

Advice to Grow By
... Ask Us!

UCCE Master Gardeners
San Mateo & San Francisco Counties

Container Gardening

How to grow *almost* anything in a pot!

Presented by Laurel Nagle

August 19, 2020



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Advantages of container gardening

Goes anywhere

- On a wall
- In a garden
- On a balcony

Easy to change

No worry about soil issues



Can start summer crops sooner in pots than the ground

Can take advantage of microclimates



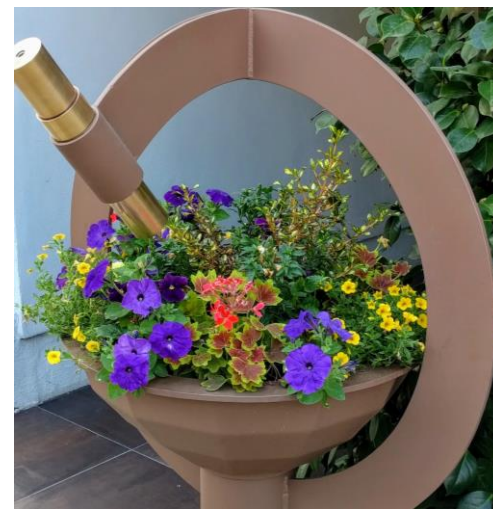
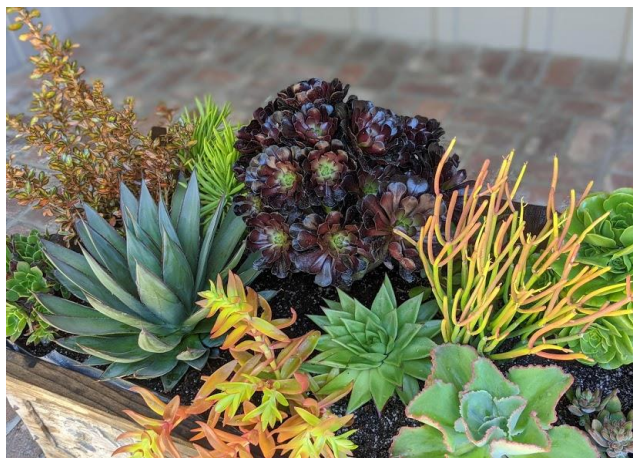
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Steps for Success

*No matter what you grow,
the basic steps are always the same.*



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1st step for successful containers

Evaluate your environment

- Sun or Shade? How many hours?
- Orientation of sun
- Wind
- Nearby stone, concrete or stucco? Can mean extra heat.
- Unwanted guests – deer, raccoon, rabbit
- Foot traffic
- Available water
- Max weight for balcony, roof



