



Hydroponic Vine Crop Training Series: Pruning, Training & Pollination

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SUPPORTED BY: THE CHUGACH REGIONAL RESOURCE COMMISSION
AND THE ADMINISTRATION FOR NATIVE AMERICANS



Presentation think unlimited Overview



Vine Crop Pruning:

Learn how to strategically remove leaves and growth to create a well-structured, productive canopy.



Vine Crop Training:

Understand how to properly support and guide vine crops in confined spaces to maximize efficiency and yield.

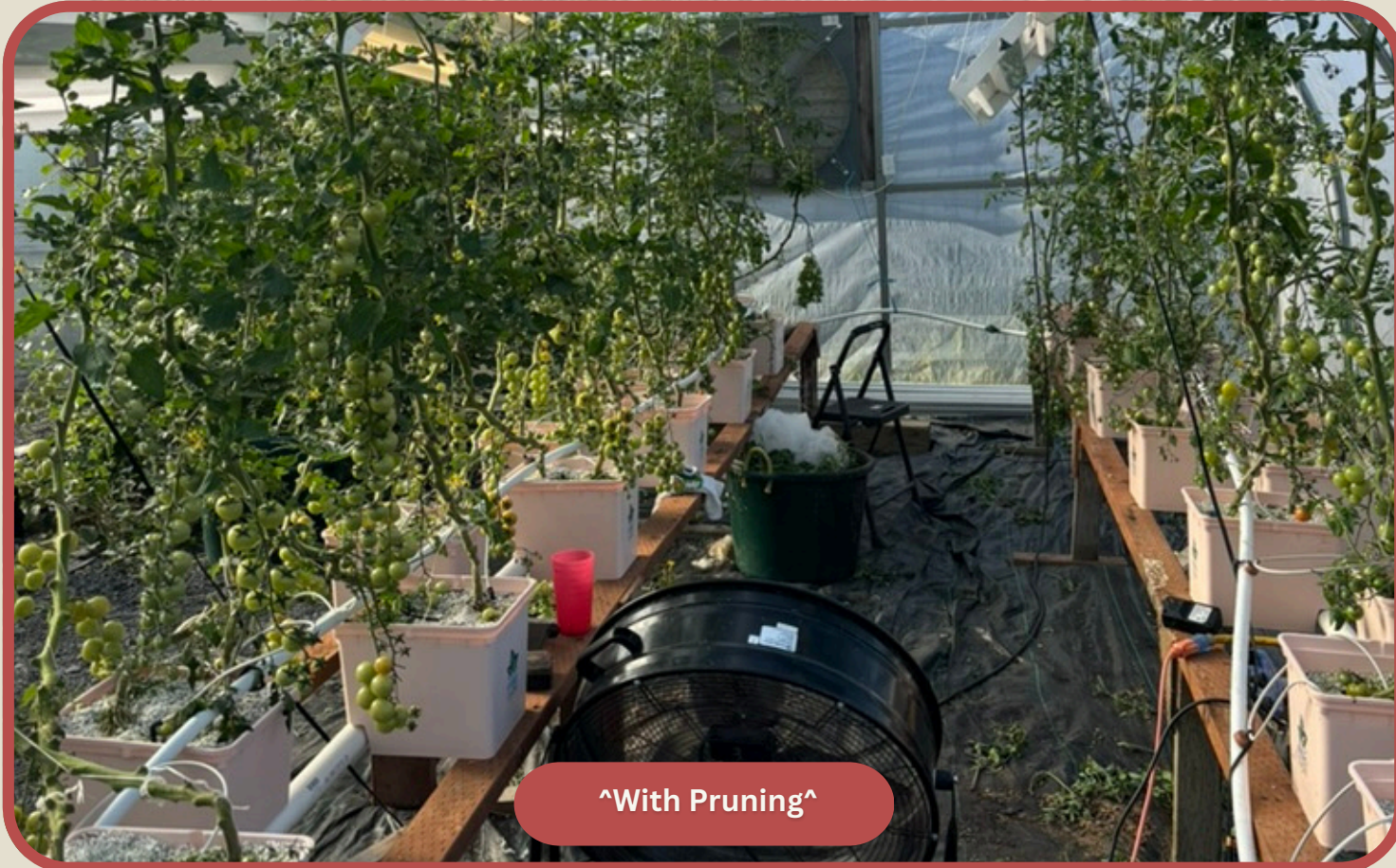


Vine Crop Pollination:

Explore effective hand-pollination techniques to improve fruit set and overall production.

