SMART FOODSCAPES

ISLANDS OF PERENNIAL LEGUMES AND FORBS

August, 2026

UtahStateUniversity

USDA National Institute of Food and Agriculture
U.S. DEPARTMENT OF AGRICULTURE

Newsletter

Covering activities from
September 1, 2025 through March 31, 2026



Sainfoin
(Onobrychis viciifolia)

- Non-bloating perennial legume
- Supports pollinators
- Contains condensed tannins
- Helps improve nitrogen efficiency in cattle
- Cows love it

Photo by Julián Mendiburu
June 3, 2025

Newsletter Highlights



Small Burnet (*Sanguisorba minor*)
Drought-tolerant perennial forb
Stays green later in the season
Nutrient-rich forage cattle readily include in mixed diets
Deep roots improve soil health and reduce erosion
Supports pollinators with long-lasting blooms

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August 2026

Introduction

The Spring/Summer 2026 Smart Foodscapes Newsletter highlights continued progress across research, extension, and education efforts focused on creating more resilient and sustainable working landscapes throughout the western United States.

This reporting period featured major advances in grazing behavior research, pollinator and wildlife monitoring, economic modeling, educational outreach, and producer engagement. New findings from the Richmond Smart Foodscapes grazing trials continue to demonstrate how strategically designed “islands of diversity” can influence cattle behavior, improve nutrient use efficiency, and support ecological resilience.

Across the project, researchers, educators, Extension specialists, and students are working together to better understand how perennial legumes, forbs, and shrubs can contribute to healthier landscapes, livestock, and communities.

As Smart Foodscapes moves toward its next phase, the project continues expanding partnerships, strengthening outreach, and exploring innovative approaches that integrate grazing management, biodiversity, technology, and education.



Research Highlights



Dr. Villalba — Islands of Diversity & Grazing Behavior

Experimental Design

Researchers at Utah State University's Richmond Research Farm established a series of "islands of diversity" over the past five years to investigate how strategically placed forage species influence grazing behavior, animal performance, and environmental outcomes.

Thirty Black Angus cow-calf pairs were randomly assigned to one of two grazing systems. The control treatment consisted of traditional meadow bromegrass pastures. The Smart Foodscapes treatment included similar grass pastures enhanced with islands containing five forage options: alfalfa, sainfoin, small burnet, forage kochia, and a naturally occurring weed strip where the intended legume, Birdsfoot trefoil, did not establish.

Over a 45-day summer grazing period, cattle in the Smart Foodscapes treatment were allowed daily access to these forage islands, providing repeated opportunities to select among multiple plant species. Researchers monitored grazing behavior using video cameras and analyzed forage selection patterns throughout the season. Cow and calf weights were measured before and after the trial to evaluate animal performance.



Forage Kochia

(Bassia prostrata)

- Drought tolerant semi-shrub
- Retains forage quality late into the season
- Useful for winter grazing
- Helps diversify cattle diets
- Cows will eat it, they don’t love it, but they’ll eat it. Consider brussels sprouts for humans, so good for us, but not our everyday choice.

Research Highlights

What happens when cows get choices?

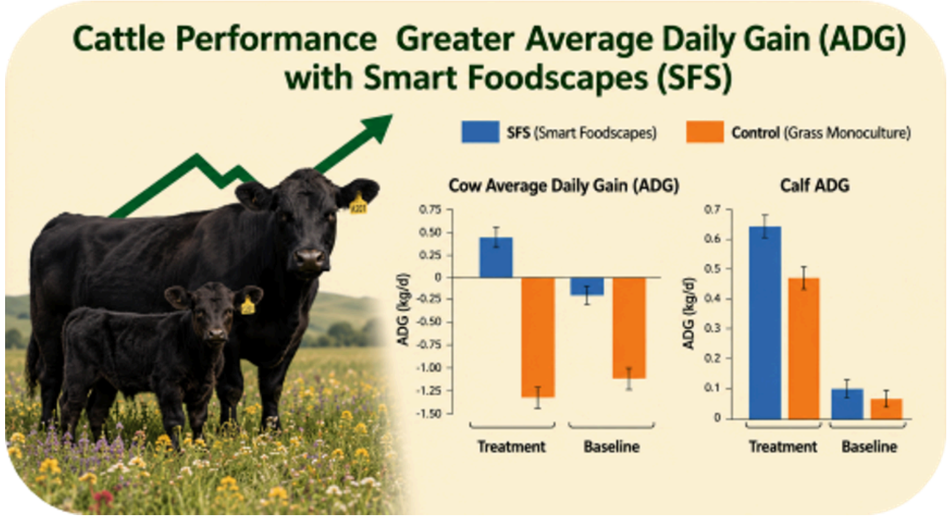
As the grazing season progressed, plant quality declined, with lower protein and higher fiber. Grass quality declined most rapidly, while forages within resource islands stayed greener, more nutritious, and productive longer into the season.

