
Serrano Peppers

Peppers - *Capsicum annuum*
Family - Solanaceae

Although there is no one secret to growing peppers successfully in the home garden, you can best increase you odds of consistently abundant harvests by keeping the plants growing vigorously at all stages of development. To do that you need an understanding of pepper plants requirements from seed to harvest.

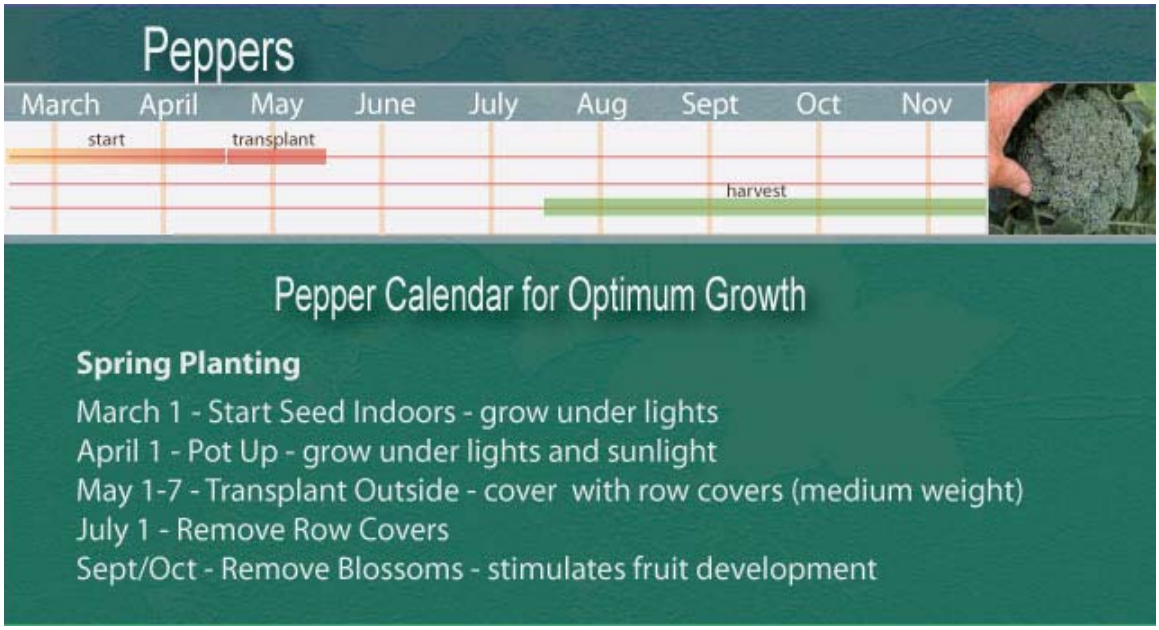
Peppers are a warm season crop that grows best with daytime temperatures between 70-75°F. Since our daytime temperatures exceed that range during the pepper season, plants are often heat stressed. Since sweet peppers are less tolerant of high temperatures than their spicy relatives, they produce best in our climate with partial shade.

Timing
Even with our long growing season timing your pepper crop is very important. Seeds should be started indoors under lights in early March so the plants have six to ten weeks of growth before transplanting out into garden beds. The chart below gives a general schedule for starting, transplanting and harvesting peppers for Las Cruces. The schedule works equally well for both hot and sweet varieties.

I find the most critical time for peppers is during germination and early seedling development. Seeds are slow to germinate at temperatures below 75°F, but will tolerate a temperature range between 65-95°F. Optimum germination temperature is 85°F. After germination they are susceptible to chilling, so water your seeds and seedlings with lukewarm water to prevent chilling. Pepper seeds can be stored for four years in a cool

dry place, but loose germination vigor quickly in if stored where they are warm. So, store them properly or purchase new seeds at least every other year.

Seedling Tips - Pepper seedlings require stronger light than tomatoes, so place them closer to the light source or window. Keep nighttime temperatures above 60°F for best growth and fruit production later.



