



May 16, 2022 - May 15, 2023 Final Report

APPROPRIATE TECHNOLOGY TRANSFER FOR RURAL AREAS



ATTRA
SUSTAINABLE AGRICULTURE

Appropriate Technology Transfer for
Rural Areas Program
Final Performance Report
(May 16, 2022-May 15, 2023)

Submitted to:

USDA Rural Business – Cooperative Service
1400 Independence Avenue, SW
Washington, DC 20250

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Background

The ATTRA program was created in the 1985 Farm Bill and has been reauthorized in all subsequent Farm Bills. ATTRA is housed within the USDA's Rural Business-Cooperative Service (RBS) and managed by the National Center for Appropriate Technology (NCAT) through a cooperative agreement with USDA/RD. ATTRA is a trusted source of sustainable agriculture information and maintains a knowledgebase of practical multimedia resources for farmers, ranchers, and educators. Historically, the producers who access ATTRA's services most frequently are family-scale, small-scale, beginning, limited-resource, and returning veteran farmers. Assistance is provided to clients in a variety of ways, including via telephone conversations and responses; emailed/mailed technical responses and publications; other electronic information dissemination; in-person and virtual education through workshops, conferences, one-on-one meetings, publications, and tutorials; and other appropriate outreach methods, including social media.

NCAT's agriculture specialists work directly with producers across the country. Headquartered in Butte, Montana, NCAT has staff in Arkansas, California, Colorado, Idaho, Kentucky, Mississippi, Montana, New Hampshire, New Jersey, North Carolina, Pennsylvania, and Texas.

For 35 years, NCAT's ATTRA program has been a trusted source of information for farmers and ranchers, providing individualized technical assistance and in-depth resources to support sustainable agriculture. NCAT is regarded as an honest broker of credible information—farmers and ranchers know they can rely on NCAT's ATTRA program to provide the resources and connections they need. NCAT offers practical solutions to the clients we serve, helping them strengthen self-reliance, reduce poverty, and protect natural resources. NCAT facilitates meaningful connections among sustainable agriculture producers, researchers, USDA agencies, and other industry professionals, resulting in valuable networks and lasting change.

This report covers the performance period of May 16, 2022, through May 15, 2023.



Task 1: Provide Technical Assistance to Producers and Rural Communities

From May 16, 2022, through May 15, 2023, NCAT specialists provided technical assistance to **35,927** clients. In **2,991** cases, the technical assistance required in-depth research. Below are a number of examples of the breadth of questions received and assistance provided by our technical specialists to farmers, ranchers, and agriculture educators across the country.

- **Arkansas:** ATTRA assisted a beginning farmer with questions related to growing niche market vegetables.
- **Mississippi:** ATTRA provided information to a producer on blueberry production.
- **Massachusetts:** An ATTRA specialist provided a producer with information on silvopasture.
- **California:** ATTRA provided technical assistance to a producer on pasture-based egg production and marketing.
- **Texas:** ATTRA provided technical assistance to a beginning farmer on crop selection for a piece of land.
- **Washington:** An ATTRA specialist assisted a producer with lavender production and marketing of value-added products.
- **New York:** ATTRA provided technical assistance to a producer on energy efficiency tips for greenhouses.
- **Kentucky:** ATTRA assisted a farmer with questions about organic pest control for fruit trees.
- **Pennsylvania:** An ATTRA specialist provided technical assistance to a farmer about leasing farmland for agrisolar development.
- **Iowa:** ATTRA provided technical assistance on organic crop insurance issues.
- **Ohio:** An ATTRA specialist provided information to a beginning farmer on grazing planning.
- **Florida:** An ATTRA specialist assisted a farmer with the USDA EQIP high tunnel application process.
- **New Hampshire:** ATTRA provided technical assistance about farm transfer to a producer.
- **Wisconsin:** ATTRA assisted a client with a farm carbon calculator.
- **Tennessee:** An ATTRA specialist provided information to a farmer about raising hogs for local markets.
- **California:** An ATTRA specialist assisted a farmer with conservation practices and NRCS programs.

- **Puerto Rico:** An ATTRA specialist provided information on cover crops to a producer.
- **Missouri:** An ATTRA specialist provided information to a producer on farm-scale butchery.
- **Oklahoma:** ATTRA provided information on cover crops for vineyards to a farmer.

