

Container Gardening Basics

Advantages of container gardening

- No digging
- Fits into small spaces
- Easy to move if the location doesn't work
- Controlled environment
- Solves problem of (some) invasive plants

https://ucanr.edu/sites/Nutrition_BEST/files/191401.pdf

<http://mgsantaclara.ucanr.edu/files/285076.pdf>

Illustrations to be added showing containers with vegetables, ornamentals, succulents and tree plantings.

Types of plants for containers

- Consider root depth (vertical) and spread (horizontal).
- Following the instruction for spacing may give you an idea of root spread horizontally.

(Photo of Flanders' poppies)

- Root depth also depends on individual plant.
- Succulents have very shallow roots and thrive in dish like pots.

(Need to add a link here)

- Generally speaking, the roots of annuals (plants that live one season) are fairly shallow
- Perennials (plants that live more than one season) generally have a larger root system and require a larger/deeper pot
- Most vegetables are annuals (shallow rooted) which makes them ideally suited for containers
- Most flowers can be successfully grown in pots, both annual and perennial.
- Tall plants generally have large roots system and require a large container
- Dwarf varieties of citrus and other trees do well in containers (Link to list here)

Choosing a container

- Containers that are at least 10 inches in diameter and depth are best.
- Large containers with thick walls retain moisture and keep temperature stable.
- Drainage holes can be added to some containers using a household drill.
- Clay or terra cotta pots are porous therefore allow for aeration but also require more frequent watering.
- Plastic, glazed and cement pots are non porous and maintain temperature and water at a more constant level.
- Choose wood planters made of cedar or redwood which are naturally resistant to decay.
- Disinfect recycled pots.
- Consider using a plant or furniture dolly for heavy pots.

https://arboretum.ucdavis.edu/sites/g/files/dgvnsk1546/files/inline-files/02_Fall_Arboretum_Review.pdf

https://ucanr.edu/sites/Nutrition_BEST/files/191401.pdf

[https://extension.illinois.edu/containergardening/choosing material.cf](https://extension.illinois.edu/containergardening/choosing_material.cf)

Illustrations of each container type to be added

Soil for container plants

- Choose a good quality potting mix. Potting soils hold moisture and providing good drainage which is necessary for root growth.
- Some plants require soil with a specific nutrient content or drainage ability. Best to cater to that plants needs. Succulents are one example.
- Do not use planting mix, garden soil, top soil, partially composted soil or mulch. These are too heavy or otherwise unsuited as potting medium.
- Container soil can be re-used as long as the plants were healthy during the growing season with no major disease issues
- You may have to add some additional new media (good potting soil) to fill the container.
- Over time, the organic materials in the potting mix will break down and loose the drainage and aeration properties. All the soil will need to be replaced.

https://arboretum.ucdavis.edu/sites/g/files/dgvnsk1546/files/inline-files/02_Fall_Arboretum_Review.pdf

https://ucanr.edu/sites/EH_RIC/newsletters/Vol2_No1_Winter_199837629.pdf

<https://extension.illinois.edu/containergardening/soil.cfm>

How to Plant containers

Choosing plants from a nursery look for plant:

Water needs

Light requirements

Bloom time

Spacing

Growth rate and size

Cold hardiness

Suggested uses "works well in containers"

- Look for plants with bright green leaves
- Container should have neither weeds nor pests
- Flowers should be at bud stage
- Check to see if roots are already coming from hole in container bottom
- Gently ease plant from container to check the root ball and look for the way the soil and roots hold together. Roots should look healthy, light colored and free of twining or circling throughout the container.
- Containers can also be seeded but will take longer for impact.

<https://extension.colostate.edu/docs/pubs/garden/07238.pdf>

Planting Guidelines

- Fill container $\frac{3}{4}$ full with moist potting soil.
- Create a small mound of soil in center of pot and spread prepared plant roots over it.
- Moisten soil in nursery stock container, remove plant from container, gently spread roots and remove some of the old soil so roots can grow into the new soil in container.
- Hold base of plant at ground level and gently fill pot with new soil.
- New soil should cover the plant at the same depth on the trunk as it was in its nursery pot.

- Water new plant.

http://cagardenweb.ucanr.edu/Houseplants/Growing_Media

Watering

- Containerized plants will require more water than plants in the ground.
- Choice of material for the container may also determine the increased ratio of water needs e.g. clay pots as opposed to resin pots.
- Water retentive polymers may also be added to the soil mix to help with water retention.
- Containers will generally be in full sun for 8 hours per day and may require more than one watering on hot dry days.
- Soil that has become too dry will result in root hair death.

Fertilizing

- Plants grown in containers will need more fertilizer than those grown in the ground.
- A complete balanced fertilizer will produce the best results.
- Add timed release fertilizer to the planter mix.
- Regularly add fertilizer, either organic or chemical, to the containers
- Water soluble fertilizer, added in small amounts at each watering, can help supply the plants with adequate nutrition in addition to the timed release fertilizer

<http://mbmg.ucanr.edu/files/301617.pdf>

Designing containers

- Choose site for container based upon available light (8 hours for most vegetables and flowers) and attractive placement in the garden.

- Tall plants in containers can help make small place look larger. Plants in containers should be no more than 2/3 higher than the height of the pot for visual balance.
- Use multiple plant heights in the same container for visual impact

Illustrations of various planting schemes for pots

Container vegetable gardening

- Limit plantings to nothing smaller than one gallon but bigger containers will be better.
- Trellises may be needed for plants like peas, beans, melons or cucumbers, squash.
- Tomato cages can be used for tomatoes and other plants needing vertical support.

https://tilt.colostate.edu/files/pdi/885/File_34AC387D_F7FE-A079-D471C1FBBC979419.pdf

Illustrations and charts showing various sizes of pots and the number and types of vegetables that can be accommodated.

- Consider combining some ornamental plants with vegetables for more visual interest in the garden

Illustrations of pots combining vegetables and flowers

Controlling Pests

- Container plants may encounter many of the same pest problems of those in the ground.
- Start with healthy disease resistant plants.
- Provide optimal growing conditions thru good light, air circulation, adequate water and fertilization
- Encourage beneficial insects to control any pest problems

Choose the least toxic method of pest control

- Inspect plants regularly
- Handpick insects i.e. slugs, snails
- If necessary use chemical controls such as pesticide sprays, baits or fumigation

- Choose the least toxic control and apply according to all label instructions

Resource: <http://ipm.ucanr.edu/PMG/menu.homegarden.html>

Miscellaneous ideas for further development:

Growing fruit trees in containers

More about the design of the plants in the containers

Use of repurposed containers - wine barrels, olive oil tins, wheelbarrows, tires, growing potatoes in garbage cans.

How to set up drip irrigation system for container