

From Fruit to Spice: The Lowly Pepper

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Some herbs and spices may have limited uses, or we may be used to only using them in one form, such as the leaves from a basil plant. We know what to expect and selecting a particular variety year after year produces consistent tasting results. Other spices we derive from the fruit of a vegetable, though, can vary based on many factors.

Take the plentiful *Capsicum annuum*, the genus and species from which we derive pepper in its many forms. In fact, this species and its two international cousins, *C. frutescens* and *C. chinense*, are believed to have evolved from a common ancestor in South America, and it is the most commonly cultivated pepper species around the world. Note: Peppercorns are not related, coming from a completely different type of plant from the genus *Piper*.

In Latin, *annuum* means annual, but left to its own devices in a very hot climate, a pepper plant is a perennial that will eventually grow to bush size. A fun experiment locally would be to plant a favorite pepper variety in a pot and move it into the house or a very warm greenhouse for our winters. How many years do you think you could encourage it to continue producing?

Sweet or Heat?

We often think of bell peppers as sweet and hot peppers as hot with variations in between based on variety alone, but that's not always the case. Yes, bell peppers should usually be sweet, but Mother Nature can play some games with us too!

For a pepper's fruit to develop, the blossom must be pollinated. Flying insects of all sorts are the typical pollinators. However, they can't read those helpful plant tags we place in the ground to remind us what variety is hot and what's not, and they can fly a mile or more between the flowers they pollinate. And this is where the fun begins.

If a bell (sweet) pepper plant is growing near a jalapeno (hot) pepper plant and they flower at the same time, flower and pollen of both are available for fruit making. Think of the possibilities! A sweet flower can be crossed with the pollen from a hot pepper, and before you know it, that gentle flavor of bell is warmed up considerably by jalapeno's heat.

Likewise, the heat of a jalapeno can be muted if the pollen from the bell pepper has been the lucky source. Just two pepper plants can produce sweet-sweet, sweet-hot, hot-sweet, and hot-hot combinations for the fruit that both plants bear. In some cases, the appearance of the fruit may even change too, depending on the pepper varieties that happen to cross.

Other Variables

Peppers will vary in flavor based on the combination of pollen and flower, but other factors also come into play in determining how true to variety the fruit might be. Flavor heat can be affected by temperatures during the growing period, soil conditions, sun exposure, age of the fruit, age of the plant, and even the amount of water provided. And each pepper variety may react differently to these factors.

Pepper Conundrums

A complaint that Master Gardeners hear about consistently at this time of year is that a particular kind of pepper does not seem hot enough or sweet enough, given the variety. Where was the knock-your-socks-off kick in that habanero, and why were the sweet stuffing peppers burning anyone who tasted one?

Considering that the heat of a pepper's fruit may vary considerably, there will be similar variations throughout its many uses in its lifecycle. Peppers are used as fresh whole fruit in green or fully ripened states, dried as a whole fruit, dried and ground, and as seeds alone for additional flavoring. Without a good understanding of the flavors that a specific plant seem to be developing in any given year, the hapless cook working with the results may either create a scorcher of a dish or a bland disappointing combination.

What should a home gardener do? If you're growing both hot and sweet varieties of peppers and you happen to have them close together, make sure you taste test the resulting fruit. You'll then

understand how the plant is responding to the year's growing conditions and how it's playing with its neighbors.

For future years, consider planting the sweet and hot pepper varieties as far from each other as possible in the garden, and plant more than one of each flavor type so that pollen is available to cross with each type of pepper. This will discourage some cross-pollination.

Also, mimic the flavor profile in the plant's location. Hot peppers equal a hot location in the garden. Sweet peppers prefer slightly cooler conditions with dappled shade at the hottest time of the day to prevent burns appearing on the fruit.

Then again, think outside the planting box! What if you could get a pepper plant to overwinter? How would it taste then? And what about a pepper jelly made of a habanero-sweet frying pepper combination? Yum! There are opportunities to make some interesting and unique combinations from this common vegetable grown in so many of our home gardens.

The next Master Gardener class will be on Saturday, September 8th. The topic is "Trash to Garden Treasure". Learn the secrets of recycling and repurposing discards in your garden. The class is offered at no charge. It starts at 9:00 a.m. and is held in the Veterans Memorial Building, 130 Placerville Dr., in Placerville.

A good selection of perennials will be featured at the Master Gardener Fall Plant Sale on Saturday, September 15th from 8:00 a.m. to 3:00 p.m. in the parking lot of the Veterans Memorial Building. It's also a great opportunity to purchase winter veggie starts and lots of other interesting plants for your garden and landscape.

Master Gardeners are available to answer home gardening questions Tuesday through Friday, 9 a.m. to noon, by calling (530) 621-5512. Walk-ins are welcome. The office is located at 311 Fair Lane in Placerville. For more information about our public education classes and activities, go to our Master Gardener website at http://ucanr.edu/sites/EDC_Master_Gardeners/. Sign up to receive our online notices and e-newsletter at <http://ucanr.edu/mgenews/>. You can also find us on Facebook. Master Gardeners are available to answer questions most Saturdays at the Placerville Farmer's Market and most Sundays at the El Dorado Hills Farmer's Markets.

Do you have plastic feed sacks or plant containers to recycle? Master Gardeners will gladly take them at the Master Gardener Office. Call before dropping them off and thank you for the donation.