What Is Pruning?

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Pruning is the selective removal of plant parts such as leaves, stems, and suckers to improve plant health, structure, and productivity.

Why We Prune?

- Remove dead, diseased, or excess growth
- Improve airflow and light penetration
- Encourage new growth and fruit development
- Direct energy toward higher-quality yields

Pruning is also called: Trimming, cutting back, clipping, lopping, or shearing.

How To Prune Vine Crops Effectively

1. Don't Start Too Early

- Wait until plants are well-established
- Look for strong roots and active growth
- *Early pruning slows development and reduces yield

2. Prune Gradually, Not All at Once

- Remove no more than 20–30% of foliage at a time
- Follow a weekly pruning rhythm
- *Small, consistent pruning prevents plant stress

3. Start at the Base (except for “suckers”)

- Remove lower leaves and suckers first
- Improves airflow and reduces disease risk

4. Protect Productive Growth

- Keep healthy leaves and fruiting branches
- Only remove what the plant can afford to lose
- *Leaves = energy for fruit production

5. Prune for Light & Airflow

- Open up the canopy to improve:
 - Light penetration
 - Air movement
 - *More light + airflow = healthier plants

6. Avoid Over-Pruning

- Too much pruning can cause:
 - Plant stress
 - Slower growth
 - Reduced yields

Always Remember:

“Prune with purpose, every cut should improve plant health or productivity.”



How Plants Use Energy (Source vs. Sink Tissue)

Leaves = Source

- Produce sugars through photosynthesis

Fruits, flowers, growing tips = Sink

- Use sugars for growth and development

What This Means for Pruning

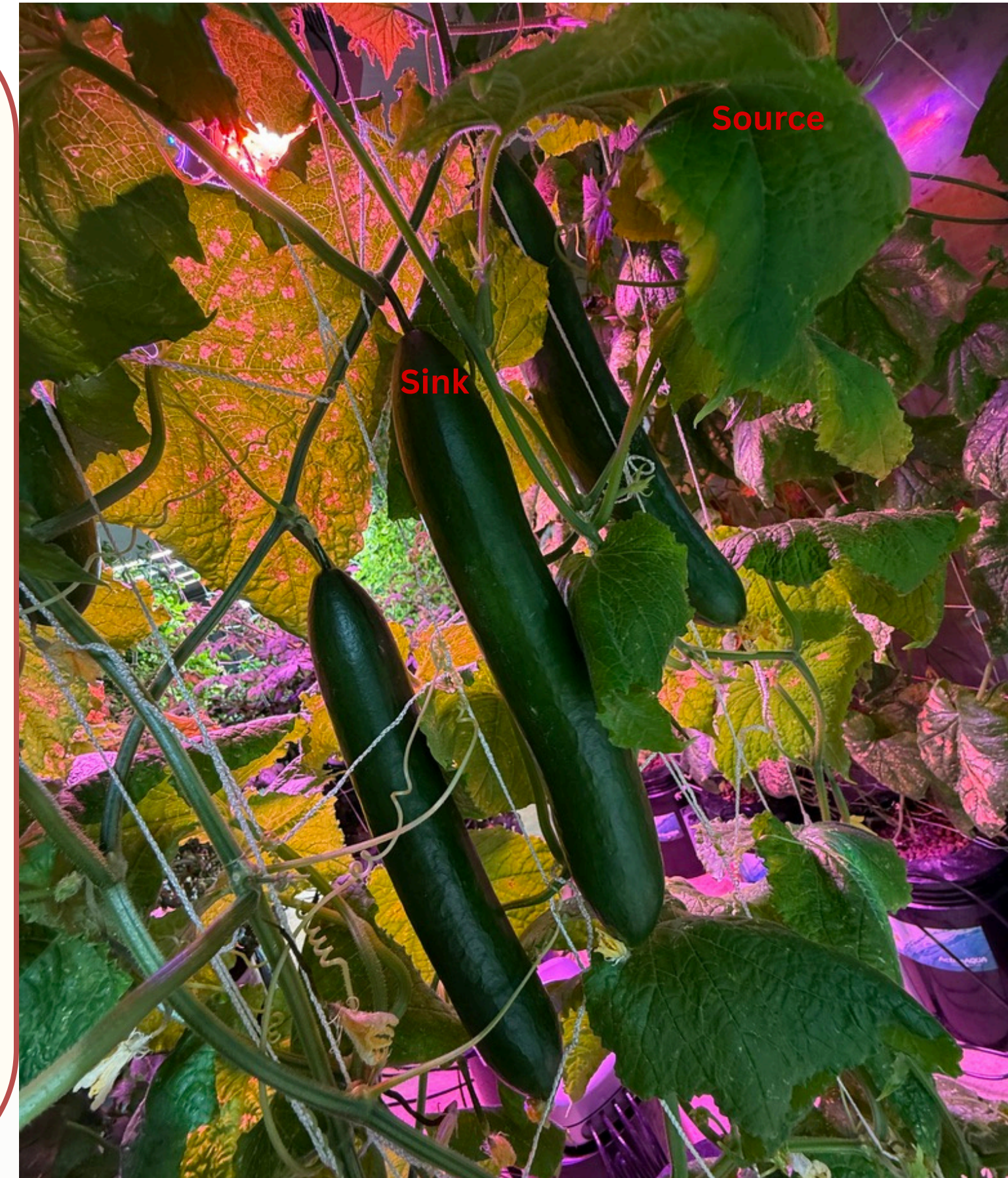
- Removing excess growth helps redirect energy to fruit
- Too many leaves = shading + inefficient energy use
- Too few leaves = not enough energy production

