



## SESSION DETAILS - 2021 NEVF CONFERENCE

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### **COST-EFFECTIVE AUTOMATION FOR SMALL-SCALE VEGETABLE GROWERS**

**Session Chair:** Elisabeth Hodgdon, Cornell Cooperative Extension;

**Co-moderator:** Robert Arnold, Smart Farm Innovations/Pleasant Valley Farm

Approved CEUs: 0 | Pesticide Credits: 1 for New England states; 0 for New York

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**General Description:** Investments in cost-effective automation can pay off quickly in a world of increasing labor shortages, unpredictable weather events, and other challenges faced by vegetable farms in the Northeast. In this program, we first focus on automation systems for high tunnel production for climate control and irrigation. In the second half of the program, we interview four growers on equipment that has proven to be sound investments for their farms. Pricing, labor reduction, operation of the equipment, and other aspects of these machinery investments are discussed using an on-farm video demonstration and live Q&A format.

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#### ***Improving Climate Control and Irrigation Efficiency Using High Tunnel Automation Systems*** - Robert Arnold

Manually controlling high tunnel environments is a labor-intensive and often an error-prone endeavor for most farmers. Using his experience in both the agricultural and technical fields, Robert will go over in detail the many cost-effective automated systems available to manage high tunnel environments.

**About Robert:** Born and raised on a profitable, small organic vegetable farm, Robert spent his childhood and early adult life being immersed in successful farm operations. Handling everything from weeding, tractor operation, finances, to sales, Robert took his unique scope of detail-oriented small-scale farming and extensive technical training and founded Smart Farm Innovations in 2016. Since then, he has helped farms of all types and sizes around the country improve their technical systems.

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#### **High Tunnel Automation at Jericho Settlers Farm:** Christa Alexander and Mark Fasching

Automated climate control systems are irreplaceable tools enabling Christa and Mark to improve labor efficiency, reduce inputs, and maximize high tunnel crop yield. Automation has resulted in better temperature and humidity management, ultimately increasing yields while lowering labor costs. Additionally, the peace of mind and reduced stress of not worrying about whether or not houses are properly ventilated is a valuable though intangible benefit. Christa and Mark will describe the control systems they have installed, learning the nuances of programming the controllers, and how they control and monitor their hoopouses remotely.

**About Christa and Mark:** Christa and Mark own and operate Jericho Settlers Farm in Jericho, VT, a 200-acre diversified organic vegetable farm. Jericho Settlers Farm grows vegetables year-round for their retail and wholesale markets in their high tunnels and hoopouses, which collectively span 2 acres.

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**Smart Equipment Investments at Four Vegetable Farms** - Four vegetable growers discuss equipment investments that paid off quickly on their farms through labor saving efficiencies:

***Propagation Greenhouse Efficiencies at Juniper Hill Farm***

Adam Hainer

Juniper Hill Farm, Wadhams, NY

In this video, Adam presents his process for seeding vegetable trays from start to finish. He demonstrates his tray filler, 3D-printed custom-made dibbling tool, automatic seeder, and tag printer in action and discusses how these tools have reduced greenhouse labor needs.

**Seeding and Weeding: Tools and Systems We Use at Atlas Farm to Improve Speed and Consistency**

Gideon Porth

Atlas Farm, South Deerfield, MA

Over the years, Atlas Farm has honed their greenhouse seeding techniques to include an automatic tray filler, vacuum seeder, and home-made vermiculite seed topping conveyer. Another tool they have invested in is the K.U.L.T Kress Argus hoe, a two-person field cultivator that can improve speed and precision of weeding for many different vegetable crops. Gideon will discuss some of these tools and describe how they have improved efficiency at Atlas Farm.

**Saving Labor Harvesting Carrots with the Univerco Mini Veg**

Tyler Dennis

Alewife Farm, Kingston, NY

In this video, Tyler demonstrates his Mini Veg carrot harvester, which has proved to be an excellent investment on the farm, saving many hours in the fall harvesting root crops.

**Using the Skid-Steer for Multiple Jobs on the Farm**

Pooh Sprague

Edgewater Farm, Plainfield, NH

The skid-steer and its attachments are valuable pieces of equipment used all year round at Edgewater Farm. Ease of moving pallets of filled trays and pots during greenhouse season, bins of produce at harvest, and transporting rebar for trellising in the field are just a few of the tasks made easier with the skid-steer and forks. In addition to the forks, the farm crew uses the brush cutter, harley rake, and bucket attachments to clear brush and maintain farm roads around the property, among other uses.

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