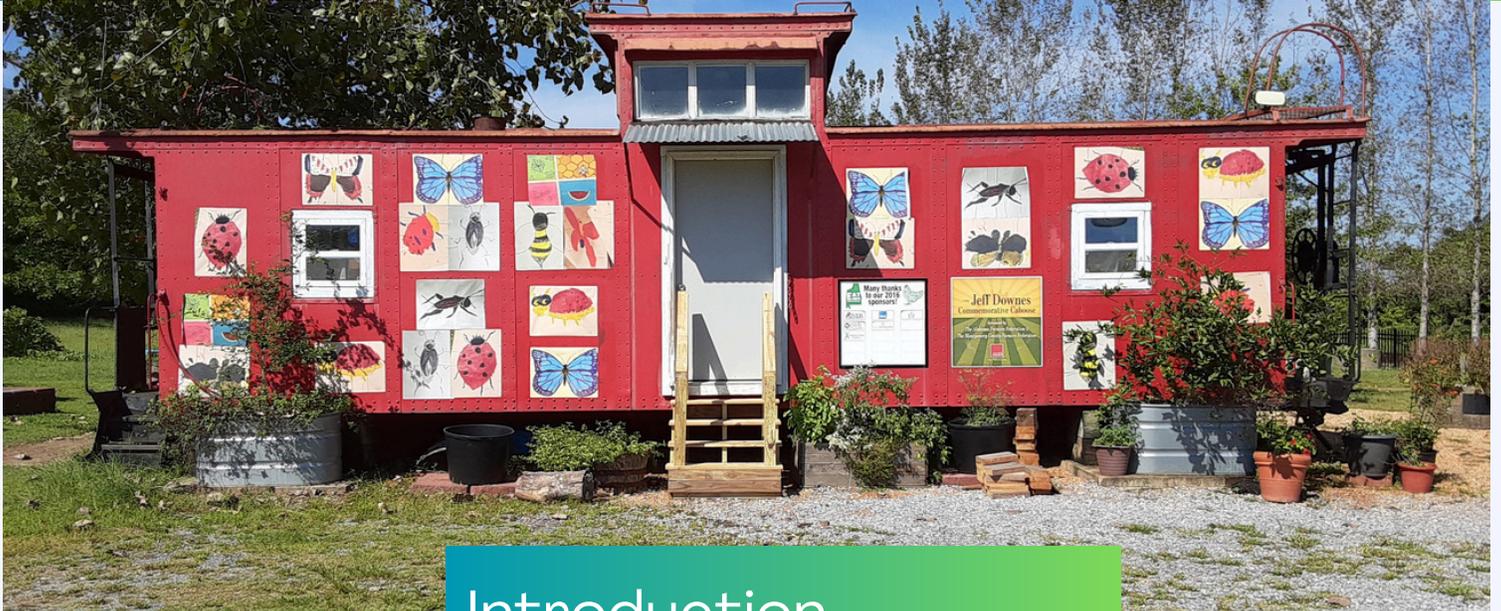


Soil Contamination & Urban Community Farms

Lessons for Community-Engaged Garden Projects



Above: During the pandemic, children emailed E.A.T. South drawings of insects. We displayed the enlarged images as public art on our office, an old caboose.

Introduction

Hexavalent chromium, benzene, arsenic, lead... Does your community have a neighborhood garden or farm? Do you know what is in the soil? What was there before the garden was built?

From “Victory Gardens” in World War II to Guerrilla Gardens in New York City in the 1970s and 1980s to a recent surge in interest in community gardens or urban farm businesses, growing food in urban areas is part of the fabric of U.S. history and life.

As cities grow or redevelop, land available for food production is pushed to the city’s more marginal areas, former industrial sites and long-vacant lots that often offer opportunities, but can also present risks. This case study of our experience with soil contamination at an urban garden in Montgomery, Alabama, will be useful for any individual or group hoping to grow food in a city. We also link to resources to help individuals and groups understand the hazards that may be present at a site and how these hazards can pose risks that can affect their group or organization.

This report was compiled by E.A.T. South’s Farm Director, Caylor Roling, and Education & Compost Program Director Amanda Edwards. As of October 2025, we continue to provide educational programming to Montgomery residents, but the farm is no longer open. We both contributed to this report, but unless otherwise indicated, the primary voice here is Caylor’s.

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When the City of Montgomery began redeveloping its downtown in the early 2000s, leaders offered E.A.T. South, a nonprofit focused on garden-based education, a vacant, city-owned lot as a site for a teaching farm. Along the Alabama River and between downtown and Maxwell Air Force Base, the city built a walking path connecting the base and downtown and imagined a farm as an amenity along this route—and a major improvement over a garbage strewn lot!

Montgomery's downtown farm became a partnership between the small nonprofit organization and the City of Montgomery's Parks & Recreation Department. E.A.T. South's mission is to educate about, gather people around and grow good food. Since 2010, E.A.T. South has carried out this mission through free community classes and workshops, field trips, summer camps, volunteer projects, after school programs, and donations to food pantries.



The farm's northern boundary is an active rail line. It extends west to Interstate 65; however most of the western end of the farm is undeveloped and inspired our interest in food forests. Farm activities initially centered around the caboose (marked by the green dot) and 24 raised beds. West of the caboose are additional gardens, an outdoor classroom, chicken coop, and other structures

Historically, the lot was a rail switching yard, and an active rail line forms the lot's northern boundary (see photo above). In 1996, the City of Montgomery purchased the lot from rail company, CSX Corporation.

In 2010, the Alabama Department of Environmental Management (ADEM) used Environmental Protection Agency (EPA) funds to complete Brownfields Phase I and Phase II Assessments focused on soil and water contamination.

The Phase II Assessment found arsenic contamination (32.10 ppm in the highest sample) that exceeded the threshold for residential exposure (0.4 ppm) and chromium (55.8 ppm with the allowable residential threshold of 30.0 ppm). Chemicals present in the soil included trichloroethylene (4.05 ppm, allowable residential threshold 0.053 ppm) and benzopyrene (0.953 ppm, allowable residential threshold 0.062).

