Small Space and Container Gardening

Contact: Diane Relf, Extension Specialist, Environmental Horticulture

August 1996

If lack of space is the only reason for not having a vegetable garden, you no longer have an excuse. Plant breeders and seed companies are offering a wide variety of vegetables that are suitable for containers. Even apartment dwellers with only a balcony can enjoy fresh vegetables grown by their own hands. Any space with ample light and access for watering and fertilizing is appropriate for container gardening, including a window sill, patio, doorstep, or rooftop. One advantage of gardening in containers is freedom from soil-borne diseases, insects, nematodes, and poor soil, all of which threaten plants in a traditional garden.

There are three important considerations when choosing containers; they must 1) be large enough to support fully grown plants, 2) have adequate drainage, and 3) never have held products that are toxic to plants or people. A wide variety of containers can be used including hanging baskets, clay or plastic pots, barrels, trash cans, milk containers, and bushel baskets or wooden crates lined with plastic punched with drainage holes. Even drain pipes and cement blocks have been used to grow vegetables! When using wood products, it is important to avoid those treated with creosote or pentachlorophenol (Penta). These treatments are toxic to plants.

Containers that drain poorly can mean the failure of a container garden. Always be sure there are plenty of drainage holes in the bottom or along the sides of the container. It is a good idea to raise containers off the ground with slats or bricks to allow excess water to drain freely.

As for container size, there are no hard and fast rules to follow. A general guide is to use small containers (about 1 to 2 gallons) for lettuce, spinach, mustard, peppers, radishes, green onions, carrots, beets, broccoli, beans, and dwarf tomatoes; use medium containers (about 3 to 10 gallons) for eggplants and for larger crops of any of the vegetables listed above; and use large containers (greater than 10 gallons) for cabbage, brussels sprouts, cucumbers, squash, and tomatoes. For most vegetables, starting with transplants will be faster and easier than seed.

It is possible to give a plant maximum sunlight or to avoid damage from rough weather by moving it to a different location when necessary. Remember: larger pots will be quite
heavy, especially after watering. Use dollies or platforms with wheels to move them. Soil used in containers must be porous to ensure air and water movement around the roots for good plant health and productivity. Regular garden soil does not drain well in containers and should not be used. Potting soil appropriate for containers can be purchased at local garden centers, or you can mix your own with one part compost; one part garden loam; and one part clean, coarse, builder's sand or perlite. A slow-release fertilizer may also be added to this mix.

Watering is very important. Containers dry out quickly, especially in full sun and wind. Clay pots, due to their porous nature, allow additional evaporation from the sides. Pots should be watered thoroughly until water runs out the bottom. However, the pot should not be left standing in water. Soil should be checked for moisture at least once a day, and in hot, dry weather, twice a day. Plants should be watered if the soil is dry an inch below the surface. Excessive watering can be as fatal as too little because there will not be sufficient oxygen in the soil for the roots to absorb.

Often, premixed, packaged soil includes fertilizer. If this is the case, plants will not need additional nutrients for 8 to 10 weeks. After this, use a water-soluble fertilizer every two to three weeks. Always follow the recommended rates to prevent fertilizer burn or possible death of the plants.

Vegetables grown for their roots (beets, carrots, and radishes) will tolerate partial shade, as will leafy vegetables. Don't overlook the tops of beets as a delicious green. Most other vegetables bearing fruit require at least six hours of direct sunlight a day.

When given the proper care, a container garden can be every bit as satisfying and enjoyable as a traditional one.

(Originally published as "Small Space and Container Gardening," by Ellen S. Bennett, Horticulture Extension Technician, Department of Horticulture, Virginia Tech, in The Virginia Gardener Newsletter, Volume 11, Number 5.)