Cattle shifted their diets as the season progressed. Weeds made up the largest share early in the season, but cattle increasingly selected planted forages over time. Sainfoin became the dominant forage in later periods, while alfalfa and small burnet also increased in the diet. Forage kochia remained a consistent, moderate component.

Rather than simply eating the most abundant plants, cattle mixed several forage species within each grazing session. Overall, islands of diversity can function as tools to promote use of nutrient-dense, phytochemically diverse forages, improve diet mixing, and distribute grazing pressure more evenly.

Preliminary results also showed that cows and calves with access to these diverse forage islands **gained more weight** than those grazing grass alone. Even after access to the islands ended, the animals maintained this performance advantage, suggesting that **the benefits extended beyond the grazing period** itself.





Research Highlights



Dr. Dahlgren - Effects on Pollinators, Mammalian, and Avian wildlife

Study Overview
This section of the project evaluates how Smart Foodscapes (SFS) plantings influence pollinators and wildlife across multiple northern Utah sites using paired treatment and reference plots.

Study Sites
- Richmond Farm (9 paired plots; smooth brome seeding)
- Park Valley (1 paired pivot plot)
- Coalville (1 paired sagebrush plot)
- Nephi (2 paired sagebrush plots)

Methods Summary
Pollinators: Sampled each site four times (May–July), 1 hour per acre, bees identified to genus. Dr. Dahlgren worked with the USDA Bee Lab associated with USU Logan Campus.

Avian Monitoring: Autonomous Recording Units (ARUs).
Wildlife Activity: Camera traps deployed.

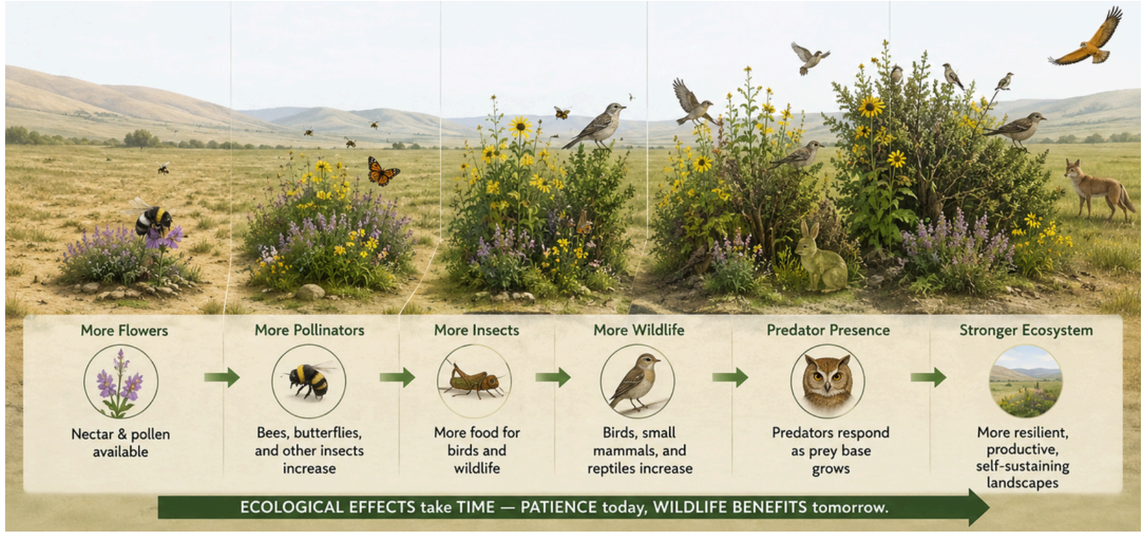
Pollinator Response
Dominant genera included Halictus, Lasioglossum, Bombus, and Megachile. Honey bees were abundant at Coalville and Richmond. Higher abundance and diversity observed at Coalville and Richmond; moderate at Nephi and Park Valley.

Avian Response

Total detections: 194 species in SFS plots vs 186 in reference plots. Species responses were mixed, with some increases in sagebrush obligates but not uniformly across all species.

Wildlife & Trophic Dynamics
Camera traps documented predator-prey interactions. Evidence suggests SFS plots may be increasing prey base availability.

Preliminary Conclusions
SFS plantings are enhancing pollinator resources. Avian responses are emerging but variable. Early signs indicate potential bottom-up ecological effects.



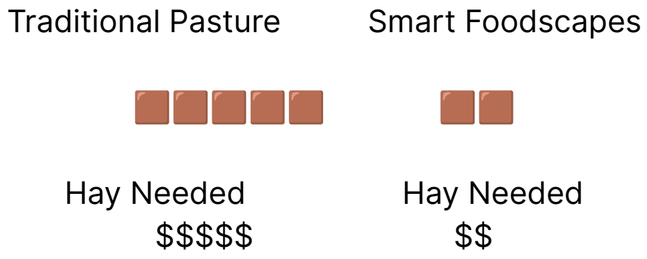
Research Highlights



Dr. Koontz: Cost Benefit Analyses of Smart Foodscapes

Dr. Koontz and his graduate student continue refining an economic model that compares traditional grass-only grazing systems with Smart Foodscapes that include nutrient-rich legumes and forbs. The model tracks seasonal forage growth, forage quality, cattle nutritional needs, and the costs of supplemental feed such as hay and minerals throughout the grazing season.