Below The Surface

Peppers have a fairly shallow and fibrous root system that can spread out three feet from the stem and penetrate to a depth of 24 inches (in ideal soils). Because of this root system they are less drought tolerant than tomatoes - particularly true of the smaller pepper varieties. Plant spacing can vary from 10-18 inches depending on the size of the adult plants. I plant small types like Jimmy Nardello's on 10" centers and the larger California Bells on 16" centers. You spacing will vary with varieties.

Transplanting Tip - Its important to set transplants deeply - up to the first set of true leaves. Peppers grow adventitious roots like tomatoes and the extra rooting helps keep fruit laden plants from toppling over.

Peppers grow best in rich organic soil with abundant organic material (how often have you hear that?) If you are growing organic, amend the soil with finished compost, rabbit and chicken manure in the fall before planting - giving plenty of time for aging. If that's not possible add finished compost, a phosphorous source such as soft rock phosphate, bone meal, or composted bio-solids and a nitrogen source such as cottonseed meal a couple of weeks before planting. I side dress with additional cottonseed meal and bio-solids when the plants begin setting blossoms. To produce abundant large thick walled fruits, peppers require adequate phosphorous and potassium. Our soils generally have

adequate amounts of available potassium (unless your soil test shows otherwise), but needs additional phosphorous.

Drip irrigation is the best option for garden peppers. You can put the drip lines under black plastic if planting early in the season, or you can bury soaker lines to reduce or eliminate clogging from excessive mineralization. Mulching with an organic (cooling) mulch is necessary here as soil temperatures above 85°F will retard plant growth in peppers.

Irrigation Tip - During blossom set and fruit development are critical times to avoid water stress.

Above The Surface

Like their roots, pepper flowers are also temperature sensitive. You'll see blossom drop when daytime temperatures exceed the low 90s°F, or nighttime temperatures remain above the low 80s°F (not a frequent occurrence here), or if nighttime temperatures drop into the 50s°F (not here, during the pepper growing season). Pollination is reduced by cold daytime temperatures (in the 50s°F) which results in reduced seed development and resulting smaller fruit size. The cause of small fruit size here is generally lack of adequate soil nutrients.

Pepper fruits, like tomatoes are subject to both blossom-end rot and sunscald. Blossom-end rot is caused by a deficiency of calcium in the developing fruit brought on by either insufficient available soil calcium or inadequate water for the uptake of calcium (generally the latter is the real culprit).

Sunscald can be reduced in most varieties by encouraging abundant foliage growth with adequate soil nitrogen and can be eliminated entirely by using a "row cover" shade cloth over the plants as the fruit matures. (a middle or heavy weight Agribon works best). For those varieties that set fruit near the top of the bush some kind of shading is necessary here. Hot peppers are less susceptible to blossom-end rot and generally don't sunscald.

Diseases

Peppers like tomatoes are effected by curly top virus, so use row covers or skirts when plants are young and susceptible. Peppers are also effected by several other diseases throughout their life cycle. For references to other disease problems, I recommend reading the NMSU Extension publication on Chile Pepper Diseases for additional information. No one says it better than Ms Goldberg.

Growing your own backyard peppers can be done easily and dependably with basic knowledge about peppers through their life cycle followed up with diligent gardening.

Further Reading

Growing Peppers in New Mexico Gardens - NMSU Extension
http://cahedev.nmsu.edu/pubs/_h/h-240.pdf

Verticilium Wilt in Chili Peppers - NMSU Extension
www.chilepepperinstitute.org/files/tiny_mce/file_manager/educ_info/VerticiliumWilt.pdf

Chile Pepper Diseases - NMSU Extension
http://aces.nmsu.edu/pubs/_h/H-249.pdf

Chile Pepper Disorders Caused by Environmental Stress
http://aces.nmsu.edu/pubs/_h/H-249.pdf

Chile Pepper Institute - Chile Information (most of what you need to know)
http://www.chilepepperinstitute.org/chile_information.php

Vegetable Varieties Recommendations for New Mexico Backyard and Market Gardens
http://aces.nmsu.edu/pubs/_circulars/CR572.pdf

Good Gardening and Good Eating

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