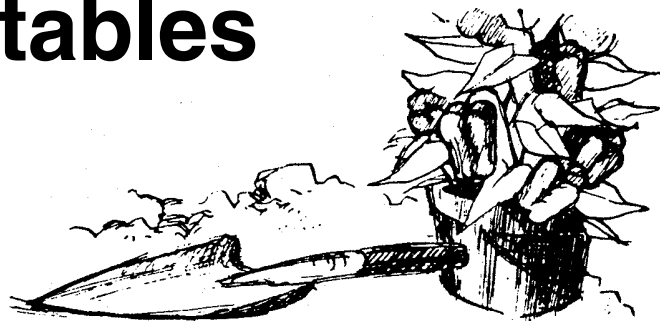


Mini Gardens and Containers for Vegetables



Mini gardening is an intensive type of agriculture using a small space or containers to produce vegetables and plants. The main benefits derived from mini gardens are that they take much less space and require much less work than large gardens. You might be able to overcome certain soil or low light problems with a mini garden, too. If containers are movable, the normal growing season can be extended by moving plants from conditions of bad weather.

You may wish to try new varieties on a limited basis by using a mini garden as a trial plot. Containers can be decorative and make good use of previously unused space. Aside from providing fresh vegetables, mini gardens can be a hobby or teaching tool for your children. Some disadvantages may include more expense and a requirement for more time, attention and knowledge because of confined roots.



Containers

Container choices may include: flower pots, pails, buckets, wire baskets, bushel baskets, wooden boxes, nursery flats, window planters, washtubs, strawberry pots, plastic bags, institutional sizes of food cans, cinder blocks or any other suitable container. Even a potting soil bag that is laid flat and cut open can grow plants. Every container should contain holes at the base or bottom to permit easy drainage of excess water. Very dark containers may absorb sunlight, producing a very hot environment around the roots. In that case, painting the container a light color or shading the container will solve the problem.

Wooden containers may be subject to soil rots. Painting the containers with creosote or penta compounds will be toxic to plant roots. Instead, line or wax the inside and use regular untreated house paints or water seal outside to extend the life of wood containers. Copper-treated wood may be used safely in box construction.

The size of containers is important. For larger vegetables like tomatoes and eggplants, you'll need one 5-gallon container per plant. You can be successful with smaller containers, such as a 2-gallon size, but smaller containers need much more attention to watering and fertility because they hold less soil.

Soils

Soil can be used as a growing medium, but most soils are poor for containers and not able to provide high rates of production. Soils can contain diseases and weeds, too. A quality synthetic mix is a much better choice for container gardening. The peat-lite (Peat plus Vermiculite) or bark-lite mixes such as Jiffy Mix, Pro-Mix, Read-Earth, etc., are much better choices. These mixes are nutrient charged, pH adjusted and relatively sterile. They also provide good aeration and water availability. You can mix half soil and half synthetic mix to improve the heavy soils' condition. Soils heavily fortified with sand and compost are good choices, too. Try a 1-1-1 mix of sand, soil and compost, then test for good percolation of water through this mix.

Watering

Moisture regulation is critical in container gardening. With large containers, there is more room for error because of the larger soil mass. Smaller containers need much more attention to watering. Generally, vegetables in small or large beds need about an inch of water per week over the entire soil surface in which the roots will extend. This can be deceiving in containers because the plant's roots fill the container more densely than if they were in a garden space. They will quickly extract the water and show signs of wilt. Gauge watering of containers by checking the soil down to a depth of 1/2 inch. Soil should be moist up to that depth. This may mean watering some containers with larger plants twice a day on some days. Whenever you water, water enough to cause some water to seep out of the container to flush out salt. Water small areas less frequently, but deeply.

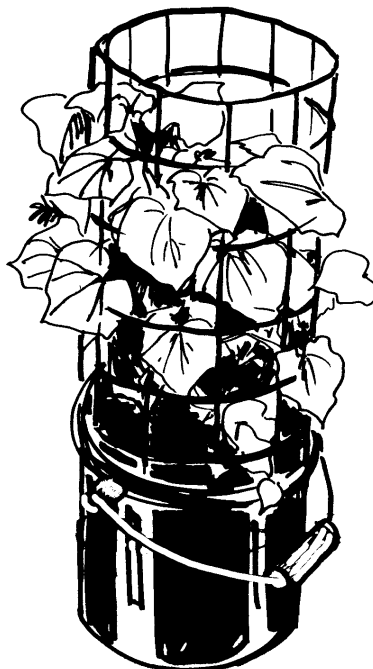
If leaves are healthy green but their edges burned up, there's probably too much salt in the soil. Leach well with fresh water and fertilize.