X-Ray Fluorescence Analysis Results

Sample ID	Chemical of Concern	Result (µg/g)	Residential PSV (µg/g)	SSL Protective of GW: Large Source
SS-01-MUG	Arsenic	29.47	0.4	0.388
	Chromium	30.54	30	0.5
SS-02-MUG	Arsenic	32.10	0.4	0.388
	Chromium	32.49	30	0.5

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SS-03-MUG	Arsenic	17.88	0.4	0.388
	Chromium	46.53	30	0.5
SS-04-MUG	Arsenic	1.97	0.4	0.388
	Chromium	27.68	30	0.5
SS-05-MUG	Chromium	18.88	30	0.5
SS-06-MUG	Chromium	11.58	30	0.5
SS-07-MUG	Chromium	20.83	30	0.5
SS-08-MUG	Chromium	39.16	30	0.5
SS-09-MUG	Chromium	24.51	30	0.5
SS-10-MUG	N/A	N/A	30	0.5
SS-11-MUG	Chromium	18.56	30	0.5
SS-12-MUG	Chromium	26.85	30	0.5
SS-13-MUG	Chromium	52.38	30	0.5
SS-14-MUG	Chromium	22.29	30	0.5
SS-15-MUG	Chromium	55.80	30	0.5

Results reported in µg/g.

Arsenic and chromium values from soil samples tested in the 2010 Phase II Assessment (Pgs 6-7). Residential PSV indicates the EPA threshold for clean-up of areas intended for residential use.



2011 - Farm Construction Begins - The orange area in the upper right corner is fill dirt hauled in after the original soil was removed and dumped into the local landfill. Grey soil is original soil and was not removed. Photo by Jetson Brown.

Gardening near any rail line may be hazardous

While typically not as polluted as a switching yard, areas next to railroads may contain heavy metals like lead and arsenic from coal ash, cancer-causing chemicals like creosote, petroleum and other chemicals from spills, and herbicides used to control weeds along the line.

Gardeners (and really any living thing near a rail line) should be concerned about herbicide exposure and drift. Rail companies regularly spray herbicide on the tracks, right of ways, and even into the trees and shrubs along the lines. Drift from spraying will kill your garden and is a health hazard to anyone working there. On many occasions, E.A.T. South staff and volunteers ran for cover when someone spotted an herbicide sprayer travelling down the tracks. In our experience, railroads provide no communication or warning when they are spraying.

In addition to contaminated soil and herbicides, long, open coal trains pass our farm daily on their way to a nearby Dow Corning factory. Tiny coal dust particles can enter your blood through your lungs and cause heart disease and asthma attacks. Dust also collects on plants and produce. ([Coal Train Pollution Increases Health Risks and Disparities](#))

As far as we know, the City of Montgomery did not hire an engineering firm or engage any organization with expertise in cleaning up complicated brownfields sites like switching yards. The work that was done was completed by city staff.

Photos of the farm construction taken in 2011 by the E.A.T. South farmer at that time, Jetson Brown, along with a receipt for dumping contaminated soil in the landfill are the only documentation we have of how the farm was built. Several photos show one area where soil was removed and replaced (orange soil in photos left and below), and other areas where the original soil was left in place (grey soil in photo, left).

A geotextile barrier was placed over about a third of the area with new, orange soil. Twenty-four raised beds were installed on top of that barrier (photo below). This is the only area on the farm where a barrier was installed between the beds and the soil.

Arsenic was the reason given for growing food in raised beds. Interviews with former staff indicate that no one told them about the additional heavy metals and chemical contamination, and no one discussed the possibility of other types of exposure to arsenic such as airborne hazards from dust or hazards from contaminated water.



A closer view of the area with new, orange fill dirt - A plastic barrier was installed only in this section of the farm where these 24 raised beds were built. This photo shows where the barrier ends. Representatives from the City of Montgomery continue to state that a barrier exists under farm. We have interviewed previous staff, dug holes for fence posts, and built many structures. We know the barrier only exists in the location pictured above. Photo by Jetson Brown.

Gardening on Brownfields

Brownfields are properties whose use or redevelopment may be complicated by the presence of human-caused contamination - hazardous substances - from the sites' previous uses.

E.A.T. South's farm was built on a brownfield. Historically, the lot was used by the railroad as a switching yard, a place where trains were put together, cars cleaned and engines refueled. The soils of former switching yards contain a variety of hazardous materials including heavy metals, chemicals spilled from rail cars, diesel fuel, solvents, and even PCBs.

In urban areas, brownfields might also be the site of a former gas station or dry cleaner. Older home sites and neighborhoods near freeways may have lead contamination from leaded paint and gasoline or arsenic from arsenic-based pesticides.

While urban farmers are creative and build farms on rooftops or in warehouses, most urban farms are built on vacant lots. Our farm had been a vacant lot for years before farm construction began. On the edge of downtown (with free parking!), it seemed like the perfect, central location for a farm focused on community education.

If you think you have found your perfect urban farm, do you know what was on the lot before it was vacant? Ask neighbors or former residents. When looking for a new location for E.A.T. South in a neighborhood torn apart by the construction of a freeway in the 1960s, a neighbor pointed out where the dry cleaner and funeral home used to be. Those lots would not be my first choice for a farm location.

Demand for land for urban agriculture prompted Kansas State University to research the ways in which people may be exposed to hazards when gardening on brownfields. They produced [a guide to gardening on brownfields](#) and the EPA created [Steps to Creating an Urban Garden](#) or [Expand Urban Agriculture at a Brownfields Site](#).

These guides will help you research your lot's history and evaluate the risks associated with gardening there. Even if records or neighbors suggest that your potential garden was never an industrial site (or dry cleaner), test the soil for heavy metals (and chemicals, if possible) anyway. We found elevated levels of arsenic in an area that neighbors assured us had only been used as pasture.

Urban farming guides recommend raised beds to decrease risk in potentially contaminated areas. This is a fine idea for making your food safer, but what about the paths, gathering spaces, those areas you work or play in that aren't raised beds? When the weather is dry, mowing around the garden may produce contaminated dust. Muddy paths mean you might take contaminated soil home on your shoes or clothes. Know what's in your soil to help you make decisions that keep yourself, your food, and your community safe.



Soil testing

Standard garden soil tests measure pH, plant nutrients (phosphorus, potassium, calcium), and the amount of organic matter in the soil. These tests are important garden management tools, but they won't tell you about the presence of heavy metals or chemicals in your urban farm's soil.

[Alabama Extension's Soil, Water, and Forage Testing Laboratory](#) offers a special soil test for heavy metals (but not chemical contamination) for \$30 a sample. Call the Extension office in your county or state and ask where to your soil to be tested.

The University of New Hampshire created [a fact sheet](#) to help groups understand and interpret their heavy metal soil test results.

