



Four Keys to Successful Container Vegetable Gardening

Have you ever wondered how your grandparents grew gorgeous tomatoes just in pot on their deck? Are you baffled by why your neighbor has such a lush herb garden on her porch while yours withers and dies? Container gardening might seem like a secret art but following a few key principles can make your potted vegetables the envy of the neighborhood in no time.

Choosing the Right Container

- **Drainage:** Did you know that roots need oxygen just like we do? Water-logged soil or soil that's always wet makes it difficult for roots to breathe, so no matter what you're growing in your container, it should have drainage holes at the bottom so excess water can flow out easily.
- **Size:** A single tomato plant will need at least a 20"-wide pot, while peppers and eggplants can thrive in a 14" pot. Smaller pots are good for herbs and greens. For healthy root growth, all pots should be at least as tall as they are wide.
- **Material:** Plastic pots are lightweight and don't dry out as quickly as pots made from porous materials such as terracotta. However, heavier pots like those made from cement or stone can help prevent top-heavy plants such as tomatoes from blowing over in the wind.



Potting Mix

- Fill your container with a soilless mix – do not use straight garden soil! Soil and soil-based mixes are typically heavy and dense, which can prevent your container from draining properly. Soilless mixes contain a blend of several materials such as sphagnum moss, composted bark, perlite, vermiculite, or coconut coir to create a medium that drains well while holding onto water and nutrients. Soilless mixes are also free from weed seeds and plant pathogens.
- You can also add compost to your soilless mix, up to 50%. Compost can have similar benefits to slow-release fertilizer and increases the water-holding capacity of your media.

Plant Selection

- How much sun will your container get? Tomatoes and peppers need at least 6 hours of sun per day, while lettuces and kale prefer shade.
- Look for dwarf or shorter varieties of vegetables, often labeled as "bush" or "determinate" on seed packets. These will be compact plants better suited for the small space of a container. Even though they are compact, some vegetables will still need a trellis or other support; examples include tomatoes, pole beans, and cucumbers.
- Not all vegetables grow well in containers: sweet corn, watermelon, winter squash, and zucchini are all better-suited for in-ground gardening.

Water and Fertilizer

- Most container vegetable gardens will need to be watered at least once a day during hot summer months. The potting media should always be moist but never water-logged. To make sure you're thoroughly watering your containers, add water until it starts to drain out of the bottom.
- Because they only have access to the nutrients available in their pot, plants in containers need more fertilizer than in-ground plants, which are able to expand their root systems to access nutrients in the surrounding soil. To keep container vegetable gardens healthy and productive throughout the season, add a slow-release fertilizer at planting time and reapply a soluble fertilizer every two to four weeks.



Photo Credit: Steve Williams, PSU

Further Reading

- “Growing Vegetables and Flowers in Containers” by Pamela Hubbard, Penn State Extension Master Gardener. May 21, 2018. <https://extension.psu.edu/growing-vegetables-and-flowers-in-containers>
- “Container Grown Tomatoes” by Steve Bogash and Tom Butzler, Penn State Extension Educators. August 29, 2011. <https://extension.psu.edu/container-grown-tomatoes>

Additional Resources

- Still struggling with your container or have specific questions? Contact your county Master Gardener Hotline for free, personalized advice:
 - <https://extension.psu.edu/programs/master-gardener/counties>
- To view all of our educational offerings on Container Vegetable Gardening, including additional factsheets and upcoming workshops, visit our website at <https://extension.psu.edu> and search “container vegetables,” or use your phone to scan the QR code below:



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