# University of California Agriculture and Natural Resources 

University of California Cooperative Extension, Los Angeles County
From the campus to the community

4-H Youth Development
Farm Advisor
Gardening \& Horticulture
Natural Resources
Nutrition, Family \& Consumer Science

## GROWING VEGETABLES IN CONTAINERS

There are 6 major considerations in container gardening:

## 1. How much sun is available?

Choose plants according to how much sun or shade they'll get each day. Most vegetables need at least 6 hours every day. Leafy vegetables, such as lettuce, onions, carrots and beets will do okay in partial shade. But plants that bear fruit such as tomatoes, eggplant, squash; peppers need full sun ( at least 6 hours).

## 2. What type of container?

Almost any container will do as long as it has good drainage. Smaller containers dry out very quickly in summer. The smallest for outdoor use is probably 8 to 12 inches in diameter. In part shade you may have success with smaller containers. If you are using recycled containers scrub them well and rinse in a solution of 9 parts water to one part bleach. If containers are porous (clay, wood, cement) soak them well in water before filling so they won't act like sponges and pull all the water out of your soil.

Since roots are above ground, they're more sensitive to temperature extremes. Midsummer heat can fry tiny, hair like feeder roots. Without these feeder roots, the plant will wilt even if the soil is wet. Then larger roots become very susceptible to root rot fungus that can destroy the rest of the plant. Overheating of the soil is a common cause of failure in container plantings. Thick wood insulates best, dark colored containers will absorb more heat, and light colored containers reflect heat.

| How Deep Should The Container Be? How Far Apart The Plants? |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| These are good for low planting boxes |  |  |  | These need moderate depth |  | These are the deep ones |  |  |
|  | Plant Spacing | Soil Depth |  | Plant Spacing | Soil Dept | Plant | Spacing | So il |
| Depth |  |  |  |  |  |  |  |  |
| Beets | 3 " apart | 9"-12" | Broccoli | 12" apart | 12"-14" | Beans | 5" apart | $16^{\prime \prime}-18^{\prime \prime}$ |
| Leaf lettuce | 6" apart | $9 "-12$ | Cabbage | 12" apart | $12^{\prime \prime}-14^{\prime \prime}$ | Cucumbers | 12" apart | $16^{\prime \prime}-18{ }^{\prime \prime}$ |
| Onions | 3" apart | 9"-12" | Cauliflower | 12" apart | $12^{\prime \prime}$ - 14 " | Potatoes | 6" apart | $16^{\prime \prime}-18{ }^{\prime \prime}$ |
| Radishes | 1" to 2"apart | 9"-12" | Cherry toma | toes $12^{\prime \prime}$ apart | $14^{\prime \prime}-16^{\prime \prime}$ | Summer Squash | 18 " apart | $16^{\prime \prime}-18{ }^{\prime \prime}$ |
| Spinach | 5" apart | 9"-12" | Eggplant | 12" apart | 14" - 16" | Tomatoes (cherry) | 18 " apart | $16^{\prime \prime}-18^{\prime \prime}$ |
| Swiss chard | 6" apart | 9"-12" | Peas | $3^{\prime \prime}$ apart | $14^{\prime \prime}-16^{\prime \prime}$ |  |  |  |
|  |  |  | Peppers | 12" apart | $14^{\prime \prime}-16^{\prime \prime}$ |  |  |  |
|  |  |  | Carrots | 2" apart | 9"-18 (d | ends on the lengt | of the carr |  |

Leafy vegetable and herbs don't need as much room, but use a pot at least 9 inches deep so you don't have to water as often. Vegetables with extensive root systems such as cucumbers, potatoes, squash and tomatoes need containers with a minimum depth of 16 inches. Remember, the bigger the pot, the bigger the yield. An additional 2 inches deep can more than double your harvest.

## 3. Preparation of the soil

Do not use garden soil! It may contain diseases and fungi and is usually very heavy and slow to drain. Buy a high quality soil mix that is sterilized, and able to absorb moisture and drain quickly

## 4. Fertilizing. A must!

Plants trapped in containers cannot search for nutrients with their roots. Confined root systems demand frequent light fertilizing in summer. Nutrients are leached from the soil with every watering and need to be replenished regularly. Two to four weeks after planting begin applying water soluble fertilizer mixed half strength. Continue to apply fertilizer every two to three weeks unless you supplement the soil with a slow release fertilizer.

Organic gardeners can use liquid fish emulsion, liquid kelp or blood or bone meal.
You will find 3 numbers on the fertilizer package that explain what the fertilizer is formulated to do. The numbers are always in the following order:

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\underline{\text { Nitrogen - is for green leaves Phosphorus - is for flowers and fruit Potassium - is for root growth }}
$$

When one of the numbers is higher than the others, that means the fertilizer is designed to promote growth in that specific part of the plant.

Do not overfeed. A little is good, a lot is NOT better!

## 5. Watering requirements.

All containers dry out quickly, but watering requirements will vary according to the season, type of container, soil mix and exposure. To be safe, check containers daily. Stick your finger into the top inch of soil. If it feels damp there is no immediate need to water. If it feels dry then you should water until some runs out the bottom of the container. In mid summer and on windy days this can be a daily job. In summer provide a saucer that can fill with water and be absorbed more slowly. In winter remove the saucer so the plants don't sit in water and stagnate. Water early in the morning to avoid wet leaves at night when temperatures drop and mildew and disease organisms flourish. Use a slow even spray to avoid washing out the soil.

## 6. What should you plant?

Shallow rooted crops like herbs, lettuce, green onions, radishes and spinach are easy to grow. Carrots, potatoes, turnips and other roots crops are simple as long as you have a container that's deep enough. Choose a container that's twice as deep as the length they'll reach at maturity. Tall or sprawling vegetables have extensive root systems (eggplant, peppers, squash and tomatoes). They will bear well if they have enough room for roots to develop.

To get the most out of your limited space, choose high yielding and dwarf varieties with moderate to standard sized fruit. These include beans, beets, carrots, lettuce, peppers, radishes and some varieties of summer squash and tomatoes. Stay away from varieties labeled "whopper". Look for bushy rather than vining plants. For the highest yield provide support for vining or trailing crops and add the stakes or trellis when you first plant the seeds or transplants so that you won't damage roots by adding them at a later date.

## 7. Seeds or Transplants?

Plant beans, beets, carrots, lettuce, peas and radishes from seed. Cucumber, eggplant, tomatoes and squash are best purchased from transplants. Buy the smallest size available ( 6 packs if possible). They will develop better roots and larger sizes are not worth the extra cost.

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