



## Spring Vegetable Gardening

UCCE Stanislaus County  
Master Gardeners



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## Meet Your Speakers!

Master Gardeners

- Heidi Aufdermaur
- Johnny Mullins



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!

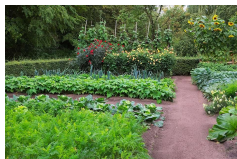


photo: pixabay.com



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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





photo: harvesttable.com



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## 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



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### 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.

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### 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.



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### 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.




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### 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.




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### 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




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### Plant Support

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




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### 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.




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### Vegetables that need more space should be planted in the ground

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

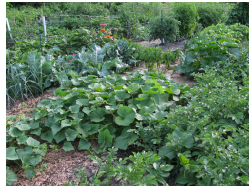


Photo: Wikimedia commons

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### 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

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### 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




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### 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




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### 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




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### 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.



photo: deltatotechnology.com

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### The Sprouted Seed

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



photo: University of Central Arkansas




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### Seed Packet Instructions

**SEED** **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

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### 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?




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### 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.



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### 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



Cutworm photo. UC IPM

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### 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
Farsenip	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

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### Label what you plant!

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



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### Thinning

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



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### Thinning Example



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## Questions?



photo: pixfuel.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

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## What's your favorite vegetable?

- Type your favorite into the chat.
- Okay, top 3 favorites you can't live without!



Photo: pxhere.com

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### Planting Time Matters!

- Warm vs cool season
  - Radishes ≠ heat
  - corn ≠ cold
- We will email a copy to everyone.



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### Tomatoes

- Most popular vegetable (okay, fruit).
- Hundreds of varieties!
- Easiest to grow from a transplant.



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### Pollination

- Many vegetables are the pollinated "fruit" of a plant.
- Flowers need pollinators (bees and other insects) to produce "fruit."



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## 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.

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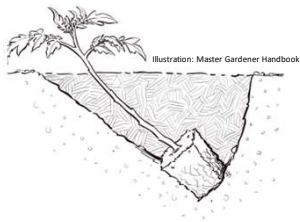
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## Planting Leggy Tomatoes



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## Tomato Harvest

- Pick when it looks the right color and gives slightly when gently pressed.
- Use garden pruners or scissors.
- Store on the counter for best taste.



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### Corn

- Wind pollinated. Plant seeds in rows.
- 60-100 days to maturity.
- 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

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### Squash

- Summer squash: has a thin skin
- Winter squash: has a thick skin



Photos: pixnio.com

*We will email everyone our free growing squash guide!*

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### Summer Squash

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



Photos: pixabay.com

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### 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




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### Winter Squash

- Banana, butternut, kabocha, spaghetti, Hubbard
- 60-100 days to maturity.
- Too large for containers.
- Harvest - when rind hardens & turns a dull color.
- Eat or "cure." Store: 5 weeks - several months.



Photos: pshere.com

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### Beans

#### Bush or pole

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



Photos: pixabay.com

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### 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

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### 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



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### Eggplant

- Plant from a transplant.
- Use 5-gallon container.
- Harvest with hand pruners.
- Use immediately, or store on countertop.
- If necessary, store in refrigerator for up to 3 days.



photo: bonnieplants.com



photo: bosque.agrilife.org

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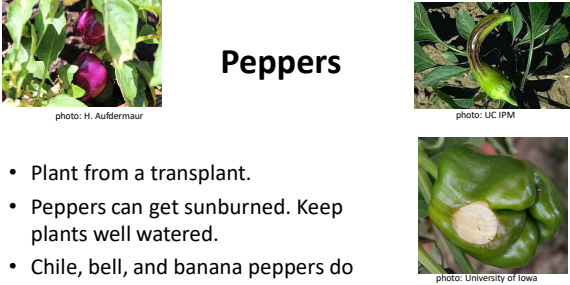
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**Peppers**



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

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**Melons**

- Plant from seed or transplant.
- Watermelon, cantaloupe, honeydew, casaba.
- 70-100 days to maturity; prefer warm weather.
- When is it ripe?
  - Watermelon - when bottom rind turns yellow.
  - Cantaloupe - when fruit “slips” right off the vine.



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**Questions?**

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# What will you plant in your spring garden?

- Type into the chat.



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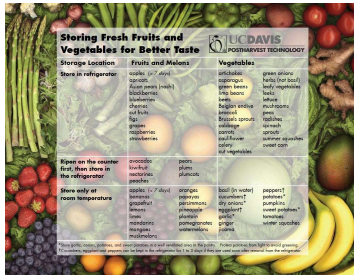
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# Storage Tips

We will send everyone a copy via email.