It's All About Balance

- Maintain enough leaves to fuel the plant
- Remove growth that competes or crowds
- *Pruning is how we guide where the plant sends its energy

Key Takeaway:

Leaves make energy and fruit uses it. Pruning helps balance both. When we prune, we're not just cleaning the plant, we're deciding where its energy goes.



Cluster Pruning (Tomatoes)

Tomatoes produce clusters of fruit on a single branch!

- Fruits at the end of the cluster often stay small or ripen unevenly
- Too many fruits can reduce size and strain the plant

How to Prune Clusters

- Remove smaller or excess fruits at the tip of the cluster
- Keep uniform, healthy fruits closer to the main stem
- Aim for:
 - 5-8 fruits per cluster (smaller varieties)
 - 3-5 for larger varieties (larger varieties)
 -

Why It Matters

- Improves fruit size and uniform ripening
- Prevents branch breakage from excess weight
- Directs energy into fewer, higher-quality tomatoes

***Prune clusters when fruits are small and early in development**



<https://myplantin.com/blog/how-to-prune-tomato-plants>



Don't Forget to Prune Suckers!

<https://myplantin.com/blog/how-to-prune-tomato-plants>

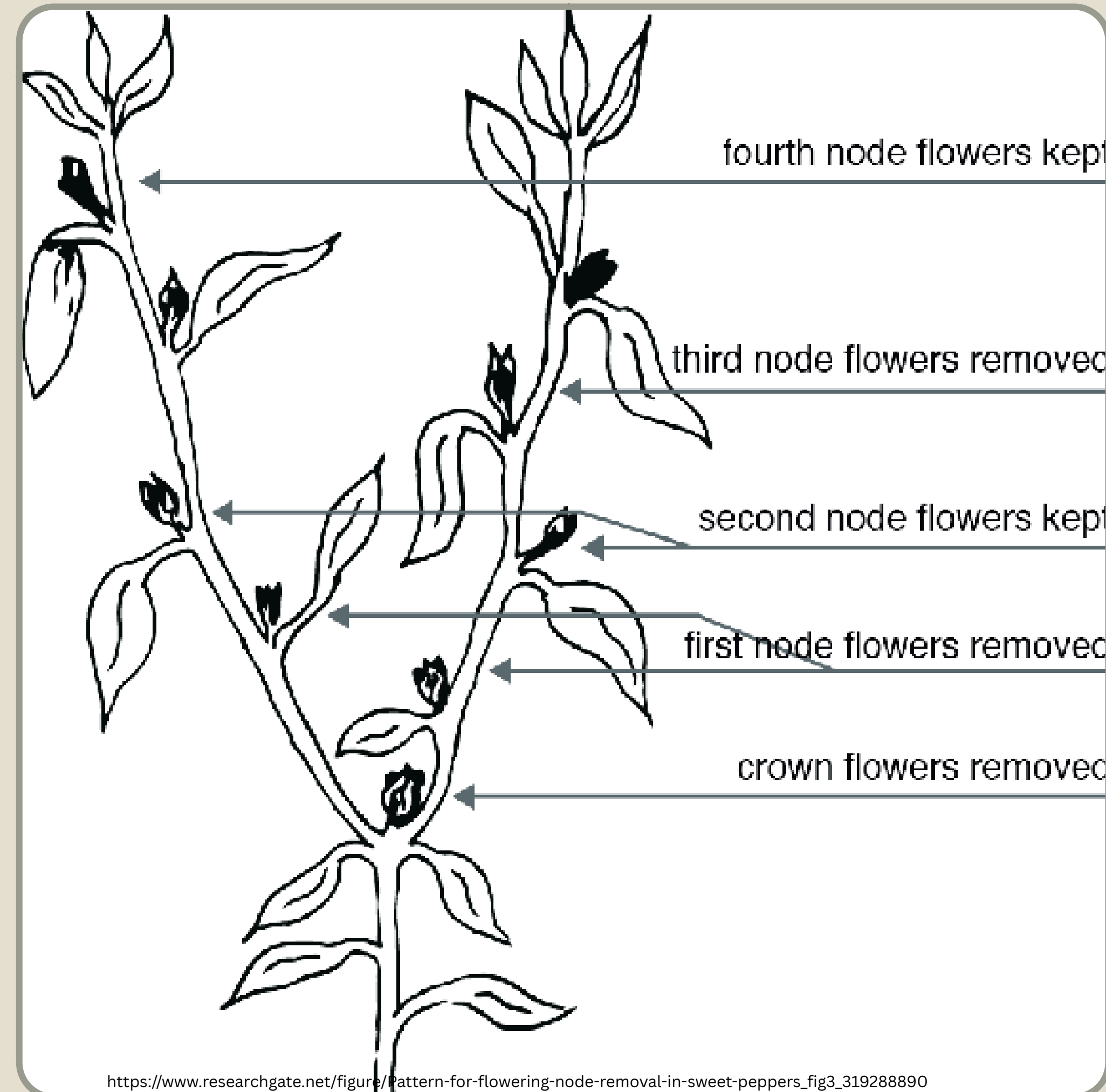
Pruning Peppers

How to Prune

- Remove early flowers to support plant establishment
- Select 2–4 main stems for structure
- Remove:
 - Crowded interior growth
 - Damaged or diseased leaves

Key Differences from Tomatoes

- Don't prune to a single leader
- Maintain multiple stems (2–4)
- Do not prune as aggressively





Prunning Cucurbits

How to Prune

- Train plants to a single leader (main stem)