Private labs test for chemicals; however these tests are expensive. The [EPA's Brownfields Program](#) may help fund testing for additional contaminants.

In 2011, E.A.T. South opened the farm's gate to the public. [News stories](#) noted that the farm was a way of "greening" Montgomery, and the EPA highlighted it in a publication of [Land Revitalization Success Stories](#). A downtown, urban farm was new to Montgomery, and many residents remember its opening with excitement.

"When E.A.T. South opened, it was such a good thing, an exciting thing, for downtown Montgomery." 2025 phone message asking why the farm was closed

From 2011-2023, the farm hosted field trips, farm dinners, community celebrations, workshops, and volunteer projects. Our programs involved children, seniors, veterans, students and others who may have been exposed to the hazards in the soil.

Because the site was celebrated by the city as a clean-up and reuse success story and because the only safety instructions focused on growing food, from 2014 - 2023, staff and volunteers built a large chicken coop, an outdoor classroom, rabbitry, potting shed, and storage sheds. These structures were all built on contaminated soil.

When I (CR) was hired as the Farm Director in 2016, departing staff told me arsenic was found in the soil. This information probably came from the 2010 Brownfields Phase I and II Assessments, but recent conversations with some of the original staff indicate they had not seen the Phase II Assessment. No additional safety information was provided, and I did not have access to the 2010 ADEM Brownfields Assessments. I didn't know these existed until the end of 2023.

Departing E.A.T. South staff or city employees who were aware of the contamination did not share that other heavy metals or chemicals were found in the soil. The only instructions about the arsenic provided to me by E.A.T. South involved growing food in raised beds and containers. No one mentioned that exposures from dust or soil on skin or shoes or clothes or through inhaling the dust could be hazardous to staff, volunteers, students, or visitors.



Summer interns harvest peppers from grow bags in 2022.

In 2018, Amanda Edwards became E.A.T. South's Education Director, and we built additional raised beds next to our outdoor classroom installing plastic barriers under each, keeping food separate from original soil as we had been instructed.

In late 2020, we received a grant to double our food growing space. Continuing to follow the instructions about not growing food in the ground, we grew basil, peppers, eggplant, and squash in more than 800 grow bags separated from the soil by plastic and pallets.

In 2021, we broke ground on a garden focused on pollinators and crafts. Since these plants would not be eaten, we thought this would be a safe, good use of our space and demonstrate other ways to garden on brownfields. This area became our dye garden in 2022 which we expanded in 2023.

During the pandemic, we had started dreaming about food forests, food producing gardens focused on perennial plants, and wondered if there were places on the farm that might be safer locations for perennial crops. In August 2023, we applied to the [Thriving Earth Exchange](#) (TEX) with a proposal to sample and map arsenic levels in the soil. Our TEX proposal was accepted, and we started meeting with our TEX Community Science Fellow, Daniela Soleri, in early November 2023.

As a first step in our TEX project, we began looking for any previous reports or information about the property. When we inquired with the city, a staff person sent us a link to a file containing ADEM's Brownfields Phase II Assessment. We received the document just after Thanksgiving of 2023.

Reading ADEM's Brownfields Phase II Assessment was shocking. Up to this point, we understood that food should not be grown in the soil, but we didn't know that there were also chemicals present that we were exposed to every time we built a new structure; worked in the dye garden; mowed in dusty, dry weather; cleaned the chicken coop, or ate eggs or honey - the chickens and ducks lived on contaminated soil and the honey bees foraged in unremediated areas.

What shocked us? Yes, there was a lot of arsenic, but there was also [chromium](#), benzene (a chemical in petroleum that causes cancer), naphthalene (an ingredient in creosote which increases the risk of cancer), trichloroethylene (a solvent also known to cause cancer), and several dozen other chemicals.

Our concern extended well beyond our own exposure. For example, we hosted up to 3000 children a year who played games and ate their lunches on top of soil containing heavy metals and dangerous chemicals.



Above: 2021 - Breaking ground on the flower garden. This area became our first dye garden in 2023. Below: Gourds growing in the new garden. Because we didn't know about the extensive chemical and heavy metal contamination, we thought a cut flower garden and decorative gourds would help us expand in ways that met the requirements of the site.



We didn't know anything about the chemicals listed in the report. Amanda sent it to a cousin, an environmental engineer working on cleaning up contaminated sites. Her initial comment: you shouldn't be working there.

ADEM's recommendation in the 2010 Phase II Assessment was: "a risk-based corrective action evaluation be conducted to aid in determining the viability of future activity at this site." As far as we know, a risk-based evaluation was never done, the site was not evaluated to create a plan for the community to use it safely, and no follow-up tests were conducted until we began asking questions about the soil in 2023.

Our experience with seven years of construction and gardening projects taught us that the majority of the farm was not cleaned up. Whenever we dug holes for fence posts, leveled an area for a new shed, or tilled the dye garden, we always brought up materials left behind by the railroad. We'd find spikes, pieces of axles, and other rubbish as we worked - things that just wouldn't be there if the entire area had been excavated and new, clean fill brought in. (Even with our direct experiences with the soil, when we reached out to city and state agencies for information or assistance, no one would believe us when we stated that the majority of the farm did not have a geotextile barrier or clean soil.)

Towards the end of 2023, just before we received ADEM's Phase II Assessment, we dug a foundation for a tool shed next to the dye garden. Crawling around in the mud to make sure all of the concrete footings were level and spaced just right, we ended our days covered in contaminated dirt from the railroad switching yard.

What do you do when you find out your workplace is contaminated? We were confused, worried, angry, but we were lucky. We had support from our TEX Community Science Fellow, Daniela Soleri.



Top photo: Volunteers weed and plant the dye garden in early 2022.

Middle: Volunteers who helped expand the dye garden in late spring 2022.

Bottom: Foundation bricks for the volunteer tool shed, fall 2023. The volunteer tool shed was our last project at the downtown farm. We dug the foundation by hand, crawling around in the contaminated dirt as we made sure the bricks were level. We learned about the additional chemical and heavy metal contamination right after we finished building the floor of this structure.

Daniela connected us with national experts on brownfields. She listened to us, validated our worries when local officials dismissed them and gaslit our lived experiences. This was incredibly important to our mental health and to figuring out what to do next. Farm staff reached out to local, state, and regional contacts; Daniela began looking for national experts who understood community concerns around brownfield sites.

