

Happy to see you! We will be starting soon.



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Agriculture and Natural Resources

Tell us about you?

- How many years have you gardened?
– (type in the chat)





Welcome

Spring Vegetable Gardening



- This event will be recorded for educational or promotional use by the University of California.
 - You can watch it on our YouTube Channel later.
 - You will be muted throughout to prevent background noise.
- Please post your questions** in the **“Q&A.”** They will be addressed at the end of the presentation.
- Use “Chat” for non-question conversations or comments.** Change the “To” if needed to ensure your Chat is sent to those who you want to send it to.
 - Options:**
 - “Private” if specific Chat only to an individual participant or speaker
 - “Panelists” if want to send a Chat only to the speakers
 - “Everyone” if you’d like everyone to see your Chat message



Who are the UCCE Stanislaus County Master Gardeners?



We extend research-based knowledge and information on home horticulture, pest management, and sustainable landscape practices.



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Solutions

Contact Your Local Program

- Help identifying the pest or problem.
- If pesticides are necessary, choose less-toxic solutions such as horticultural soaps and oils.
- Visit the UC IPM website for help.



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- UCMGStanislaus

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- <http://ucanr.edu/youtube/ucmgstanislaus>

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UCCE Stanislaus County Master Gardeners

Business Suite

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Stanislaus County Master...
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Master Gardeners Learning...
119 views • 1 year ago



How to Save Tomato Seeds -
UCCE Stanislaus County...
74 views • 1 year ago

Shorts



UCCE Master Gardeners - What is a Master Gardener?

Stanislaus County UCCE Master Gardeners • 146 views • 3 months ago

Anne Schellman, Master Gardener Coordinator for Stanislaus County explains who a Master Gardener is, how to become one, and the volunteer opportunities available. To find a program in your...

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Spring Vegetable Gardening

UCCE Stanislaus County
Master Gardeners



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Meet Your Speakers!

Master Gardeners

- Ted Hawkins
- Rho Yare



photo: pixabay.com



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Agenda

- Gardening Basics
- Planting Methods
- Popular Vegetables
- Harvest and Storage
- Pests & Solutions
- Your Questions Answered...Along the way!



photo: pixabay.com



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Gardening Basics



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Sun and Water Source

- 6-8 hours sunlight for most plants
 - Leafy, root vegetables 4-6 hours ok
- Have a nearby water source
 - Use drip or soaker hose irrigation



Soil Preparation

- Add 4-6” of compost to your garden and mix in
- Containers: use good-quality potting mix
 - Avoid using outdoor soil which may contain
 - Weed seeds, diseases, or other pests
 - Garden soil can make containers heavy and hard to move



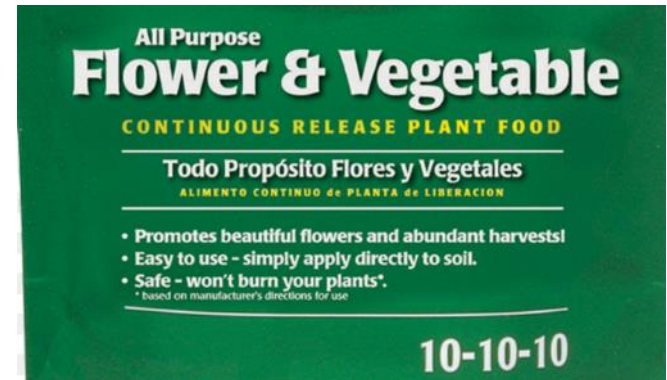
Watering



- Make sure seeds, seedlings, and transplants get enough water.
- Keep soil moist, including the root ball!
- **Water regularly.**
 - Sporadic watering can cause problems for the plant.

Fertilizing

- Use a **slow or time-release fertilizer**. OR
- Water soluble fertilizer.
- Follow directions
 - Never add more fertilizer than the directions state, as this can “burn” your plants.
 - Don’t fertilize seedlings until at least 2 weeks old. Use at ½ strength when fertilizing.



Questions?



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Container Gardening

- Clay, plastic, metal, wood, etc., all work well.
- **Drill holes if missing.**
- Large containers are best.
- When reusing containers, clean with a 10% bleach in water solution.
- Avoid using garden soil which may have weeds, diseases, nematodes, etc.