Southern Living Magazine

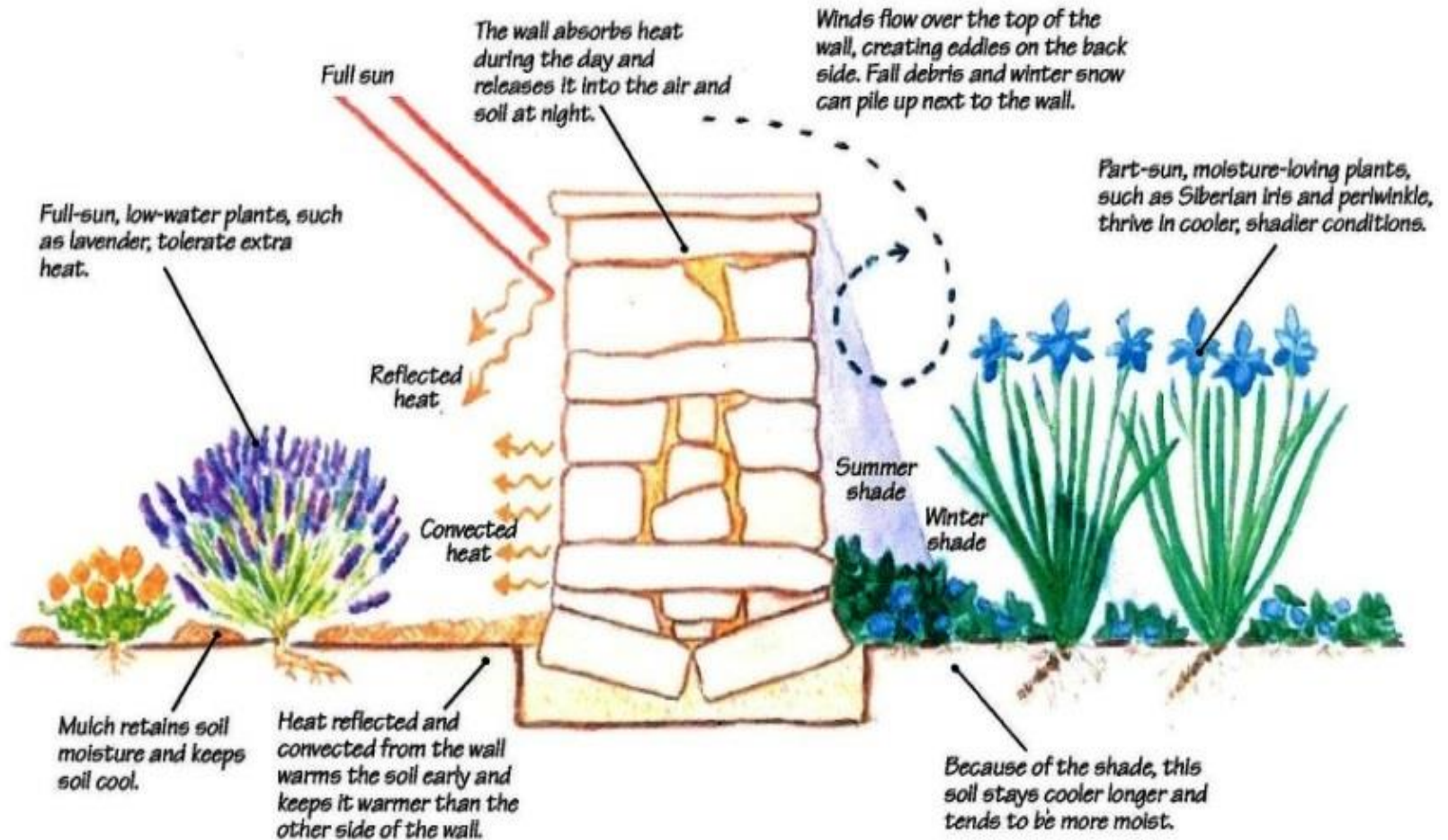


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Microclimate



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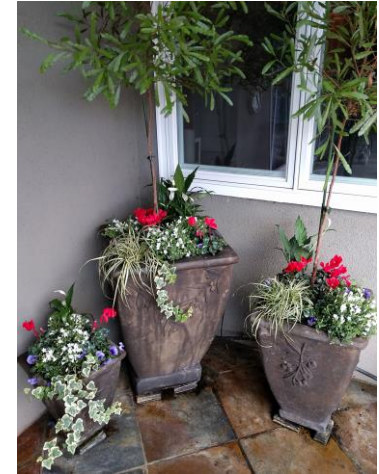
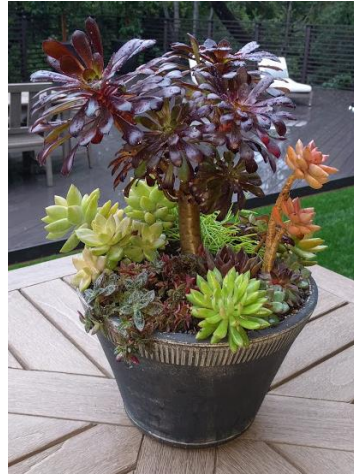
More practical considerations

What is the goal for the container? Privacy, décor, food?

Ease of access – especially for edible plants.

Space needed for mature version of the plant.

Quantity of harvest desired.