Early results are encouraging. By providing higher-quality forage later in the season, Smart Foodscapes have the potential to reduce supplemental feeding costs while maintaining cattle nutrition. The team is now expanding the model to evaluate long-term ranch profitability by considering establishment costs, whole-ranch economics, and future investment decisions. This work will help producers better understand both the short- and long-term economic benefits of incorporating forage diversity into their grazing systems.





Economic Outcomes: Economic modeling indicates that Smart Foodscapes can reduce late-season feed supplementation costs by providing higher-quality forage. Ongoing work is expanding the analysis to assess whole-ranch profitability and the long-term financial viability of adopting these forage systems.

Extension Highlights



Dr. Schad: Assess Adoption and Perceptions of Smart Foodscapes

Dr. Schad's team focused on understanding how ranchers view and may adopt Smart Foodscapes practices.

- Rancher Survey: The team finalized and launched a regional survey to measure ranchers' perceptions of and willingness to adopt Smart Foodscapes. They also partnered with ranching organizations and attended Extension meetings to recruit participants.
- The response to the survey has been minimal due to the length and overall understanding of Smart Foodscapes to ranchers.

Extension
UtahStateUniversity

Your Views of Smart Foodscapes

SMART FOODSCAPES
ISLANDS OF PERENNIAL LEGUMES AND FORBS

Thank you for taking our voluntary survey! Please see some additional information below before proceeding.

Introduction You are invited to participate in a research study conducted by Dr. Jessica Schad, a Natural Resource Social Scientist at Utah State University.

Purpose The purpose of this research is to understand ranchers' willingness to use smart foodscapes (we will describe what this is more within the survey). Your participation is entirely voluntary and you may withdraw your participation at any time.

Procedures If you take part in this study, you will be asked to take a 15-20 minute online survey. The survey has nine separate sections. While you can take the survey on a smartphone, it is easier to complete on a desktop or laptop computer. We also recommend that you have the financial records for your operation accessible while you are taking it. If you need to gather additional information to take the survey, you can always pause the survey and finish later.