Our next step was to ask the City of Montgomery for the risk-based evaluation recommended by ADEM as well as any work plans or information related to the development of the farm. We never received any documents from the City. The Phase I and II Brownfield Assessments came from ADEM.

6 Summary and Conclusions

Groundwater, surficial soil, and subsurface soil samples were collected and analyzed as a part of the Montgomery Urban Garden Site Phase 2 Assessment. Exceedances of the ARBCA PSVs were observed in groundwater, surficial soil, and subsurface soil, and exceedances of SSLs were detected in subsurface soil. The Department recommends that a risk-based corrective action evaluation be conducted to aid in determining the viability of future activity at this site.

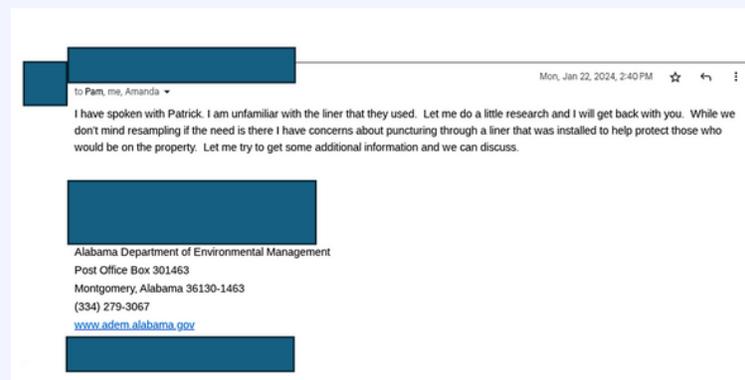
Summary and Conclusions from 2010 Brownfields Phase II Assessment: Montgomery Urban Gardens, ADEM, page 8

Several people who worked on the project are still employed by the city. In particular, the Director of Public Works, Patrick Dunson, worked in the engineering department when the farm was built. He never reached out to us directly but had a staff person in Urban Planning call. She couldn't answer our questions because she wasn't involved in the project. She assured us, without providing any documentation, that everything was done correctly and that the people involved were "nice people."

At the end of January 2024, E.A.T. South was invited to ADEM's Non-Point Source Pollution Conference to talk about ways our farm education programs reduce runoff and pollution. The invitation and presentation had nothing to do with our questions about soil contamination.

Large cities, towns, and even rural areas have successfully and safely transformed switching yards into parks and green spaces. Our research included reports about [Ashland, Oregon's Railyard Clean-up](#), [Los Angeles' Taylor G2 Yards Project](#), [Sacramento, CA's Railyard Project](#), and the [BNSF Parkwater Railyard Clean-up in Washington State](#). This is just a sample of what you can find online. One thing they all have in common is that, large and small, they hired environmental engineering firms that specialized in cleaning up complicated sites.

Patrick Dunson was at that conference so I introduced myself. He assured me the city had the correct licenses to work on brownfields in 2011. He also stated that there was a geotextile barrier between the original and new soil across the entire farm. He repeated this statement over the next year to city officials, ADEM, and engineering firms. His leadership position made ADEM and later TTL Engineering, a firm contracted to conduct soil and water contamination assessments in 2024, reluctant to do additional soil sampling for fear of puncturing a barrier that does not exist on three quarters of the site. Our experiences working on the farm were consistently discounted.



2024 email from ADEM staff indicating a reluctance to conduct additional soil tests.

As a part of our background research, we also interviewed previous farm staff including Jetson Brown, E.A.T. South's first farmer. Jetson was present during the farm's construction and took the photos documenting the farm development process.

He confirmed that the geotextile barrier was only installed under the original 24 raised beds, not across the entire farm property.



The vacant lot that became the farm is listed on ADEM's website as a brownfield. This is public acknowledgement that contamination was present on the site in 2010. We knew ADEM conducted the tests and wrote the Phase I and II Brownfields Assessments. Were other government agencies involved?

In early January 2024, I called the Atlanta Environmental Protection Agency office (EPA Region 4) to see if they were involved in any way or had any additional information that could help us understand what was and wasn't cleaned up. Remember, E.A.T. South's groundbreaking was included in an EPA publication of Land Revitalization Success Stories.

It took the EPA a minute to find the project; it was listed under a street name that has since changed. The EPA provided the funding to ADEM for the Phase I & II Brownfield assessments. That was their only involvement with the property.



I had several discussions and email exchanges with ADEM staff. Their involvement with the downtown farm ended with the Phase II Assessment. Owners of brownfields can enter into voluntary agreements with ADEM allowing the state to have some oversight of the project. The City of Montgomery did not enter into a voluntary agreement with ADEM. The state's involvement ended with the Phase II Assessment.

While the EPA paid for the assessments and ADEM conducted them, neither agency had any oversight of or connection to any work done by the City of Montgomery. No agency was accountable or responsible for making sure the the city cleaned up a contaminated site.



On January 11, 2024, E.A.T. South's office, an old caboose, was destroyed in a fire. It was a badly timed coincidence that had nothing to do with our questions about contamination, but it was a practical and psychological setback during a very difficult time. We no longer had a farm or an office. All of our teaching supplies, everything we had acquired over 8 years to support year round garden education was gone.

Above left: Children eat salads made from lettuce they harvested.

Left: Summer camp at E.A.T. South. Children play games on land the City of Montgomery did not clean up.

In early February 2024, ADEM staff, including people from their Superfund office, surprised us with a visit to the farm. They walked the farm site, mentioned that they had seen the photos I sent of the farm’s construction, and agreed that only the portion of the farm with the 24 raised beds had been cleaned up.

Beyond the visit, staff did not offer support other

than to suggest that the EPA was “the gorilla in the closet,” meaning the EPA might clean up the site and pass the bill along to the City of Montgomery-at a much higher cost than if the city voluntarily cleaned it up. Staff were not exactly clear on how to involve the EPA. No one would say how to release the gorilla but that the threat of a clean-up might cause the city to act.

Understanding Technical Language - Our experience illustrates some of the basic concepts in risk management. These concepts are tools researchers use to describe and track the elements of environmental contamination, or any other risk. See the Society for Risk Analysis’s [Glossary \(2020\)](#); [Toxicology Education Foundation](#) and links below to other definition sources.

