# Growing Vegetables in Containers

**Joan Cloutier, UCCE Master Gardener**

- *Growing vegetables in containers is an easy way to enjoy healthy fresh produce all year long*
- *Containers give you flexibility to choose a good spot for vegetables, even when space is limited*
- *Container gardening can be less labor intensive and cleaner than growing in the ground*

## Containers for Vegetables

**Materials have different insulating ability, porosity, and texture**

- Terracota, concrete, stone, ceramic
- Wicker, wood, wine barrels
- Plastic
- Polystyrene, resin
- Metal
- Other (bags, pulp pots, and more, be creative)

**Size: height, depth, and shape (see chart page 4)**

- Large deep container needed for broccoli, cauliflower and tomatoes
- Smaller, shallower containers adequate for greens such as lettuces, arugula, mustard, radishes

**Location of container**

- Light: ideally would have at least 5-6 hours of sunlight, some exceptions
- Moisture: avoid putting container in area that may have standing water
- Easy Access for checking plants and harvesting

**Other considerations: Pest Control**

- May have to cover or cage area for critter (birds, squirrel, etc.) control
- Slugs: bait with iron phosphate is a good choice, or hand pick or copper barrier
- Aphids: control ants, heavy stream of water on infested area, for big infestations , insecticidal soap might be considered

## Soil Mix and Fertilizer

**Soil: drainage important**

- Very important in winter: **soil mix that drains well**, should not hold too much water, or get soggy.
- Soil mix may contain composted bark, composted forest products, sphagnum peat moss, coir, rice hulls, perlite, lava rock, pumice, compost
- Need good porosity, water holding ability, nutrient holding ability
- Sand not considered a good component, adds weight but can decrease porosity of the mix
- Most components of potting soils have very little nutrient value

**Fertilizer is VERY important to avoid nutrient deficiencies**

- Primary nutrients N-P-K (nitrogen – phosphorus - potassium) important to have enough
- Secondary nutrients Calcium, Magnesium, Sulfur may not be as critical if present in water
- Minor elements iron, zinc, manganese, copper, boron, molybdenum are also essential
- Look at "Guaranteed Analysis" on fertilizer package
- Ideal fertilizer would have more Nitrogen (N) than any other nutrient
- Fertilizer must be in a liquid state to be absorbed by roots
- A consistent supply of water and nutrients is essential for vegetables in containers
- Too much or too little will affect the health of your plant and yield, read fertilizer label
- Dry organic fertilizers and slow release fertilizers take longer to become absorbed by roots, might have to supplement small amounts of water soluble or liquid fertilizer

## Vegetables for Containers

**Cool Season root vegetables such as beets, carrots, radishes, parsnips, turnips**

- Beets of 2" or less are best quality, misshapen roots happen if planted to closely, may need to protect young seedlings from birds
- Carrots should be harvested when roots are good size but still tender, if leave too long in soil, carrots get woody, tough and may crack
- Parsnips germinate very slowly, must start early, has a growth period of 4 months, may get woody if left in soil too long

- Turnips are quick crop, 35 - 60 days, can also eat young turnip greens
- Radishes are very quick crop (25-30 days), take very little space, easy to grow in small containers and should be harvested before they get "pithy" or woody.

**Broccoli, cauliflower, Romanesco (cool season)**

- If starting from seed, must be started early (August is good), days to maturity approx. 60 – 110 days, may have to protect seedlings from birds
- Cauliflower and Romanesco only product 1 main head, broccoli will continue to produce side shoots once main head is harvested
- Cauliflower and Romanesco heads may be very small if long periods of cold frosty weather
- Main pests are cabbageworm and cabbage looper, may have to control with BT (Bacillus thuringiensis) or hand pick

**Peas (cool season)**

- May have to protect young plants from birds
- Does well in cool weather, not so well in hot temps.
- If growing shelling peas, harvest at first sign of seed development or they may become starchy

**Onions, garlic, shallots, leeks, scallions (most are cool season)**

- Seed or transplant early variety onions from Nov. – Jan for harvest in summer
- Shallots can be started from seed or transplants planted in fall for early summer harvest
- Use seed garlic and plant Oct – early Nov. for early summer harvest
- Onions, garlic, shallots and leeks are very frost tolerant (28°F no problem)
- Leeks started from seed or transplants can be planted in fall and harvested late winter-spring
- Scallions easy to grow, 65-70 days to harvest, can plant anytime

**Cool Season Greens such as arugula, spinach, chard, collards, kale, mustard, lettuces, pak choi and misc. vegetables**

- Lettuce easy to start from seed and transplant, is fairly frost tolerant, very shallow roots
- MANY lettuce varieties: popular are butterheads, loose leaf types, bibb, romaine
- Spinach , arugula, kale, mustard and collards easily survive temps. around 28ºF
- All these greens do better in cool weather, some bolt easily or get bitter in hot temps.
- Can harvest any of these as very young plants (baby greens) or wait until leaves are larger
- Arugula can tolerate less sunlight then many other cool season vegetables
- Other vegetables: kohlrabi, broccoli raabe, Chinese cabbage also grow well in containers

**Warm Season Vegetables in containers**

- Tomatoes: Best if variety has somewhat compact growth, many now available, use large containers unless variety is *extremely* compact
- Tomatoes: Nutrition is very important in containers, especially flowering stage
- Eggplants, Peppers: Read seed package or tag, size of pot depends on variety , some are tall, others extremely compact
- Squash, melons, cucumbers: Many compact varieties now available, still may need to stake or trellis
- Beans : Easy to grow in containers, pole beans need staking or trellis

## Plant Spacing & Depth for Vegetables in Containers (just a guideline)

**These are good for shallow containers**

| | Plant Spacing | Soil Depth |
|---|---|---|
| **Beets** | **3"apart** | **9-12"** |
| **Leaf Lettuce** | **6" apart** | **6-12"** |
| **Onions** | **3"apart** | **9-12"** |
| **Radish** | **1-2"apart** | **6-12"** |
| **Spinach** | **5"apart** | **6-12"** |

**These are the deep ones**

| | Plant Spacing | Soil depth |
|---|---|---|
| **Beans** | **5"apart** | **14-18"** |
| **Cucumbers** | **12"apart** | **14-18"** |
| **Potatoes** | **6" apart** | **16-18"** |
| **Summer Squash** | **18"apart** | **16-18"** |
| **Tomatoes** | **18"apart** | **16-18"** |

**These need moderate depth**

| | Plant Spacing | Soil Depth |
|---|---|---|
| **Broccoli** | **12"apart** | **12-14"** |
| **Cabbage** | **12"apart** | **12-14"** |
| **Cauliflower** | **12"apart** | **12-14"** |
| **Eggplant** | **12"apart** | **14-16"** |
| **Peas** | **3"apart** | **12-16"** |
| **Peppers** | **12"apart** | **14-16"** |
| **Carrots** | **2"apart** | **9-18"** |

**IMPORTANT: Plant spacing and soil depth are dependent upon variety planted! Many compact varieties are now available. READ SEED PACKAGE or PLANT TAG for information!**

## References


Master Gardener website: mastergardeners.org/scc
UC Davis Integrated Pest Management website: ipm.ucdavis.edu
*Natural Enemies Handbook,* Mary Louise Flint, Steve H. Driestadt, Jack Kelly Clark
California Master Gardener Handbook, UC ANR Publication 3382
*Pests of the Garden and Small Farm: A Grower's Guide to Using Less Pesticide*, UC ANR Publication 3332