

Grow Your Own Tomatoes, Peppers, and other Summer Vegetables

Master Gardener Program of Santa Clara County

April 2020



Key Ideas

- Choose a sunny location – one that gets 8 hours of full sun per day
- Feed your soil with additional organic matter for successful vegetable gardening
- Choose an area with easy access to water and/or an irrigation system
- Properly spaced and supported plants will be healthier and allow you to get more out of your growing area
- Many summer vegetables will not tolerate cool soil and/or nighttime temperatures, ensure you're planting at the right time for each crop

Sun. Watch sun patterns at different times of day and year. Use compass to find south and southwest. Look for microclimates in your yard.

Water. Chose a location with access to water, through existing irrigation system, hose, or ideally both. Vegetables will need regular water to flourish.

Soil. Clay soils retain water & nutrients well, but often need to be amended with compost to increase aeration & support soil organisms. Nitrogen will need to be replaced on a regular basis, ideally through slow-release forms which will help you avoid excess early green foliage.

Warm season vegetables

Tomatoes

- Types
 - **Classic** – Generally round & smooth, ranging from medium-small to medium-large in size. Sometimes called main crop or slicing tomatoes
 - **Cherry** – Small, bite-size tomatoes
 - **Beefsteak** – Generally large to very large, usually somewhat irregular in shape, often later to mature
 - **Paste** – Generally elongated shapes and often meatier with less seed gel, hence good for processing as sauce & paste
- Determinate vs indeterminate
 - Determinates are short, about 2-4 feet high. Standard tomato cages will work.
 - Indeterminates will continue growing until frost kills them, easily 6 feet or more, need tall cages
- Growing
 - Plant out Apr - June, when soil has warmed up, 2-3 feet apart
 - Stems can be buried, both when potting up and when planting in the ground. Roots will develop where the leaves were attached.
 - Don't use a high nitrogen fertilizer. It encourages too much leafy growth. Instead, choose a slow-release fertilizer. Organic sources of nitrogen are generally slow release.
 - Support vines with cages to keep fruit off the ground

- Don't overwater tomatoes once they're established. They'll develop better flavor with less water.
- Harvest when fully ripe and starting to soften

Peppers

- Planting out
 - Plant 12-15 inches apart, after soil is at least 55 degrees / nighttime lows are regularly above 50 degrees.
 - For sweet peppers, pick off first blossoms and fruits to encourage more leaf and root growth, for at least 2 weeks and up to 6 weeks. Can double overall production.
 - Small 'tomato' cages or stakes are a good idea for large fruited peppers
- Sweet peppers
 - Need good, regular watering to make thick, juicy peppers.
 - Pick at desired color (green, red, yellow, etc.). Use a hand pruner.
 - Many great varieties. Some favorites: Karma, Orange Sun, Corno di Toro, Nardello
- Hot chiles
 - Pick at desired color. Often snap off easily.
 - Scoville ratings: 0 (sweet) to 600,000+ (some habanero and Indian peppers)
 - Some favorites: Serrano (10,000 - 23,000), Fish (45,000-75,000), Rocoto (100,000 - 200,000)

Eggplant

- Seedlings
 - Plant when nights are warm (June 1), 15-24 inches apart
 - Short tomato cages work well as supports.
- Harvesting
 - Harvest when fruit is still very glossy and has stopped enlarging. Baby eggplants are delicious, but over mature ones can be bitter and seedy.
 - Use pruners to clip off fruits, and watch out for thorns on the stem cap.
 - Some favorite varieties: Black Chu Chu (baby eggplant), Neon, Rosa Bianca

Cucumbers

- Seedlings
 - Direct seed in May- June or start in pots 3-4 weeks in advance, Apr - May
 - Transplant or seed when weather is warm, May - June. They do not like cold weather!
 - Plant 4 inches apart on trellis or in hills of 4-5 seeds
 - 4-8 vines or 1-2 hills probably enough
- Support
 - Vining plants need room to ramble or climb. Even short (3') tomato cages can help
 - Trellising gives straighter, cleaner cukes with little insect damage, space efficient
 - Cukes need some help climbing
- Harvesting
 - Pick at any size, but before they get fat and seedy, especially before they turn yellow
 - Old cukes on vine will slow/stop production. Check carefully – they hide!