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Deciding what to grow

Edibles

- Pick plants that work for **your** microclimate.
- For areas with “mild” summers (like San Mateo), dwarf or patio varieties are good options.
- If you are mostly in shade, consider leafy greens and most herbs.
- Cucumbers, squash, melons, can be grown in containers with supports.



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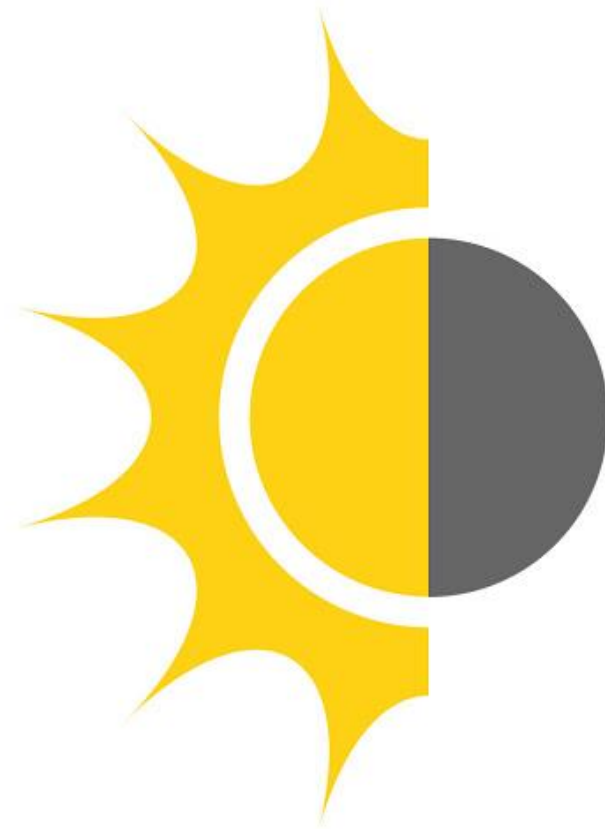
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Deciding what to grow

At the nursery

- *Full sun* means 6+ hours of direct sunlight.
- *Part sun* is 4-6 hours of sun.
- *Part shade* is 1.5-4 hours direct sun. Morning sun, no afternoon sun.
- *Full shade* is 1 to 3 hours of sun, in the morning. Dappled sun.
- *Chill hours* is the number of hours the plant needs to produce flowers or fruit. Between 32-45°F



Choosing plants

What to get. What to avoid.

What to look for -

- Good distribution of white roots
- Vigorous leaves, stems
- Proper leaf color – green, red, etc.
- Good over all shape
- Signs of new growth



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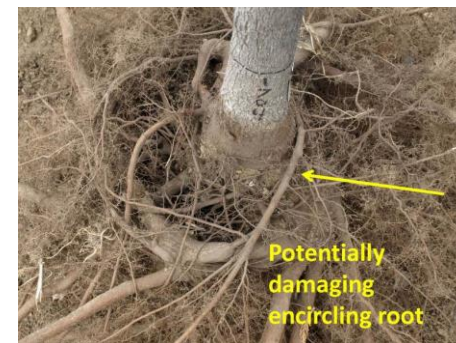
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Choosing plants

What to get. What to avoid.

Avoid

- Any signs of disease or pest
- Extensive roots coming out the bottom, especially if brown or rotting
- Sulphur, “rotting” smell
- Die back on branches
- Girdled roots – especially for trees, shrubs



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Choosing plants

Vegetables

For plants smaller than 1 gallon, do not buy them if they are already producing. Their growth is already stunted.



Flowers

Typically, the best choice is something with buds and not many flowers. This allows you to enjoy the blossoms its entire bloom season.



