



UNIVERSITY OF GEORGIA
EXTENSION



Gardening in Containers

Table of Contents

Containers vs. Ground Beds	3
Soil Mixtures	3
Fertilizer Amendments	4
Containers	5
Planting Container Plants	5
Fertilizing Container Plants	6
Recommended Plants for Container Gardening	7

Gardening in Containers

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GARDENING IN CONTAINERS is a fascinating way of growing plants. It has expanded the horizons of gardening for homeowners and often has provided the only way to garden for apartment and condominium dwellers.

Planting in containers has also provided a contemporary aspect to gardening. The use of unusual plants in unusual pots and containers provides interest and color to surroundings that were once considered drab and stereotyped.

This form of gardening has been especially rewarding for those who have only a patio, deck or balcony on which to grow plants. Container plants provide the right touch needed for contrast and interest in these spaces. They are the accessories that make the scene comfortable and complete.



Figure 1. Container plants are ideal for decks, patios or balconies.

Flexibility and mobility are other important aspects of container gardening. You can display spring bulbs, summer annuals or fall blooming biennials almost immediately as they come into season. You can simply move seasonal plants in and out of the scene to add beauty to a treasured area.

Containers vs. Ground Beds

Growing plants in containers differs from growing plants in the ground. Field soils drain by capillary action, which pulls excess moisture downward. Soils in containers have poorer drainage characteristics due to the shallow depth and reduced capillary pull. This is compensated for by providing a more porous planting mixture.

Poorly drained potting mixture can lead to root problems. Under conditions of excess moisture and poor aeration, roots become stressed and are easily invaded by root rotting fungi. Under these circumstances, plants fail to grow properly or even die.

Soil Mixtures

Commercial potting mixtures are ideal for container plants. These are referred to as “soilless mixtures” because they do not contain soil but rather various combinations of vermiculite and peat moss as well as either perlite or ground pine bark. The latter two components are used to improve drainage and aeration. The better commercial mixes are also fortified with fertilizer and lime as well as a wetting agent. Commercial mixtures are recommended for gardeners who require only a few cubic feet for container plant needs.

Those who plan to grow a considerable number of container plants may prefer to prepare their own potting mixture. Good field soils can be used for this purpose. Blend sandy or clay loams with organic matter to improve the necessary drainage characteristics. Numerous formulas are effective, but a mixture of 50 percent

soil and 50 percent organic matter works well. One of the best organic matter amendments to use is ground pine bark having a 1/4- to 3/8-inch particle size. Nurseries usually have this size bark on hand for their potting needs. Either fresh or composted pine bark is acceptable. Compost hardwood barks before use.

Peat moss also can be used as the organic matter amendment. The coarser type peat moss is recommended. Avoid fine, muck type peat mosses. They decrease aeration and drainage rather than improve it.

Because of its characteristics, peat moss absorbs and holds a considerable amount of moisture. This could be detrimental when it is mixed with soil and used in containers exposed to extended rainy weather because the potting mixture could hold excessive moisture. Consequently, it is advisable to add perlite to a soil/peat mixture. Perlite, a white, heat treated expanded mineral, improves the drainage properties of the mixture. A ratio of two parts soil, two parts peat moss and one part perlite should be satisfactory.

Fertilizer Amendments

Add fertilizer and lime when preparing a potting mixture for containers. The fertilizer adds nutrients that are essential for plant growth. Lime supplies the essential elements calcium and magnesium. It also adjusts the soil to a pH range suitable for optimum plant growth (sweetens the soil).

Choose a premium grade of fertilizer to add to the potting mixture, one which contains both major and minor elements needed for plant growth. This information is listed on the fertilizer bag. An analysis such as 5-10-15, 5-10-10 or 6-12-12 is satisfactory. Add fertilizer to the mixture at the rate of 5 pounds per cubic yard (27 cubic feet) of the potting mixture or 3 3/4

ounces per bushel (1.25 cubic feet) of potting mixture.

Add dolomitic lime — the type commonly used for vegetable gardens — to the potting mixture. It contains both calcium and magnesium, which are essential for plant growth and chlorophyll formation. Dolomitic lime is added at the rate of 4 to 5 pounds per cubic yard of potting mixture.