Container Concerns

- Heavy containers.
 - Use a pot trolley underneath.
- Pots may stain your porch or patio.
 - Use saucers underneath.
- Empty saucers.
 - Don't allow container to sit in water.
 - Sitting water could become a mosquito pond!



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Creative Containers

- Wagons or wheelbarrows
- Kitty litter bins
- 5-gallon buckets
- Rubber maid tubs
- Kiddie pools
- Milk jugs (1 gallon)
- Anything else you can think to use!
- Avoid tires and railroad ties.



Minimum Container Sizes for Vegetables

- Pot that holds at least 2 gallons:
 - Beets, cucumber, radishes, cherry tomatoes, green beans
- Pot that holds at least 5 gallons:
 - Determinate tomatoes, squash, eggplant, mini pumpkins



Plant Support

- Some crops have a vining form & need a trellis.
 - Beans, cucumbers, mini pumpkins, squash



photo: garden-gadget.com



Photo: gardenofsteph.com

Watering & Containers

- Containers may dry out quicker.
- Test moisture with your finger to a few inches deep, water as needed.
- During warm weather:
 - Daily watering may be needed
 - Check plants at least 2x per day.



Vegetables that need more space should be planted in the ground

- Artichokes
- Pumpkins
- Melons
- Winter squash
- Indeterminate tomatoes
- Corn (rows needed for wind pollination)



Photo: Wikimedia commons

Questions?



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Planting Methods

- Transplants (4-6 weeks old)
 - Recommended for beginning gardeners.
- Seeds
 - Necessary to grow root vegetables.



photo: pixino.com

How do you start your vegetables?

Poll#1

- From seed.
- I buy transplants.
- Both.



photo: pxhere.com



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How much do you plant?

Poll#2

- Enough for my family.
- Enough for family and friends.
- Enough for the whole neighborhood!

photo: pixabay.com



Seeds vs. Transplants

- Seeds
 - Leafy vegetables, squash, pumpkins, cucumber are easy to grow from seed
- Transplant (*very tiny seeds*)
 - Tomatoes, peppers, and eggplant may be best from a transplant



What is a transplant?

- A plant that is 6 weeks old or older.
- A plant that can quickly help you establish your garden.
- Many transplants are available.
 - Seeds - most inexpensive choice.
 - Transplants are often easier for new gardeners to establish.



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Planting Transplants

- Take plant out of container and examine “root ball.”
- Pull apart circling, overgrown roots.
- Make a hole the same size of root ball.
- Set plant into hole.
- Fill in around root ball gently.
- Don’t put soil over the top of the root ball.
- Water well, is the root ball saturated?



photo: mantis.com

What is a seed?

- Tiny living embryos covered by a protective seed coat.
- Some are more protected than others.
- Have small amount of food reserve.
- Germinate when soil temperature is right, and when kept moist.



The Sprouted Seed

- Root hairs
 - Fine & fibrous
 - Responsible for water & mineral uptake
 - Fragile! Keep moist

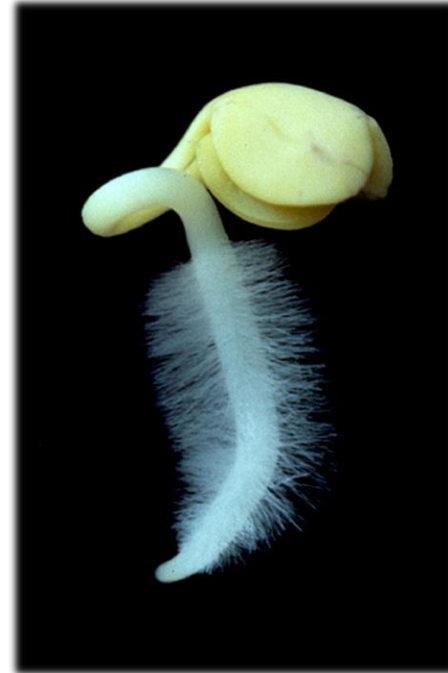



photo: University of Central Arkansas

Seed Packet Instructions



SEEDS **LETTUCE**

Now you can grow a complete salad mix all in the same row. This Spicy Salad Mix is a custom blend of green and red lettuces with spicy greens like Arugula and Curly Cress. Succulent baby leaves can be cut every few weeks for a table-ready treat.