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Selecting a Container

- Wood
- Clay
- Glazed
- Plastic
- Fiberglass
- Metal
- Fabric



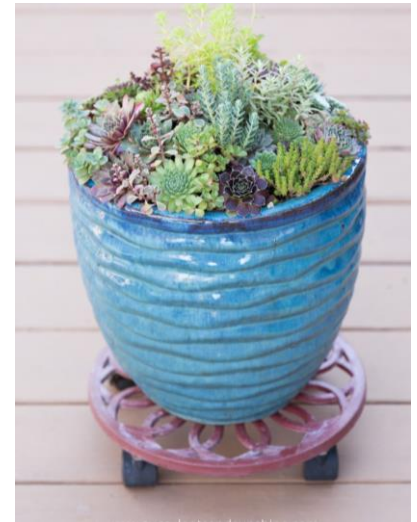
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Factors that may affect your choice

- Stone, terracotta and concrete slowly release retained warmth through the evening.
- Consider the need for mobility of the container. **Wet pots are very heavy!**
- Black nursery pots can increase soil temp by 10 degrees.
- Different materials affect water evaporation.
- ***Avoid self-watering pots.*** They don't work for small plants and can lead to root rot.



Containers for edibles

- Most containers in retail stores are fine.
- Use untreated redwood, teak & cedar.
- Don't reuse a container if you don't know the history.
- Clean previously used containers with a 10% bleach solution to kill leftover pathogens.
- Avoid plastics with recycle numbers 3, 6, & 7 as they leach chemicals.
- Use a plastic liner for metal containers & line with coir.



Containers

The correct size is key.

Make sure it can accommodate the mature size!



Size considerations

It matters

- At least 18" deep for peppers, eggplant, small (patio) tomatoes →
- For most tomatoes and squash, 22" deep is preferred. →
- Herbs, carrots, beets, lettuce, etc. can manage with 12-16"
- Pots that are too small restrict growth.
- Similar to a 5-gallon nursery container.
- Similar to a 20-gallon nursery container.



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Don't forget the feet!

Whether you use a saucer or have the container drain onto the patio, prop up the container to keep the drainage hole open.

Do not let pots sit in water!
This encourages root rot and breeds mosquitoes!



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The only rocks should be on the top!

Contrary to popular wisdom, a layer of gravel is not good for drainage.

Due to capillary action, the finer potting soil holds on to the moisture rather than release to the gravel. Roots get soggy, unhappy, and are cheated out of growing medium. Root rot sets in. *Once rot sets in, it travels up the plant.*

Rocks can shift and completely block the drainage hole.

Rocks as mulch can be great for the right plants (ex. Succulents, some natives)



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Potting Soil

- Formulated for good drainage, balanced nutrition and air circulation
- Prefer organic, some have mycorrhizal fungi
- New versions have water retention added – organic amendments.

Why not garden soil?

- May contain weeds, pests, and pathogens
- Not nutritionally balanced
- Heavy



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Other soil blends

Acid planting mix

For blueberries, azaleas, camellias or another acid loving plants.

Helps Get the right ph which is critical to nutrient absorption.

Succulent/Cactus

Succulents need fast draining soil. You can use regular potting soil with a little perlite or vermiculite thrown in the mix.

Or buy a premixed blend.



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Fertilizer

- Plants in containers require added nutrition as irrigation flushes fertilizer out of pot.
- Organic avoids a build up of salts (which affect the plants ability to absorb nutrients like calcium).
- Organic fertilizers make healthy soil as well as healthy plants.
- Organic also less likely to encourage weak, unhealthy growth.



Planting

- Water all plants *before* working with them.
- Carefully tilt out the seedling. Do not pull on stem.
- Gently loosen roots.
- Don't tamp down too hard, but make sure roots have good contact with soil.
- Mix in fertilizer



- Do not plant too deep! There are exceptions like non-grafted tomatoes.
- Water in well
- Keep soil line and inch or so under the lip of the container. Better for watering.
- Don't do this during high heat of day or other stressful time



Planting tips

Edibles

- If there are several seedlings in the same container, do not try to tease them apart. Snip the weakest seedlings at the soil line, leaving the strongest to grow.
- Set up supports at this time.
- If planting occurs during a hot spell, seedlings may need afternoon shade for first week or so.
- Containers don't usually have room for mulch.