Mixing a potting mixture properly is important. All ingredients must be blended sufficiently to make a homogeneous mixture. Layering of amendments due to improper mixing can interfere with root growth and causes poor quality plants.

Because most recommendations for potting mixtures are given on a cubic yard/cubic foot basis, it is easier to mix on this basis. Smaller volumes from 1 to 5 cubic feet are easily mixed in a wheelbarrow. The cubic foot volumes are usually printed on the wheelbarrow. Small wheelbarrows hold approximately 2 cubic feet; medium size wheelbarrows hold 4.5 cubic feet, and the larger construction type wheelbarrows hold 5 to 5 1/2 cubic feet. Add the ingredients, including fertilizer and lime, to the wheelbarrow on a volume basis and turn them several times to blend them. Remembering that a standard bushel basket holds 1.25 cubic feet, this means of measuring can also be used.

You can mix a large volume of a potting mixture on a driveway or in a garden area. Add the basic ingredients to form a pile. Distinct layers form as ingredients are added. Simply sprinkle fertilizer and lime on top of the pile. Turning the pile three times is sufficient to blend the ingredients properly. The best method is to start a new pile of the mixture each time the original pile is turned. This method reduces any layering effect.

Here are a few recommendations that, when followed, will give you a better potting mixture.



Figure 2. Commercial potting mixtures called “Soil-less Mixtures” are ideal for container plants.



Figure 3. Ground pine bark is an ideal organic amendment for preparing container soil mixtures.



Figure 4. Soil can be mixed in garden wheelbarrows. Medium-size wheelbarrows hold approximately 4.5 cubic feet.



Figure 5. Larger volumes of soil mixtures are easily mixed on a driveway or patio.

1. Expose peat moss or bark to rain for several weeks before using. Both are difficult to wet and require repeated soaking.
2. Avoid over-fertilization. This can cause root damage.
3. Cover potting mixtures with plastic cloth to keep the unused mixture free of weed seed.
4. Place potting mixture in full sun, cover with clear plastic, and seal down the sides during high temperature periods to kill weed seeds and harmful fungi. Soil should be no more than a foot deep to ensure sufficiently high temperature at the bottom of the pile. This process may require several days for a beneficial heat buildup.

Containers

Interesting containers often make plants more picturesque, and the varieties available are almost endless. Color, size and texture are important, but the most important consideration when choosing a container is whether it has adequate drainage holes. If you choose an attractive pot without provision for drainage, use a system of “double potting.” This requires that you pot the plant in a container that has drainage holes, and then place it on gravel inside the pot without drainage holes.

Container size is also important. Outdoor container plants, especially rapidly growing ones such as summer flowering annuals, need adequate space for root development. Small pots restrict root growth, which causes limited top growth. The end result is fewer flowers. While small 6-inch flower pots are often used, gardeners should think in terms of containers holding sev-

eral gallons of potting mixture. These produce the most attractive plants and by far the most flowers. They also do not require such frequent watering.

Nursery containers offer potential for container gardening. They are easy to find, economical and come in a variety of sizes ranging from 2 to 15 gallons. Containers ranging in size from 3 to 7 gallons are commonly used.

Heavy fiber pots are quite acceptable. They are attractive, reasonably priced and will last an entire season if not placed directly on the soil. Termite damage is likely if fiber pots are in direct contact with the soil.

Planting Container Plants

Several planting techniques can be used advantageously to enhance the appearance of container plants.

You can achieve a more finished appearance by using larger plants or by combining several large plants in a single container. For example, a 6- to 7-inch potted geranium already in bloom could be started in a 3-gallon container. Several 6- to 7-inch potted caladiums might be used initially in a half barrel. Or a 2-gallon potted hibiscus already in bloom could be transplanted in early spring in early spring or early summer to a 5- to 7-gallon container. This gives an immediate color effect.

Another approach might be to use 4-inch potted annual flowers initially. Several 4-inch plants already in bloom can be repotted into a larger container. Three or four plants are sufficient for a 5- to 7-gallon container. Some color is obtained immediately; however, after several weeks of growth, the colorful effect is more dynamic.



Figure 6. Nursery pots are ideally suited to container gardening.

Small and more economical flowering plants also can be used at first. You will need about a half dozen plants for a 5- to 7-gallon container. Plant these close to the edge of the pot with one plant in the middle. This procedure allows ample room for growth and air circulation. From four to six weeks of growth will be required to obtain a good effect.