PLANTING
Lettuce prefers cool weather. Select a location with full sun or partial shade in hot areas. Sow in early spring, or fall/winter in mild climates. Keep soil evenly moist for best growth. Thin regularly - lettuce does not like to be crowded.

NOTE
For "cut and come again" harvest, cut young leaves 1/2" from the ground. Cut several times each

SEED DEPTH
1/8" (3mm)

PLANT SPACE
12" (30cm)

ROW SPACE
15" (38cm)

SPROUTS IN
7-14 days

MATURES IN
45-70 days

Has this ever happened to you?

Poll#3

- Planted seeds that never came up.
- Planted seeds that sprouted and died.
- Planted seeds that sprouted and appeared to be cut off.
- Planted seeds and pretty sure something ate them, but what?



Why didn't my seeds come up?

- You might have buried them too deeply.
- You didn't water them consistently to keep soil moist.
- Seeds expired due to incorrect storage.



Why did my seedlings die?

- A damping off disease may have killed them.
 - Prevent by using clean potting mix and containers. When reusing containers, clean with 10% bleach in water solution.
- Insects may have eaten them.
 - Cutworms
 - Snails or slugs
 - Earwigs



Seedling killed by damping off.
H. Aufdermaur



UC Statewide IPM Project
© 2000 Regents, University of California

Cutworm photo. UC IPM

Seed Life Expectancy

One Year	Two Years	Three Years	Four Years	Five Years
Chives	Annual Flowers	Amaranth	Beet	Artichoke
Marjoram	Cilantro	Lima Beans	Broccoli	Basil
Onion	Leek	Carrot	Brussels Sprout	Cucumber
Oregano	Okra	Celery	Cabbage	Dill
Parsley	Mizuna	Chinese Cabbage	Cauliflower	Endive
Parsnip	Most Wildflowers	Fennel	Eggplant	Greens
Salsify	Peppers	Kohlrabi	Kale	Lettuce
	Sage	Pea	Pumpkin	Melons
	Sweet Corn	Perennial Flowers	Radish	
		Snap Bean	Rutabaga	
		Spinach	Squash	
		Tomatillo	Swiss Chard	
			Tomato	
			Turnip	
			Watermelon	

Properly stored

Label what you plant!

- Purchase labels
- Repurpose mini blinds
- Popsicle sticks
- Paint sticks
- Milk carton strips
- Use a permanent marker



Thinning

- Giving seedlings space!
- Thin 3 weeks after sprouting
- Pinch or cut off weakest/unwanted plants
- Add sprouts to a salad or a sandwich!



Thinning Example



Questions?



photo: pxfuel.com



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Popular Warm Season Vegetables

- Tomatoes
- Squash
- Corn
- Cucumbers
- Peppers
- Beans
- Eggplant
- Melons
- Pumpkin
- Lettuce, chard
- Carrots, beets



Photo: pixabay.com

What's your favorite vegetable?

Type into the chat!

- Okay, top 3 favorites you can't live without!?



Photo: pxhere.com

Tomatoes

- Most popular vegetable...or is it a fruit?
- Hundreds of varieties!
- Easiest to grow from a transplant.



Fruit is the result of pollination

- Many vegetables are the pollinated “fruit” of a plant.
- Flowers need pollinators (bees and other insects) to produce “fruit.”
- Can you name some vegetables that are actually fruit?



photo: usda.org

The Jury is in...

Botanically, tomatoes are fruit!

1893 Supreme Court Case, **Nix vs Hedden**

- Plaintiff Nix: tomatoes are a fruit, so I don't need to pay the vegetable import tax!
- Court: Tomatoes aren't prepared the same way as fruit, so we consider them a vegetable, so you must pay the tax!



