



Vegetable and Herb Gardening in Containers

Container gardens are suitable for many lifestyles. Novice and advanced gardeners will enjoy the convenience of growing plants in places that might be thought of as impossible or unthinkable. Additionally, container gardens are an opportunity for creative expression in small spaces.

Consider the following when choosing a container:

- ☐ You can grow delicious food in something far less glamorous and expensive than planter boxes, hanging baskets, and terra cotta pots. Be creative as most any container can work. Do select one that has never held toxic material. Disinfect previously used container by scrubbing with a dilute bleach (about 10% standard bleach to 90% water).
- ☐ Though bigger is going to be better, you can grow some crops in containers as small as a cake pan. Match your plants to containers that will provide enough space for soil and the root system of the fully-grown plant.
- ☐ Your container must have drainage holes at the bottom. Then raise containers off the ground with a piece of wood or stone to allow free drainage. When the spaces in soil fill with water it leaves no room for air which is necessary for proper root growth. For containers like 5-gallon buckets, you can use a drill to add drainage holes in the bottom. If adding holes to a decorative container is not practical you may double pot by place the pot with drainage holes on a platform inside the decorative container.



Almost any vegetable and herb is possible to grow in a container. What crops do you want or like to eat? Which of these grow well in your area? Some crops have varieties especially suited for containers. In general, go for quick maturing (days to harvest) varieties as well as those labeled as bush, patio, dwarf or compact. Read the catalog description or seed packet to learn about overall plant size. Larger plants will need to be staked or grown on a trellis. You can maximize vertical space by placing containers with climbing vegetables next to something climbable like a post or railing. And you can plant quick growing small herbs, leafy greens and radishes around slower growing fruit bearing vegetables like tomatoes.

Learn about more about vegetable varieties at: www.gardening.cornell.edu/vegetables

Know that every vegetable garden needs:

- ☐ Full sun 6 to 8 hours daily (root and leafy veggies will grow ok with 4 hours).
- ☐ Air circulation good with protection from high winds.
- ☐ Soil well-drained, pH 6.2-6.8 and appropriate organic matter and nutrients.
- ☐ Water that is accessible and safe for use with edible crops.

While you would plant vegetable and herbs seeds or transplants in containers at the same time and in the same way you do in the garden do not use 100% garden soil in a container. It tends to compact too quickly. Line the base of the pot with paper towel, coffee filter or newspaper to prevent soil loss.

Soil recipe for larger containers:

- ✓ one part **mature compost**
- ✓ one part perlite
- ✓ one part garden soil

It will be necessary to monitor the soil mixture of plants growing in containers as fine roots die when the soil dries out. Use your finger to see how moist or dry the soil is. If the first inch or so is dry, apply enough water so it reaches the bottom of the container with excess draining out the holes. You may need to water every day in the heat of the summer.

For most plants in containers the nutrients in the soil mixture at the time of planting will not be sufficient to feed the plant through the growing season. Nutrient solutions can be made by dissolving soluble fertilizers such as 10-20-10 in water or using liquid fish emulsion or seaweed. Always follow the directions on the label. Added nutrients once per week after plant is firmly established.

At the end of the growing season the soil mixture in containers should be replaced. The depleted soil can be added to the soil in a garden. If starting with fresh soil mixture every year is not possible you may try reusing the spent soil. Using the recipe above, substitute last years spent soil where the recipe calls for garden soil. All plant material should be removed from last year's soil and the soil should be heat treated as follows before using the soil again. Discard the old plant material, including roots, from last year's soil into the compost pile (except for diseased plants which should not go into compost). Put the soil you are going to reuse into a black plastic garbage bag (moisten if dried material is added), and place the bag in a sunny location. If the days are sunny and not too cold, the temperature inside the bag should reach 130 degrees in a week or two. This temperature will kill most disease organisms, weed seeds, and pests. Disinfect container by scrubbing with a dilute 10% solution of bleach.

References:

<i>Successful Container Gardens</i>	urbanext.illinois.edu/containergardening
<i>Container Gardens</i>	www.ext.colostate.edu/pubs/garden/07238.html
<i>Container Gardening</i>	Oregon Food Bank Seed to Supper Program

Learn more:

www.gardening.cornell.edu

Published:

October 2016

Author:

Lori J. Brewer - Cornell University Garden-Based Learning, Horticulture

Reviewer:

Laurie VanNostrand - Cornell University Cooperative Extension Wayne County

Vegetables Crops & Varieties for Container Gardening

Cool season: Mid March-May **Warm season:** June - August **Extended harvest:** September - October

Flowering Plants (tomatoes, beans, zucchini, etc.) require a minimum of 6 hours of sunlight per day

Edible Leaves (lettuce, collards, kale, etc.) require a minimum of 4 hours of sunlight per day

Edible roots (turnips, carrots, beets, etc.) require a minimum of 3 hours of sunlight per day

