

Final Report

May 16, 2023 – May 15, 2024

APPROPRIATE TECHNOLOGY TRANSFER FOR RURAL AREAS



Appropriate Technology Transfer for
Rural Areas Program
Final Performance Report
(May 16, 2023 - May 15, 2024)

Submitted to:

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

Submitted by:

National Center for Appropriate Technology
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Butte, MT 59702

September 15, 2024



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, Florida, Kentucky, Louisiana, Mississippi, Montana, New Hampshire, New Jersey, North Carolina, Pennsylvania, South Dakota, Texas, and Utah.

For more than 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, 2023, through May 15, 2024.



Task 1: Provide Technical Assistance to Producers and Rural Communities

From May 16, 2023, through May 15, 2024, NCAT specialists provided technical assistance to **19,901** clients. In **3,065** cases, the technical assistance required in-depth research. Following are examples of the breadth of questions received and assistance provided by our technical specialists to farmers, ranchers, and agriculture educators across the country.

- **Alabama:** An ATTRA specialist assisted a producer with market farm production logs and recordkeeping tools.
- **North Carolina:** An ATTRA specialist provided information to a farmer on pest control for apple production.
- **New Jersey:** An ATTRA specialist provided technical assistance to a client regarding composting and food waste collection.
- **California:** An ATTRA specialist provided information to a client about solar installation on a farm.
- **Pennsylvania:** An ATTRA specialist provided technical assistance to a client regarding greenhouse design and layout.
- **New Hampshire:** An ATTRA specialist provided information to a farmer on walk-behind tractors.
- **Kentucky:** An ATTRA specialist provided information to a client on beekeeping.
- **Oregon:** An ATTRA specialist assisted a client with questions about purchasing farmland.
- **Tennessee:** An ATTRA specialist provided technical assistance to a farmer on hog production.
- **Washington:** An ATTRA specialist provided information to a client on financing options for a farm purchase.
- **Louisiana:** An ATTRA specialist assisted a client with information on irrigation drip tape installation.
- **Illinois:** An ATTRA specialist provided information to a client on farm to school resources.
- **USVI St. Croix:** An ATTRA specialist assisted an educator with resources for farmer trainings.
- **Oklahoma:** An ATTRA specialist provided information to a farmer on poultry production and processing.
- **Texas:** An ATTRA specialist assisted a producer with finding funding for livestock watering improvements.
- **Mississippi:** An ATTRA specialist provided information to a farmer on succession planning for his farm.



- **Arkansas:** ATTRA provided information to a producer about using sea minerals on pasture.
- **Florida:** ATTRA assisted an ag educator with resources on underutilized crops.
- **Puerto Rico:** An ATTRA specialist provided information to a producer on agritourism and marketing.
- **South Carolina:** An ATTRA specialist assisted a producer with questions about regenerative grazing and farmer networks.
- **Maine:** An ATTRA specialist provided technical assistance about sheep pastures.
- **New Mexico:** An ATTRA specialist assisted a client with issues related to climate change in ranching communities.
- **New York:** An ATTRA specialist provided information to a client regarding issues with their farm lease and land access.
- **Arizona:** An ATTRA specialist provided information to a client on grants available for Indigenous farmers.
- **Georgia:** An ATTRA specialist assisted a producer with creating a mission and goals for his farm.
- **Montana:** An ATTRA specialist provided information on SNAP-eligible items for farmers markets.

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 **31** new and updated publications.

