



A Growing Movement

2022 Community Composter Census

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Local Self-Reliance

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About the Institute of Local Self-Reliance

www.ilsr.org

The Institute for Local Self-Reliance (ILSR) is a national non-profit research and technical assistance organization that, since 1974, has championed local self-reliance, a strategy that underscores the need for humanly scaled institutions and economies and the widest possible distribution of ownership.

ILSR's Composting for Community Initiative promotes distributed and decentralized composting in order to maximize the benefits of composting for local communities. Composting cuts food loss, enhances soils, and protects the climate. When it takes place locally, composting can create local jobs, support local food production, and address equity issues along with realizing other co-benefits. Through our research, networks, and resources, we are documenting the viability of community-oriented composting; meeting the need for training, guidance on best management practices, business models, model policies and programs; and highlighting the key role of local government.

As a part of this work, ILSR hosts a network of community-oriented composters, the Community Composter Coalition, which is building the movement by connecting early adopters, spreading lessons learned, and inspiring new operations.



Why a community composter census?

Community composters are composting operations that center their local community in their work and services, primarily through keeping the composting process local and distributed, but also through providing community engagement programs and opportunities.

Community composting operations differ in many ways from the large, centralized operations often dominating the focus of the composting sector, and therefore they are inadequately represented by data on the industry as a whole. The goal of conducting a census on community composters is to get a snapshot of this distinct and often under-represented slice of the composting sector, as well as to serve as a baseline for measuring future growth and document the benefits and challenges of community composting.

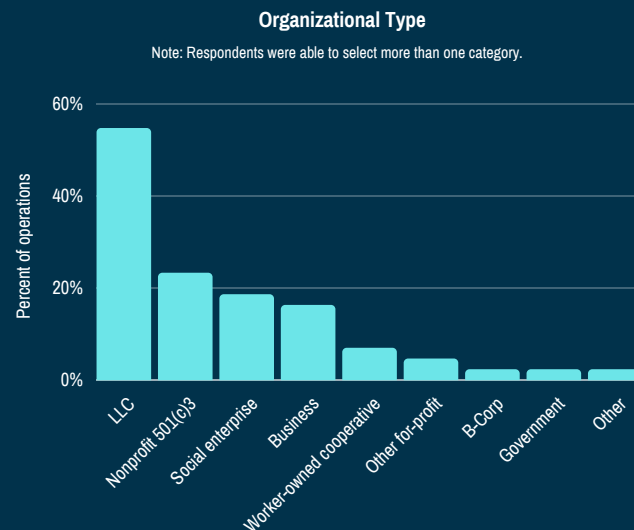
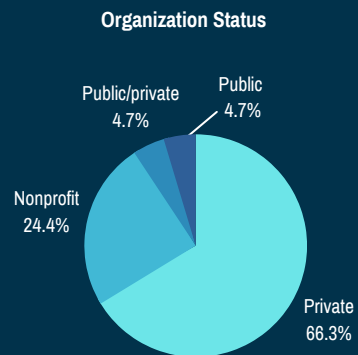
Participants

The Census was sent out in 2022 to 204 members of the Community Composter Coalition¹ and an additional vetted target outreach list of over 155 other community composters. In total, 86 community composters responded, representing a 24% response rate. Responses were voluntary, which may have impacted the type of respondents (for example, they may reflect a pool of community composters with more spare time and resources than average). Not all questions were required, so when data is based on less than 86 responses, the response number is noted. Because participants represent a wide variety of operation types, this report focuses more on describing the distribution of data rather than relying solely on statistics like averages.