VEGETABLE	TYPE OF CONTAINER	RECOMMENDED VARIETIES	WHEN TO PLANT	NOTES
Asian Greens	minimum container depth: 4-6"	Mizuna, Mustards, PakChoi (Green Fortune), Tatsoi	cool season	Fast growing, shallow rooted
Basil	minimum container depth: 8"	Genovese, Globe, Largeleaf Italian, Purple Ruffles, Red Rubin, Siam Queen, Spicy Globe, Sweet Basil	warm season	Grows well with tomatoes
Beans, Green	5 gal. window box, minimum container depth: 6"	Bush types such as Blue Lake, Bush Romano, Contender, Greencrop, Kentucky Wonder, Montepellier, Tender Crop, Topcrop, Tricolor come as both bush and pole bean	warm season	Climbing types work too, if you have a good trellis support
Beets	5 gal. window box, minimum container depth: 10"	Chiogga, Detroit Dark Red, Early Red Ball, Early Wonder, Golden, Little Egypt, Scarlet Supreme	cool season	Can grow in partial sun
Broccoli	1 plant/5 gal. pot, 3 plants/15 gal. tub	DeCicco, Green Comet, Italian Green Sprouting, Super Blend	cool season	Choose early maturing, compact varieties
Brussels Sprouts	1 plant/5 gal. pot, 2 plants/15 gal. tub	Evesham, Jade Cross	plant in early Spring, matures late Fall	
Cabbage	1 plant/5 gal. pot, 3 plants/15 gal. tub	Discovery, Dwarf Modern, Early Jersey Wakefield, Little Leaguer, Red Ace	plant in Spring to mature mid Summer	Take a second crop off a cabbage plant by harvesting the first head, then cutting a cross on the remaining stem which will then produce 4 smaller heads
Carrot	minimum container depth: 8"	Baby Finger, Baby Finger Nantes, Danvers Half Long, Goldenhart, Little Finger, Minicor, Ox Hart, Royal or Red Cored Chantenay, Short & Sweet, Thumbelina, Tiny Sweet	Extended harvest, succession plant all season long	Smaller, shorter varieties grow best but you can eat the ones you thin, too.
Chard	1 plant/2 gal. pot, minimum container depth: 8"	Bright Lights, Parma Giant, Scarlet Charlotte	cool season	
Collard Greens	1 plant/2 gal. pot, minimum container depth: 8"	Any variety	cool season	
Cucumber	1 plant/3-5 gal. pot	Burpee Hybrid, Burpless Early Pik, Bush Champion, Bush Whopper, Crispy, Fanfare, Lemon, Marketmore 86, Parks Burpless Bush, Patio Pik, Pot Luck, Salad Bush, Salty, Spacemaster, Sweet Success	warm season	Look for bush variety as opposed to vining

Eggplant	1 plant/3 gal. pot	Asian Bride, Bambino, Black Beauty, Florida Market, Green Goddess, Ichiban, Long Tom, Mission Bell, Modern Midget, Slim Jim, Small Ruffled Red, Thai Green	warm season	
Garlic	8" deep container	Most varieties	plant in October to harvest in following July	
Green Onion	can be grown in a cake pan	Beltsville Bunching, Crystal Eax, Evergreen Bunching	Extended harvest, succession plant all season long	You'll have better luck growing these than full sized onions
Kale	1 plant/2 gal. pot, minimum container depth: 8"	Lacinato, Showbor dwarf	cool season	
Lettuce	minimum container depth: 4"	Bibb, Buttercrunch, Dark Green Boston, Grand Rapids, Little Gem, Oak Leaf (heat tolerant), Romaine, Ruby, Salad Bowl, Tom Thumb	succession plant all season long	If you eat it as baby lettuce, you can grow lettuce in a very shallow bowl, even a seed flat. Just cut the lettuce leaves and they will grow back. Can be grown in partial shade.
Parsley	minimum container depth: 8"	Evergreen, Gigante Italian, Moss Curled, Sweet Curly	Extended harvest, cool season	Can be grown in partial shade
Peas	minimum container depth: 6-12"	Super Sugar Snap, Oregon Giant (snowpea), Little Marvel, Sugar Bon, Sugar Mel, Laxton's Progress, Sugar Rae, Melting Sugar, Burpee's Blue Bantam, Early Patio, Snowbird	cool season	
Pepper	1 plant/2 gal. pot, 5 plants/15 gal. tub	Bell Boy, California Wonder, Canape, Jalapeno, Keystone Resistant, Long Red Cayenne, New Ace, Red Cherry, Sweet Banana, Thai Hot, Yolo Wonder	warm season	
Potatoes	pot should be at least 18" wide, start with 10" of soil in a 3 ft. deep container	Charlotte, Epicure, Irish Cobbler, Kennebec, Red Pontiac. Early (new) potato varieties are best.	Extended harvest, warm season	To sprout potatoes, stand them in a warm, dark place with the buds pointing upwards. Fill a pot half way with used soil, then place the sprouted potatoes sparsely in soil and cover with 1" of soil. Water well and wait for foliage to appear. Feel around for a tuber to see if they're ready.
Radish	minimum container depth: 4-6"	Burpee White, Champion, Cherry Belle, Comet, Early Scarlet, French Breakfast, Icicle, Scarlet Globe, Sparkler	cool season	Consider interplanting these in pots among other slower growing vegetables (such as carrots or tomatoes); they'll be ready to harvest by the time the other plants need more space. Can be grown in partial shade.
Spinach	minimum container depth: 8"	America, Avon Hybrid, Dark Green Bloomsdale, Melody	Extended harvest, cool season	
Summer Squash	1 plant/5 gal. pot	Baby Crookneck, Creamy, Diplomat, Dixie, Early Prolific Straightneck, Gold Neck, Golden Nugget, Gold Rush, Scallopini, Senator, (Green) Zucco, most Zucchini varieties	warm season	Squash can really vary on how compact the plants are. Try for these varieties or anything that lists compact growing.
Tomatoes	1 plant/5 gal. pot Bushel Baskets	Better Boy VFN, Burpee's Pixie, Early Girl, Patio, Pixie, Red Robin, Saladette, Small Fry, Spring Giant, Sugar Lump, Sweet 100, Tiny Tim, Toy Boy, Tumbler Tom (for hanging baskets)	warm season	Lean toward cherry tomatoes and small tomatoes as opposed to Beefsteak tomatoes. Also, varieties that are determinate will be a bush variety which works better for containers. If you grow an indeterminate variety, make sure you have something for the vines to grow on.