2023-2024 New and Updated Publications (31)



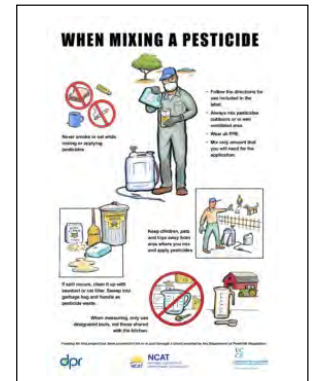
Maquinaria y Herramientas Para la Producción De Cultivos Intensivos a Pequeña Escala (new, Spanish translation of Equipment and Tools for Small-Scale Intensive Crop Production)



Blueberries: Organic Production (update)



Before Using a Pesticide (new)



When Mixing a Pesticide (new)

Kudos from our clients

"I am an aspiring farmer and am thankful for the wealth of resources that ATTRA provides free of charge. It has helped me gain insight into how I would like to structure my enterprise." —Aspiring farmer, California



When Applying a Pesticide (new)



After Using Pesticides (new)



Antes de Usar Un Pesticida (new, Spanish translation of Before Using a Pesticide)



Cuando Mezcle Un Pesticida (new, Spanish translation of When Mixing a Pesticide)

ATTRA Online and Print Publications Library (continued)

2023-2024 New and Updated Publications (31)



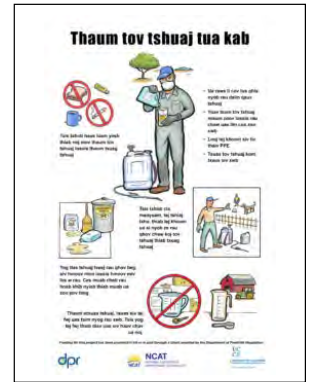
Al Aplicar Un Pesticida (new, Spanish translation of When Applying a Pesticide)



Despues de Usar Pesticidas (new, Spanish translation of After Using Pesticides)



Ua ntej siv tshuaj tua kab (new, Hmong translation of Before Using a Pesticide)



Thaum tov tshuaj tua kab (new, Hmong translation of When Mixing a Pesticide)



Thaum txuag tshuaj tua kab (new, Hmong translation of When Applying a Pesticide)



Tom qab siv tshuaj tua kab (new, Hmong translation of After Using Pesticides)



Ndaangc maengx longc doc gaeng ndie (new, Mien translation of Before Using a Pesticide)



Haaix zanc peux ndie (new, Mien translation of When Mixing a Pesticide)



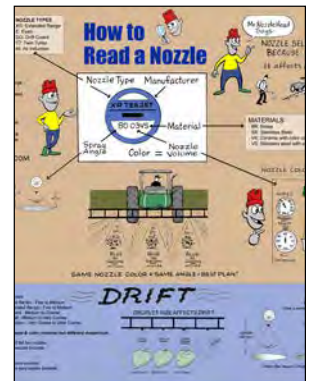
Fuqv ndie nyei ziangh hoc (new, Mien translation of When Applying a Pesticide)



Longc liuz ndie (new, Mien translation of After Using Pesticides)



Prescribed Grazing: Central and Southern Appalachian Region (new)



How to Read a Nozzle (new)

ATTRA Online and Print Publications Library (continued)

2023-2024 New and Updated Publications (31)

ATTRA Sustainable Agriculture
 NCAT
 A program of the National Center for Appropriate Technology
 800-345-6140 • ATTRA.NCAT.ORG

Alley Cropping: Central and Southern Appalachian Region

What is Alley Cropping?

HOW FARMERS BENEFIT FROM ALLEY CROPPING:

- Increased soil fertility
- Reduced soil erosion
- Reduced need for fertilizers
- Increased nutrient recycling in production

Alley Cropping: Central and Southern Appalachian Region (new)

ATTRA Sustainable Agriculture
 NCAT
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Tree and Shrub Establishment: Central and Southern Appalachian Region

Tree and Shrub Establishment

Site Selection

Species Selection

Planting Techniques

Tree and Shrub Establishment: Central and Southern Appalachian Region (new)

ATTRA Sustainable Agriculture
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 800-345-6140 • ATTRA.NCAT.ORG

More Than a Cover Crop: Developing a Farm-to-hospital Supply Chain for Yellow Peas

Introduction

The Food System Community

More Than a Cover Crop: Developing a Farm-to-hospital Supply Chain for Yellow Peas (new)

ATTRA Sustainable Agriculture
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CLIMATE BENEFICIAL PRACTICES

Introduction

CONTRIBUTORS

Climate Beneficial Practices (new)

ATTRA Sustainable Agriculture
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Organic Greenhouse Vegetable Production

Introduction

Organic Greenhouse Vegetable Production (update)

ATTRA Sustainable Agriculture
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Community Forest Gardens: Case Studies Throughout the United States

Introduction: What Are Forest Gardens?