Extension Highlights



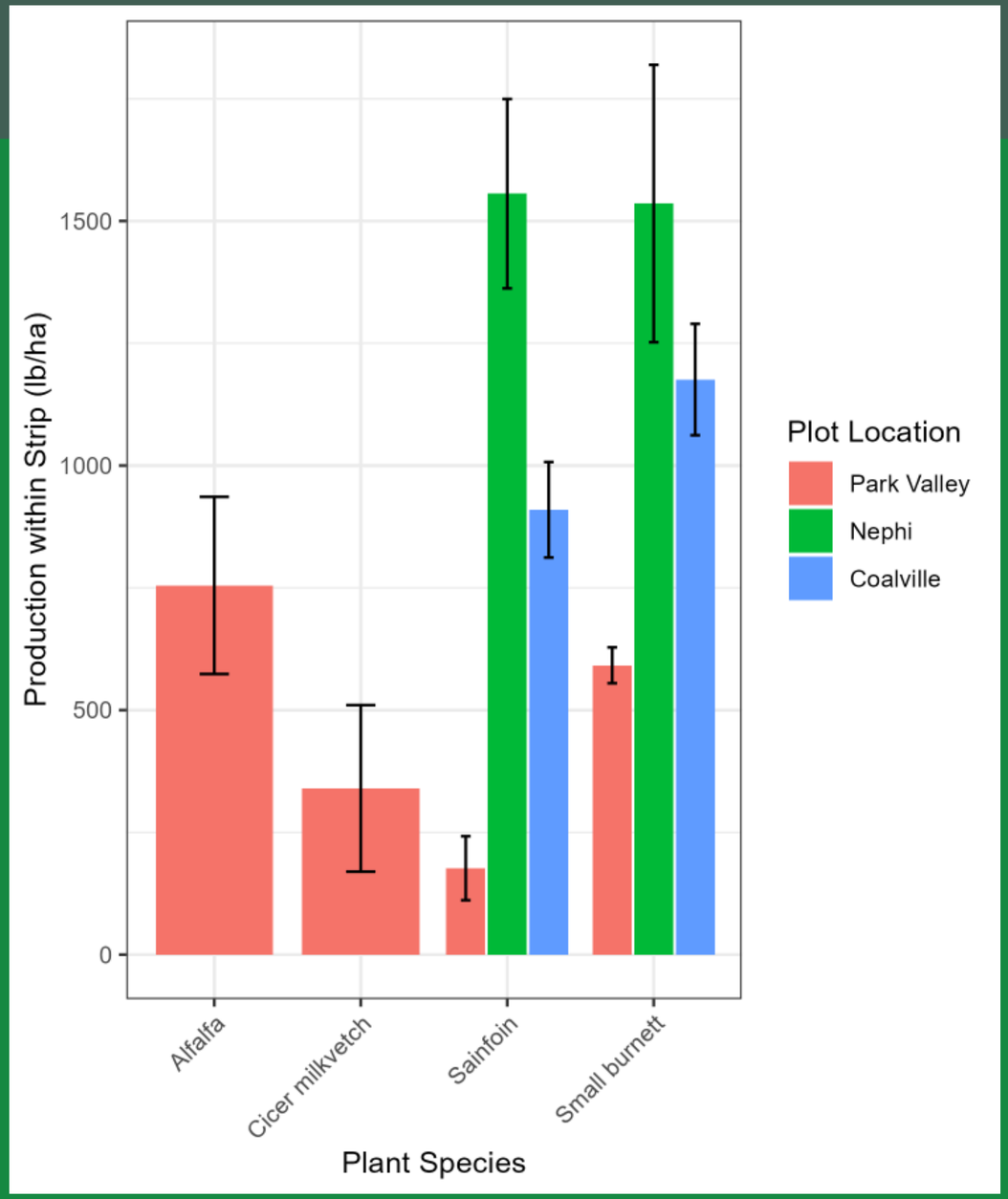


Dr. Thacker, Mr. Palmer, Sebastian Schreiber:

Matt Palmer held two planning meetings for the 2026 grazing school on June 17-18, in Logan, Utah. They also held a grazing technology day on June 19 to include virtual fencing and drones.

They conducted a virtual fencing demonstration project with a local cattle producer. They presented the virtual fencing project at the USU Extension Central Utah Beef Field Day in Richfield with a demonstration using cattle with virtual fencing collars in a rodeo arena.

Sebastian Schreiber finish up summer field season, including a Virtual Fence experiment, and final collection on demonstration plots.



Eductaion Highlights



Dr. Trundle, Education Research Team Lead

The Smart Foodscapes Education Team continues to bring sustainable agriculture, wildlife, pollinators, and hands-on science into K–12 classrooms. The team has developed and refined 131 integrated STEAM lessons—50 elementary, 47 middle school, and 34 high school lessons—while incorporating citizen science and garden-based learning into the curriculum. Sustainable school gardens and educational materials have now been implemented at five partner schools, reaching 14,560 students over the life of the grant. Because the gardens and resources will remain in place, they have the potential to reach another 3,388 students each year, while freely available online materials can extend the project's impact nationwide.

The team is also expanding the Wahlquist Junior High garden with fruit trees. They have already installed a handful and they have just sprouted four new peach trees.

14,560 Students Reached

131 Steam Lessons Total

50 Elementary

47 Middle School

34 High School

Eductaion Highlights

School Gardens Are Making a Difference

Results from the elementary school program show that garden-based STEAM learning is helping students build stronger connections with bees, nature, and environmental stewardship. Among 118 students studied throughout the school year, attitudes toward bees improved overall, while students with hands-on gardening experience also demonstrated greater bee knowledge, stronger attitudes toward nature, and more confidence in their ability to take environmental action.

Similar results were seen during a one-week summer camp involving 96 elementary students. Even in this short period, students significantly increased their knowledge about bees, connection to nature, and confidence in their ability to help protect the environment. Together, the findings suggest that combining classroom learning with hands-on gardening can be a powerful way to help young people understand and care for the natural world.

STEM Career Videos:

- 10 completed
- 2 being finalized
- 6 in post-production

Professional Development Videos for Teachers:

- Life Cycle Star Book
- Watercolor Flower Painting
- 3D Insect lessons

Dissemination '25 – '26

Research and Extension

Lecture

Villalba, J.J. (2026). *Grazing Behavior and Smart Foodscapes*. Grazing Systems course Universidad de Buenos Aires. March 27, 2026.

Seminar Presentation

Villalba, J.J. (2026). *Smart Foodscapes: Developing Functional Landscapes to Enhance the Sustainability of Livestock Production Systems*. University of North Carolina Pembroke, Seminar Series. March 2026.

Presentations and Proceedings

Barkat, Z., Ulrich-Schad, J. D., (February 2026). *Amplifying Women's Voices in Rangelands: Artificial Intelligence, Digital Narratives, and Standpoint Theory*. Society for Range Management Annual Meeting, Monterey, California.

Barkat, Z., Ulrich-Schad, J. D., Villalba, J. J. (February 2026). *Expanding Rangeland Social Science Research with Artificial Intelligence: Insights from the Smart Foodscapes Project*. Society for Range Management Annual Meeting, Monterey, California.

Barkat, Z., Ulrich-Schad, J. D., Villalba, J. J. (January 2026). *AI Agents Assess Rangeland Scenarios under Climate Uncertainty*, European Seminar on AI for Sustainability and Climate Change (Online)

MacAdam, J.W., S. Verma, and J.J. Villalba (2025). *Using Legumes and Forbs to Meet Cowherd Requirements on Western Rangelands*. Crop Science Society of America annual meeting, Salt Lake City, UT.

