



# Hydroponic Vine Crop Intensive Workshop

with Dr. Triston Hooks    January 6–8, 2023

## Friday, January 6<sup>th</sup>

### Morning (Online and In-Person)

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|-------------------|---|
| 9:00 am–10:00 am  | Introductions & History of the CEAC   |
| 10:00 am–11:00 am | Overview of Controlled Environment<br>Agriculture (CEA) and Hydroponic Vine Crop<br>Production<br><i>Tomato, Pepper, Cucumber, and Melons</i> |
| 11:00 am–12:00 pm | Hydroponic Propagation<br><i>Seeds, substrate, environment, and<br/>transplanting</i>   |

### Afternoon (In-Person Only)

- |                  |   |
|------------------|---|
| 12:00 pm–1:00 pm | Lunch                                       |
| 1:00 pm–2:00 pm  | UA-CEAC Facilities Tour                     |
| 2:00 pm–3:00 pm  | Hands-On Hydroponic Vine Crop Propagation   |
| 3:00 pm–4:00 pm  | Teaching Greenhouse Tour                    |
| 4:00 pm–5:00 pm  | Hands-On Hydroponic Vine Crop Transplanting |



THE UNIVERSITY OF ARIZONA  
BIOSYSTEMS ENGINEERING

Controlled Environment  
Agriculture Center



## Saturday, January 7<sup>th</sup>

### Morning (Online and In-Person)

- 9:00 am–10:00 am Hydroponic Nutrient Solutions and Substrates  
*Nutrient solution recipes, fertigation, plant nutrition and nutrient deficiencies, different hydroponic substrates and their characteristics*
- 10:00 am–11:00 am Plant Response to Light and Environmental Factors  
*Light quantity and quality, sole-source and supplemental lighting, PAR and ePAR, DLI, temperature, humidity, VPD, and CO<sub>2</sub>*
- 11:00 am–12:00 pm Vine Crop Morphology, Physiology, and Plant Steering  
*Plant anatomy, photosynthesis, transpiration and respiration, plant growth types, and pruning for optimal production in CEA and hydroponics*

### Afternoon (In-Person Only)

- 12:00 pm–1:00 pm Lunch and Open Discussion
- 1:00 pm–2:00 pm Hands-On Nutrient Solution Stocks, Fertigation, and EC/pH Measurements
- 2:00 pm–3:00 pm Hands-On Greenhouse Sensors and Controls
- 3:00 pm–3:30 pm Break
- 3:30 pm–5:00 pm Hands-On Vine Crop Steering



## Sunday, January 8<sup>th</sup>

### Morning (Online and In-Person)

- 9:00 am–10:00 am Integrated Pest Management (IPM) for CEA and Vine Crops  
*Mechanical, cultural, biological, and chemical control for common pests and diseases in CEA vine crops*
- 10:00 am–11:00 am Vine Crop Pollination and Fruit Production  
*Flower morphology, bumblebees, fruit development, harvesting, grading, marketing, and food safety*
- 11:00 am–12:00 pm Review and Q&A

### Afternoon (In-Person Only)

- 12:00 pm–1:00 pm Lunch
- 1:00 pm–2:00 pm Hands-On IPM and Beneficials
- 2:00 pm–3:00 pm Hands-On Beehive and Pollination
- 3:00 pm–3:30 pm Break
- 3:30 pm–5:00 pm Hands-On Harvesting, Grading, BRIX, and Tasting Vine Crops