Community Forest Gardens: Case Studies Throughout the United States (new)

ATTRA Sustainable Agriculture
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Urban Agroforestry

Introduction: What is Urban Agroforestry?

Urban Agroforestry (new)

ATTRA Sustainable Agriculture
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Quick Tips for Agroforestry

Alley Cropping

Forest Farming / Multi-Story Cropping

Food Forests / Forest Gardens

Windbreaks / Shelterbelts

Riparian Forest Buffers

Silvopasture

Quick Tips for Agroforestry (new)

ATTRA Sustainable Agriculture
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Organic Production of Garlic, Onions, and Other Alliums

Introduction

Organic Production of Garlic, Onions, and Other Alliums (new)

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 800-345-6140 • ATTRA.NCAT.ORG

Veteran Resources

How Can ATTRA Help You?

Publications

Technical Assistance

Tutorials

Webinars

Veteran Resources (update)

ATTRA Agricultura Sustentable
 NCAT
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Producción Orgánica de Ajo, Cebollas y Otros Alliums

Introduction

Producción Orgánica de Ajo, Cebollas y Otros Alliums (new, Spanish translation of Garlic, Onions, and Other Alliums)



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 2023-2024 project year, NCAT produced **50** podcast episodes that received **38,370** listens.



2023-2024 New Podcasts (50)

- Ep. 304. Phosphorus and the Beauty of Biology
- Ep. 305. She's Raising Sheep. Maryrose Livingston of New York, Part 1
- Ep. 306. She's Raising Sheep. Maryrose Livingston of New York, Part 2
- AgriSolar 6. The Big Picture and Nitty Gritty of AgriSolar
- Ep. 308. How to Work with Historically Underserved Farmers and Ranchers
- Ep. 309. Cotton Fields to Pasture. Why Soil Health Matters with Bill Robertson
- Ep. 310. A Conversation with Organic Pioneer Bob Scowcroft
- Ep. 311. More than Food at Community Gardens and Urban Farms
- Ep. 312. New NCAT Irrigation Publications Demystify Water and Energy Savings
- Ep. 313. Meet NCAT: Cody Brown on Carbon Planning in Texas
- Ep. 314. Biochar and NCAT's SIFT Farm
- Ep. 315. Meet NCAT's New Executive Director, Fred Bahnson
- Ep. 316. Gardopia Gardens, a San Antonio Urban Farm
- Ep. 317. Farmers Markets – Supporting Farmers Behind the Scenes
- Ep. 318. Local Food Directory Helps Find Farmers Markets, Create Digital Marketing Strategy
- Ep. 319. She's Raising Sheep: Dr. Kathy Soder of Pennsylvania, Part 1
- Ep. 320. She's Raising Sheep: Dr. Kathy Soder of Pennsylvania, Part 2
- Ep. 321. Meet NCAT: Tyler Jenkins on Carbon Farm Planning
- Ep. 322. Connecting a Farmers Market and a Community
- Ep. 323. Potassium from Past to Present
- Ep. 324. She's Raising Sheep: Mickey Willenbring of Oregon, Part 1
- Ep. 325. She's Raising Sheep: Mickey Willenbring of Oregon, Part 2
- Ep. 326. Exploring Organic Matter with Dr. Johannes Lehmann
- Ep. 327. ATTRA and SARE: The Commercial Potential of Mulberries in the Midwest



Podcasts (continued)

2023-2024 New Podcasts (50)