MacAdam, J.W. (2026). *Forage Species Selection for Smart Foodscapes*. Society for Range Management annual meeting, Monterey, CA.

Schreiber, S. (February, 2026). *Visual Cue Increase Awareness but Decrease Responsiveness to Virtual Fence*. Society for Range Management Annual Meeting. Monterey, California.

Schreiber, S. (March, 2026). *Visual Cue Increase Awareness but Decrease Responsiveness to Virtual Fence*. USU WILD Department Symposium. Logan, Utah.

Villalba, J.J. (2025). *SMART Foodscapes: Advancing sustainable beef production in the Western U.S. through multifunctional forage diversity*. Bair Ranch Foundation Seminar Series - Department of Animal & Range Sciences, Montana State University, Bozeman, Montana. October 22, 2025.

Villalba, J.J. (2025). *Bridging science and society: advancing smart foodscapes through transdisciplinary partnerships on working landscapes*. Crop, Agronomic, Environmental, and Soil Sciences Connect – CANVAS Meetings. Salt Lake City, Utah, November 9-12, 2025.

Villalba, J.J. (2026). *Introduction – Forage Diversity for Rangelands: The Elementary Idea*. SMART Foodscapes Symposium. The Society for Range Management 79th Annual Meeting, Monterey, California. February 7-11, 2026.

Villalba, J.J. (2026). *Using Smart Foodscapes to Enhance the Sustainability of Western Rangelands*. Organized and presented at The Society for Range Management 79th Annual Meeting, Monterey, California. February 7-11, 2026.

Villalba, J.J., MacAdam, J., Ramsey, D., Batistel, F., Thacker, E., Dahlgren, D., Palmer, M., Schad, J. (2025). Creating new foodscapes to enhance the sustainability of rangelands in the western US. *Proceedings of the XII International Rangeland Congress*. Editors: Sarah McDonald, Ron Hacker, Tony Pressl and, Jennifer Silcock, Jodie Reseigh and Terry Beutel. ISBN 978-0-646-72121-7.

Papers

Barkat, Z., Ulrich-Schad, J. D., Bennett, E. A., Brunell, M. (2026). Weaving nostalgia into sense of place: Linking memory, identity, and land in working landscapes, *Rangelands, 48* (2), pp. 63-69, https://doi.org/10.1016/j.rala.2025.12.001. https://www.sciencedirect.com/science/article/pii/S019005282500080X?dgcid=author

Gregorini, P., and Villalba, J.J. (2025). Modelling the effect of grazing management of tannin-containing legume feeding sites on environmental impact by cows grazing grass-dominated rangelands. *The Journal of Agricultural Science 163*.2: 202-211.

MacAdam, J.W., Villalba, J.J., Lagrange, S.*, Stewart, E.K.*, Pitcher, L.R.*, Slebodnik, K.A.*, Norton, J.M., Reeve, J.R., Zhang, Y., Bolletta, A.I.*, Legako, J.F. (2025). In Vivo reductions in methane and urinary nitrogen by perennial non-bloating temperate legume and forb functional forages produced in the Mountain West United States. *Grass and Forage Science. 80*(2):e12719

Muzzo, B.I.*, Bladen, K., Perea, A., Nyamuryekung'e, S., Villalba, J.J. (2025). Multi-Sensor Integration and Machine Learning for High-Resolution Classification of Herbivore Foraging Behavior. *Animals 15*(7):913.

Dissemination '25 – '26

Papers (continued)

Muzzo, B.I.*, Ramsey, R.D., Bladen, K., Villalba, J.J (2025). Tannin supplementation alters foraging behavior and spatial distribution in beef cattle. *Sustainability 17* (23): 10611.

Poli, C.H.E.C., Tontini, J.F., Jacondino, L.R., Villalba, J.J., Muir, J.P., and Tedeschi, L.O. (2025). Plant tannin for grazing ruminant growth. *Animal Frontiers 15* (3), 47–58.

Schreiber, S.P., Muzzo, B., Veblen, K., Villalba, J. and Thacker, E. (2026). Islands of Plant Diversity within Working Landscapes: A Strategic Intervention for Restoring Rangeland Monocultures. *Frontiers in Sustainable Food Systems, 10*, p.1794915. doi: 10.3389/fsufs.2026.1794915

Schreiber, S.P.*, Villalba, J.J., Meyer-Ficca, M.L. (2025). Potential epigenetic impacts of phytochemicals on ruminant health and production: Connecting lines of evidence. *Animals 15* (12):1787.

Villalba, J.J., MacAdam, J., Ramsey, D., Batistel, F., Thacker, E., Dahlgren, D., Palmer, M., Schad, J. (2026). Creating new foodscapes to enhance the sustainability of rangelands. *The Rangeland Journal*. In Review.

