Container Gardening
Kentucky GROW

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The goals of this module are:

To learn the best techniques for successful container gardening.

What you need:

- Plants. Annual flowers make for a nice project. Another option is a pot of herbs to go on a windowsill. Have on hand 3 to 5 plants for a 10-inch container.
- Newspaper or plastic sheeting to protect work surface
- 10-inch plastic or clay pots
- Soil-less planting mix (the bag will tell you how many pots it will fill)
- Bucket in which to moisten the soil
- Water
- Trowel or old spoon to fill containers with soil
- Tool to puncture holes in the bottoms of containers (if necessary)

Time needed:

A typical participant can plant a 10-inch container in 20 minutes. This is assuming all materials are readily available and that the participant will be doing the preparation work of moistening the soil, filling the containers, and cleaning up.

How to prepare:

Have a mix of different plants available to suit the participants' tastes and availability of light. Instead of buying the same pot for everyone, a collection of various used containers would not only be more economical but also more interesting. One could also ask the participants to bring their own containers.

The program:

Gardening in containers can be just as satisfying as traditional gardening, but it can be more liberating in that the gardener has control over the soil, the light, and the particular plants. With containers, one can garden on a tiny condo balcony or decorate the steps leading to a basement apartment. The choice of plants that will thrive in containers is unlimited except for the very largest of trees and shrubs. Annual flowers, vegetables, small trees and shrubs, cacti, water plants, perennial flowers, bulbs, and vines are possible for those who love plants but are limited by space, budget, or ability. Containers are easy to fill and maintain – the space is small and it is not always necessary to kneel or bend over to plant and weed them. They can be rearranged endlessly to make interesting groupings or to optimize growing conditions. Another advantage of container gardening is freedom from poor soil, soil-borne diseases, and nematodes.

Although they are easy to install and maintain, a few guidelines are necessary to ensure successful plantings.

Planting Containers

The choices of containers for planting are unlimited, provided the chosen container can hold enough soil, and has holes in the bottom for drainage. Ordinary clay pots are inexpensive and attractive, but they are very porous and can keep the gardener busy watering twice a day in the hot summer. The larger ones are also quite heavy, and they do not hold up in the freeze-and-thaw cycles of winter. On the market now are lightweight foam planters designed to resemble clay or stone pots. They are more expensive, but can be lifted easily by those with limited strength, and they can be left in place in the winter.

Wooden containers are fine as long as they have not been treated with creosote or "penta," because the vapors can damage plants, and "Wolmanized" or pressure-treated wood is not recommended for growing food crops. Redwood and cedar do not rot as readily as other woods, and they can be used without painting or staining. Wood has the added benefit of being easily cut and nailed into any size or shape desired.

Other options are glazed ceramic pots, plastic planters, window boxes, half whiskey barrels, and hanging baskets. Creative gardeners have used trash cans, drain pipes, cement blocks, old boots, wheelbarrows, bicycle baskets, tractor tires, cast-iron bathtubs, children's wagons, gutters, and horse troughs as planting containers. The simplest system of all is to slit holes in a bag of potting mix and place the plants directly into the soil.

The width of the container should be as wide as the plant when it is mature, and the depth should accommodate the roots as they grow. A general rule of thumb is that the roots will be roughly equal to two-thirds the height of the plant. For example, a tomato plant will be about 3 feet wide and 3 to 4 feet tall at maturity; therefore, it needs a pot at least 3 feet wide and between 2 and 3 feet deep.

For growing vines, let the vines drape over the container (if the edges are sharp, pad them with foam pipe insulation tubes) or let them clamber up a trellis. The trellis can be freestanding or attached to the back of the container.

Soil

Leave the topsoil and the garden soil out in the yard. Use a commercial potting mix specially formulated for container planting. Most of these mixes are very light and airy, which allows for maximum root growth and quick drainage. The bags are also easier to transport from the car to the workspace. Some products now contain fertilizer and water-release crystals mixed right in to make taking care of container plants even easier.