Photo by Tracy Celio

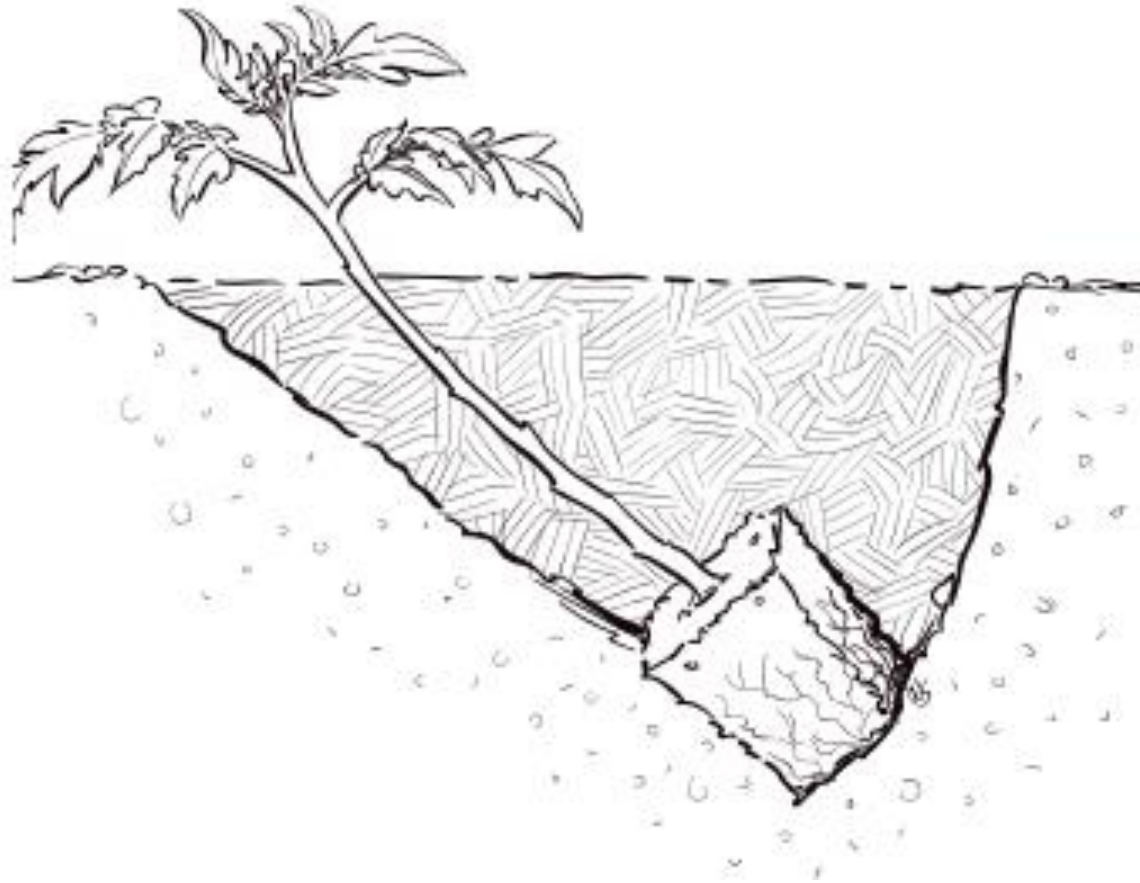
Tomato Container Gardening

Check the variety!



- Indeterminate tomatoes grow too large for containers.
- **Determinate tomatoes are best:**
 - ‘Celebrity,’ ‘Roma,’ ‘Bush Early Girl,’ ‘Marglobe.’
 - Tomatoes with the word “patio” or “pixie” in the title.

Planting Leggy Tomatoes



Corn

- Wind pollinated. Plant seeds in rows.
- Ready when silks turn dark brown.
- Prevent corn earworm-apply 3-5 drops mineral oil to each silk just after it forms.

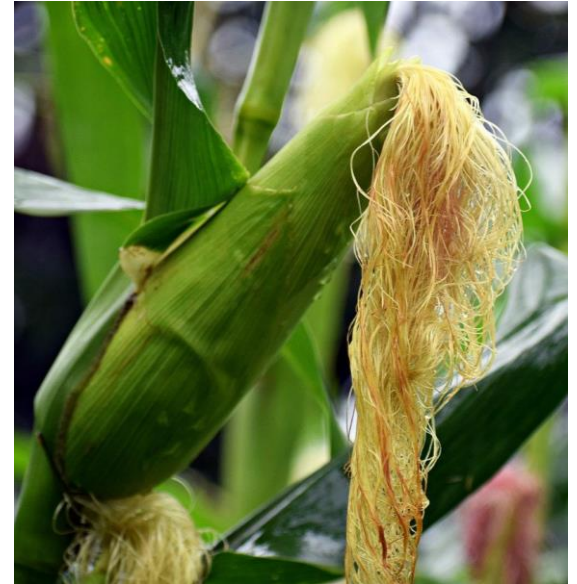


Photo: pixabay.com

Squash

- Summer squash: has a thin skin



Photo: pixinio.com

- Winter squash: has a thick skin



Photo: Terry Harper

Summer Squash

- Zucchini, yellow crookneck, patty pan
 - Which one do you grow?
- Harvest at desired size, don't let them get big!
- Need 60 days from seed to reach maturity.