- Exposure** - Being subject to a risk source (We were regularly exposed to contaminated soil and also contaminated air from daily coal trains.)
 - Externalization of environmental impacts** - The harms resulting from a process or substance are borne by populations that are not responsible for and do not benefit from that process or substance. (We didn’t cause the contamination or fail to clean it up, but our community bears the burden of being exposed to the contamination.)
 - Harm** - Physical or psychological injury or damage
 - Hazard**- A potential source of harm
 - Precautionary principle** - An ethical principle expressing that if the consequences of an activity could be serious and subject to scientific uncertainties, then precautionary measures should be taken, or the activity should not be carried out. (While we didn’t know how much exposure would cause harm, we closed the farm because we knew we were exposing ourselves and the community to unnecessary risks.)
 - Risk** - The likelihood that harm from a hazard will occur; risk = hazard x exposure
 - Risk assessment** - Systematic process or method for identifying and quantifying hazards and exposure for a population
 - Risk mitigation** - Process of actions to reduce risk
- The following are words and abbreviations found in technical writing about soil contamination. (Underlined terms link to more detailed information about the topics.)**
- Preliminary Screening Value (PSV)** - Concentrations of chemicals, heavy metals, or other contaminants that indicate a need for further testing and investigation. A threshold level for a substance that triggers further testing.
 - Soil Screening Level (SSL)** SSLs are guides for identifying areas in the soil that may need further evaluation regarding contamination and human exposure.
 - Regional Screening Levels (RSL)** RSLs are tools that allow engineers, planners and the general public to make decisions based on the concentrations of chemicals and heavy metals in air, water, and soil. RSLs offer benchmark numbers and are based on many factors including the toxicity of materials, the ways in which people might be exposed, and other factors. “Regional” in this case means that values might be different in different regions of the country. SSLs and RSLs are measured in ppm (parts per million) or mg/Kg (milligrams per kilogram).



Find the farm and ADEM reports online

Alabama Department of Environmental Management maintains an interactive map of brownfield sites in the state. You can find E.A.T. South listed as Montgomery Urban Farm on their [map](#).

Select the farm’s entry on the map to link to the Alabama Department of Environmental Management’s files connected to the farm’s redevelopment, the Phase I and Phase II Brownfield Assessments. You can also find them [here](#).

Finding Support: National Allies & Our Farm Community

The farm was the physical location of the intersection of many different people, institutions, levels of government, and interests. This has complicated our efforts to construct an evidence-based and scientifically appropriate history and risk assessment of the site. Without that clarity, the farm staff closed all activity at the farm, a precautionary approach to protect the health of the many farm participants and visitors, and the staff themselves. Talking with experts and organizations at the national level and with dedicated farm participants were important in this process and afterwards.

National support

People who are not local can provide helpful perspectives and experiences. They have the benefit of being outside the political and social structures we are embedded in.

After getting access to the 2010 Phase II assessments, Amanda dug into the science of how those tests were conducted and worked with national experts to develop questions for city staff and engineering firms. We needed to know what was important to know. For example, we learned about composite sampling. In the Phase II Assessment, ADEM staff took soil samples from 49 different locations and mixed them together before testing. This provided a snapshot of contamination at the whole site, but didn't provide information about where the contamination is located or if some areas had more concentrated contamination than others.

Our contacts at Thriving Earth Exchange connected us with the [Environmental Protection Network](#). The Environmental Protection Network helped formulate questions for meetings with city officials and engineers, provided us with information about FOIA requests, and even connected us with people researching ways to make contaminated sites into safer gardens. Their ideas, feedback, and check-ins helped us keep asking questions and working toward some kind of resolution - rather than just throwing up our hands and leaving.



*Compost class during Alabama A & M University's
Urban Farm Field Day at E.A.T. South*

The one-on-one conversations with TEX led to new questions to help us unravel this complex set of problems that we encountered on the farm. Having a patient and informed audience as well as an experienced storyteller in Daniela Soleri, we muddled through a lot of reports, expert consulting, research and writing.

Without outside support, this project, along with the farm, would have been abandoned in despair, anger and emotional fatigue. For years, we as a staff had poured a great deal of our energy into developing the farm and community programs. The connection to our farm community continued as we processed this information about our workplace, still engaging the Montgomery residents in hands-on learning in other locations around the city. During the Zoom calls with Daniela, she would cheer us on that made us feel better and helped us keep going.

Engaging Our Farm Community

The farm brought people together from around Montgomery. It was a place families visited on a Saturday morning to feed the chickens. A fire inspector brought his lunch to the farm and shared pictures of his papaya trees. A police officer biked over on Saturday mornings to talk about his retirement farm plans and tell me how much produce he'd put up (canned). One volunteer found us through a court ordered diversion program, and after six weeks asked if he could bring his diversion class for a tour. He led the tour.

At the beginning of 2024, we gathered our Farmily, the most active members of our farm community, for a meeting at the downtown library.



Above: Seedy Saturday Seed Swap in the greenhouse Right: Cherry tomato picking (and eating) during summer camp.

E.A.T. South by the numbers

From 2016 to 2024, our volunteers gave more than 11,000 hours of service to the farm. That's a contribution of more than \$380,000 to downtown Montgomery.

In 2018, we started what has become our annual seed swap, Seedy Saturday, and from that year through 2024, we provided 8500 seed packets and plants at no cost to school, community, church, and backyard gardens. (Curious about Seedy Saturday? [Watch video from our 2025 event here.](#))

From 2016 to 2023, more than 10,600 children participated in field trips, after school programs, and summer camps. When youth programs were suspended because of the pandemic, we created weekly take home activity kits for families.

Our free community workshops reached more than 6000 people with programs about organic gardening, growing mushrooms, building rain barrels, saving seeds, drip irrigation, and more.

When the pandemic hit, we began working with church food pantries and donated more than 6500 pounds of fresh food and hundreds of eggs from 2020-2023. (Prior to the pandemic, our produce and eggs were eaten by children during field trips, offered as a thank you to volunteers, and occasionally sold at a market or to a restaurant.) We managed all of these programs and activities with two staff members and a great deal of community involvement.



We had shared the 2010 Phase II Assessment with many of them, and the meeting gave us a chance to gather, answer questions, and let them know we were shutting down programs.

At this point, we had no contact from Parks and Recreation about the contamination or the fire. No Parks and Recreation staff had even visited the farm to see the fire damage. At the end of the meeting, we asked everyone to contact their city council members. We reminded our community that their stories were important and asked them to share what E.A.T. South meant to them.

After the meeting, we sent our Family a follow-up message with contact information for the city council, ideas for talking points, and a sample letter to the city council.