NCAT partnered with Montana Campus Compact to support five AmeriCorps Climate Resilience VISTA service members in rural communities in Montana. NCAT's ATTRA program has supported these VISTA members through training, mentorship, and a peer-to-peer learning network. We have provided technical support to VISTA members and host sites on energy, food, and agriculture issues. Tribal nations supported in their climate adaptation and mitigation activities through this project include Chippewa and Cree Tribes on the Rocky Boy's Reservation, the Confederated Salish and Kootenai Tribes on the Flathead Reservation, the Gros Ventre and Assiniboine Tribes on the Fort Belknap Reservation, and the Assiniboine and Sioux Tribes on the Fort Peck Reservation.



Task 2: Produce Sustainable Agriculture Educational Materials

ATTRA Online and Print Publications Library

The NCAT publication library includes more than **350** ATTRA publications, including more than **140** publications in Spanish. The ATTRA website now includes an audio player for publications that allows clients to listen to publications in multiple languages. During this project year, NCAT staff produced **24** new and updated publications.

2022-2023 New and Updated Publications (24)



Soil Solarization and Biosolarization (update)



Solarización y Biosolarización de Suelos (update)



Paddock Design, Fencing, Water Systems, and Livestock Movement Strategies for Multi-Paddock Grazing (update)



Selling to Local and Regional Markets: Barriers and Opportunities for Beginning Farmers (new)

Kudos from our clients

"[ATTRA publications] provide the ability to discuss transition to more sustainable practices with my farming neighbors. The publications can help lend some legitimacy to alternative practices in the eyes of more conventional farmers." – Commercial producer, Missouri



Standard Operating Procedures for a Profitable Farm Business (new)



Industrial Hemp Production (new)



SIFT 2021: A Small-Scale Urban Intensive Farm Contributes to a Resilient Food System (new)



Grazing Networks for Livestock Producers (update)

ATTRA Online and Print Publications Library (continued)

2022-2023 New and Updated Publications (24)



Urban Agroforestry TipSheet:
Food Forests and Beyond
(new)



Hoja de Datos La
Agroforestería Urbana:
Bosques Comestibles y Más
(new)



Urban Agroforestry Case
Study: Starting a Food Forest
on Public Park Land (new)



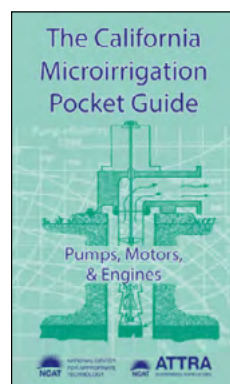
Urban Agroforestry Case
Study: Utilizing Agroforestry
in Floodplain Restoration
Projects (new)



Tree Fruits: Organic Production
Overview (update)



Equipment and Tools for
Small-Scale Intensive Crop
Production (update)



The California Microirrigation
Pocket Guide (update)



The Irrigator's Pocket Guide
(update)

ATTRA Online and Print Publications Library (continued)

2022-2023 New and Updated Publications (24)



The Colorado Irrigator's Pocket Guide (new)



The New Mexico Irrigator's Pocket Guide (new)



The Texas Irrigator's Pocket Guide (new)



Farm Apprenticeship and Internship Resource Guide (new)



Legal Resources for Farmers (new)



Farmland Access (new)



Veteran's Business Planning Tipsheet (new)



Overview of the Farmer Veterans Needs Assessment (new)



Podcasts

ATTRA's *Voices from the Field* podcast features interviews with our specialists, farmers, and educators highlighting new ATTRA resources, current innovations in sustainable agriculture, and success stories. The podcast is available on Apple Podcasts, Google Play, Spotify, YouTube, the ATTRA website, and many other streaming platforms. In the 2022-2023 project year, NCAT produced **50** podcast episodes that received **41,141** listens.