Irrigation

Watering by hand

- Customize to weather
- Facilitates early detection of pests and disease
- Best in the morning
- Keep hose pressure low to avoid mud splashes on leaves (this is how some diseases get started)



Irrigation

Drip Irrigation

- Convenient
- Keeps water where it is needed
- Can come up through the pot's drainage hole – completely hidden
- Caution if buried. Can be cut or damaged.

Urban Farmer (in SF, Richmond & Marin) has classes and on-line information. Very helpful.

Master Gardeners offer irrigation classes periodically. Check with your county Master Gardener office.



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One of the most important things you need to know!

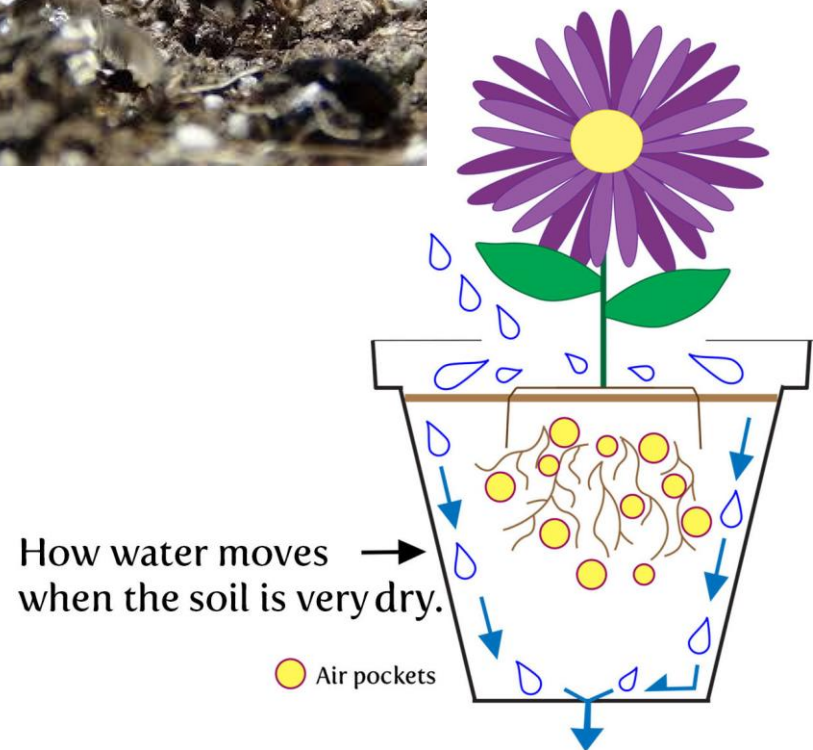
Dry soil is hydrophobic!

Once the root-ball dries out, it is hard to rehydrate.

If water almost immediately runs out the bottom of the container, it's probably dry.

To rehydrate, water slowly. Allow small amounts of water to be absorbed, then add more.

Check for dry soil 2-4 inches down. Use finger or chopstick to break up air bubbles.



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Irrigation Issues

Potential problems from incorrect watering

- When cucumbers and eggplant dry out, their fruit can become bitter.
- Tomatoes that are too wet can get blossom rot or split fruit.
- Tomatoes that are too dry can also get blossom rot!
- Thirsty plants will drop fruit/veg, and are more likely to “get sick”.



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Irrigation Issues

Succulents do need water.
Maybe weekly in the summer,
monthly in autumn, not at all
during the rainy season.



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Helpful Resource

Planting Calendar

→ ↻ smsf-mastergardeners.ucanr.edu/Gardening_Resources/

Apps Suggested Sites Imported From IE Yard and Garden : Ga EBT UCANR Volunteer Lo Community Educat info@ebtsf.com (99+) Beekeepers' Gu Designing with Rema

SHARE EMAIL PRINT SITE MAP Enter Search Terms

University of California, Division of Agriculture and Natural Resources

UC Master Gardeners of San Mateo & San Francisco



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Home

Advice to Grow By... Ask a Master Gardener!

