

Saratoga Horticultural Research Endowment Mid-Point Progress Report

February 8, 2021

Project Title: *Experimental investigation of the effects of a green roof environment on plant vigor and floral display in California grassland plants*

Project total Budget: \$4,250.00

Principal Investigator(s): Haven Kiers and Dave Fujino

Project Manager and Contact Person: Haven Kiers

1. Statement of progress against timeline, including a statement of activities to date to implement your project.

I would like to start by updating you on unforeseen circumstances that have made some of our SMARTshed research objectives currently unattainable, at least for the foreseeable future. We were advised in September by the UC Davis Design, Construction and Management unit that our structure, SmartShed, on which we were planning to construct our green roof had not been subjected to any formalized pre-construction structural analysis, as required by the campus. We were unable to certify its structural loading capacity in a timely and cost-effective manner and, therefore, made the decision to curtail construction of the green roof on top of the shed and instead construct ground-based demonstration versions (30") of the green roof. Instead of building one 7'x 18' green roof, we are now proposing to build two smaller green roof platforms (5' x 16' and 5' x 8') upon which to test the same research hypotheses we listed in our application.

- Mid-May, 2020 - A finalized plant list will be sent out by the mid-May so that the (currently off-site) green roof modules can be planted. The process of growing out the specified plants is estimated to take approximately five months. Plants will be selected by student interns based on their ability to withstand low water irrigation conditions, their bloom timing and duration, attractiveness to beneficial insects and other organisms including pollinators, and aesthetic value. Plants will be sourced, purchased and pre-grown in modules from Emerisa Gardens (<https://www.emerisa.com/>). Modules and soilless media will be purchased from FloraSource/LiveRoof (<https://www.florasourceltd.com/products>). **COMPLETED**
- **No longer applicable, now that we are no longer using the SMARTshed for the green roof.**
- July, 2020 - Green roof design and planning. **COMPLETED**
- August, 2020 - A finalized plant list will be sent out by the mid-May so that the (currently off-site) green roof modules can be planted. The process of growing out the specified plants is estimated to take approximately five months. Plants will be selected by student interns based on their ability to withstand low water irrigation conditions, their bloom timing and duration, attractiveness to beneficial insects and other organisms including pollinators, and aesthetic value. Plants will be sourced, purchased and pre-grown in modules from Emerisa Gardens (<https://www.emerisa.com/>). Modules and soilless media will be purchased from FloraSource/LiveRoof (<https://www.florasourceltd.com/products>). **COMPLETED**
- August-September, 2020 - Preliminary construction of the green roof will occur over the summer (FALL), including the installation of all required safety elements. **COMPLETED**
- September-October, 2020 - Site preparation and green roof construction. Site prep and continued green roof construction/ installation will be completed by early fall 2020. **COMPLETED. All green roof construction is done, and plant modules were delivered and installed in early December.**
- December, 2020 - Pre-grown green roof modules installation (Baseline smart controller, inline drip, irrigation valves and flow meter). **COMPLETED**



- March-June, 2021 - Replace dead or struggling plants with varieties that have shown strength at the location. Begin measuring water use to be used for water use comparison to MWEL0. Assess plant performance.
- August, 2021 - Submission of final report to SHRE committee.

2. Please explain how you have shared your project so far on social media or other outreach platforms. Send us (in separate files) any pictures or videos you have created. And please tell us any feedback or engagement you've gotten from your outreach efforts (e.g., how many post likes or comments received).

The CCUH provides oversight of the SmartLandscape initiative. The CCUH has created a homepage for SmartLandscape (<https://ccuh.ucdavis.edu/smartlandscape>) along with a specific webpage for the SMART Green Roof project (<https://ccuh.ucdavis.edu/smartlandscape/smart-green-roof>). We are currently providing updates on all SmartLandscape projects on the CCUH website. At this point in time, we have not received any feedback regarding our SMART Green Roof webpage, since we have just posted the page. We will be posting an update on Facebook early 2021 (<https://fb.watch/3xkDduboSj>).

3. Have you run into any conflicts or delays? Is there anything SHRE can assist you with?

Yes, we have incurred delays due to COVID-19 and with the structural review of our SmartShed structure, but we feel confident that we will be able to serve up to our stated deliverables outlined in our proposal. While we appreciate SHRE's assistance offer, we feel at this time it is not needed. Thank you.