2022-2023 New Podcasts (50)

- Episode 254. Meet NCAT. Luz Ballesteros Gonzalez Connects Food, Agriculture, Community, and Health
- Episode 255. Organic Pioneer Michael O’Gorman on Vegetable Production for Profitability. Part 1
- Episode 256. Organic Pioneer Michael O’Gorman on Vegetable Production for Profitability. Part 2
- Episode 257. Meet NCAT. Elise Haschke Talks Food, Farming, Climate, and “Moving at the Speed of Trust”
- Episode 258. Everything Old is New Again. Exploring Indigenous and Traditional Agriculture Methods. Part 1
- Episode 259. Everything Old is New Again. Exploring Indigenous and Traditional Agriculture Methods. Part 2
- Episode 260. Rising Fertilizer Costs. Look to History for Answers
- Episode 261. Summer Grazing for Winter Stockpile
- Episode 262. She’s Raising Sheep. Minnesota Shepherd Janet McNally. Part 1
- Episode 263. Feeding the World. Localism. Ecological Resilience, and Farmer Agency
- Episode 264. Holistic Animal Health with Dr. Ann Wells, DVM
- Episode 265. Meet NCAT. Molly Kirkham Talks Local Food and Farm to Cafeteria
- Episode 266. The Hopes and Challenges of Crop Insurance
- Episode 267. How Farmers Markets Do More Than Sell Local Goods
- Episode 268. Managing Land, Cattle, and Quality of Life: Dr. Tina Cone, DVM
- Episode 269. Grazing with Wildlife in Mind. Part 1
- Episode 270. Grazing with Wildlife in Mind. Part 2
- Episode 271. Farmer Veteran Finds Passion in Horticulture Therapy
- Episode 272. Episode 262. She’s Raising Sheep. Minnesota Shepherd Janet McNally. Part 2
- Episode 273. Tootie’s Tempeh: Bringing Organic Plant-Based Proteins to Local Consumers and Institutions
- Episode 274. Study Explores the Effects of Stress on Farmer Well-Being
- Episode 275. How “Dirt Farming” is the Foundation of a Mississippi Grazing Operation
- Episode 276. Managing Photosynthesis Through Optimal Grazing
- Episode 277. A Look at the Texas Soil Wealth Alliance. Part 1



Podcasts (continued)

2022-2023 New Podcasts (50)

- Episode 278. A Look at the Texas Soil Wealth Alliance. Part 2
- Episode 279. Patrick O'Neill on the Many Sides of Soil Health
- Episode 280. AgriSolar Podcast Episode 1: Growing Crops Among the Solar Panels in Colorado
- Episode 281. Improving Profitability on Livestock Operations
- Episode 282. She's Raising Sheep. Montana Shepherd Maloi Lannan
- Episode 283. The Real Story Behind Real Organic Movement
- Episode 284. Carbon Farming
- Episode 285. AgriSolar Podcast. Keeping Family Farms in Family Hands with AgriSolar in Massachusetts
- Episode 286. What is Biochar?
- Episode 287. Uber for Tomatoes: Can "Crowdshipping" Solve Transportation Issues for Small Farms?
- Episode 288. Farmers Market Vendor Marketing Tools
- Episode 289. AgriSolar Podcast. Lexie Hain—Sheep and Solar a Match
- Episode 290. Highlights From the Field, 2022
- Episode 291. Una conversacion sobre suelo con Patricio O'Neil
- Episode 292. Don't Leave it to Beavers: Dam it Yourself
- Episode 293. AgriSolar Podcast. Birds, Bees, and Butterflies—Solar Pollinator Habitat
- Episode 294. Organic Production and the Climate
- Episode 295. In the Pigpen with Mike and Linda, 20 Questions about Pastured Hogs
- Episode 296. Exploring the Rye Revival with Gary Zimmer
- Episode 297. Digging into Texas' First Carbon Farm Plan
- Episode 298. Ag Professional Series with Brennan Washington of Southern SARE
- Episode 299. She's Raising Sheep—Wendy Auzqui of Wyoming
- Episode 300. Learning from the Amskapi Piikani—Latrice Tatsey on Soils, Climate, Culture, Part 1
- Episode 301. Learning from the Amskapi Piikani—Latrice Tatsey on Soils, Climate, Culture, Part 2
- Episode 302. Using Demonstration Farms as Models
- Episode 303. AgriSolar Podast. Sharing the Journey with AgriSolar Consulting



Blog Posts

Through the ATTRA blog, NCAT specialists provide technical information on timely topics, connect clients to USDA programs and NCAT resources, and share practical tips. From May 16, 2022-May 15, 2023, NCAT specialists wrote **58** blog posts for the ATTRA website.

