Original-source
Educational
Webinar
Series

Fundamentals of Tomato Grafting

Hensley's SEED CO. – DENVER · COLORADO –

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Hensley's SEED CO. DENVER · COLORADO

Original-source mission is helping families, friends, and communities to feed one another by providing superior seeds, tools, information, and service.

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What is Grafting?

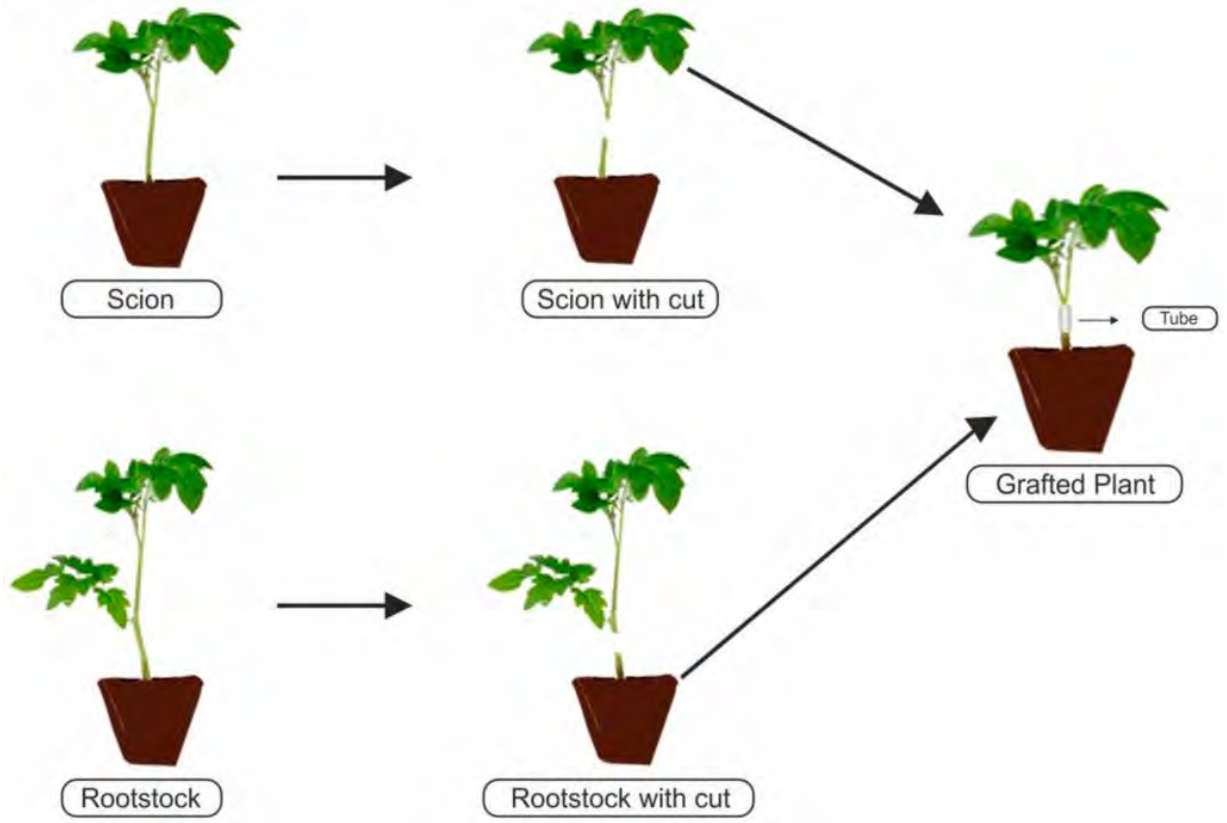




Image: *HortScience 52* (10); 10.21273/HORTSCI11996-17.

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Why Graft Tomatoes?

Disease resistance	• *Verticillium* wilt • Corky root rot • Bacterial wilt • *Fusarium* • Tomato mosaic virus
Root vigor	• 12 month production • Drought tolerance • Nutrient uptake
Yield potential	• Longer production • Healthy plants
Scion characteristics	•FLAVOR, shape, color, size •Increased vigor •Length of production



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Important Considerations

- Grafting does not necessarily improve tomato performance
- Special cultural management
  - Pruning/training
  - Fertility to match growth
- Cost
  - Set up
  - Time
  - Management

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Rootstock Selection

- **Soil diseases**
  - *Anything specific?*
- **Crop duration = Vigor**
  - *Short = 3-4 months*
  - *Medium = 4-5 months*
  - *Long = 6+ months*
- **Balancing plant habits**
  - *Vegetative*
  - *Generative*

Conduct your own trials!

	Disease	Crop Duration	Habit Balance	Germination
Maxifort	Fusarium Wilt 1 & 2 Fusarium Crown & Root Rot Verticillium Wilt 1 & 2 Corky Root Rot Root Knot Nematodes Tomato Mosaic Virus	Long	Vegetative steering	Can be uneven
DRO141TX	Same as Maxifort	Medium – Long	Vegetative steering but easier to balance	Fairly uniform, faster
Estamino (organic)	Same as Maxifort plus… Fusarium Wilt 3 Tomato Spotted Wilt Virus	Short – Medium	Generative steering	Fairly uniform, slower