Education Team

Paper and book chapters (4): (*doctoral student, **teacher)

Parslow, M., Villa, A. H., Campbell, K. U., Hagevik, R., & Trundle, K. C. (2026). A STEAM integrated middle school unit about insects in the garden: Friends and foes. *Science Activities, 63*(1), 2640006 (Impact Factor: 0.7) https://doi.org/10.1080/00368121.2026.2640006

Wheeler, L., Trundle, K.C., Hagevik, R., Parslow, M., &Vela, K. (2026, accepted with revisions). Middle school students and nature identity: A potential pathway to STEM career interest. *School Science and Mathematics*. (Impact Factor: 0.9; 5-year Impact Factor: 1.3; CiteScore: 2.0; Scopus: 6.4; SJR: 0.438; Q1)

*Parslow, M., Hagevik, R., Trundle, K.C. & Vela, K. (2026). School STEAM garden-based learning empowering students to BEE environmental ambassadors. In J.K. Frisch, D.M. Alston, A. Feldman, R. Hagevik, & M. Schpakow (Eds.), *Wicked Problem in PreK-12 Science Education* (pp. 25-36). New York: Routledge Press, Inc.

Vela, K. N., *Weber, D., *Parslow, M., Campbell, K. (2025). Every pollinator counts in the garden. *Mathematics Teachers: Learning and Teaching Pre-K-12, 118*(12), 936-944. https://doi.org/10.5951/MTLT.2024.0289

Research conference presentations (13): (*doctoral and undergraduate students, **teacher)

Vela, K. N., Trundle, K. C., Krissek, L. A., Hagevik, R., Campbell, K. U., Villa, A. H., & Boone, W. J. (2026, April). *Planting futures: Garden-based STEAM curriculum for environmental awareness and action.* American Educational Research Association (AERA), Los Angeles, CA, United States.

Trundle, K. C., Vela, K. N., Krissek, L. A., Campbell, K. U., Hagevik, R., Villa, A. H., & Boone, W. J. (2026, March). *Pollinator conservation and equitable access to green spaces: A case for school gardens.* Asian Conference on Education & International Development (ACEID). Tokyo, Japan.

Campbell, Kaitlin U., Trundle, K.C., Hagevik, Rita, Villa, A. H., Vela, K., Krissek, L. (2026, February). *Everyone can be a Scientist! Community Science in STEAM Curriculum.* IMPACT conference. Cincinnati, OH, United States.

Trundle, K. C. (2026, February). *Educating future land stewards with smart foodscapes.* Society for Range Management. Monterey, CA.

Trundle, K. C., Vela, K. N., Krissek, L. A., Campbell, K. U., Hagevik, R., Villa, A. H., & Boone, W. J. (2026, January). *Using school gardens to promote pollinator conservation and address inequitable access to green spaces*. Hawaii International Conference on Education (HICE), Honolulu.

Campbell, K., Trundle, K. C., Hagevik, R., Vela, K.N., Krissek, L., Villa, A. H., & Boone, W. J. (2025, November 9-13). *Engaging K-12 teachers as partners in STEAM curriculum development and education research* [Invited Presentation]. Entomological Society of America, Portland, OR, United States.

Trundle, K. C. (2025, November). *EcoJustice and climate change: Educating for a sustainable future.* Necatibey School of Education, Balikesir University, Balikesir, Türkiye.

Trundle, K. C. (2025, October). *Educating future land stewards with smart foodscapes*. Drought Learning Network. Lincoln, Nebraska.

Trundle, K. C. (2025, November). *Guardians of wonder: Helping young children explore and understand science.* Ministry of National Education of Republic of Türkiye, Balikesir, Türkiye.

Trundle, K. C. (2025, November). STEM careers: *A world of possibilities*. Rahmi Kula Anadolu Lisesi, Balikesir, Türkiye.

Dissemination '25 – '26

Research Conference Presentations (continued)

Trundle, K. C. (2025, November). STEM careers: *A world of possibilities*. Şehit Turgut Solak Fen Lisesi, Balikesir, Türkiye.

Vela, K. N., Trundle, K. C, & Hagevik, R. (2025, October). *An integrated STEAM garden-based curriculum can support student advocacy for ecojustice*. National Council of Teachers of Mathematics, Atlanta, Georgia.

Trundle, K. C., Hagevik, R., Vela, K.N., Krissek, L., Campbell, K.U., Villa, A. H., & Boone, W. J. (2025, August). *Cultivating pollinator protectors through garden-based STEAM learning: Children's self-efficacy for environmental action and attitudes and knowledge about pollinators.* European Science Education Research Association, Copenhagen, Denmark.

Practitioner conference presentations (2): (*doctoral student, **teacher)

Villa, A.H. (2026, February). *From Petals to Pollinators: Connection to Nature through STEAM Garden-Based Learning* [Workshop]. Utah Art Education Association Conference, Orem, UT.

Vela, K. N., *Weber, D., *Parslow, M., Campbell, K. (2025, October 15-18). *Counting pollinators: Statistics in the garden* [Workshop]. National Council of Teachers of Mathematics, Atlanta.

Implementation Support for Teachers (2 workshops)

Villa, A.H., **Rhodes. S. (2026, March). *Garden-based learning and the arts: a focus on nature journaling, observational drawing, and 3D modeling for the K-6 classroom* [Workshop], Logan, UT.