Our volunteers called and emailed their council members. They talked to them at church. E.A.T. South staff reached out to two city council people, especially around our most immediate need, securing the burned out caboose. Community members offered to help clean up, but the presence of chemicals used to put out the fire and the dangers from the floor burning through in several places made fire clean up an inappropriate project for volunteers.

Because of the actions of our farm community, a city work crew eventually showed up with a dumpster to help clean up from the fire and board up windows and doors of the burnt out caboose office building. (Since the initial clean-up, the boards have been replaced with steel plates after several break-ins.)

In the spring, our Family's emails, calls, and personal discussions with Montgomery's City Council members along with leadership from a new Director of Parks and Recreation, Mr. Brandon Dean, resulted in the city contracting with an engineering firm to retest soil at the downtown farm.

TTL Engineering took five soil samples in June 2024. They also captured gases seeping up through the soil in three locations (see map on page 18). Engineering staff only sampled soil to a depth of a foot because they were told there was a barrier under the site.

In July, E.A.T. South staff and board members met with Mr. Dean after we wrote a [blog post about the contamination](#) for the E.A.T. South website. We also published a link to the post in E.A.T. South's newsletter which was sent to a list of more than 2000 people. Public response to the blog post along with people continuing to speak up at city council meetings helped generate more discussions with city leaders.



Above: Youth in our after school program get ready for fall planting. Left: Field trip students make art from plants in our dye garden. Right: Cooling off during summer camp with a Slip-n-Slide.



In October 2024, the city had the results from the tests. Parks & Recreation called a meeting with E.A.T. South staff and a representative from TTL Engineering to discuss the results.

The EPA and some states set levels or benchmarks that trigger additional testing, investigation, and action for chemical and heavy metal contamination. There are levels for residential and industrial properties. Higher levels of contamination are allowed at industrial sites vs residential areas.

Four out of five samples from the 2024 tests exceeded the allowed levels of arsenic for residential areas, and three exceeded allowable amounts for industrial use.

Hexavalent chromium and other chemicals were detected in above residential levels but below industrial levels. This fact was not discussed in the October meeting. We only learned about the hexavalent chromium receiving the written report from the City Clerk's office in December 2024. See below.

The TTL Engineering report suggested additional testing to determine the boundaries of the highest levels of arsenic contamination so the soil in those areas could be removed.

Remember, we had been told again and again that the area was remediated with a barrier under the entire site. We had been told the city made it safe for us to use as long as we didn't grow food in the soil. Testing just five soil samples showed that much more work was needed to make the lot safe for community use.

The Director of Parks and Recreation had a printed copy of the test results at the October meeting. He had been instructed by the City Clerk's office to not give E.A.T South a copy and told us to contact the City Clerk's office.

Because in the South relationships matter and I thought it would lead to receiving the report more quickly, I asked one of the City Council members to request the report for us. A month passed, and he was not given the report either.

I submitted an official records request through the City of Montgomery's website on November 7, 2024.

Our contacts at the Environmental Protection Network pointed out that Alabama had recently passed SB 270, a law that created a ten day deadline for government agencies to acknowledge a document request followed by a 15 day deadline to approve or deny the request.

The deadlines passed with no contact from the City Clerk's office.

Reading news articles to better understand SB 270 revealed that a law firm was involved in its passage. I emailed the attorney quoted in the articles, and he responded. He helped me write a letter to the County Clerk's office. By December 18, we had the report.

The 2024 TTL Engineering report confirmed that more sampling and clean-up was needed if the land was to be used in the future. On a site as complex as a railroad switching yard, sampling five random spots is just the beginning. The 2024 sampling did confirm that very little clean-up had actually occurred prior to opening the farm.

People should not be recreating and gardening on a site with levels of arsenic above the allowable limit for industrial use. Even though hexavalent chromium did not reach levels that required clean-up for industrial use, we don't think children or anyone else should be exposed to it. More testing along with ADEM's original recommendation of a risk based assessment should be done before that site is used for anything else.

Parks and Recreation offered to do more testing just to remove the arsenic in one location as recommended by TTL Engineering. At the end of 2024, we knew we were not interested in working on the downtown farm site, especially with all of the other chemicals still present in the soil.

More testing just to remove arsenic in one spot would not change our minds or create a safe gardening, recreational, or teaching environment. Our focus was finding a new farm home; however, if anyone wishes to use that property in the future, additional testing and remediation must be done, and the City of Montgomery must pay for it.

Lessons

Be Proactive (trust yourself, and don't let people gaslight you). You and your community are the experts on your garden. It's important for people working in the garden to be proactive regarding any risks they see and the response needed. Precaution and addressing risk can be costly so responsible parties may not want to know about hazards and associated risks. Standards for the level of health risk that chemical and heavy metals exposure varies based on where you live. For example New York and California set their own risk levels and almost all standards are more strict in Europe than the U.S.

Community Involvement Creates Change. Our community called, emailed, spoke at city council sessions, and questioned their city council members in person, at church, and at local events. Because of our community's advocacy, we were able to get help with clean-up after the farm office burned, the city paid for additional soil tests in June 2024, and E.A.T. South was offered other garden spaces.

File a FOIA Request for Documents. While we eventually went through the City of Montgomery's records request process for the 2024 TTL Engineering report, we did not open an official Freedom of Information Act (FOIA) records request at the beginning of our research for files related to the farm's construction. Instead, we reached out to people we knew in the city government and asked for information.

Culturally, in the South, relationships vs. formal, legal requests can sometimes generate better results. However, two years later, we have received no written information from the city about the farm's construction.

City rules around FOIA requests allow the city to recover costs for copies and staff time. The whole process can become very costly for anyone seeking information. We recommend that you go ahead and follow your city, state, or region's FOIA process. [Learn more about Montgomery's records request process here.](#)

Whether you are filing an official records request and/or asking people in government for documents, if you find no work plans or paper trail on a clean-up project, no involvement of qualified engineering firms, that may be an indication that any work on your site was not correctly carried out.

Brownfields clean-up involves multiple jurisdictions with no real accountability. The hierarchy of jurisdictions (EPA-federal, ADEM-state, Public Works-city) made getting information and taking action complicated. While money flowed from the federal government to the region, state and city, no agency had oversight of the money or the clean-up. There were no mechanisms for any agency to be accountable for work done (or not done), and the result was that we were left with the contaminated results of no oversight. Legislative action is likely needed to create systems of accountability and oversight for all brownfields projects.

Inaction is a strategy. A small farm is easy to ignore. If people in positions of authority don't acknowledge the problem, the complainers (and their problem) might just go away. In other words, if no one is talking about soil contamination, is the soil really contaminated?