2022-2023 New Blog Posts (58)

- Insect Netting for Spray-Free Insect Control on Farms
- New Resources to Demystify Regenerative Grazing and Soil Health
- Advanced Grazing Webinar, Session 2: Plants
- Urban Agroforestry
- NCAT Releases Updated Tipsheets on Soil Solarization and Biosolarization
- Graze, Move, Repeat
- Soil Health Academy: More than Just a Soil Health Workshop
- Native and Naturalized Plants of South Texas for Urban Food Forests
- Advanced Grazing, Session 3: Animals
- The Overgrazing/Regenerative Grazing Flowchart
- Solar Pollinator Habitat Discovery Trail
- NCAT Heading to Southern Family Farmers and Food Systems Conference
- A Garden of Hope: The Hub of Prosperity
- Feed the World
- She's Raising Sheep Podcast Wrap-Up
- Soil Social: Quorum Sensing Part 1
- Sol Seeker Farm: Growing a Poultry Business
- The Demise and Hope of Whole-Farm Revenue Protection
- Electric Deer Fence Tips and Resources
- Paddock Design and Animal Movement
- How Producers Can Donate to Local Food Banks
- Healthy Soil for a Wealthy Tomorrow
- Advanced Grazing, Session 4: Adaptive Management
- Find Your Community on Pasture Walks
- Agrotourism for Beginning Farmers and Ranchers
- Tracking Soil Moisture and Evapotranspiration: The Satellites Are Coming!
- Coffee and Avocado Agroforestry: The Perfect Pair for your Plate and the Planet
- Awesome Alliums
- Farmer Well-Being: A Happy Farmer is a Productive Farmer
- Perennial Forages, Shrubs, and Trees, Part 1
- High Hope Farm: Regenerative Agriculture in Action
- Women, Livestock, and the Land—And Other Ways to Make Friends
- A Conversation with Guille Yearwood
- Healthy Foundations for Wicked Problems
- Feeding the World Part 2: A Tale of Two Worlds
- Perennial Forages, Shrubs, and Trees, Part 2
- Dixon Water Foundation Uses Grazing to Protect and Improve Water Resources
- Improving Profitability: Sheep, Goats, and Cattle

Kudos from our clients

*"I am a technical assistance provider for producers, and I **recommend ATTRA resources regularly**. Many of my clients have changed their practices based on these resources."*

—Public sector agricultural/extension educator, North Carolina

Blog Posts (continued)

2022-2023 New Blog Posts (58)

- Establishing Conservation Covers Without Herbicides
- Rangeland App: Modern Tool for Graziers
- What's In a Name? Challenges and Benefits of the Term Regenerative
- Beekeeping: Overwintering Bees in Warm Places
- The Life and Death of Lucy the Sow
- Chelenzo Farms: A High Mountain Desert Oasis
- Cover Crops, Green Manures, Pre- and Probiotics: Soil Amendments, Fertilizers, or Both?
- Improving Poultry Profitability— Production and Economics Are Like Two Strong Wings
- NCAT's Martin Guerena Honored with Golden Pliers Award
- Farmers Market Pricing Strategies for Vendors
- Carbon Farm Planning
- Counting Plants Is Fun and Easy, and It Helps Track Your Regenerative Grazing Practices
- Reflections on Growing Hope: Practical Tools for Our Changing Climate
- Purchasing and Siting a High Tunnel to Extend the Growing Season
- Soil Social: Quorum Sensing, Part 2
- Using Google Earth Pro to Create a Map for Your Agricultural Operation
- Real Organic: Reflections on the Deep Roots of Organic in Soil by Paul Muller
- Adventures in Mirliton
- How Sweet It Is: South Texas Citrus Stays Home to Delight Local School Kids
- Who Let the Dogs Out? A Warning



Educational Videos

Since farmers and agricultural professionals, like the general population, regularly seek answers on YouTube, we have increased our video production. During this project year, NCAT produced **56** videos and received **210,400** views.

2022-2023 New Educational Videos (56)