- Ep. 328. Lessons Learned from a Southern Farm: Alabama Farm's Organic Integrity
- Ep. 329. Farmer Veteran Reaches Thousands Through Beekeeping
- Ep. 330. Meet NCAT. Carbon Farm Planner Allison Cooley-Agee of Montana
- Ep. 331. Meet NCAT. Danielle Duni, Carbon Farm Planner for Woolgrowers in Wyoming
- Ep. 332. ATTRA and SARE: Breeding Squash for Disease Resistance and 'Eating Quality'
- Ep. 333. Draft Animals 101
- Ep. 334. Teaming Up with Oxen
- Ep. 335. She's Raising Sheep: Sheridan Rowe Langford of Texas
- Ep. 336. Urban Farmer Overcomes the Houston Heat
- Ep. 337. ATTRA and SARE: Building Local Food Systems in Montana
- Ep. 338. Lessons Learned for a Southern Farmer: Violet Keys of Mississippi
- Ep. 339. Ecological Agriculture with Christopher Sacco
- Ep. 340. ATTRA and SARE: Edible Landscaping
- Ep. 341. The Center for Grazinglands and Ranch Management: A Conversation
- Ep. 342. Crop Resilience Through Diversification and Schedule Modification in Northeast Texas, Part 1
- Ep. 343. Crop Resilience Through Diversification and Schedule Modification in Northeast Texas, Part 2
- Ep. 344. Meet NCAT: Tammy Barnes Shares Her Journey
- Ep. 345. NCAT/SARE: Chestnuts in Southeastern Ohio. A Cooperative Small Farm Effort
- Ep. 346. Managing Risk in the Ark-La-Tex Region
- Ep. 347. Southern Small-Scale Grains with Iriel Edwards
- Ep. 348. Poke Salad, Mullein, and Other Crop Alternatives in Southern Arkansas
- Ep. 349. Farm to School with Ridge to Reef Farm on St. Croix, US Virgin Islands
- Ep. 350. Mid-Scale Biodigester with Matt Steiman of Dickinson College Organic Farm
- Ep. 351. The Home-Scale Forest Garden with Dani Baker
- Ep. 352. Principles Before Practices with Jenny Pluhar
- Ep. 353. A Closer Look at Draft Horses



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. During the 2023-2024 program year, NCAT specialists wrote **54** blog posts for the ATTRA website.

2023-2024 New Blog Posts (54)

- Residue Testing for Chemicals in Agricultural Soil
- Free Bees, Part One: Finding Them
- Crop Selection and Planting Schedules for Winter High Tunnel Production
- Weaning pasture soils off chemical dependence
- 15 Years of Change—A Brief Overview of Changes to Montana's Small Grain Cropping Systems 2007-2022
- Managing Phosphorus for Clean Water
- Health Soil Structure—The House of Life
- Agroforestry and Agrivoltaics: Two Appropriate Technologies for Smart Shade on Farms
- Maces Pond—Agrisolar Wild Blueberries
- CBS 'Saturday Morning' Features AgriSolar
- Seeing the Farm with Fresh Eyes
- Free Bees, Part Two: Keeping Them
- When in Drought, Plan It Out: Rain Harvesting
- Practicing Resurrection: Using Green Manures on a Small-Urban Homestead
- Connecting Farmer Veterans
- The 'Black Gold' That Can Save Soils, Fight Forest Fires, and Power the Planet
- Extreme Heat: Don't Let Summer Be a Bummer
- Small is Beautiful: The Wonderful World of Invertebrates
- How to Start Community Agroforestry Projects: Advice from 11 Forest Gardens
- Sustainability Project Transforms Cafeteria Waste into Usable Compost
- Montana Partnership Reduces Food Waste and Supports Sustainable Gardening and Food Production Through Biochar



Kudos from our clients

"There is always something new to learn and ATTRA manages to stay on the frontlines for innovative solutions." –Commercial producer, Idaho

Blog Posts (continued)

2023-2024 New Blog Posts (54)