In January and February 2024, no one was talking to us, even when our office was on fire. No one from the city, other than the fire fighters, showed up to inspect a city property that had burned. It took weeks, and communications with the city council, to get the city to bring us a dumpster and board up the burned building. It really felt like we were being ignored in hopes that we would choose to go away.

Do not plant gardens along active rail lines. We've covered this in its own box, but it's important to state again. We do not think land near railroads is suitable for agriculture. We've watched open coal cars pass the downtown farm daily and have had to run from giant sprayers coating everything around the tracks in herbicide. Find another space; however, if your only space to grow food is near a railroad, try to get as far from the tracks as possible and test the soil before you begin your garden. Be aware that the herbicide spray drift from spraying by the rail corporations will kill your garden plants and may harm you and anyone else who works and plays on your urban farm.

If you cannot get the soil tested for chemicals (quality testing for chemical contamination is particularly expensive), grow in raised beds separated from the soil. Don't work with the original soil. Don't let kids play in the dirt and dust (this is really difficult if your whole purpose is to get children outside and engaged in the garden).

While lead is not the only concern in soil along rail lines, [guidelines for gardening in lead contaminated soil](#) are helpful in thinking about heavy metal contamination in other sites. Overall, wash your produce, wash your hands, wash your clothes, and don't wear your garden shoes in the house.

City, state, local, and/or grant funding is needed to help community groups test for heavy metal and chemical contamination. All soil tests come with a monetary cost. With funding from Thriving Earth Exchange, we are submitting soil samples for heavy metals testing from other garden sites in Montgomery. The information will help neighborhood gardeners take steps to make the gardens safer places to grow, work, and play.

Should you sue? Maybe? The only method we have in our society for accountability is legal action. We'd rather the city clean-up the site and make it right. I did call two law firms recommended to me by volunteers. One firm said no one would sue the city for fear of losing business. Montgomery isn't a big place. Our interest was keeping programs going. We valued our work. Our community valued our work. Suing the city would definitely put an end to that work.

Ask for Help. Sometimes people say yes. The attorney who was involved with the passage of SB 270 works for a large law firm that represents major media outlets. He said he was glad to donate time reviewing our letters and helping us craft our message to the city regarding the 2024 soil sample assessment. Even if a person or organization seems busy or unreachable, you never know what might be possible until you ask.

The categories, levels, or benchmarks used to set acceptable contamination levels are inappropriate for community farms. The EPA sets benchmarks for evaluating residential and industrial sites for soil and water contamination. The 2024 soil tests conducted by TTL Engineering categorized the farm as industrial even though a farm is not an industrial site.

The nature of farm work means that people are outside (rather than in a warehouse or industrial building) and in contact with the soil. In our case, the soil contained substances like hexavalent chromium. Staff spent more than 40 hours a week on site, and volunteers and interns often worked 10-20 hours a week. All were exposed to contaminated soil.

The California Department of Toxic Substance Control's FAQ on Clean-up Standards states: sites that involve residential properties, schools, or daycare facilities are typically held to more stringent clean-up standards than are those involving commercial or industrial activities.

Since 2011, thousands of children toured the farm, participated in summer camp, and spent afternoons with us after school. Summer campers played in these contaminated areas every June and July. If the City of Montgomery and State of Alabama followed logical standards to protect children, children and staff would not have been exposed to toxic substances.

October 2025

Where we are now

New Locations

Over the summer of 2025, two city council members encouraged us to rebuild the farm programs at community centers in their districts. Each site had advantages and disadvantages. One was on the northern edge of the city, farther away from our current volunteer base. It had a lot of open space and a really interesting wetlands and natural area next to the community center. (We often use agriculture to connect people with nature.)

The other potential garden site was more central and was part of a park redesign and planning process that could take five or more years.

The more central site had an old greenhouse and large, mostly level open space. We started imagining a new urban farm there.

Along with the central location and greenhouse, the councilman at the second site offered funding to help us move. Remember, we hadn't had a solid base for fundraising in over a year. Funders don't want to hear a story of instability, and we needed money to rebuild our programs.

Along with the loss of funding streams that existed when the downtown farm was operating, the 2024 fire destroyed our office, melted our printer and desks, and burned an entire library of curricula focused on gardening with children. The caboose stored all of our seeds and teaching supplies - a printer, markers, white boards, a two burner stove, bowls, kid-safe knives, anything and everything you might need to cook or craft on a farm. We definitely need help to rebuild. The offer of funding with the site helped us choose this this location; however, to date, we have received no funds or support from the City Council to move or rebuild.

More Soil Tests

While the site of the proposed urban farm had previously been a pasture, Amanda tested the soil for heavy metals anyway. This former pasture tested had arsenic levels at 19 parts per million (ppm). This is much higher than our region's natural/background soil arsenic level which is around 2.6 to 4.1 ppm.



Youth in E.A.T. South's after school program catch and identify insects.

0.4 ppm is the threshold for clean-up according to data listed on the heavy metals soil test results.

Our best guess is that arsenic-based sprays were historically used on the fields. The arsenic has us re-evaluating our plans and the site. We have no interest in continuing to work with contaminated soil.

The proposed site for the new farm is part of a much larger, city-sponsored park redevelopment project. The city asked E.A.T. South for copies of the soil tests, and we gave them copies (without requiring an official request).

Based on our experiences, testing for chemicals and heavy metals should be standard at any site the city plans to redevelop (not just this one). The city should pay for it instead of leaning on nonprofits' fundraising efforts.

New Funding

In June 2025, the City Grants Office asked E.A.T. South for help building gardens as part of a federal grant focused on crime prevention. The grant would fund gardens at four community centers, including the two locations mentioned on the previous page.

The Downtown Farm

Our cat Lola still lives at the downtown farm. We stop by to feed her daily. The city will eventually demolish all of the structures, returning the farm to a vacant lot to make mowing easier. We are trying to salvage items like the sheds, raised bed bricks (though there is a possibility they have some contamination), and the greenhouse, otherwise everything left will go into the landfill.

The community has noticed the deterioration of 18 the downtown farm, and two groups have reached out to ask if they might take over the garden. I explain about the chemicals in the soil, but we need some kind of sign and way of sharing that no one should use the land until it is fully cleaned up.