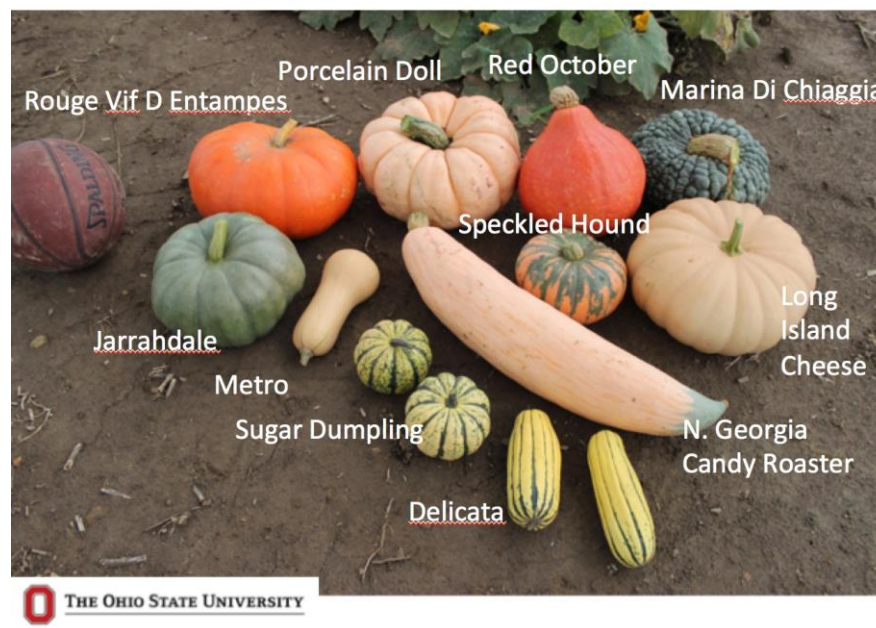
Summer Squash in Containers

- Use 24" wide 16-18" deep pot.
- Use 3 plants for best pollination.
 - Bush/compact varieties
 - Vining: need a small trellis



“Winter” Squash

- Banana, butternut, kabocha, spaghetti, Hubbard
- Plant in spring, harvest in fall, “keep” for winter!
- Harvest - when rind hardens & turns a dull color.
- Eat or “cure.” Store: 5 weeks - several months.



Beans

Bush or pole

- Provide support for pole beans.
- Use 2-gallon size pot per plant.
- Harvest: gently snap pods off plant.



Beets, Lettuce, & Carrots

- Plant seeds in February or March.
- Don't forget to thin!
- Use 1 gallon container or larger.
- Harvest in late spring.



Photo: pixabay.com



Photo: pikrepo.com

Cucumbers

Bush or pole

- Provide support for pole beans.
- Use at least 3 plants for best pollination.
- 2-gallon size pot minimum per plant.
- 'Spacemaster,' 'Bush Crop,' Bush Champion,' 'Patio Pickle' save space.



photo:burpee.com

Eggplant

- Any eggplant lovers here?
- Harvest with hand pruners.
- Use immediately, or store on countertop.
- Can be planted in 5-gallon container.



photo:bonnieplants.com



photo:
bosque.agrilife.org



photo: H. Aufdermaur

Peppers



photo: UC IPM

- Peppers can get sunburned. Keep plants well watered.
- Large pepper plants can benefit from a cage to hold them up.
- Chile, bell, and banana peppers do well in a 5-gallon container.



photo: University of Iowa

Melons

- Watermelon, cantaloupe, honeydew, casaba.
- Prefer warm weather.
- When is it ripe?
 - Watermelon - when bottom rind turns yellow.
 - Cantaloupe - when fruit “slips” right off the vine.



photo:wikihow.com

Questions?