Plants

As mentioned above, just about anything can be grown in containers, and the gardener can get enormously creative here. Vegetables such as cucumbers, melons and tomatoes are available in "bush" or "pot" varieties that produce regular quantities of fruit but will not outgrow a large pot. Miniature and dwarf fruit trees grow only 4 to 12 feet, depending on the variety. Remember that their roots must be protected from the cold weather of winter. Daffodils and tulips in the spring are lovely, as well as pansies or mums in the fall. Perennial flowers do fine in containers, provided they are protected from freezing in the winter. Gardeners with a shady spot can plant ferns, caladiums, hostas, fuchsias, or heucheras. Cacti and succulents thrive on unbearably hot patios or decks.

Mixed pots of annual flowers add color and interest to outdoor areas. Beginning gardeners may want to follow the tried-and-true formula of planting one vertical "element", surrounding it with "filler" plants, then finishing with trailing plants to spill over the edge. Always remember to plant together flowers with similar water and light requirements. Some suggested combinations of vertical element/filler/trailing:

-*Pennesetum rubrum* grass/ blue ageratum/ pink Wave petunia or sweet potato vine
-red geranium/yellow marigolds/ivy
-upright fuchsia/impatiens/blue lobelia
-spike/apricot wax begonia/purple fan flower

Don't be afraid to experiment with different foliage types or to mix perennials or herbs in with annual flowers. Pack the plants close together in the planters, as the supply of water and nutrients will be unlimited. Three to five plants in a 10-inch container and at least seven plants in a 14-to16-inch container work well.

Maintenance

Because a container plant's roots cannot grow outward to get the necessary water and nutrients they need, the potted plant is totally dependent on the gardener. Containers dry out more quickly than planting beds and need watering much more frequently. Hanging baskets and window boxes

sometimes need water twice a day on hot, windy days. Pots should be watered until the water runs out the bottom, but do not let the pot stand in water. Don't wait until the plant droops to water it – stick your finger into the soil about an inch down every day and then water if dry.

Mulch the soil with gravel or shredded bark, and group containers together to increase humidity and help reduce evaporation. There are drip irrigation systems designed specifically for containers, a good investment for someone who cannot lug around heavy buckets of water or reach overhead easily. Remember that a gallon of water weighs 8 pounds.

Because of the frequency of watering and the loose structure of potting soil, nutrients quickly leach out of pots. It is necessary to fertilize with a liquid fertilizer at least once a week or as suggested by the fertilizer manufacturer. Potting soil that contains a slow-release fertilizer will need fertilizer after 8 to 10 weeks.

Putting together a container of annual flowers

1. Gather all the materials together and cover the work table with newspaper or plastic. Place the planting soil in a bucket and moisten the planting soil so that when squeezed together in a ball, it holds its shape but doesn't drip water. Dry planting mix can be quite dusty, so those with respiratory problems should wear a dust mask until the soil is thoroughly wetted. Place broken clay pot shards or a coffee filter in the bottom to hold the soil in but allow for drainage. If planting in large containers such as whiskey barrels, save on potting mix by filling the bottom space where roots will not reach with a cheap, inert substance such as packing peanuts. They allow drainage yet can hold up the weight of wet soil. Also, it is a good idea to pot up large containers where they will be placed. Once wet soil and plants are added, they can be too heavy to move. Another option is to place them on a plant dolly – a rounded platform with casters – so they can be moved later if desired.

2. Scoop the wetted potting soil into the container and pack down fairly lightly, but do not fill all the way. Leave enough room so that the top of the root ball of the plants will be about ¾" from the top.

3. Gently remove the plants (avoid pulling on the stems) from the plastic 6-pack or pot that they came in and place in the pot. If the roots are tightly packed, tease some of them apart.

