

Warm Season Vegetables (published 2025-05-03)
By Earl Hockin, Master Gardener

Warm season vegetables include tomatoes, eggplant, peppers, sweet potatoes, beans, corn, and okra. Tomatoes, eggplant, and peppers are usually started from seed indoors and transplanted when the soil has warmed up. Basil, beans, corn, squash, melon, watermelon, peanuts, okra, and pumpkin seeds can be sown outdoors when the soil temperature is 60F. Sweet potatoes are started from slips which can be planted when soil temperature at four inches deep is 60F.

Warm season vegetables require warm soil and air temperature to germinate, grown and mature. They tend to be resistant to drought, but watering can increase production. As they are normally grown for their fruit rather than their leaves, they require less nitrogen than vegetables such as lettuce and cabbage family vegetables. Typically, they should not be transplanted or seeded outdoors until after the last frost and preferably when nighttime temperatures are higher than 45F, and the soil temperature is close to or above 60F.

For most people tomatoes are the most popular of the warm season vegetables. The indeterminate varieties keep growing and producing fruit until it gets too cold in the fall, but they need to be supported with a cage or stakes. It is important to keep tomatoes adequately watered otherwise, they can develop blossom end rot. Tomatoes benefit from being fertilized with a fertilizer that is highest in phosphorous. An ideal ratio is 1:4:2. Too much nitrogen will cause an emphasis of leaf growing rather than fruit production. Of course, tomatoes must be pollinated to produce fruit, so growing flowers with or near tomato plants will attract pollinators such as bumble bees. I plant nasturtiums as companion plants with my tomatoes. I also use basil as a companion plant for tomatoes, not to produce flowers, but to let the odor of the basil leaves repel pests such as aphids and whiteflies.

During the heat of summer, some irrigation practices will help the plants and help conserve water. The best time to water the garden is early morning, before 9 or 10 AM. When the air and soil are cooler there will be less evaporation of the water and plants absorb better when not under heat stress. The second-best time is evening from 5pm to 8pm. If you can't water during these periods, it is ok to water in midday, as watering then is better than not watering at all.

Generally, you should give your vegetables at least 1 inch of water per week either by rain or irrigation. If we are having unusually dry weather or you have very sandy soil, you may have to double the amount of water. For every 10 degrees above an average temperature of 60F, during hot weather, plants need an extra ½ inch of water per week. To calculate the average temperature, add the daytime high and nighttime low and divide by 2. So, when the daytime high is 85F and the nighttime low is 65F the average temperature is 75F. So, you should give your garden 1.5 to 1.75 inches of water for the week.

Any of these warm season vegetables can be grown in traditional gardens, raised beds or containers. If you must deal with the deer or rabbits, you can choose to grow vegetables and herbs that are resistant. Some are virtually 100% resistant while others are less so. The stronger the scent or taste, the less likely a plant is to be eaten by deer or rabbits. Mint, peppers, eggplant, onions, garlic, chive, sage and rosemary are the most deer resistant plants. Others that are very

deer resistant include cucumbers, dill, and tomatoes. You will likely be successful growing these even in your front yard in containers. However, if the deer become exceptionally hungry, they will eat virtually anything and everything. Successful summer gardening can give you fresher tasting and often better varieties than available in grocery stores.

Resources

“Deer Resistant Vegetables and Herbs,”

https://www.canr.msu.edu/news/warm_season_vegetables_to_grow_during_summer

“Guide to Warm-Season Garden Vegetables,” <https://utia.tennessee.edu/publications/wp-content/uploads/sites/269/2023/10/SP291-P.pdf>

“Deer Resistant Vegetables and Herbs,” <https://homegarden.cahnر.uconn.edu/factsheets/deer-resistant-vegetables-and-herbs/>

“Companion Planting,” <https://extension.wvu.edu/lawn-gardening-pests/gardening/garden-management/companion-planting>

For more information about gardening, visit UTHORT’s YouTube site for helpful videos:
<https://www.youtube.com/channel/UCjS3d1IklH1OZ1Z2qPvhgfQ>

Or Washington County’s YouTube site:

<https://www.youtube.com/@utextensionwashingtoncounty>

How do I ask a question?

If you have a question for the Master Gardeners, submit them to us on our website at www.netmga.net. Click the link at the top of the page, “ASK A MASTER GARDENER” to send in your question. Questions that are not answered in this column will receive a response from a Master Gardener to the contact information you provide.

The Master Gardener Program is offered by the University of Tennessee Extension. The purpose of the Master Gardener program is to train people as horticultural-educated volunteers. These volunteers work in partnership with the local Extension office in their counties to expand educational outreach, providing home gardeners with researched-based information.