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What will you plant in your spring garden?

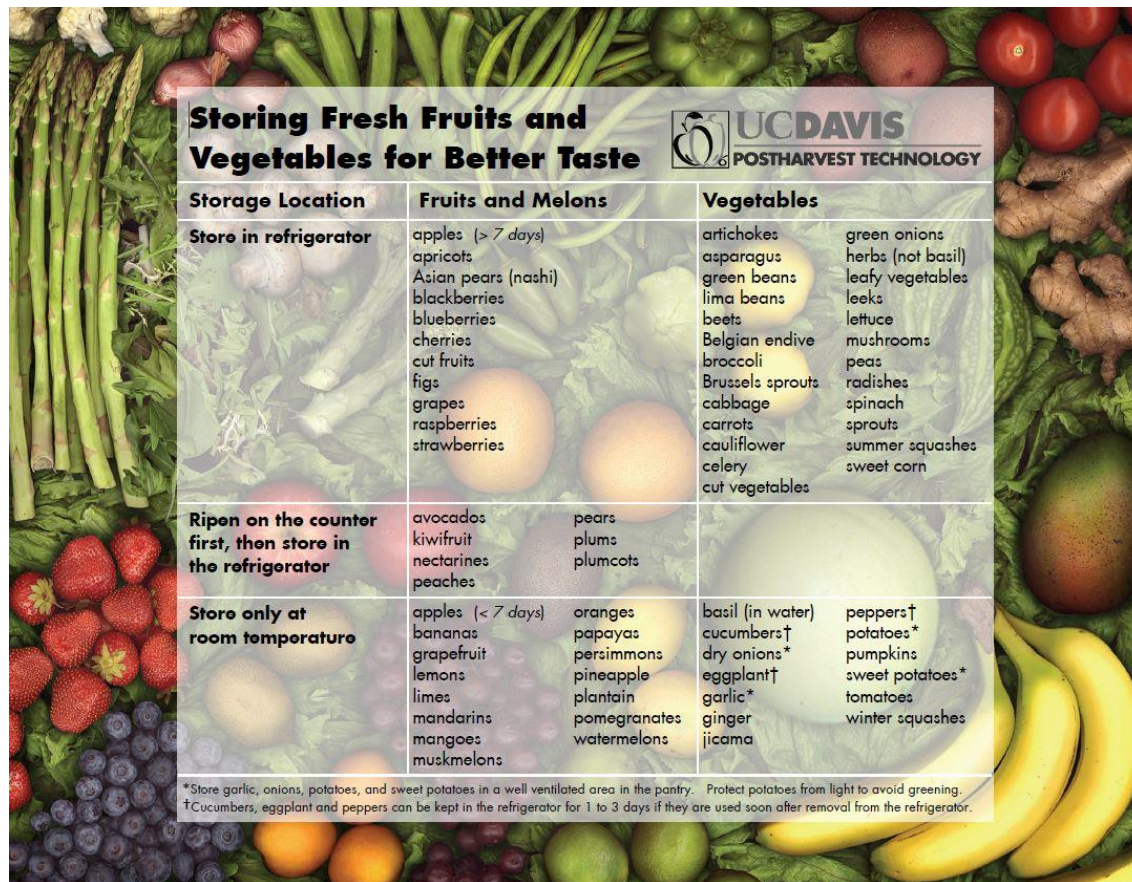
Type into the chat



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Storage Tips

We will send everyone a copy via email.



Storing Fresh Fruits and Vegetables for Better Taste

UC DAVIS
POSTHARVEST TECHNOLOGY

Storage Location	Fruits and Melons	Vegetables
Store in refrigerator	<ul style="list-style-type: none"> apples (> 7 days) apricots Asian pears (nashi) blackberries blueberries cherries cut fruits figs grapes raspberries strawberries 	<ul style="list-style-type: none"> artichokes asparagus green beans lima beans beets Belgian endive broccoli Brussels sprouts cabbage carrots cauliflower celery cut vegetables green onions herbs (not basil) leafy vegetables leeks lettuce mushrooms peas radishes spinach sprouts summer squashes sweet corn
Ripen on the counter first, then store in the refrigerator	<ul style="list-style-type: none"> avocados kiwifruit nectarines peaches pears plums plumcots 	
Store only at room temperature	<ul style="list-style-type: none"> apples (< 7 days) bananas grapefruit lemons limes mandarins mangoes muskmelons oranges papayas persimmons pineapple plantain pomegranates watermelons 	<ul style="list-style-type: none"> basil (in water) peppers† potatoes* pumpkins sweet potatoes* tomatoes winter squashes cucumbers† dry onions* eggplant† garlic* ginger jicama