- Demystifying Regenerative Grazing and Soil Health: A Virtual Workshop
- Regenerative Grazing. An Introduction
- Advanced Grazing Series. Session 2: Plants and Grazing Management
- Indigenous and Traditional Soil Health Practices with Mila Berhane
- Advanced Grazing Series. Session 3: Animals and Grazing Management
- Risk Management on a Livestock Operation. Part 1
- Risk Management on a Livestock Operation. Part 2
- The Multiple Layers of a South Texas Food Forest
- Safe to Fail Trials with Graeme Hand
- Montana Farmers Market Mentors: Starting an Online Market
- Montana Farmers Market Mentors: Community Partnerships
- Avocado Production 101 for Southern California
- Weekly Wednesday Workshop - Perennial Forages, Shrubs, and Trees, Part 1
- Weekly Wednesday Workshop - Perennial Forages, Shrubs, and Trees, Part 2
- Diversificando y Revitalizando un Huerto Viejo de Aguacates
- Managing Water and Nutrients in a Coffee and Avocado Alley Cropping System
- Designing a Coffee and Avocado Alley Cropping System
- Managing and Maintaining a Coffee System in Southern California
- Planning and Establishing a Coffee System in Southern California
- Regenerative Grazing with Travis Klaus
- Growing a Revolution: Bringing Our Soil Back to Life
- On-Farm Benefits of Healthy Soils
- Regenerative Research and Practices for Forests and Fields
- NCAT Soil for Water Project
- Regenerative Practices to Reverse Desertification
- Economics of Soil Health
- Indigenous Perspectives on Soil and Water
- Capturing Water and Reducing Floods: Can Healthy Soils Save Society Money?
- Soil Health for Watersheds: How Can Federal Agencies Help?
- Que Carambas es la Agricultura Regenerativa



Educational Videos (continued)

2022-2023 New Educational Videos (56)

- AgriSolar Ownership, Lease, and Land Planning
- Weekly Wednesday Workshop: Ag Professionals with Otis Wright Jr. of RAFI-USA
- Make Money with Farm to Table Dinners
- Policy Approaches for Dual-use and Agrisolar Practices
- Innovative Agrisolar Design— A Roundtable Discussion
- Dive into the Prairie: Agrisolar Partnerships Bloom in Minnesota
- Soil for Water—Let's Talk Regenerative Grazing in Texas
- Soil for Water—What is Holistic Management?
- Dale Strickler: Building Drought Resilient Soils
- Dale Strickler: Ranching for Rain and Drought Resilience
- Dale Strickler: Creating Drought-Free Agriculture
- Growing Hope. The Power of Community
- Insurable Risk Reduction for Diversified Vegetable Production in the Northeast
- AgriSolar 'Farm to Table' Event Offers an Agrivoltaic Feast
- Growing Hope: Climate and Community Resiliency
- The Solar Shepherd
- Growing Hope: Climate and Grazing
- Ecosystem Services of Solar-Pollinator Habitats
- Growing Hope: Agroforestry
- Growing Hope: Fertilizer Reduction
- Growing Hope: Climate and Soils
- Made in the Shade: Growing Crops Under Solar Panels
- Crunching Numbers on Agrivoltaics: Context and Costs of Agrivoltaics in the US
- Backyard Fruit Production for Warm Climates
- Financing an Organic Farm with Federal Programs
- Regenerating Damaged Soils on an Urban Farm



Task 3: Provide Training Opportunities for Producers

NCAT's ATTRA program has a strong reputation for providing practical training for farmers and ranchers, with a particular emphasis on beginning, socially disadvantaged, historically underserved, and military veteran farmers. In the 2022-2023 project year, NCAT specialists reached **23,193** producers through **298** training events.

Kudos from our clients

"Thanks for an informative, interesting, and impactful webinar! I appreciate the research and the way you both shared cutting-edge information. Thanks for tackling the controversy about continuous versus rotational, and the seed bank information, and the nutritional aspects. I learned a lot!"

– Advanced Grazing for Regenerating Soil and Enhancing Animal Nutrition participant

Military Veterans

Armed to Farm is NCAT's weeklong training that introduces veterans to different farming ventures in their region and provides a mix of classroom and on-farm training. Training topics include business planning, risk management, soil health, crop and livestock production, marketing, and access to USDA programs. During this project year, ATTRA supported eight Armed to Farm trainings with **193** participants. These trainings took place in Texas, North Carolina, Colorado, Tennessee, Alabama, Kentucky, Missouri, and Idaho.

In addition to the weeklong Armed to Farm trainings, ATTRA was involved in **54** trainings that targeted military veterans, reaching **1,028** veterans.

"This has been an excellent workshop. I have learned more and networked more in the past week than all the books, webinars, YouTube, etc."

– Armed to Farm participant



"This was life changing. Thank you for having this as an option for veterans to get into farming."