Summer harvests: sweet peppers, hot peppers, and eggplant

Excerpts from TTL Engineering's 2024 Report

Hexavalent chromium had a laboratory detection limit greater than its residential RSL, but lower than the industrial RSL. In TTL's opinion this does not constitute an environmental concern based on none of the soil samples having hexavalent chromium detections above the industrial RSL.

Limited Phase II Environmental Assessment Report, August 2024, Page 3

In June of 2024, Montgomery Parks and Recreation hired TTL Engineering to test the downtown farm for chemical and heavy metal contamination.



The photo on the left indicates the locations of soil and soil vapor samples taken during the 2024 soil tests. The photo is Figure 2 from Appendix A, TTL Engineering's *Limited Phase II Environmental Site Assessment Report* commissioned by Montgomery Parks and Recreation in 2024.

Page 3 of the report states that the locations SS01, SS04, and SS05 all had arsenic levels above allowable levels for industrial use.

SS01 and SS05 are in the areas that should have had soil excavated and replaced; however, they still contain extremely high levels of arsenic.

The following sixteen semi VOCs were detected in one or more soil samples (see **Table 4, Appendix B**): acenaphthylene, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, benzylbutyl phthalate, bis(2-ethylhexyl)phthalate, and pyrene. Benzo(a)pyrene was detected in soil samples SS-1, SS-2, SS-4, and SS-5 at concentrations ranging from 0.0110J mg/Kg in SS-5 to over its respective residential RSL at 0.182 mg/Kg in SS-1. Based on none of the detections being over the industrial RSL, in TTL's opinion the detected concentration of benzo(a)pyrene in SS-1 does not represent an environmental concern to the subject property.

LEGEND

- Review Boundary (9.28± AC)
- Soil Vapor Location & ID
- Soil Sample Location & ID

Above: excerpt from page 3 shows chemical contaminants present above levels allowed for residential use. *Limited Phase II Environmental Site Assessment Report*, TTL Engineering

Final Thoughts

We've offered you our "lessons learned," but losing the farm has also impacted the nonprofit, our community, and us personally.

Loss of site, loss of continuity, loss of funding

For any small nonprofit, an interruption in programming can harm, if not destroy, the organization. Amanda's salary and everything used for teaching and farming is paid for through fundraising. Her skills, knowledge, and relationships are critical to our work, and we had to find resources to keep her employed. We were able to fund our work in 2024 because of two grants won in 2023. One funder generously agreed to continue funding our educational programs at other locations around the city even though they had originally come to us because of the downtown farm.

However, in 2024, we did not raise any money for 2025. We were busy keeping programs going at multiple sites around the city, and we could not say for certain where we would be in a year. That makes fundraising very tricky.

An example of a major lost opportunity - Just before we closed the farm gates in early 2024, a representative of a large utility stopped by. They supported farms in Birmingham and Mobile and wanted to add Montgomery. E.A.T. South had been recommended to them. We explained our concerns about soil contamination and our plans to educate around the community. We created a proposal for a mobile garden education program, but their interest was in funding an actual farm. It felt like the work we had been doing for eight years was finally being recognized. People were coming to us because of the programs we had built (rather than us reaching out and asking for money), and that was all over.

Loss of community space

E.A.T. South was more than a few raised beds or a lesson in composting. People found connection and sometimes healing there. It was a community, a gathering place. One person said, "the farm was the first place I started to heal from trauma." Another said, "the farm is the one place in Montgomery where I meet people who don't share the same background or experiences as me."

During Covid, a former board member held her mother's funeral repast on the farm. A former intern was married on the farm when Covid suspended their initial plans. We were not an event venue. No one was charged. Our people needed a place to mourn or celebrate, and the farm was there.

Losing Community Connections and Volunteers

Building community connections and programs takes time. Over eight years, E.A.T. South became known as a place where people of all ages could volunteer or participate in educational programs. We logged more than 2000 hours of volunteer time each year. Because the farm was outdoors and because everyone else was living with the pandemic, too, the two years of pandemic operations were not as disruptive as the past year and a half. Without a farm, we have to turn away volunteer groups. Now, we are starting from scratch with a very limited volunteer base. It's difficult to stay motivated or be excited about rebuilding.

E.A.T. South Still Exists Because of the Community

The larger Montgomery garden community has kept us growing and teaching. An Alabama State University professor invited us to grow food in the university's teaching garden. The Director of Tuskegee University's Urban Agriculture Innovation Center offered a home for our community composting project. Our friends at Legacy Heritage Gardens pulled us into their rain gardens project. Our friends at Zizi's Bees call when they haven't heard from us in a while. We are a part of a caring community of growers.

Stress, health challenges & burn out

Writing up this summary of the past two years, I haven't mentioned my cancer diagnosis in 2021. I know we all live in such a contaminated world, that it's hard to say what exactly has made us sick, but I can't help wondering if working on the farm contributed to a breast cancer diagnosis in my forties. I worry for my coworker, Amanda, (who also worked on the farm while pregnant) and all of the other farm staff, volunteers or visitors who thought the City of Montgomery created a safe place to learn and grow.

Now, in this second year of rebuilding and seeking accountability, I am struggling with burn out. After telling the larger story of the farm, it's strange to include my own feelings, but I think it's important for anyone in a similar situation.

Conclusion

No one from the City of Montgomery has acknowledged that their actions put the community at risk. That would open them up for lawsuits, right?

We never received the funding to move that was promised by the councilman.

We are using the crime prevention grant awarded to the city's grants office to organize and collaborate with neighbors to build gardens at Montgomery's Community Centers.

We hope you are not in a similar situation to what we have described here, but if you are, we hope this report helps you navigate some of your challenges or at least know that you are not alone.

Gratitude

Reading reports and studies while trying to find a new farm and keep the programs going meant this paper took more than a year to complete. We are grateful to Thriving Earth Exchange (TEX) for their patience and for connecting us with experts who helped us understand and plan.

We also are incredibly grateful to our TEX Community Science Fellow, Daniela Soleri who listened to and validated our fears and concerns, helped us answer questions, held us accountable for finishing this project, and is the reason we have been able to compile our experiences into this document.

We owe a tremendous thank you to our farm community. The stories you tell, the memories you share, are medicine for our sadness and burn out. Thank you.

Unless otherwise noted, all photos were taken by E.A.T. South staff. Participants in E.A.T. South programs signed waivers permitting the use of photos taken during programs. While the written content of this report is licensed under a Creative Commons License. Photos may not be copied, used, altered, or shared in any way without the explicit written permission of E.A.T. South staff or board members.

