Small Garden Spaces

Square foot gardening is a planting and maintenance system which produces a maximum amount of food in a much smaller space than the conventional single-row system. Those with limited time and energy may find it especially appealing. Small gardens, patios, or table top areas are ideally suited. The system was developed by Mel Bartholomew in his book, Square Foot Gardening, published in 1981. I saw this system demonstrated at one of the Naturally Beautiful Backyards garden stops, and was totally intrigued.

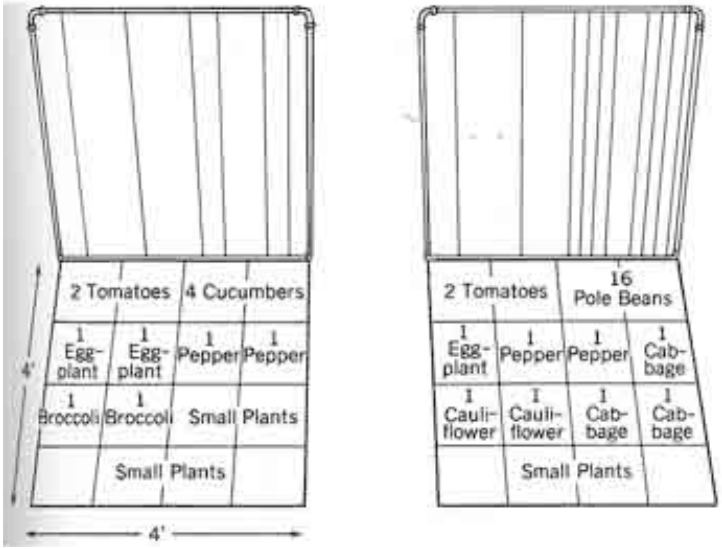
The system uses 4 feet by 4 feet grids, subdivided into 16 square foot sections. The grids can be raised or, merely, separated by walkways. Walkways are the key to easy maintenance. And they prevent trampling which will over time compact the soil. Each square is easily accessed for watering, weeding and harvesting. As with all rules of successful growing, location, location, location is number one – sun, soil and drainage. All can be altered except sun. Vegetables need their 6-8 sun hours a day.

To determine how many grids to lay out start by answering several questions: How many people will enjoy the harvest? What are your favorite vegetables? Do you want extras for freezing or canning? In this way planting starts backwards by picturing the harvest and planting only those seeds necessary to yield the expected harvest. For example, to harvest 4 cabbages plant 4 seeds (maybe twice as many seeds to insure success – but no more). The seeds are so small that it is sometimes difficult to imagine the full plant. If you have 20 thriving cabbage plant starts it is hard not to want to plant them all. Seeds can be stored from year to year if properly handled and kept dry. Working backwards from the harvest will help tame the spring exuberance which can find zucchinis mysteriously appearing on the neighbors' doorsteps in midsummer.

Each 1foot by 1foot square will hold the following:[1]

Small Plants	Large Plants	Vertical Plants
16 radishes	1 cabbage	1 tomato
16 carrots	1 broccoli	2 cucumbers
16 onions	1 cauliflower	8 pole beans
9 spinach	1 pepper	
9 beets	1 eggplant	
4 Swiss chard		
4 lettuce		
4 parsley		
4 marigolds		

As soon as one square is harvested, plant again. Once cool spring crops are finished it is time to get those beans, cukes and tomatoes going. One grid can keep producing from early spring through winter when each square is successively planted. Figure 1 shows a lay out for a two person garden.



Note: By replanting immediately, two to three different crops can be grown in each square during the year. Example: 4 lettuce plants can be followed by 1 pepper; or 16 radishes followed by 1 tomato; or 16 carrots followed by 9 bush beans followed by 4 spinach plants.

Once the lay out and planting scheme are determined, prepare the soil. Since the area involved is small, achieving a rich friable garden soil over a couple of growing seasons is possible. Bartholomew recommends adding both peat moss and vermiculite to improve the texture and water retention properties of both sandy and clay soils. Here is his recipe for the perfect garden soil.[2]

Soil Volume

- Area of one garden block: 4 feet by 4 feet or 16 square feet
- Soil volume at 6 inches deep: 8 cubic feet
- Soil volume at 9 inches deep: 12 cubic feet
- Soil volume at 12 inches deep: 16 cubic feet

Ingredients

Mix thoroughly:

- 1 bale of peat moss: 6 cubic feet
- 1 large bag of coarse vermiculite: 4 cubic feet
- 10 pails (2 ½ gallon size) of sand: 3 cubic feet
- 2 pails of wood ashes and charcoal
- 10 pails (2 ½ gallon size) of compost: 3 cubic feet
- 1 coffee can full of lime (approximately 4 cups)
- 1 coffee can full of organic fertilizer

Total volume of mixture: 16 cubic feet

This will fill one garden block to a depth of 12 inches, or two garden blocks to a depth of 6 inches.

Procedure

1. Dig out the 4 feet by 4 feet block to the desired depth, ideally 12 inches for poor soil, or 6 inches for average soil.
2. Mix all ingredients thoroughly on a hard surface or in a large plastic bag by carefully rolling it around. Spray with a hose to dampen the materials (don't soak) as you mix.
3. Fill the garden block with the mixtures, turning it over to mix it well with the soil at the bottom of the hole. Again, spray as you mix.
4. Level and add enough additional mixture to fill the hole, level again, spray once more with the hose, and the block is ready for planting.

Rototilling may be necessary, to initially prepare the bed. Once the bed is established, maintenance will be done on a square by square basis, and heavy tools are no longer needed. All the recommended vegetable growing techniques, companion planting, crop rotation, succession planting, and interplanting can be followed on this small space plot. Weeding and watering also become manageable.

I, for one, have always been hampered by a long narrow terraced yard, with few flat spaces and areas that receive adequate sun. By using the square foot gardening method, I can have my fresh salad bowls, cukes, beans and tomatoes that I love in an attractive low maintenance setting.

[1] Page 33, Square Foot Gardening,

[2] Page 65, Square Foot Gardening

Reference

Bartholomew, Mel. *Square Foot Gardening*. Emmaus, PA: Rodale Press, 1981.

Submitted by WSU Master Gardener Sally Greenlee