*Store garlic, onions, potatoes, and sweet potatoes in a well ventilated area in the pantry. Protect potatoes from light to avoid greening.
 †Cucumbers, eggplant and peppers can be kept in the refrigerator for 1 to 3 days if they are used soon after removal from the refrigerator.

Troubleshooting



Pollination Problems

- Squash and cucumber plants have male and female flowers.
- The male comes out first.
- Some “fruit” may shrivel because it wasn’t pollinated.
- Not enough bees, too cold, etc. Eventually pollination will happen.



Photo: helpfulgardener.com

Blossom End Rot

Affects tomatoes, squash, peppers.

- Cause: water imbalance.
- Made worse by irregular watering.
- Water regularly to keep soil moist but not wet.
- Adding fertilizer will not help.



Photos: UC IPM

Insect Pests

- Tomato hornworm, fruitworm
- Leaffooted bugs
- Aphids
- Wash off, squish, or knock into bucket of hot, soapy water.



Photos: UC IPM

Questions?



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Solutions

Contact Us!

- Help identifying the pest or problem.
- Call (209) 525-6802
- If pesticides are necessary, choose less-toxic solutions such as horticultural soaps and oils.
- Visit the UC IPM website for help.



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Solve your pest problems with UC's best science

MAKE A GIFT | Support UC IPM's mission to make integrated pest management the way to manage pests

What's New

- Pest Alert!**
Agriculture: Peach Root-Knot Nematode Pest Alert; New nematode to California.
- Ag Pest Management:** Citrus revised, Asparagus updated
- Pest Notes:** Armillaria Root Rot added. Plantains, Cockroaches, Deer, Roses: Insects and Mites, Centipedes and Millipedes revised
- Retail Nursery & Garden Center IPM Newsletter:** Winter 2019
- Green Bulletin:** Fall 2019
- Weed Photo Gallery:** Italian thistle and slenderflower thistle added.
- [More...](#)

QUICK LINKS

- Newsletters
- Recursos en español
- Online training
- Weather, models, & degree-days

Home, Garden, Turf & Landscape Pests



Natural Environment Pests



Agriculture Pests



Exotic & Pests



HOME

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- Online training
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Home, garden, turf, and landscape pests

University of California's official guidelines for managing pests with environmentally sound methods. [\(More...\)](#)

Pests of homes, structures, people, and pets

- Household pests
- Pests that sting, bite, or injure
 - Wood-destroying, food, fabric, and nuisance pests
 - Vertebrate pests: birds, mammals, and reptiles

Pests in gardens and landscapes

- Choose a plant to find the most likely source of your pest problem
- Flowers
 - Fruit trees, nuts, berries, and grapevines
 - Lawns and turf (including comprehensive lawn guide)
 - Trees and shrubs (including roses and other ornamentals)
 - Vegetables and melons

Some common pests

- Birds, mammals, and reptiles: vertebrate pests
- Insects, mites, mollusks, and nematodes: invertebrate pests
- Plant diseases
- Weeds

Pesticides and alternatives

- Pesticides in homes and landscapes
- Alternatives to pesticides
- Biological control

More information

- Plant problem diagnostic tool
- Seasonal Landscape IPM Checklist
- UC IPM Kiosks
- UC Statewide Master Gardener Program: find your local Master

QUICK LINKS

- Pest Notes library
- Quick Tips library
- Video library
- Seasonal Landscape IPM Checklist
- Pests in the Urban Landscape Blog
- Plant problem diagnostic tool



STRUCTURAL PEST MANAGEMENT PROFESSIONALS (NEW)

Find a professional

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[Homes, Gardens, Landscapes, and Turf](#)

Vegetables and melons

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Our follow-up email survey provides us the tools we need to grow and improve the quality of our program.



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