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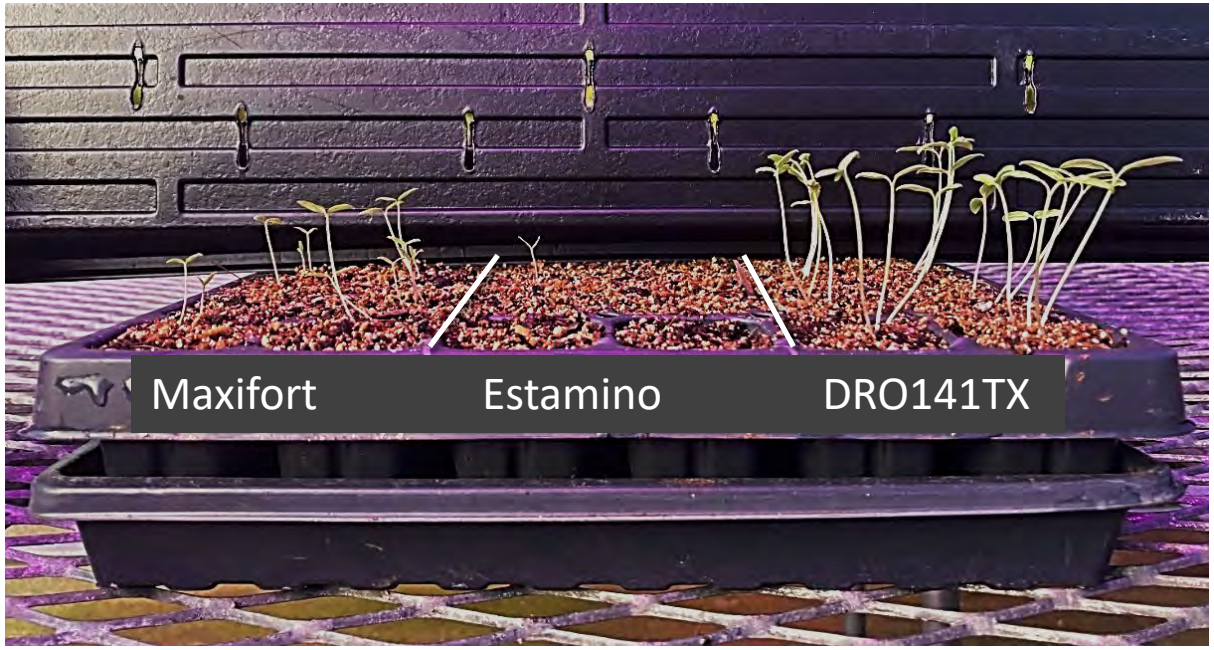
Preparation is key!

<u>Prepare for Sowing</u>

- Timing of sowings
- Ideal germination
- Practice round
- Successions and Overseeding
- Monitor growth 3-4 weeks prior to grafting

<u>Prepare for Grafting</u>

- Supplies on-hand and cleaned
- Sanitize work area
- Deep water beforehand




'Maxifort' Rootstock Tomato: Steps to Optimize Seed Germination Rate and Seeding Uniformity


Top Grafting Tomatoes

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Top Grafting Demo

- Splice Graft
- Cleft Graft
- Staking



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Healing Chamber Conditions

Create a space for plants to survive for 3 to 4 days WITHOUT ROOTS while they heal

High Humidity	Steady Temperature	Darkness
85-95%	70-80°F	Prevent photosynthesis
Humid, not wet	Reduce stress	

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Healing Process

Focused Healing Day 1 to 4	Light Transition Day 3 to 4	Humidity Transition Day 5-7	Introduce to the real world
Darkness Humidity 85-95% Steady temperature 70-80 °F	Slowly introduce some light Slightly open domes or healing chamber Re-up humidity	Gradually decrease humidity Increase light	Transition gradually to conditions of greenhouse Provide protection from sun/wind

Gradually increase light, slowly decrease humidity

Requires:

- Regular monitoring
- Adjustments
- Fiddling & more fiddling



Photo credit: Skip Paul

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Healing Chamber







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Healing Chamber
Grafting supply options



Humidity Domes:
7” Clear or NanoDome



Humidity Tent &
Compact Seedling Light Cart



NEW

Lighthouse
Grow Tent

Grafting growing resources

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VIDEOS:

Grower Experiences

Skip Paul
Wishing Stone Farm
Little Compton, RI

Andre Cantelmo
Heron Pond Farm
South Hampton, NH



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Fundamentals of Top-Grafting Tomatoes

1. Choose rootstocks wisely
2. Design healing chamber
3. Test germination and growth rates
4. Prepare plants prior to grafting
5. Choose similar stem diameters for best match
6. Monitor healing process carefully for first week post-graft
7. Carefully transition newly healed plants back to real-world conditions

We wish you success!

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Resources

EDUCATIONAL GROWING RESOURCES • Fundamentals of Tomato Grafting
hensleyseeds.com

ADDITIONAL RECOMMENDED RESOURCES
Manuals & Guides

- **USDA-SCRI Vegetable Grafting Project, Grafting Manual:** http://www.vegetablegrafting.org/resources/grafting-manual/
- **Ohio State University Extension Grafting Guide (3rd Ed., Bulletin 950):** https://u.osu.edu/vegprolab/grafting-guide/
- **University of California at Davis Guide to Cleft Grafting:** https://horticulture.ucdavis.edu/sites/g/files/dgvnsk1816/files/extension_material_files/tomato_grafting_guide.pdf

Tutorial Videos

- **K-State Associate Professor & Extension Specialist Cary Rivard**
  - Tomato Grafting Overview: https://www.youtube.com/watch?v=h0YjlHyYywE
  - Grafting process: https://www.youtube.com/watch?v=zhgsPkeZEbk
  - Healing Chamber: https://www.youtube.com/watch?v=9Mxy0HfgpKY
- **Grafting Demos**
  - How to Graft Tomatoes, by Wenjing Guan: https://www.youtube.com/watch?app=desktop&v=7Ufx66Isf88
  - How to Graft Greenhouse Tomatoes (UVM); https://www.youtube.com/watch?v=WSwTCwlhFgo

SUPPLIES: hensleyseeds.com

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