Monthly Garden Checklist

Gardening Resources

Water Wisdom in a Drought

Special Events

Educational & Community Programs

Classes, Clinics and Workshops

Research Gardens at Elkus Ranch

Gardening Resources

Gardening and sustainability resources:

- [California Garden Garden Web](#)
- [Pest Management](#)
- [Plant and Tree Selection and Care](#)
- [Vegetables, Herbs, and Fruit](#)
- [Soil, Compost, and Mulch](#)
- [Lawn Care](#)
- [Welcoming Life into the Garden](#)
- [Sustainable Gardening](#)
- [More Gardening Articles](#)

PLANTING CALENDAR FOR **SUNNY AREAS** OF SAN FRANCISCO AND NORTHERN SAN MATEO COUNTY

EARLY SPRING			SPRING		SUMMER		FALL		WINTER
JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER
Artichoke, root	Artichoke, root	Artichoke, root	Artichoke, root	Bean, runner(S)	Bean,runner (S) #	Bean, snap (S)	Beet (S,T)	Bean, fava (S)	Artichoke, root
Bean, fava(S)	Bean, fava (S)	Bean, fava (S)	Bean,runner (S)	Bean, snap (S)	Bean, snap (S)	Beet (S,T) *	Broccoli (T)	Beet (S,T)	Bean, fava (S)
Cabbage (T)	Beet (S,T)	Bean, runner(S) *	Bean,snap (S)	Beet (S,T)	Beet (S,T)	Broccoli (T)	Brussels sp (T)	Broccoli (T)	Cabbage (T)
Carrot (S)	Broccoli (T) *	Beet (S,T)	Beet (S,T)	Broccoli (T)	Broccoli (T)	Brussels sp (T)	Cabbage (T)	Brussels sp (T) #	Cauliflower (T) #
Garlic (sets)	Cabbage (T)	Broccoli (T)	Broccoli (T)	Cabbage (T)	Brussels sp (T)	Cabbage (T)	Carrot (S)	Cabbage (T)	Collards (S,T) #
Lettuce (S, T)	Carrots (S)	Cabbage (T)	Cabbage (T)	Carrot (S)	Cabbage (T)	Collards (S,T)	Cauliflower (T)	Carrot (S)	Garlic(sets) (S) *
Mustard (S) *	Cauliflower (T) *	Carrot (S)	Carrot (S)	Corn,early (S,T)	Carrot (S)	Corn,early (S,T)	Celery (T)	Cauliflower (T)	Kohlrabi (T) #
Onion (S,T)	Celery (T) *	Cauliflower (T)	Celery (T) #	Cucumber (S,T)	Corn,early (S,T)	Kohlrabi (T) *	Collards (S,T)	Celery (T)	Lettuce (T)
Onion (sets) (S)	Collards (S, T)	Carrots (S)	Collards (S,T) #	Eggplant (T)	Cucumber (S, T)	Lettuce (S,T)	Kale (T)	Collards (S, T) #	Onion (S,T)
Radish,small (S)	Garlic (sets)	Celery (T)	Corn,early (S,T) *	Lettuce (S,T)	Eggplant (T) #	Parsnip (S)	Kohlrabi (T)	Kale (T)	Parsnip (S) #
Rhubarb, root	Kale (T)	Collards (S, T)	Cucumber (S,T)	Onion (S, T)	Lettuce (S,T)	Potato, tuber	Lettuce (S,T)	Kohlrabi (T)	Pea (S)
Shallot (sets)	Kohlrabi (T)	Cucumber (T) *	Eggplant (T)	Parsnip (S)	Parsnip (S)	Radish (S)	Mustard (S)	Lettuce (S,T)	Radish,sml (S)
	Leek (T)	Kale (T)	Kale (T)	Pepper (T)	Pepper (T)	Spinach (S,T) *	Parsnip (S)	Mustard (S)	Spinach (S, T) #
	Lettuce (S,T)	Kohlrabi (T)	Kohlrabi (T)	Potato, tubers	Potato, tubers	Squash,Sum (S)	Pea (S)	Onion (S)	Swiss Chard (T) #
	Mustard (S)	Leek (T)	Leek (T)	Radish (S)	Radish (S)	Sw. Chard (S,T)	Potato, tubers	Parsnip (S)	Turnip (S)
	Onion (S,T)	Lettuce (S,T)	Lettuce (S,T)	Squash,Sum (S)	Squash,Sum (S)	Turnip (S)	Radish (S)	Pea (S)	NOVEMBER
	Onion (sets)	Mustard (S)	Mustard (S)	Squash,Win (S)	Squash,Win (S)		Spinach (S,T)	Radish (S)	Artichoke, root
	Peas (S)	Onion (S, T)	Onion (S, T)	Sunflower (S)	Sunflower (S) #		Sw. Chard (S,T)	Spinach (S,T)	Bean, fava (S)
	Potato (tubers)	Parsnip (S) *	Parsnip (S)	Sw. Chard (S,T)	Sw.Chard (S,T)		Turnip (S)	Sw. Chard (S,T)	Garlic(sets) (S)
	Radish (S)	Pea (S)	Pepper (T)	Tomato (T)	Tomato (T) #			Turnip (S)	Lettuce (T)
	Rhubarb, root	Potato (tubers)	Potato (tubers)	Turnip (S)	Turnip (S)				Onion (S,T)
	Spinach (S,T)	Radish (S)	Radish (S)						Pea (S) #
	S. Chard (S,T) *	Rhubarb, root	Spinach (S,T) #						Radish,small (S)
	Turnip (S)	Spinach (S,T)	Squash,sum (S)						Shallot (sets)(S)
		Squash,sum (S) *	Squash,win (S)						DECEMBER
S = Seed		Sw. Chard (S,T)	Sunflower (S) *						Artichoke, Root
T = Transplants		Turnip (S)	Sw.Chard (S,T)						Bean, fava (S)