– Missouri Armed to Farm participant

Training for Historically Underserved and BIPOC Producers

NCAT's ATTRA program continues to serve and provide training for socially disadvantaged, historically underserved, and BIPOC farmers, ranchers, and producers throughout the U.S. From May 16, 2022-May 15, 2023, ATTRA provided **114** trainings that specifically served underserved and BIPOC farmers and ranchers.

These trainings included the 8th Annual Latino Farmer Conference in California, which had nearly **200** attendees. The conference featured farm tours of two Latino-owned farms and an Indigenous-owned farm, speakers, workshops, and panel discussions presented in Spanish.



"As a resource provider for Latino farmers in Nebraska, the ATTRA publications have helped our audience to choose from a variety of publications to help them to grow their businesses." – Nonprofit employee, Nebraska



National Conference Highlighting Climate-Smart Agriculture

NCAT hosted *Growing Hope: Practical Tools for Our Changing Climate*, a six-session virtual conference. This conference built on the success of our virtual events from the past two years. It furthered the discussion on improving climate resilience and provided practical tools for producers to implement on their farms and ranches. The conference featured keynote speaker Dr. Rattan Lal, 2020 World Food Prize Awardee and Distinguished University Professor of Soil Science at Ohio State University. Session topics included soil health, carbon farm planning, reducing synthetic fertilizer use, agroforestry, regenerative livestock production, climate resilience, and community building. In addition to conference sessions that featured speakers and farmer panels, the conference also included interactive small-group networking opportunities, which provided an opportunity for peer-to-peer learning and interaction with speakers and NCAT staff. More than **900** farmers, ranchers, educators, and agency professionals attended conference sessions live, and nearly **1,400** more have viewed the recordings since March.

An evaluation of the *Growing Hope* conference found that **98%** of attendees who completed conference

surveys gained useful information, **65%** reported awareness of new resources, and **65%** reported that they plan to make changes to their production or professional activities based on the information gained.

"Overall, a good snapshot/summary of the realistic opportunities for sequestering carbon in soil, at the local and global levels. Farmer panelists were all excellent. Very good and thought-provoking session." – Growing Hope attendee



Task 4: Connect Producers to Resources, Market Opportunities, and Each Other

NCAT strives to be a trusted, practical connector for farmers and ranchers. We seek to provide peer-to-peer learning opportunities for producers because we know they learn best from each other. We also facilitate meaningful connections to our trusted specialists and our practical training and resources. In addition, we work to connect producers to USDA programs and other researchers and industry professionals. NCAT's role as a connector results in valuable networks and lasting change.

Website, Social Media, and E-newsletters

During this project year, NCAT launched a redesigned ATTRA website. The new site is interactive, includes multilingual audio players on many of the publications, features a peer-to-peer learning forum, and hosts a free nationwide internship hub. These new features complement the hundreds of publications, podcasts, blogs, news items, funding opportunities, and events that the ATTRA website has long been known for. NCAT staff continue to develop high-quality content for the website, which serves as an information clearinghouse to provide relevant agricultural information curated from a wide variety of credible sources, posted several times a week. From May 16, 2022-May 15, 2023, the ATTRA website received **1,070,946** page views, with **1,359,257** resources accessed.

ATTRA continues to expand its presence in the social media sphere, including Facebook, Instagram, YouTube, and other social media platforms. ATTRA has **47,591** followers across our social media accounts.

NCAT continues to conduct outreach to the agricultural community to inform them of the resources and technical assistance available through ATTRA and USDA programs and agencies. We accomplish this by distributing ATTRA's *Weekly Harvest* e-newsletter to **24,317** subscribers. We also distribute the monthly Spanish-language e-newsletter, *Cosecha Mensual*, to **2,582** subscribers.

Facilitate Peer-to-Peer Learning Opportunities for Producers

NCAT's agriculture specialists continue to facilitate peer-to-peer learning among farmers and ranchers. NCAT utilizes in-person and virtual workshops, email listservs, and social media platforms to connect with farmers and ranchers, provide them with resources and technical assistance, and encourage peer-to-peer learning. NCAT's Armed to Farm, Soil for Water, and AgriSolar Clearinghouse programs rely heavily on ATTRA resources and technical assistance to support farmer-to-farmer learning. A new feature on the ATTRA website is a peer-to-peer forum, where producers can share best practices and learn from each other, in addition to having access to real-time, one-on-one support from NCAT agriculture specialists. The forum has **178** users.