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# Troubleshooting



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### 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.



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### 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.



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### Insect Pests

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



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## Questions?



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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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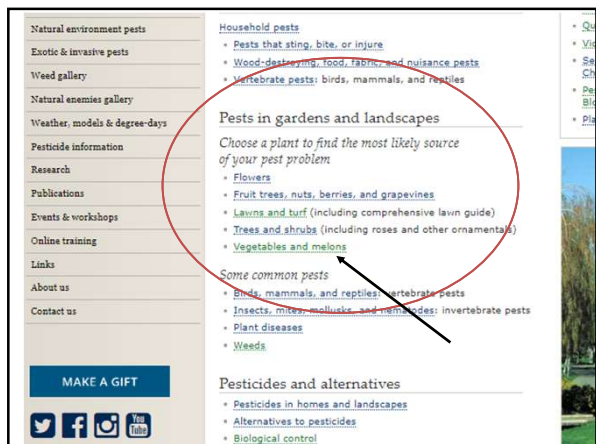
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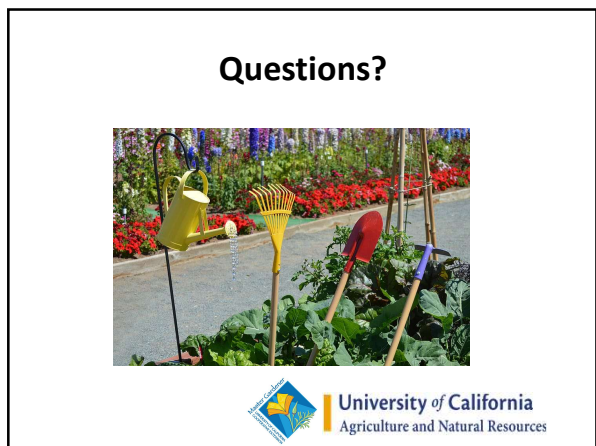
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**Stanislaus County Library**  
Diane Barlett, Reference Librarian

Books Available on Hoopla




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**HOOPLA**

[www.stanislauslibrary.org](http://www.stanislauslibrary.org)




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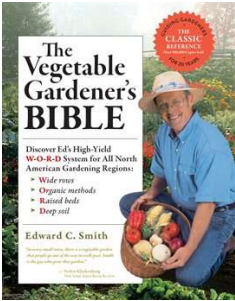
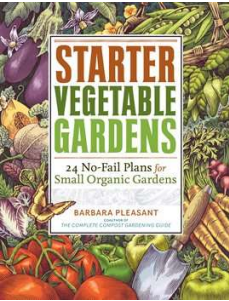

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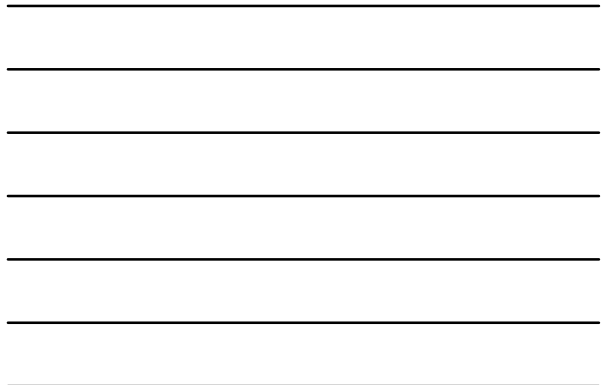
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**NEW!**  
**eMagazines on Libby**

Stanislaus County Library  
now has access to over  
3,000 eMagazines. Over  
250 are listed in the  
Home and Garden  
category.

[http://stanlibrary.org/emagazine\\_information.shtm](http://stanlibrary.org/emagazine_information.shtm)

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**Stanislaus County  
Library Website**

[www.stanislauslibrary.org](http://www.stanislauslibrary.org)

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**The Complete Guide to  
Growing Vegetables, Flowers,  
Fruits, and Herbs from  
Containers**

By Lizz Shephard

This book lists the necessary steps and resources needed to grow plants in containers. You'll learn about how vegetables, flowers, and herbs.

The basics of container planting, including the best single plant containers, two, three, and four plant combinations are provided to help you decide how to lay out your container garden.

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## Help Us Grow!

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



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## Questions?



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