Villa, A.H. & **Rhodes, S. (2025, September). *Cultivating creativity and curiosity in the K-6 classroom: garden-based learning and the arts.* [Workshop], Logan, UT.

Bulletins/Resource Sheets (5)

Villa, A. H., Campbell, K. U., Hagevik, R., & Trundle, K. C. (March 2026). *Creating sustainable school and home gardens: Creative ways to store seeds.* Logan, UT. Extension Utah State University.

Campbell, K., Trundle, K. C., & Hagevik, R. (January 2026). *Creating sustainable school and home gardens: 12 common misconceptions about bees.* Logan, UT. Extension Utah State University.

Trundle, K. C. & Krissek, L. A. (November 2025). *Creating sustainable school and home gardens: Waterwise gardening.* Logan, UT. Extension Utah State University.

Campbell, K., Hagevik, R., & Trundle, K. C. (September 2025). *Creating sustainable school and home gardens: The buzz about bees.* Logan, UT. Extension Utah State University.

Campbell, K., Hagevik, R., & Trundle, K. C. (September 2025). *Creating sustainable school and home gardens: Using citizen science.* Logan, UT. Extension Utah State University.

Dissemination

Dr. Trundle, Education Team:

Scholarly Publications: (4 in 2026)

Year	‘22	‘23	‘24	‘25	‘26	In press	**Total**	In review
Book Chapters		1			1		**2**	
Peer-reviewed Journal Articles	1	2	1	3	1		**8**	1
Bulletins/Resource Sheets			11	6	2		**19**	2
Total	**1**	**3**	**12**	**9**	**4**		**29**	**3**

Team Presentations:

Year	‘21	‘22	‘23	‘24	‘25	‘26	**Total**	Accepted/Invited 2026	Under review 2026
International Invited Keynotes/Talks	2	2	9	5	6	1	**25**		
International Peer-Reviewed Research		1	14	5	7	5	**32**	2	2
National Peer-Reviewed Practitioner			8	13	4	1	**26**	2	
Implementation Support			1	4	2	1	**8**		
Total	**2**	**3**	**32**	**27**	**19**	**8**	**91**		

Dissemination



121 Country/Region

Show 10 entries Export

Regions	Downloads
United States	1900
Brazil	248
China	115
Viet Nam	90
Singapore	82
India	65
Philippines	53
Canada	47
Germany	45
United Kingdom	42

Dissemination

19 published resource sheets
3,448 downloads from **121** countries/regions
as of April 3, 2026

The top download was co-authored by a UGRA, Ruby Mohr as first author.

The hot topic people are after is **Organic Pest Management**!

Title	Downloads
Creating Sustainable School and Home Gardens: Organic Pest Management	1007
Creating Sustainable School and Home Gardens: Using Drones to Enhance Garden Projects	371
Creating Sustainable School and Home Gardens: Raised Bed Gardening	266
Creating Sustainable School and Home Gardens: Vertical Gardening	231
Creating Sustainable School and Home Gardens: Companion Planting	209
Creating Sustainable School and Home Gardens: Native Bee Homes	189
Creating Sustainable School and Home Gardens: Create a Garden Anywhere	140
Creating Sustainable School and Home Gardens: Rain Barrels	139
Creating Sustainable School and Home Gardens: Welcoming Pollinators	130
Creating Sustainable School and Home Gardens: Beneficial Biological Control Insects	109
Creating Sustainable School and Home Gardens: Composting	107
Creating Sustainable School and Home Gardens: Using Weather Stations	104
Creating Sustainable School and Home Gardens: Wildlife Monitoring Using Bioacoustics	95
Creating Sustainable School and Home Gardens: Using Trail Cameras	94
Creating Sustainable School and Home Gardens: Water-Wise Gardening	75
Creating Sustainable School and Home Gardens: Misconceptions About Bees	66
Creating Sustainable School and Home Gardens: The Buzz About Bees	52
Creating Sustainable School and Home Gardens: Using Citizen Science	51
Creating Sustainable School and Home Gardens: Creative Ways to Store Seeds	13

Dissemination

Impact: **3133** Total Views of Career Videos as of April 3, 2026

Educator/Researcher/Scientist	Career focus	K-8 views	9-12 views	Total Views
Campbell	Entomology	251	288	539
Krissek	Earth Sciences	602	92	694
MacAdam	Plant Physiology	90	123	213
Thacker	Rangelands Extension	104	112	216
Villalba	Rangelands	170	201	371
Project Overview	-	-	-	1100
Total Views		**1217**	**816**	**3133**

New Team Members



Megan Gnehm
Green Canyon High School, Logan Utah

Megan is a student at Green Canyon High School and serves as the Vice President of her FFA chapter. Being involved in FFA has helped her grow as a leader and has given her many opportunities to learn more about agriculture. She especially loves working with cows because they have always been one of her favorite animals, and she enjoys any chance she gets to be around them. In the future, she hopes to become a welder while continuing to stay involved in the agriculture industry. She loves working outside and doesn't mind getting her hands dirty. Whether she is helping with livestock, working on a project, or learning something new, she enjoys staying busy and working hard. Outside of school, she enjoys fishing and creating wood-burning projects. She is responsible, dedicated, and always willing to take on new challenges and opportunities to learn and grow.