NCAT's Women, Livestock, and the Land Project used peer-to-peer learning, ATTRA resources, technical assistance from NCAT staff, virtual sessions, and hands-on learning to help women who are beginning pasture-based livestock enterprises learn about managing their land and livestock. This training program created a peer-to-peer network of **77** women across the Southeast U.S., in addition to dozens of NCAT staff, other educators, and mentor farmers.

NCAT manages an Armed to Farm Alumni Facebook private group to facilitate ongoing connection with NCAT staff and participants, as well as to foster peer-to-peer learning. Nearly **400** Armed to Farm alumni and NCAT staff participate in this group, asking questions, sharing resources, and celebrating farm successes.

Kudos from our clients

"The program was VERY well designed and structured to provide info to beginning farmers and to those who have been farming (or exposed) for generations. A spirit of camaraderie was encouraged. Adaptations were made for physical disabilities."

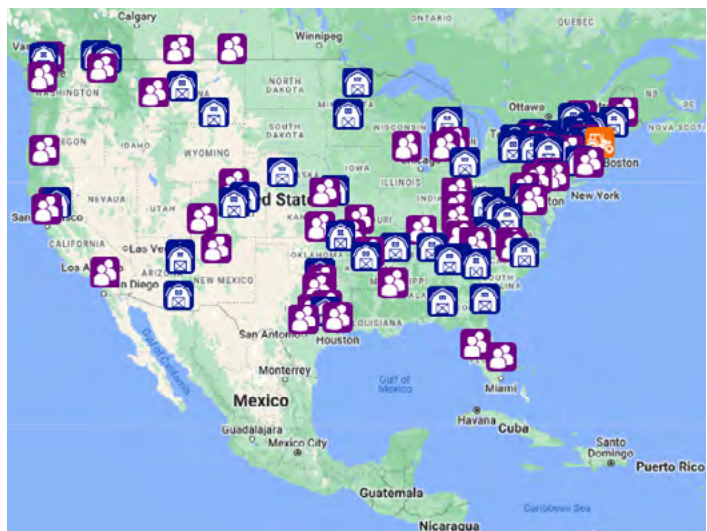
– Women, Livestock, and the Land (TN) participant



Connect Veterans to Training Opportunities and other Farmer Veterans

In addition to providing training opportunities for military veterans, NCAT conducts outreach for military veterans who are interested in operating sustainable farms and ranches and helps connect them with each other. NCAT has provided veteran-specific outreach and training for more than 10 years and has connected with thousands of farmer veterans. As of this report, NCAT has **3,177** subscribers to the *Armed to Farm* newsletter, **1,220** contacts for the Veterans in Agriculture listserv, and **1,535** followers to the Armed to Farm Facebook page. NCAT regularly uses these platforms to connect veterans to other veterans, to resources and training opportunities, and to NCAT's agriculture specialists.

During this project year, NCAT updated the Armed to Farm Map, a network of military veterans, farmers and ranchers, landowners, and organizations that support farmer veterans. This interactive map allows users to find veteran-owned farms, farmland and farm employment opportunities for veterans, and farmer veteran training programs. The map features **152** listings, with more being added on a regular basis.



Kudos from our clients

"We train military veterans in regenerative agriculture. We utilize NCAT resources to ensure our training is accurate,"

– Commercial producer, Texas

Connect Aspiring Farmers with Farms and Ranches

One of our most utilized online resources is our apprentice and internship database, which allows farms, ranches, and rural employers to post internship and apprentice opportunities. The internship hub was revamped as a part of the new ATTRA website. The hub is now free for farmers to post their apprentice and internship opportunities. As of this report, there are **938** listings featured in the internship database. NCAT continues to promote this database to connect beginning farmers to on-farm learning opportunities.

"I've really appreciated the reach that ATTRA has in their internship listings. It's a great way to get a more diverse pool of interns who are especially interested in the farming aspect of our listing and have some experience in the field already."

