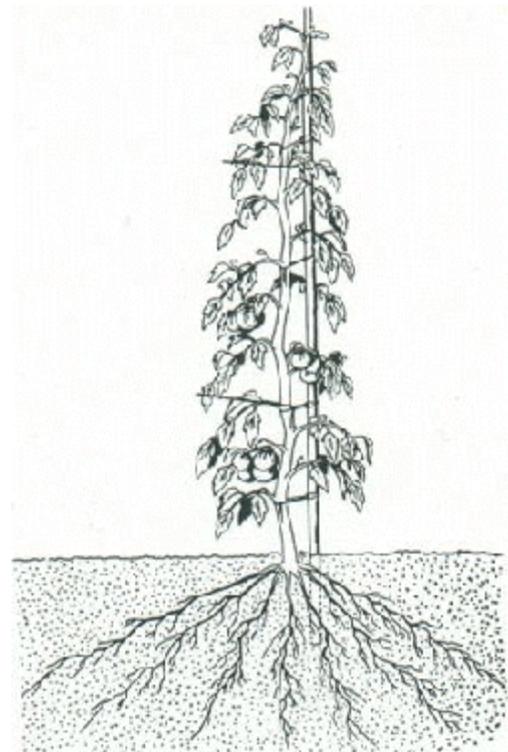
The primary reason for staking tomatoes is to avoid the loss of fruit from soil rots. When tomatoes are grown on the ground you can expect a 15-50% loss depending on the variety. Large, heavy fruits such as the beefsteak type must be staked up to prevent excessive losses. Smaller, lighter fruit such as cherry and paste types will hang off the ground and avoid most of the rotting problem. Medium sized fruits may or may not touch the ground depending on the growth habit of the plant. A tomato plant that sprawls on the ground will have more rot problems than one with an upright growth habit.

A staked tomato plant will not only have less fruit rot but also less leaf blight. Leaf blights are caused by fungi (molds) that grow primarily under moist conditions. A plant that is tied up will dry out faster than one lying on the ground. Although this may not be advantageous during the dry season, it is a big advantage during the heavy rains of October and November. Staked tomatoes are also easier to spray and harvest.

There are several methods of staking that achieve the result of keeping the fruit off the ground. Each one has advantages and disadvantages.

### SINGLE STAKE

The standard method of one plant per stake is the most time-consuming training procedure because it requires constant pruning and tying. However, it requires the least space per plant and is the least expensive.



Long wooden stakes, at least one inch square should be driven 1½ ft. into the ground, leaving about 5 ft. above ground. Each stake should be painted with a wood preservative to prevent wood rot. Tan tan or manjack make good natural substitutes for commercially available wooden stakes.

The stakes should be spaced 2 ft. apart in the row with rows 3-4 ft. apart. Seedlings should be planted several inches



from the bottom of each stake. As the plant grows it should be pruned to one stem as pictured. If two stems are desired, allow one side shoot to grow out and then prune all the others. Pruning is a continuous operation since side shoots or suckers grow out rapidly. If side shoots are allowed to develop the plant will soon be sprawling in many directions, defeating the purpose of staking.

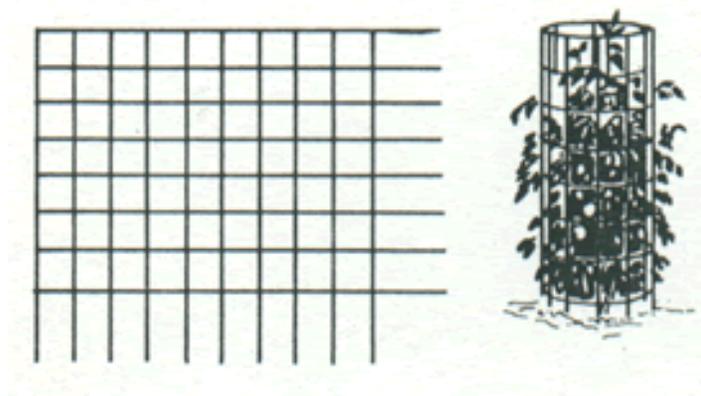


The main stem should be tied loosely to the stake with soft, thick twine. If the twine is too tight, it will cut into the stem as the plant grows.

### CIRCULAR CAGES

Individual wire cages require the least effort to set up and maintain. However, they are the most expensive to make and require the most space per plant. Plants growing within a cage are held up by leaves growing through the wire. These plants require no tying or pruning.

To make the cages you should purchase 5 ft. high, 10 gauge concrete reinforcing wire with 6 inch openings. Cut a 4½ ft. length of the wire and coil it to make a cage about 18 inches in diameter. Cut off the bottom horizontal wire to leave "legs" which may be



pushed into the soil for support.

The slips should be planted at least 3 ft. apart and a cage placed over each plant. As the plant grows, pull individual side shoots through the wire to support the plant.

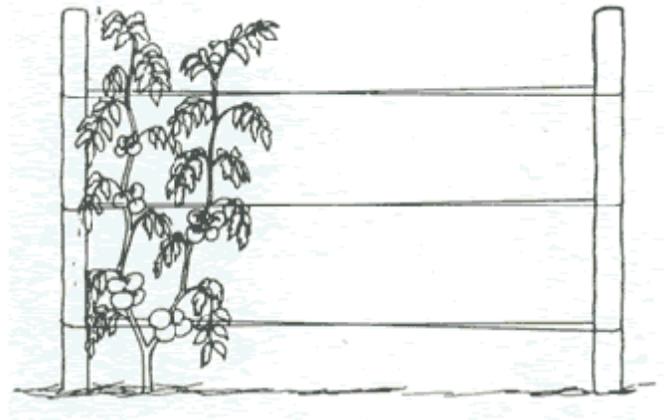
### DOUBLE WIRE TRELLIS

The double wire trellis is a compromise between staking and caging. It is less expensive than individual cages and less time consuming than staking. Plants growing in a row are allowed to grow up between several sets of wire which run from one end pole to another and back again. As the plants grow they are pulled through the next set of wires and allowed to hang there. Some pruning is necessary to keep side shoots from sprawling away from the trellis.

To build the trellis, sink either metal poles or 4 inch square wooden posts in the ground about 25 ft. apart. The end posts should be anchored securely with support wires. The tops of the posts should be 4 ft. high. Next, a heavy gauge wire is strung from one pole around the other pole and back to the starting pole. This leaves two parallel wires, tightly strung about 4 inches apart. Three sets of wire should be adequate if placed 1½ ft. and 2-3 ft. off the ground and also at the top of the posts. Then pull the posts apart by turning a turnbuckle on the support wires and pulling the 3 sets of wire tight.

Plants are spaced at least 3 ft. apart unless you plan on pruning them conscientiously. Plants pruned to 2 or 3 stems may be spaced closer.

This trellis should last several years. The lowest set of wires is high enough so that you can use a roto-tiller to prepare the soil under the trellis for the following year's garden. It is best to rotate tomatoes with another trellised crop, such as cucumbers, to avoid the build-up of soil insects and diseases.



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