When filling containers, do not pack the soil. Simply bump the container in the ground lightly to settle the soil. Fill the container to within 2 inches of the top of the container. This will leave sufficient room for water to thoroughly soak the soil. Before knocking out and planting individual plants, **thoroughly** wet the root mass. Plant individual plants so roots are set shallowly rather than deeply and gently firm soil around the roots. Finally, water the plants in thoroughly. This may require a couple of waterings in succession to wet the mixture entirely.



Figure 8. Several 3-inch potted caladiums were used initially to pot up these 3-gallon containers.



Figure 7. Substantial fiber pots are ideal for container plants.

Fertilizing Container Plants

You do not need to fertilize container plants the first two to three weeks after planting if the potting mixture was amended with fertilizer. Nutritional levels usually drop after this period because plants use them and because nutrients are leached from the soil because of frequent watering.

Fertilization of annuals and perennials of a succulent or soft nature should start about two to three weeks after potting. The frequency of fertilization depends on the method you use. For example, if you use a so-called liquid soluble fertilizer, make an application every two to three weeks during the growing season. If more rapid growth is desired, fertilize every one to two weeks.

Mix soluble fertilizer according to the label directions and apply as a normal watering. Apply enough of the solution so some drains out of the bottom of the container. If you use a dry, garden type fertilizer, apply it every three to four weeks. One-half teaspoonful of fertilizer per gallon of soil mixture spread **evenly** on the soil surface is adequate. Watering after applying the fertilizer dissolves the nutrients and carries them into the root zone. Watering the fertilizer in reduces chances of fertilizer damage to stems and roots.

Slow release fertilizers are popular. These are sold in the form of small, round pills. They release fertilizer gradually when wet. The type that lasts approximately three months is generally used. A teaspoonful per gallon of soil is usually recommended. Check the recommendations on the container because products differ and rates vary.



Figure 9. Dry, garden-type fertilizer can be used to fertilize container plants.

Fertilize containerized trees and shrubs of a woody nature as often as succulent plants. Woody plants should do nicely if fertilized in early spring (March) and again in May and July. Granular type, garden fertilizers at the rate of ½ teaspoonful per gallon of soil mix per application will be adequate. Slow release



Figure 10. Slow-release types of fertilizer are ideal for container plants.

fertilizers that last six to nine months have proven satisfactory for shrubs and trees in containers. Apply them in early spring. Spread the pellets evenly on the soil surface at the rate of 1 teaspoonful of the material per gallon of the soil mixture.

Recommended Plants for Container Gardening

Bulbs/Tubers/Rhizomes

Agapanthus	Canna	Lily
Achimenes	Clivia	Paperwhite Narcissus
Amaryllis	Crocus	Tuberous Begonia
Anemone	Daffodil	Tulip
Caladium	Hyacinth	

Biennials/Perennials

<i>Aurinia saxatile</i> = Golden Alyssum	Dusty Miller	Liriope
Chrysanthemum	Gerber Daisy	Pansy
Cabbage (ornamental)	Hosta	Sweet William
Dianthus	Kale (ornamental)	

Tender Shrubs

Acalypha	Fuchsia	Jacobinia
Allamanda	Hibiscus	Lantana
Bougainvillea	Ixora	Plumbago
Croton		

*Tender shrubs succumb to freezing temperatures; use seasonally.

Recommended Plants for Container Gardening *(continued)*

Herbs

Basil	Mint	Sweet Marjoram
Chives	Parsley	Thyme
Dill	Savory	

Annuals

Ageratum (s)	Coleus (sh)	Ornamental Pepper
Alternanthera (s)	Geranium* (s/sh)	Petunia* (s)
Alyssum* (s)	Iresine (s)	Phlox (s)
Balsam (s)	Impatiens [sultana] sh	Portulaca (s)
Begonia (s/sh)	Lobelia	Salvia (s/sh)
Browallia	Marigold (s)	Verbena (s)
Celosia (s)	Nasturtium* (s/sh)	Vinca (s/sh)

*Performs best during cooler seasons. s = sun, sh = shade

Hardy Annuals

Alyssum	Dianthus	Stock
Calendula	Snapdragon	Pansy

*Hardy Annuals are planted in the fall in the lower half of Georgia.

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