4. With a spoon or small trowel, fill in the gaps with wetted soil. Pack lightly with the fingers and smooth the surface.

5. Water and add more soil if necessary.

Accommodations for this program:

Keeping up with the frequent watering of plants in containers can be a challenge for anyone, and particularly for those with disabilities. Water is heavy, and transporting a full watering can when using a wheelchair or walker can be a challenge. Besides the use of mulch, water-release crystals, and irrigation systems discussed above, there are products available to at least reduce the frequency of watering. Some containers have water reservoirs built right into the pot. Capillary matting allows the plant to absorb water as the soil dries out, and there is a simple plastic tip (Aqua-Spikes) that screws onto the mouth of a plastic 2-liter soda bottle to make a simple water reservoir. For slow, steady watering, pierce several holes in the bottom of a 5-gallon bucket, then set it next to water-hungry plants. Cover the bucket to reduce evaporation and prevent accidents. Or, place cord or rope inside the container prior to adding soil mix. Trail the end of the cord through a hole in the container and let it lay in a saucer. Keep water in the saucer and the container will receive water through osmosis. As with all Kentucky GROW programs, providing needed accommodations is an individualized process. Below are some ideas to get you started, but the best route to take is to listen to the person, as he or she will usually have the best ideas of all!

For those with mobility impairments, ensure adequate leg and knee clearance under all worktables where containers will be planted. Ensure that all materials are placed at an accessible height and reach. Consider providing smaller portions of soil mix rather than large, heavy bags. Keep containers at an accessible height for watering and maintenance for those gardeners who find bending or sitting for long periods difficult. A hanging garden at waist level may be ideal. There are pulley systems available that enable the hanging pots to be kept at whatever height is comfortable for the user. For those with limited arm strength, watering can be accomplished using a coffee mug or small watering can with easy grip handle.

For those who have cognitive impairments, consider working as a team for this module. Use photos or pictures to demonstrate each step. Provide different kinds of plants that may be placed in containers so that participants can whose what their container gardens will look like.

For those with learning disabilities, provide the information in a variety of methods. Some individuals learn best by hearing the instructions, others will prefer to see the step by step procedure in writing with pictures or photos, or have the instructions on tape. Written instructions will also be helpful for those with hearing impairments.

For individuals with visual impairments, review placement of the needed materials. Don't move items without informing the person. Ensure that the area is well lit. A magnifying glass can make materials easier to see. Provide any written instructions in large print and other alternative formats as requested. Though plants trailing over the edges of containers are attractive, they may create a tripping hazard. A trellis can be beneficial in these cases.

* **Safety Note:** Sphagnum moss (green patches of dried moss used to line hanging baskets) can contain a fungus that causes cutaneous sporotrichosis, a fungal disease of the skin. Those with compromised immune systems, chronic skin problems, diabetes, or circulatory problems should avoid sphagnum moss altogether. Try pre-formed liners of cocoa fiber instead.

Where to go from here:

"Home Vegetable Gardening in Kentucky", University of Kentucky College of Agriculture Cooperative Extension Service Publication ID-128.

"Annual Flowers", University of Kentucky College of Agriculture Cooperative Extension Service Publication HO-65.

Encyclopedia of Container Gardening, Weldon Owen, 2002.

The Ultimate Container Gardener : All You Need to Know to Create Plantings for Spring, Summer, Autumn, and Winter, by Stephanie Donaldson, Lorenz Books, 2001.

Accessible Gardening, Tips and Techniques for Seniors and the Disabled, by Joann Woy, Stackpole Books, 1997

"Eight Rules for Creative Container Gardens," by John Richmond. Online at http://www.chestnut-sw.com

"Small Space and Container Gardening," by Diane Relf, Brooklyn Botanic Garden. Online at http://www.bbg.org/gar2/topics/sustainable/handbooks/essentialtools/5.html.

This material is available in alternate formats. Contact Kentucky GROW for more information.