– Nonprofit employee, Indiana



Partner with USDA Rural Development and Other Federal Agencies

NCAT works closely with USDA Rural Development and other federal agencies to promote priority programs and services to help improve producers' operations throughout the U.S. We work to promote these programs to our clients and to assist them in applying for and understanding the programs as part of our technical assistance. NCAT has always strived to leverage our ATTRA activities with other federal programs and private foundation funding that seek to accomplish complementary goals. Examples of ways NCAT has partnered with USDA agencies, promoted programs, and leveraged other funding include:

- NCAT regularly promotes USDA programs and information through our outreach channels. Some examples include:
 - Promotion of USDA funding opportunities via the ATTRA website, social media, and *Weekly Harvest* e-newsletter
 - Producing a podcast episode featuring a farmer veteran and the USDA programs he has utilized on his farm
 - Promotion of USDA Indigenous Food Sovereignty Initiative resources on the ATTRA website and Facebook pages
 - Sharing of USDA's new online Loan Assistance Tool
 - Producing a video featuring a farmer sharing his experience financing his farm with loans from USDA Farm Service Agency and USDA Natural Resources Conservation Service programs
 - Producing a webinar and blog post providing information on USDA's Whole Farm Revenue Protection Program
 - Producing a blog post promoting the USDA NRCS high tunnel initiative
- NCAT collaborated with Rural Development, Farm Service Agency, and Natural Resources Conservation Service for each Armed to Farm training. RD, FSA, and NRCS staff presented on their programs and services to Armed to Farm participants.

- NCAT collaborated with the Small Business Administration's Boots to Business Program. An NCAT specialist presented on business planning to military veteran participants in the Boots to Business program.
- NCAT partnered with USDA National Agroforestry Center staff on a session of the *Growing Hope* conference.
- NCAT is leveraging funding from a NRCS Equity Conservation Outreach Cooperative Agreement to provide trainings for underserved producers.
- NCAT continues its Conservation Collaboration agreement with NRCS to expand NCAT's successful Soil for Water program into New Mexico, California, and Colorado. NCAT is also leveraging funding from Southern SARE to expand Soil for Water to Arkansas, Mississippi, and Virginia. This project utilizes ATTRA soil-health resources in providing technical assistance to ranchers.
- NCAT is leveraging funding from USDA OPPE (2501 program) and NIFA AgVets to expand the reach of Armed to Farm. These programs utilize ATTRA resources and technical assistance to train and support farmer veterans.
- NCAT has a partnership with U.S. Department of Energy to support the AgriSolar Clearinghouse to connect farmers, ranchers, land managers, solar developers, and researchers with trusted, practical information to promote climate solutions by increasing the co-location of solar and agriculture. The AgriSolar Clearinghouse features ATTRA publications.



Task 5: Evaluate Our Services and Impact

NCAT contracts with an external evaluator to conduct an evaluation program to gain an understanding of who utilizes ATTRA, client satisfaction, and the impact of our work. Evaluation results confirm that ATTRA is in alignment with USDA Rural Development's priorities of rebuilding rural economies, ensuring equitable access to resources, and increasing resiliency to address climate change. ATTRA provides resources to diverse and underserved populations. The program year survey found that **78%** of respondents are small-scale producers with 100 acres or less; **50%** of respondents are beginning farmers; **24%** of respondents who reported being commercial producers are veterans, compared to 11% of producers nationally; **50%** of commercial producer respondents are female, compared to 36% of all U.S. farmers; and **30%** of commercial producer respondents are non-White, compared to 7% of producers nationally.

In a recent use survey, **94%** of respondents indicated that they gained useful information from ATTRA workshops, and **83%** plan to make changes to their operation based on what they learned. More than half (**54%**) of respondents reported that they had already changed their production practices based on the information gained through ATTRA resources and trainings. ATTRA clients reported improvements to soil quality, quality of life, income, and job creation based on information received from ATTRA.

Summary

NCAT has exceeded most deliverables and number of clients served in the appropriate categories during the 2022-2023 project year. NCAT's ATTRA program continues to offer trusted, practical solutions to farmers, ranchers, and educators across the U.S. ATTRA is successfully utilizing a variety of methods to engage with farmers and ranchers, connect them to the resources they need, and facilitate peer-to-peer learning opportunities.

We have enjoyed working with various USDA agencies to leverage ATTRA, expand its reach, and improve the quality of service to America's agriculture communities. NCAT, through the ATTRA program, is well suited to meeting the needs of clients, as we offer trusted resources, practical training, and technical expertise at a level our clients want.



ATTRA
SUSTAINABLE AGRICULTURE

ATTRA is a program developed and managed by the National Center for Appropriate Technology (NCAT). We are committed to providing high-value information and technical assistance to farmers, ranchers, Extension agents, educators, and others involved in sustainable agriculture in the United States.

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