- Battlefield Lavendar: Solar Powered Processing
- North Metro TV Features Agrisolar Farm to Table Event
- How Does Soil Compaction Impact Grazing Lands?
- Retaining Soil Moisture at Lighthouse Herb'n Farm
- All Chopped Up with Somewhere to Grow
- NCAT Soil for Water Mississippi: Learning Together
- Exploring Soil Organic Matter
- The Causes of Soil Compaction on Grazing Lands
- Carbon Farming in Central and Southern Appalachia
- Blueberry: Respect Both Kinds of Roots
- Diagnosing Soil Compaction on Grazing Lands
- Adopting Water Smart Practices in the Rio Grande Valley
- Living Mulch Cover Cropping for Gardens and Small Farms: Managing an "organic matter" system
- High Tunnel Soil Management for Season Extension
- Agroecological Crop Selection, Part 1
- More than a Farm: Setting Your Agribusiness Up for Success
- Providing Water to Livestock in Frigid Weather
- Right livelihood: Reflecting on my 24 years working for NCAT's ATTRA project
- The Quest for Montana Food Self-Reliance—What Will It Take?
- Agroecological Crop Selection, Part 2
- Can Cover Cropping Heal Abused Soil? A Mad Farm Reflection
- Celebrating the Wisdom of Women Shepherds: ATTRA's She's Raising Sheep Podcast Series
- Greens as a Secondary Income from Your Cash Crop Plants
- Identifying Waste: Becoming a Lean Farming Machine
- Rooted Revival: Navigating Agricultural Hurdles in the US Virgin Islands
- Living Lawn Mowers in a World of Mowing Madness
- The Season of Mud
- Natural Senescence
- Understanding the COMET-Planner Tool
- Pasture Cropping: Planting Summer Cover Crops in Cool-Season Perennial Pastures
- Tea the unsung plant we drink
- Mid-Scale Biodigestion On-Farm Energy Production
- Working on the Business: Tax Day Musings



Educational Videos

Since farmers and agricultural professionals, like the general population, regularly seek answers on YouTube, we have increased our video production and posting on YouTube. During this project year, NCAT produced **77** videos and received **361,466** views. We have **10,961** subscribers to our YouTube channel.



2023-2024 New Educational Videos (77)

- Container Production of Gourmet and Medicinal Mushrooms with Care2Grow Farm
- Market Diversification Strategies with Ridge to Reef Farm on St. Croix, US Virgin Islands
- Solar Grazing: Explained
- Solar and Crops: Explained
- Solar Pollinator Habitat and Beekeeping: Explained
- Pricing Strategies for Vendors
- Are Farmers Markets Right for You?
- Selling Your Story: Social Media Outreach and Marketing
- Working with Your Farmers Market Manger
- Creating a Winning Display
- Expanding Your Markets
- Setting Yourself Apart
- Harvesting the Sun
- Coming February 27: The AgriSolar Short Film Harvesting the Sun!
- Soil Testing to Understand Soil Health
- Gulf States Winter Farming: Turnip Greens for Farm to School
- Clover Living Mulch: How to Seed your Clover
- How Agrisolar Helped the Cows Come Home to One Northeast Farm
- Making a Grazing Plan and Mobile Technology for Business Management
- Operation and Features of a No-Till Seeder Drill
- Tine Weeders—Efficient Hand-Scale Weeding
- Vacuum Seeder: At-Home Build
- Flame Weeding on Small Farms
- Harvesting Salad Greens-Mechanized Harvest for Small Farms
- AgriSolar Podcast Ep. 5: Sharing the Journey with AgriSolar Consulting
- Episode 304. Phosphorus and the Beauty of Biology
- WEBINAR: AgriSolar in the Pacific Northwest
- Episode 305. She's Raising Sheep: Maryrose Livingston of New York
- Episode 306. She's Raising Sheep: Maryrose Livingston of New York, Part 2
- AgriSolar Podcast Ep. 6: The Big Picture and Nitty Gritty of Agrisolar
- Make Social Media Work for Your Market: Why It's So Important, and What to Focus on Right Now
- Episode 308. How to Work with Historically Underserved Farmers and Ranchers
- Women, Livestock, and the Land
- LandPKS: Learning How to Monitor Our Land Over Time and Discover Its Potential
- Episode 309. Cotton Fields to Pasture: Soil Health Matters with Bill Robertson
- How Agrisolar Helped the Cows Come Home to One Northeast Farm
- Episode 310. A Conversation with Organic Pioneer Bob Scowcroft
- Episode 311. More Than Food Grows at Community Gardens and Urban Farms
- Episode 312. New NCAT Irrigation Publications Demystify Water and Energy Savings
- Episode 313. Meet NCAT. Cody Brown on Carbon Planning in Texas