Green beans

- Bush and pole types
- Seedlings
 - Start in pots 3-4 weeks in advance (Mar - May) or direct seed (May - July)
 - Needs warm soil to germinate

- Plant seeds deeply, 1-2 inches
- Bush beans 3-4 inches apart
- Pole beans 2-3 inches apart
- Harvesting
 - Pick when large and firm but before seeds inside become obvious
 - Pick frequently, every 2-4 days
- Some favorite varieties:
 - Blue Lake, pole & bush (green), Kwintus, pole (green, long), Beurre de Roquencourt, bush (yellow), Marvel of Venice, pole (flat yellow)

Summer squash

- Many types: zucchini, crookneck, pattypan
- Seedlings
 - Direct seed in May-June or start in pots 3-4 weeks in advance, Apr - May
 - Does best in warm weather, but you can try putting out transplants in April
 - Space 3-4 feet apart
- Harvesting
 - Harvest when desired size, usually young and tender
 - They get big fast! Check every 2-3 days
 - Watch out for hidden ones
 - 2-4 plants are probably enough

Winter squash

- Types
 - *Cucurbita pepo*, *c. maxima*, *c. moschata*
 - Butternut, acorn, kabocha, pumpkins
- Seedlings
 - Direct seed or start in pots 2-3 weeks in advance, May-June
 - Needs warm soil
 - 3-5 seeds per pot or hill, then thin to strongest 3
 - Space bush varieties 3-6 feet apart
 - Vining varieties need room to ramble
- Harvesting
 - First flowers are male
 - Not as productive as summer squash, often only 1 or 2 per vine for the big ones
 - Harvest when rind is fully colored and hard, stem is brown, usually Sept - Nov
 - Store at 50-60 degrees
 - Some favorites: Potimarron, Red Kuri, Tahitian, Green Olive (Olive Vert)

Chard

- Start in pots 4-6 weeks ahead of time or direct seed 10-12" apart
- Pick outer leaves (pull rather than cut) and continue harvesting over a long period of time
- Eat both leaves and ribs. Ribs require longer cooking
- Favorite varieties: Bright Lights, French White, Italian Silver Rib

Common Pests and Diseases of Some Warm Season Vegetables in Home Gardens (Santa Clara County)

Vegetable	Diseases	Pests	Physiological Conditions
Beans		Stink bugs Spider mites	
Chard		Aphids Leaf Miners	
Eggplant	Verticillium wilt	Flea beetles	
Pepper	Vascular wilts	Corn earworm	Sunscald Blossom end rot
Summer squash, cucumber	Powdery mildew Mosaic virus	Squash bugs Cucumber beetle	Lack of pollination Leaf wilt (squash)
Tomato	Early and late blights (fungal) Vascular wilts (verticillium and fusarium) Tobacco mosaic virus	Russet mite Hornworms Stinkbugs	Blossom end rot Cat-facing Sunscald
Winter squash	Powdery mildew	Squash bugs Cucumber beetle	Leaf wilt (squash)

References

UC Davis Integrated Pest Management website: ipm.ucdavis.edu

Pests of the Garden and Small Farm: A Grower's Guide to Using Less Pesticide, UC ANR
Publication 3332

Natural Enemies Handbook, Mary Louise Flint and Steve Dreistadt, UC Press

Garden Insects of North America, Whitney Cranshaw, Princeton University Press

Resources

Master Gardener Helpdesk: mgsantaclara.ucanr.edu/contact-us/ask-a-gardening-question/

Vegetable Planting Chart, Santa Clara County:

mgsantaclara.ucanr.edu/garden-help/vegetables/vegetable-planting-chart/

Integrated Pest Management by Crop: ipm.ucanr.edu/PMG/GARDEN/veggies.html

Garden Insects of North America, Whitney Cranshaw, Princeton University Press

The Truth About Garden Remedies: What Works, What Doesn't & Why, Jeff Gillman

Mac's Field Guide: CA Garden Bugs. Available at mountaineersbooks.org and local bookstores

Cornell University's "Vegetable Varieties for Gardeners": vegvariety.cce.cornell.edu/index.php