Cassy Brown
Green Canyon High School, Logan Utah

Cassidy Brown is an upcoming junior at Green Canyon High School from Clarkston, Utah. She has a strong interest in agriculture and is actively involved in FFA, where she enjoys working with livestock, showing goats at the Cache County Fair. Outside of school, Cassidy enjoys spending time outdoors hiking, snowmobiling, and traveling. She is excited to be part of the Smart Foodscapes team and looks forward to gaining hands-on experience in agricultural research and education.

New Team Members



Elizabeth Blanchard
Agribusiness, Utah State University

Elizabeth is a senior finishing her degree in Agribusiness with an international emphasis. With a passion for helping others and working in connection with the natural world, she is drawn to sustainable agriculture in a nonprofit context.

When she's not studying, she can be found on adventures with friends or reading a good book. Following graduation, she hopes to work with farmers in Southeast Asia to address food sovereignty and agriculture in the face of climate change.



Alice Kenley
Undergraduate, Utah State University

Alice is a field technician for Dr. Juan Villalba and a research assistant for Dr. Jessica Schad. She received her Conservation Ecology degree with emphases in range ecology and agriculture law in 2021. Alice spent the past year acting as the grazing co-manager for a custom grazed heifer herd in Wyoming. She has worked stock or surveyed vegetation in most of Utah, and parts of Wyoming, Montana, Idaho, and Colorado.

Alice loves plants, gardening, working with good dogs, and trying to make good horses. She hopes to contribute positively to range health as both as a researcher and a resource steward.

New Team Members



Mariana Jaramillo
Undergraduate, Utah State University

Mariana Jaramillo is an undergraduate student at Utah State University finishing her degree in Animal and Dairy Science with a minor in Agribusiness. Mariana brings a unique blend of experience to the team, splitting her time between public administration as a Deputy Clerk for Cache County and hands-on agricultural research as a Summer Field Technician for the Smart Foodscapes project. Her background in agriculture began in Northern Arizona, where she gained experience working with Angus and Wagyu cattle on her family operation, Rainan Skye Ranches LTDCO, as well as performance horses.

Outside of work and classes, Mariana's passion for animals and the outdoors keeps her busy. When she isn't in the field or working with livestock, you can usually find her training horses, swimming, or out on the river fly fishing.



Austin Bodrero
Undergraduate, Utah State University

Austin is a recent graduate from Green Canyon High School. He completed the Career and Technical Education pathway for plant science. This included taking classes such as Natural Resources, Ag Science, Ag biology, PSC 1800, and Floriculture. He also competed in Floriculture in the FFA chapter at Green Canyon. Along with competing he was also a member of the FFA Officer team as the 25-26 Sentinel. He also found a passion for graphic design through his time on the yearbook staff. Taking photos, making layouts, and leading his group to creating an amazing yearbook. He is excited to be an Aggie this fall. Some of the things Austin is interested in are scouting, plants and flowers, reptiles, and The Mandalorian.

Photos from the Field – 2026 Annual Meeting









First Stop - Colby Ranch, Irrigated and Non-irrigated Lands

We met at Colby Pace's Ranch in Coalville, UT (top left). He showed us two different areas. First, an irrigated plot that he has been working on for ten years (⬅ left two photos). The late freeze earlier this year prevented a lot of growth we were hoping to see at both stops. Second, the Smart Foodscapes non-irrigated site. Sebastian is standing in Small Burnett describing the project in the photo above ⬆.

Photos from the Field – 2026 Annual Meeting



Garden Club President and Vice President pose next to all of the lessons they have learned over the past two years. ←

The Walquist students explain what they have planted and learned growing this season's garden. →







Photos from the Field – 2026 Annual Meeting



The Smart Foodscapes team reflected on five years of research, education, Extension, and producer engagement. The discussion highlighted the project's impacts on students, collaborators, producers, and communities—and the value of the partnerships built along the way.

The team also brainstormed priorities for the next generation of Smart Foodscapes. Key ideas included expanding producer adoption, scaling practices to working landscapes, strengthening Extension and education, integrating economic analyses, and using GIS and decision-support tools to identify where Smart Foodscapes can provide the greatest production and ecological benefits.

Photos from the Field – 2026 Annual Meeting



Here's the team at Walquist Junior High!



A garden club member at Walquist Junior High gives us an entertaining presentation.

Better Landscapes.
Stronger Systems. Brighter Futures.

You can find this publication on our news page,
the project page or by googling
USU Smart Foodscapes Newsletter August 2026

https://qanr.usu.edu/smart-foodscapes/

Newsletter created by Resha Whitaker

The Pleiades Foundation

SMART FOODSCAPES
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