Educational Videos (continued)

2023-2024 New Educational Videos (77)

- Episode 314. Biochar and NCAT's SIFT Farm
- Carbon Farm and Ranch Planning
- Episode 315. Meet NCAT's New Executive Director, Fred Bahnson
- Episode 316. Gardopia Gardens, a San Antonio Urban Farm
- Webinar: Carbon Farm Planning in Texas
- Episode 317. Farmers Markets—Supporting Farmers Behind the Scenes
- Episode 318. Local Foods Directory Helps Find Farmers Markets, Create a Digital Marketing Strategy
- The Ecological Design of a Texas Food Forest
- Regenerating Damaged Soils On an Urban Farm
- How the Tamöx Talöm Food Forest is Building Community
- Starting a Food Forest on Public Park Land
- Episode 319. She's Raising Sheep: Dr. Kathy Soder of Pennsylvania, Part 1
- Using Urban Agroforestry to Support Native Texas Ecosystems
- Growing Community and Climate Resilience
- Community Education and Engagement in a Public Food Forest
- Restoring a Floodplain Buyout Area with Agroforestry
- Navigating City Code and Regulation in Urban Agroforestry Projects
- Managing Turfgrass in Urban Agroforestry Systems
- Tools for Creating an Equitable Urban Forest Canopy
- Episode 320. She's Raising Sheep: Dr. Kathy Soder of Pennsylvania, Part 2
- Episode 321. Meet NCAT: Tyler Jenkins on Carbon Farm Planning
- Episode 322. Connecting a Farmers Market and a Community
- Minimize Soil Disturbance
- Keep Soil Covered
- Continuous Live Root
- Increase Biodiversity
- Integrate Livestock
- Cover Cropping in the Arid West, Part 1: An Overview on Cover Crops
- Episode 323. Potassium from Past to Present
- Episode 324. She's Raising Sheep: Mickey Willenbring of Oregon, Part 1
- Cover Cropping in the Arid West, Part 2: Termination Options for Cover Crops
- Episode 325. She's Raising Sheep: Mickey Willenbring of Oregon, Part 2
- Episode 327. ATTRA and SARE: The Commercial Potential of Mulberries in the Midwest
- Armed to Farm Stories: Sara Creech
- Lighthouse Farm
- Farmer Veteran Stories



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. NCAT/ ATTRA staff regularly attend and present materials at agriculture conferences, host in-person and virtual workshops, and facilitate a variety of producer trainings. In the 2023-2024 project year, NCAT specialists reached **15,232** producers through **255** training events.

Kudos from our clients

"It was an amazing workshop! I learned so much info in such a short time. And anything we didn't cover (NCAT staff) all pointed us in the right direction to where we can find answers."

– Armed to Farm Pennsylvania 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 seven Armed to Farm trainings with **142** participants. These trainings took place in Florida, Massachusetts, Minnesota, Montana, New Hampshire, New York, and Pennsylvania.

In addition to the weeklong Armed to Farm trainings, ATTRA was involved in **63** trainings that targeted military veterans, reaching **796** veterans.

"This was very energizing and motivated me to want to do more on my farm. I now feel like I can have success as well."