Ongoing care

- Give permanent evergreen plants a good shower every few weeks to remove dust and pests.
- Rotate pot $\frac{1}{4}$ turn every quarter.
- Fertilize as directed on instructions.



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Ongoing care



- Root prune every 2-4 years, if needed.
- Watch for pests/disease. Master Gardeners have a helpline for identification and treatment.
- Harvest your crop! Some plants will stop producing once they set enough seeds.



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Resources

- Pests, Problems
- www.ipm.ucdavis.edu
- Master Gardeners of SM & SF Counties
- <http://smsf-mastergardeners.ucanr.org/>
- Public Library
- *Golden Gate Gardening*
by Pam Peirce
- Sunset books
- Independent nurseries



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Got Questions? Ask a Master Gardener!

Call our helpline at: (650) 276-7430

Email questions to: mgmsmf@ucanr.edu (please include your name, city, phone # (best time to call), question/description of problem, photos)

When our helpline offices reopen, visit us in three locations (closed on holidays). If bringing samples, please enclose in a sealed container.

Mondays 9am-4pm Elkus Ranch Conference Center 1500 Purisima Creek Road Half Moon Bay, CA 94019	Wednesdays 10:30am-2pm San Francisco Botanical Garden (SFBG) Library (no samples please) 1199 9th Avenue San Francisco, CA 94122	Thursdays 9am-4pm Veterans Memorial Senior Center 1455 Madison Avenue Redwood City, CA 94061
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Website: smsf-mastergardeners.ucanr.org

Follow us on social media for seasonal tips: @SFBayGardeners



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Cilantro – *Coriandrum sativum*

Annual

Rich soil

Space 8-18"; Height 10-12"

Partial shade

Moderate water

Direct seed in warm semi-shady spot. Cut leaves during growing season to produce second harvest. Cilantro will probably go to seed after the second harvest. Cilantro does not tolerate heat above 85° and will bolt.

From Sonoma Master Gardeners

http://sonomamg.ucanr.edu/Food_Gardening/Feature_Vegetables/Coriander/

Good Housekeeping data on cilantro

<https://www.goodhousekeeping.com/home/gardening/a32615361/growing-cilantro/>

Burpee seeds

<https://www.burpee.com/gardenadvicecenter/herbs/cilantro/all-about-cilantro/article10222.html#>

