

Vertical Gardening

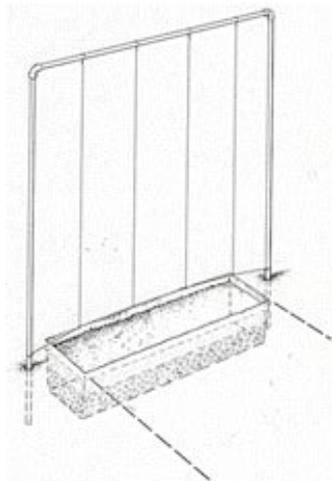
A small sun challenged lot will test the ardent gardener, especially one who loves the freshness of home grown vegetables. Since most of the favorite vining vegetables (cucumbers, squash, tomatoes and beans) require substantial real estate and six to eight hours of sun per day, consider growing them up, not out. Not only does vertical gardening save space, it results in easier soil preparation, watering, and maintenance. When the plant is up off the ground, your harvest should increase, air circulation will improve, and disease is less likely to occur. The plant is right there for you to catch any problems in the early stages.

A wall of flowering squash or cucumber blossoms delights the eye and promises an abundant harvest.

The choice of supports is limited only by imagination and practicality. Many nurseries, home improvement centers and catalogs offer a wide selection of trellises, cages, fencing and stakes. However, sometimes, unusual items make interesting supports. Being a green bean lover with limited space and sun, I have created bean teepees out of large pruning remnants and grown pole beans up a severely denuded rhodie – anywhere there was sun and they could climb. This year I've made "A" frames to sit over earth boxes for my pole beans (right). These will fold up flat for easy storage this winter. By far the most intriguing bean support I've seen was an old rusty swing set. Step ladders are great too, unless you need to use them for their intended purpose. Lawn chairs that have seen better days provide cucumbers and tomatoes a place to sprawl. Lately I have been experimenting with cucumber trellises made with old picture frames covered with mesh and propped up by stakes.



In looking for easy to construct vegetable supports, I turned to my favorite small space vegetable gardening source, *Square Foot Gardening* by Mel Bartholomew. He describes the following trenching system¹ which is outlined below. The dimensions can be adapted for a self-contained planter box. The box with bolted on support frame can easily sit on wheels or castors.



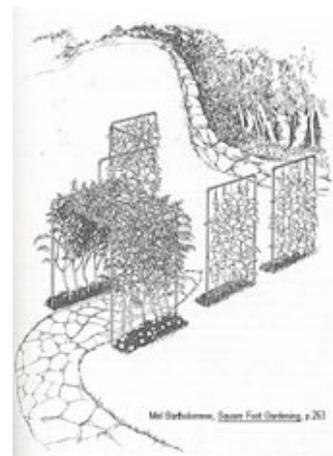
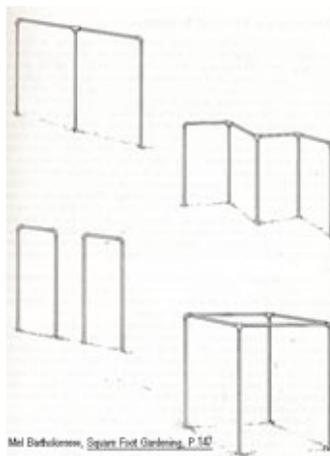
1. Dig a trench one foot wide by one foot deep by four feet long.
2. Loosen the soil at the bottom of the trench and fill with six inches of well rotted animal manure.
3. Add four inches of good growing soil. If your soil is poor, refer to May 2007 Gardening Tips, [Small Space Gardens](#) for a recipe for a rich planting mixture.

By creating a two inch depression, watering will be contained and allow for deep root soaking. If multiple trenches or boxes are used, run a drip hose through the center of each trench or box.

Bartholomew recommends constructing metal supports since wood may rot and plastic may crack during cold weather. The picture shown to the right ignores this advice and the supports were constructed with half inch PVC pipe set over two foot rebar that was hammered into the ground for support. Cucumbers will be trained up the string netting. The whole structure can be taken apart and stored for the winter and reassembled in a different configuration next spring. The appeal of this system is its ease of construction, availability of materials and adaptability. For planter boxes, just bolt the structure to the side or back of the box.



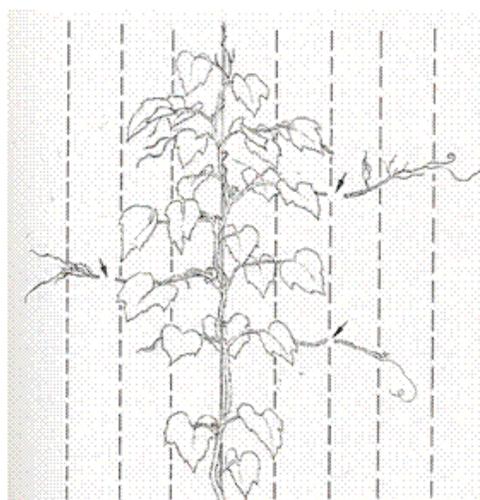
Here are some more arrangements for these pipe trellises. The suggested height for in-ground supports is six feet. For patio boxes it is four feet. Taller structures could be blown over in a strong wind. Wind stability is another argument in favor of metal pipe.



When the plants reach the top of the structure, prune off the tops. This will not hurt production and will encourage side shoots. If it is late in the season, all of the side shoots can be pruned to allow the plant to work on ripening the fruit that is already set. The pictures below diagram pruning for tomatoes and cucumbers.

Pruning and training examples:

Try an all vertical garden if all you want is your favorite tomatoes or cucumbers and you are faced with limited sun or poor soil. As these illustrations indicate, there are many ways it can work to solve your particular growing problems and add beauty and interest to your garden.



Pinch back the side branches of cucumber vines so they are not more than 12 to 15 inches long. Mel Bartholomew, Square Foot Gardening, p.125.



To train tomatoes, twist the main stem around the string once a week. Pinch out the suckers that form in the leaf axils. If left unpruned, each sucker will grow into a whole new vine. Mel Bartholomew, Square Foot Gardening, p.123.

References

Mel Bartholomew, Square Foot Gardening, Emmaus, 1981.

Color pictures from Master Gardener Sally Greenlee's garden.

Submitted by Sally Greenlee, July, 2007.