– Armed to Farm Arkansas participant



Training for Historically Underserved and BIPOC Producers

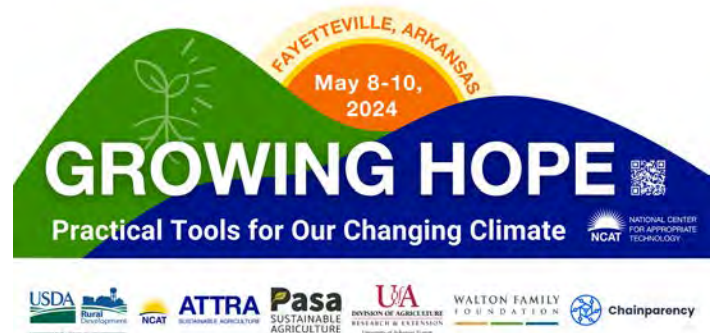
NCAT's ATTRA program continues to serve and provide training for socially disadvantaged, historically underserved, and BIPOC farmers, ranchers, and producers throughout the U.S. In the 2023-2024 project year, ATTRA provided **101** trainings that specifically served underserved and BIPOC farmers and ranchers.

These trainings included the *9th Annual Latino Farmer Conference* in California, which had **250** attendees. The conference featured farm tours, speakers, workshops, and panel discussions presented in Spanish.



National Conference Highlighting Climate-Smart Agriculture

NCAT's ATTRA program hosted *Growing Hope: Practical Tools for Our Changing Climate* May 8-10, 2024, in Fayetteville, Arkansas. This in-person conference built upon the success of the virtual conferences held in the previous three years and featured practical sessions on climate beneficial farming practices, marketing, production issues, and more. The agenda featured two keynote speakers and **20** breakout sessions led by NCAT specialists, farmers, and other agriculture professionals, as well as farm tours, exhibit booths, and networking opportunities. There were more than **150** participants representing **22** states.



Kudos from our clients

"This was excellent and so inspiring. The keynotes were outstanding and so were all the breakouts I attended. Tough decisions to make for which to go to."

– Growing Hope attendee, Arkansas

"I feel more equipped to manage my farm in a more holistic way."

– Growing Hope attendee, Florida

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 the previous program 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 stories, funding opportunities, and events that the ATTRA website has long been known for. NCAT staff continue to develop high-quality original content for the website, and also curate and post relevant high-value information from a wide variety of credible external sources several times a week. In the 2023-2024 project year, the ATTRA website received **772,850** page views, with **1,190,723** resources accessed.

ATTRA continues to expand its presence in the social media sphere, including Facebook, Instagram, YouTube, and other social media platforms. We have concluded that social media is an excellent platform to refer clients to the ATTRA website and resources, as well as to meet and educate our clients. At the end of the program year, ATTRA had **44,406** followers across our social media accounts.

NCAT continues to conduct outreach to the agriculture 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 **23,273** subscribers and the monthly Spanish-language e-newsletter, *Cosecha Mensual*, to **2,562** subscribers. In addition, we distribute e-newsletters for Armed to Farm, Soil for Water, and AgriSolar Clearinghouse collectively to **13,355** subscribers.

Kudos from our clients

"The weekly newsletter is so full of good information that I think it's the most valuable newsletter I receive. I can find information and resources on a variety of projects that I'm interested in, framed within the ethics of taking care of the land/people/environment." – Nonprofit employee, Kansas

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 **198** users.