- Remove the first 4–6 nodes (leaves, flowers, and side shoots)
- After establishment:
 - Remove all side shoots to maintain one leader
 - Allow fruiting along the main stem

Tendrill Management

- Tendrils (grabbing structures) help plants climb
- Can tangle plants and restrict airflow
- Remove tendrils regularly to keep plants organized and manageable

Variety Tip

- Choose parthenocarpic varieties if needed
 - No pollination required

How To Train Vine Crops



Use trellis hangers (Tomahooks) and clips (C-Clips) to support plants: As you prune weekly, lower and guide plants by adjusting hanger tension and shifting them side to side

- Continue this process throughout the plant's lifecycle to maintain spacing, airflow, and light management
- Prevents plants from growing too high and overcrowding

“C-Clips”



^Place C-Clip Under Leaf Node^

“Tomahooks”



Tomato Growth Types & Training

Indeterminate Tomatoes (Vining)

- Grow continuously throughout the season
- Best trained to one main leader (single stem)
- Require regular pruning and training

Determinate Tomatoes (Bush)

- Grow to a fixed size, then stop
- Produce fruit all at once
- Do not require heavy pruning or single leader training

Why This Matters

- Single leader = better airflow, light, and plant control
- Maximizes vertical space and yield efficiency
- Prevents overcrowding in controlled environments

Key Takeaway:

Indeterminate = train and prune

Determinate = let it grow



Pruning & Training Summary

Support plants early with trellis hangers and clips

- Begin pruning the base by removing 4–5 lower nodes

As plants enter the flowering/fruiting stage:

- Lower and train weekly
- Prune upward and as needed over time as plants grow

Prune small, non-ripening fruits

- Most common at the tips of clusters

Maintain a weekly rhythm of pruning and training

- Consistency is key to high yields and plant health



Different Pollinating Techniques

Bees (Natural Pollination)

- Difficult to manage indoors, but possible
- Without bees, pollination must be done manually

Using Male Flowers (Hand Pollination)

- Crops like melons, zucchini, and pumpkins have separate male and female flowers
- Use a male flower to transfer pollen to a female flower

Manual Vibration (Tomatoes & Peppers)

- Gently shake plants or use an electric toothbrush
- Helps release pollen within flowers for successful pollination

Airflow (Fans)

- Gentle airflow helps move pollen between flowers
- Supports pollination in tomatoes and peppers
- Also improves airflow and reduces disease risk





“Bee” The Pro Pollinator!

AeroGarden Be the Bee Pollinator makes indoor pollination simple and beginner-friendly

Soft silicone bristles + vibration mimic a bee’s buzz to release pollen

Improves consistency and fruit set compared to manual methods

If you don’t have bees, be the bee.

Presentation Summary.

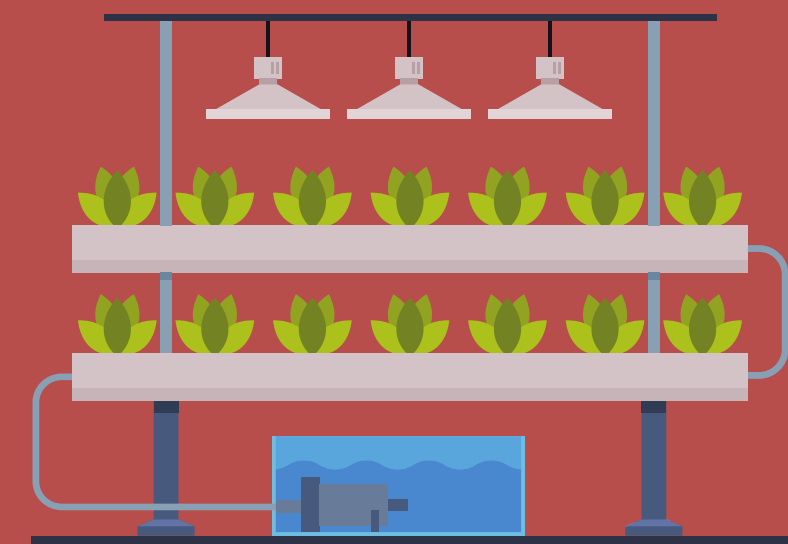
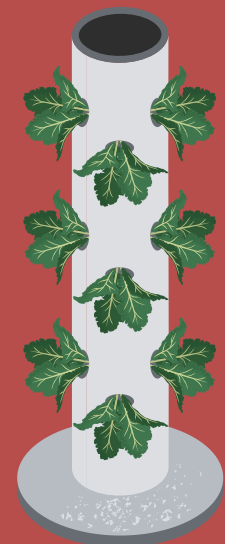
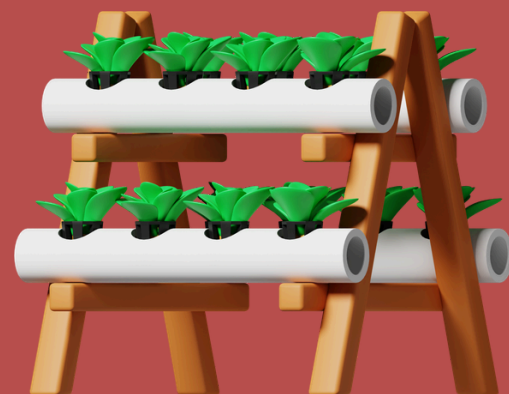
- **Pruning:** Pruning helps direct the plant's energy toward healthy growth and fruit production while improving airflow and reducing disease risk.
- **Training:** Training guides plant growth to maximize light exposure, maintain structure, and make efficient use of space.
- **Pollination:** Pollination enables fruit development and ensures consistent, high-quality yields.

Prune “Weekly”

Train “Early”

Pollinate “Consistently”

Pruning, training, and pollination should guide how you design your system, select your crops, and manage your plants over time. The more you understand each plants growth patterns and lifecycle, the more effectively you can apply these practices to create a healthy system that produces reliable, high-quality yields.



Quyanaa - Thank you!

Sources

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