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# Cultivate Abundance

Practical Approaches for Small-Scale Food Production

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## Gardening Strategies for the Hot Season

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You probably don't need a climate scientist to inform you that southwest Florida summers are getting hotter. Unfortunately, researchers confirm this is indeed happening and without drastic measures to mitigate climate change, temperatures are expected to continue to rise.

Summer hot weather trends not only translate into discomfort but also impact food production.

Scientists have pinpointed how hot days and nights affect crops, including vegetables. Excessive heat can cause flowers to drop and influence the presence of more male flowers than fruit-producing female flowers in vining vegetables (e.g., cucumbers, squash, pumpkins, melons). Heat reduces bee activity which can result in deformed melons, cucumbers, and squash as well as small rotting fruit for viny crops such as



Tall adequately spaced heat tolerant crops can provide partial shade for less heat tolerant varieties.

green beans. Hot nights are known to cause tomato fruit not to ripen (University of Minnesota Extension, <https://extension.umn.edu/yard-and-garden-news/heatwave-makes-vegetables-misbehave>).

High heat also leads to increased transpiration (e.g., water loss through foliage and other plant parts) as well as greater soil moisture evaporation. With water loss resulting in crop wilt, decreased yields, and possible plant mortality, because rainfall varies, higher temperatures may require increased irrigation.



For more information about summer gardening strategies, contact

Cultivate Abundance at [info@cultivateabundance.org](mailto:info@cultivateabundance.org).

## Approaches to minimize the effects of summer heat in the garden

To lessen the effects of southwest Florida summer heat in our donation gardens, for vegetable and root crop production, our efforts include:

- ❖ Increasing the cooling effect of partial shade by growing beds of taller heat-tolerant crops, such as corn and okra, next to shorter crops (e.g., leaf lettuce) that tolerate some degree of shading.
- ❖ Providing additional partial shade through row covers and shade cloth.
- ❖ Focusing on heat-tolerant annual crop species and varieties. During the hottest months (May through September), we plant annual vegetable and root crops of local preference that have greater tolerance to heat and humidity, mainly okra, jute mallow, taro, cassava, amaranth, corn, squash, and field peas. One variety of leaf lettuce with exceptional heat tolerance is Starfighter, available through Johnny's Seeds. We also plant an open-pollinated variety known as Queensland. Both types of lettuce produce better under partial shade. Various varieties of pepper (hot and sweet) as well as eggplant are somewhat productive during the summer.
- ❖ Growing tropical perennial vegetables and herbs, including moringa, chaya, Haitian basket vine, nopal (prickly pear) and multi-purpose aloe vera.
- ❖ Adding compost, as needed, to sandy garden soil to improve water-holding capacity.
- ❖ Applying mulch to the production areas to help conserve soil moisture (and discourage weeds). Layers of clean straw or hay are used to cover vegetable beds with wood chips applied around perennials as well as between plant beds.
- ❖ Managing water application based on seasonal rain patterns and weekly/daily weather trends to minimize overwatering while providing adequate water (neither too much nor too little) to maintain optimal crop production.



Shade cloth will help lower summer temperatures for less heat tolerant crops such as lettuce.



Field peas thrive in hot, humid conditions.