Common Crop Chart

Crop	Planting Window	Footprint	Planting method	Height	Days to harvest	Some shade ok?	Single or 2-week
Basil	March-May	12" x 12"	Transplant or row	Medium	90-120	Full sun only	Succession
Beans, snap (bush)	May-July	12" x 12"*	Row or banded	Medium	60-70	Some shade ok	Succession
Beans, snap (pole)	May-June	4" x 4" trellised	Row or banded	Tall	70-90	Full sun only	Succession
Beets	March-June	4" x 4"	Row or banded	Short	50-80	Some shade ok	Succession
Broccoli	March-Aug	12" x 12"	Transplant	Medium	55-90	Full sun only	Single
Cabbage	April-June	12" x 12"	Transplant	Medium	80-90	Full sun only	Single
Carrots	March-July 15	3" x 3"	Row or banded	Short	70-90	Some shade ok	Succession
Cauliflower	April-July 15	12" x 12"	Transplant	Medium	90-150	Full sun only	Single
Chard	April-July	12" x 12"	Transplant or row	Medium	50-60	Some shade ok	Single
Cilantro	March-June	12" x 12"	Transplant	Short	60-90	Some shade ok	Succession
Collard greens	May-July	12" x 12"	Transplant	Medium	80-100	Some shade ok	Single
Corn (sweet)	April-June	12" x 12"	Row	Tall	70-110	Full sun only	Single
Cucumbers	May-June	6" x 6" trellised	Transplant or hill	Medium	55-75	Full sun only	Single
Eggplant	May-June	12" x 12"	Transplant	Medium	70-75	Full sun only	Single
Garlic	Sept-Oct	4" x 4"	Row	Short	220-300	Full sun only	Single
Herbs (perennial)	Fall or spring	24" x 24" variable	Transplant or hill	Medium	Perennial	Some shade ok	Single
Kale	May-July	12" x 12"	Transplant	Medium	60-70	Some shade ok	Single
Leeks	March-May	4" x 4"	Transplant or row	Short	120	Some shade ok	Single
Lettuce	March-Sept	6" x 6"	Row or banded	Short	65-80	Some shade ok	Succession
Onions	March-May	4" x 4"	Transplant	Short	100-120	Some shade ok	Single
Parsley	March-June	12" x 12"	Row or banded	Short	80-90	Some shade ok	Single
Parsnips	April-May	3" x 3"	Row or banded	Short	110-120	Some shade ok	Single
Peas	Feb-May	4" x 4" trellised	Row or banded	Medium	75-100	Some shade ok	Succession
Peppers	May-June	12" x 12"	Transplant or hill	Medium	80-100	Full sun only	Single
Potatoes	March-June	12" x 12"	Hill	Medium	70-120	Some shade ok	Single
Radishes	March-Sept	3" x 3"	Row or banded	Short	25-35	Some shade ok	Succession
Spinach	April & Sept	4" x 4"	Row or banded	Short	40-50	Some shade ok	Succession
Squash, summer	May-June	36" x 36"	Transplant or hill	Medium	55-70	Full sun only	Single
Squash, winter	May	6' x 6' vine	Transplant or hill	Medium	90-150	Full sun only	Single
Tomatoes	May	36" x 36"	Transplant	Tall	60-85	Full sun only	Single
Watermelon	June-July	12" x 12" trellised	Transplant or hill	Medium	55-85	Full sun only	Single

KEY	Planting method		Height	Short	Under 12"
	Transplant	Transplant into garden as a start		Medium	12" - 35"
	Row, banded, hill	See Chapter 3, "Direct Seeding"		Tall	36" or taller

Sources: <http://cceonondaga.org/gardening/food-gardening/lastplanting-dates> <http://www.gardening.cornell.edu/>

