



Specialty Crop Success Story: Specialty Cut Flowers

Congratulations to **Melanie Stock** on the success of her recent Specialty Crop Project. Melanie was a recipient of UDAF's 2022 Specialty Crop Block Grant. To gain deeper insight into her project and success, read through this recent Q&A interview she did with UDAF. Please note the usage of "we" in this interview pertains to Melanie and her USU team.

Project Background:

National growth in small-scale, specialty cut flower farms is reflected in Utah, where 190 members have joined the Utah Cut Flower Farm Association since its establishment in 2019. *Ranunculus asiaticus* L. and *Anemone coronaria* L. are two of the earliest maturing flower crops, but only out-of-state guides existed that were particularly ill-suited for Utah.

For example, most national recommendations advised springtime planting for a summer bloom 90-110 days later (e.g. July-Aug), though they noted optimal production occurred during spring conditions. The tubers were also not rated to withstand winters in USDA Hardiness Zones 3-7 (i.e. Northern Utah).

In Utah, spring planting resulted in temperamental production during the summer heat – yields were low, there was a short harvest window, and dormancy was quickly triggered in the plants. Therefore, the goal of this research was to optimize production in the Intermountain West by evaluating methods to advance harvest into optimal spring conditions. We trialed:

1. High tunnel and field production systems,
2. Planting dates in fall (Nov), winter (Jan, Feb), and spring (Mar, Apr),
3. Pre-planting treatments (transplanting pre-sprouted vs. direct-planted tubers),
4. cultivars for local adaptation (2-4 cultivars per crop), and
5. Insulation methods for winter protection. In field systems, we tested low tunnels, straw mulch, and natural snow accumulation. In high tunnels, we tested the use of low tunnels versus bare soil. We measured subsequent soil temperatures and tuber survivability through winter to access these.

We conducted the study from 2019 – a pilot year sponsored by the Association of Specialty Cut Flower Growers, until 2022 – through support from UDAF and the USDA NIFA National Needs Fellowship. We established an in-depth trial at the Utah Agricultural Experiment Station in North Logan, Utah, as well as with 20 grower participants across the Wasatch Front.

We used Instagram to update the public on our study and published both refereed Extension fact sheets and academic articles to share results. This has resulted in feedback from farmers in Utah to France, who report that this trial significantly changed their practices and improved their yield. We also worked with an applied economist to calculate enterprise budgets on profitability by each management system we developed.

How Has Your Project Been Successful?

First, I want to acknowledge Shannon Rauter, the MS student on the project, who was dedicated to careful field management and data analysis. Through this project, she earned the MS Student Researcher of the Year award in USU's Dept. of Plants, Soils, and Climate. She then went on to earn the MS Student Researcher Award for USU's College of Agriculture and Applied Sciences. She published three academic papers and eight Extension fact sheets.

The findings of this project set it apart and have redefined recommendations for both anemone and ranunculus. Instead of planting in spring for a summer bloom, we found that the tubers not only survive winters as far north as Cache Valley (USDA Hardiness Zone 5b – 6a) with some winter protection, but bloom then coincides with cool spring conditions, which quadrupled yield and marketability!

Our top recommendations now include planting in high tunnels in November, which results in anemone blooms starting in March and ranunculus blooms beginning in April. In particular, fall-planted, high-tunnel-grown ranunculus redefined the profit potential of a specialty crop – or any cut flower we have studied.

When selling on wholesale markets, the potential for net returns averages \$5.03 per ft², whereas field production with previous industry recommendations resulted in a net negative. In the field, using low tunnels and/or straw mulch sufficiently protected November-planted tubers from cold temperatures.



How Was This Project Different Than You Thought It Would Be?

I knew there was potential to improve yield with protected fall plantings, but I never expected to quadruple it or redefine profit potentials! The sheer production from these plants is incredible – we space them tightly (6 inches apart), and each plant can produce up to seven marketable stems (priced at \$1.50 each on wholesale markets).

Moreover, the harvest season is completed by June, allowing plenty of time for a second crop to maximize returns on limited land. It would be fascinating to study warm-season crops that could follow ranunculus and determine net returns per land area for the year. Similarly, planting in November resulted in more winter growth in high tunnels than I expected – this crop essentially provides an option for year-round production in high tunnels.

I have been amazed by the outpouring of support from growers in Utah and across the world. Instagram helped us get the message out, and we were able to publish many papers from this project. Many farmers expressed the impact of this project, some of which is reflected in our statistics on downloads and views.

Of the eight new Cooperative Extension fact sheets we published from this project – mostly in 2022 and 2023 – there have already been 3,634 downloads. Of our three academic articles, one received the Editor's Choice award. We also shared the information through field days and farmer workshops, and I have also been invited to share results across the US with other states' extension programs.

What Have You Learned?

This project emphasized the importance of careful collaboration with growers, students, and researchers in other disciplines that will result in the most meaningful impact. Utah farmers brought the problems with ranunculus to my attention – the idea began with visiting farms and keeping my ears open to learn about their needs.

With UDAF's support, I recruited a top graduate student to work on the project. Providing project updates through Instagram helped share information in smaller pieces that resonated with the public.

This not only engaged many farmers but made the information more approachable and also made a great supplement for presentations, which can sometimes feel like information through a firehose! Using both traditional and new communication approaches has been beneficial.

-Melanie Stock



Specialty Crop Block Grant Overview

The Specialty Crop Block Grant Program (SCBGP) is a competitive grant program operated by the Utah Department of Agriculture and Food (UDAF) in which funding from the United States Department of Agriculture is awarded to eligible applicants to support Utah's specialty crop industry. Specialty crops include fruits, vegetables, tree nuts, dried fruits, horticulture (including nursery crops) and more.

This grant is open to producers, schools, trade associations, non-profits, farmers markets, farming and ranching co-ops, etc. headquartered in Utah. Potential projects may include a broad range of focus such as improving marketing, research, training, certifications, food safety, pest control, plant health and beyond for specialty crops.

Candidates must demonstrate the ability to enhance the competitiveness of Utah grown specialty crops and benefit more than one producer or organization.

Learn more by visiting: ag.utah.gov/specialty-crop-block-grant-program