Fertilizers

Soils fortified with compost will have various levels of natural fertility, but supplemental feedings (sidedress) will be necessary. For container gardening, soluble fertilizers are the best choice. Check the label for directions on fertilization rates. An example of a soluble fertilizer may be a 20-20-20 water-soluble fertilizer administered once a week at a rate of 1 ounce in 4 gallons of water. Some feeding programs may include a daily feeding with a diluted hydroponic solution and weekly leaching with clear water. If you decide on a solid fertilizer like 8-8-8, you may try 1-2 level teaspoons per square foot of soil. Repeat applications of 8-8-8 at two-week intervals. Commercially prepared peat-lite mixes carry a nutrient charge which should last from three to four weeks. After this time, add a soluble fertilizer weekly until adequate growth is obtained.

The kind of fertilizer chosen should depend on the kind of vegetable grown. Vegetables producing fruits (tomato, eggplant) should have a fertilizer higher in phosphorus and higher in potassium than in nitrogen. Some companies like Miracle Gro, Rapid Gro, Peters, etc. make high quality soluble fertilizers for tomatoes, vegetables and other garden plants. These are good choices since they often have micronutrients as well. Use as directed on the package. Vegetables harvested primarily for leaves or vegetative parts should receive a 1-1-1 ratio fertilizer like 8-8-8 or 13-13-13 that is generally higher in nitrogen.



If you use transplants, begin watering with the nutrient solution. If you start with seed, use only tap water to keep the soil mix moist until the seeds germinate and the plants emerge. Then begin using a dilute nutrient solution on the young growth.

One advantage to mini gardening is that some containers can be moved or placed in areas where sunlight remains longer. Plants least tolerant to shade are fruit-bearing crops such as tomato, cucumber, squash, pepper, etc. Root crops such as beets and radishes are intermediate in light requirements, and crops that are most tolerant to shade are the leafy crops such as greens, parsley, and lettuce. All crops including the leafy crops, however, will do better in full sun. Your light conditions may restrict what kinds of plants you can successfully grow in the area you have chosen. Overcrowding of plants can reduce yields and plant performance as much as shade.

Allow enough space between plants for them to develop fully. The sun's reflection from the surrounding surfaces must be considered, too. A light driveway or concrete patio reflects a great deal of light. So does a light wall. This extra light may help a low light area or may cause stress problems on some plants. Trellising gives plants more access to light. Let your garden grow up when it can't grow out.

Raised bed garden spaces allow the growing area to be perched above problem soils or poorly drained areas. The sides of the bed help keep out some weeds and insects. When constructing a raised bed, use copper-treated lumber or treated landscape timbers. Be sure not to

use penta or creasote-treated wood. A raised bed may be as long as you like, but should be only 4 or 5 feet wide so that you may work the bed from either side without walking into it and compacting the soil. A side 5 to 6 inches is sufficient; higher beds may be droughty. Fill the bed with a good loam, sand and compost mixture.

You may use window boxes or borders along walkways and foundations. You will be pleasantly surprised to see how attractive a walkway can be when edged with such plants as carrots in full foliage.

Fences are ideal for growing many vegetables, especially vining types such as cucumbers and melons. Six to 8 feet of fence space could provide enough cucumbers for fresh use. Pole beans (lima and snaps) also do well here. When cantaloupe fruits begin to enlarge, support them on the fence in a sling made from nylon hose to avoid breakage.

Plant breeders have developed a number of dwarf or pixie hybrids for container gardening. Choose from these, if possible. Small or dwarf varieties will have less of a root mass and less of a shoot mass. These qualities are advantageous when you're gardening in limited space. Check several seed catalogs for varieties that meet these requirements. If in doubt, pick the dwarf, bush type or most compact variety available.

Plants in containers or small beds will still be subject to most of the plant pests found in a larger garden. Disease problems may be fewer, but insect pests could be heavy. Pick off what pests you can. Use of EPA-approved pesticides in a timely manner is important since high production and appearance are usually of major concern. Contact your county agent for the latest pest control recommendations.



Mini Garden Advantages

1. Need little areas
2. Requires less work than a big garden
3. Can overcome soil or exposure problems
4. Can extend seasons
5. Can try new varieties on a limited basis
6. Makes use of unused space
7. Provides fresh, healthful vegetables
8. Can be decorative
9. Can be a hobby or used to teach your children



Reasons to Use Boxed Raised Beds

- Save space
- Maintain soil texture
- Do not need annual digging
- Heat up earlier in the season
- Use water and fertilizer more efficiently
- Improve soil drainage
- Permit intensive planting
- Are neat and accessible
- Support trellises securely
- Permit use of shade cloth or plastic tents
- Avoid soil compaction because of foot traffic



Benefits to Vegetables of Vertical Growing

- Better air circulation
- Better access to sunlight
- Less exposure to soil pathogens
- Easier to harvest
- Dry faster after rain
- Less likely to be curled or deformed



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Pub. 2779

(8M)

4/07 Rep.

Issued in furtherance of Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. The Louisiana Cooperative Extension Service provides equal opportunities in programs and employment.