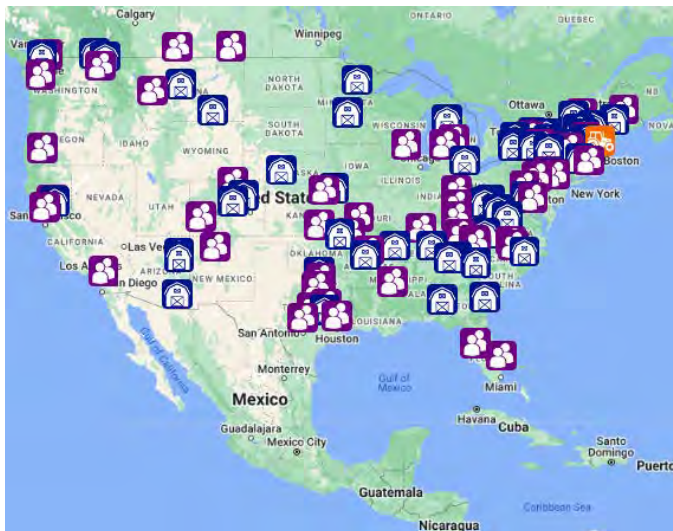
NCAT's Women, Livestock, and the Land Project used peer-to-peer learning, ATTRA resources, technical assistance from NCAT staff, virtual sessions, and hands-on learning to help women who are beginning pasture-based livestock enterprises learn about managing their land and livestock. This training program created a peer-to-peer network of more than **250** 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. More than **400** Armed to Farm alumni and NCAT staff participate in this group, asking questions, sharing resources, and celebrating farm successes.

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 12 years and has connected with thousands of farmer veterans. As of the end of the project year, NCAT has **3,592** subscribers to the Armed to Farm newsletter; **1,231** contacts for the Veterans in Agriculture listserv; and **1,800** followers of 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.

In a previous reporting period, 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 **173** listings, with more being added on a regular basis.



"I am pleased to be part of a community of like-minded individuals and find inspiration to make changes for more productive growth with less inputs."
– Garden operator, Colorado

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 design and is now free for farmers to post their apprentice and internship opportunities. As of this report, there are **480** listings featured in the internship database. NCAT continues to promote this resource to connect beginning farmers to on-farm learning opportunities.

Kudos from our clients

"I use ATTRA resources as an example of high-quality environmental/agricultural education and outreach for undergraduate and graduate students who are considering environmental education as a career." – 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 with understanding and applying for 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
 - Promotion of USDA's Discrimination Financial Assistance Program on the ATTRA website and Facebook pages
 - Sharing of USDA's new Organic Livestock and Poultry Standards final rule on the ATTRA website and Facebook pages
 - Several podcast episodes that feature farmers discussing USDA programs they have leveraged on their farms
- 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 their programs and services to Armed to Farm participants.
- NCAT is collaborating with USDA Transition to Organic Partnership Programs to provide organic production trainings.
- NCAT is leveraging funding from USDA's Partnerships for Climate-Smart Commodities program to provide technical assistance on climate-smart practices, develop carbon farm plans, and provide farmer incentives to implement on-farm practices.

- NCAT partnered with the USDA Forest Service, National Agroforestry Center, and the U.S. Botanic Garden to develop multiple videos and publications on urban agroforestry topics.
- NCAT collaborated with the Small Business Administration's Boots to Business Program. An NCAT specialist presented on business planning to military veterans participating in the program.
- NCAT is leveraging funding from a NRCS Equity Conservation Outreach Cooperative Agreement to provide training for underserved producers. This funding helped support the Latino Farmer Conference and the Texas Hispanic Farmers and Ranchers Conference.
- NCAT is 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 understand 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 **75%** of respondents are small-scale producers with 100 acres or less; **55%** of respondents are beginning farmers; **22%** of respondents who reported being commercial producers are veterans, compared to 9% of producers nationally; **48%** of commercial producer respondents are female, compared to 36% of all U.S. farmers; and **29%** of commercial producer respondents are non-White, compared to 5% of producers nationally.

In a recent use survey, **93%** of respondents indicated that they gained useful information from ATTRA workshops, and **76%** plan to make changes to their operation based on what they learned. More than half (**52%**) 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’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.

Kudos from our clients

“I am in extension. This (ATTRA) helps me do my job and educate farmers, Homeowner Associations, homeowners, and municipalities.”

– Extension educator, Virginia



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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