Organizational type

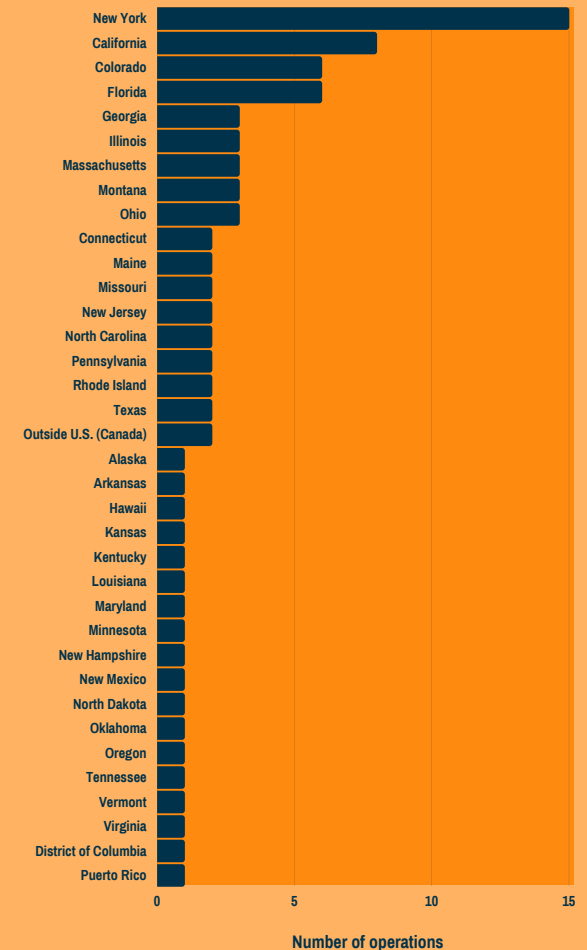
Of the operations surveyed, two-thirds are private, around a quarter are nonprofits, and the remaining tenth are public or a combination of public and private.

More specifically, over half identify themselves as LLCs, almost a quarter as 501(c)3 nonprofits, and over 15% identify as businesses or social enterprises. Other types of organizations represented in smaller numbers include worker-owned cooperatives, government agencies, and B-corps.



States Represented

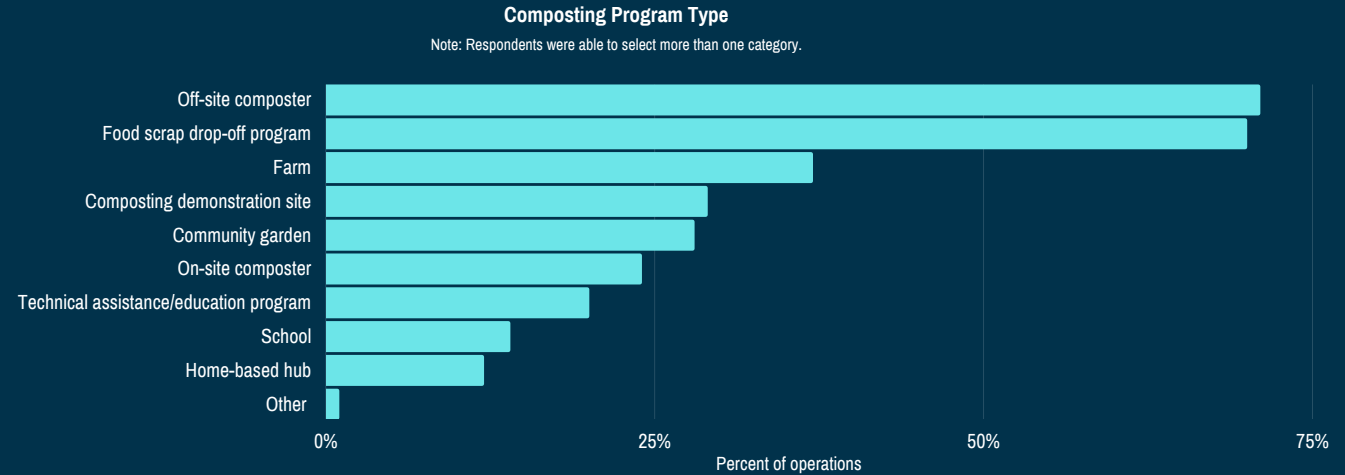
Community composters in this survey represent 33 states, as well as the District of Columbia, Puerto Rico, and Canada. By far the most common state represented is New York, with California being the second most common.



Program type

A vast majority of respondents identify as off-site composters, where material composted is largely sourced off-site, and as food scrap drop-off programs, where individuals can drop off food scraps at one or more designated sites.

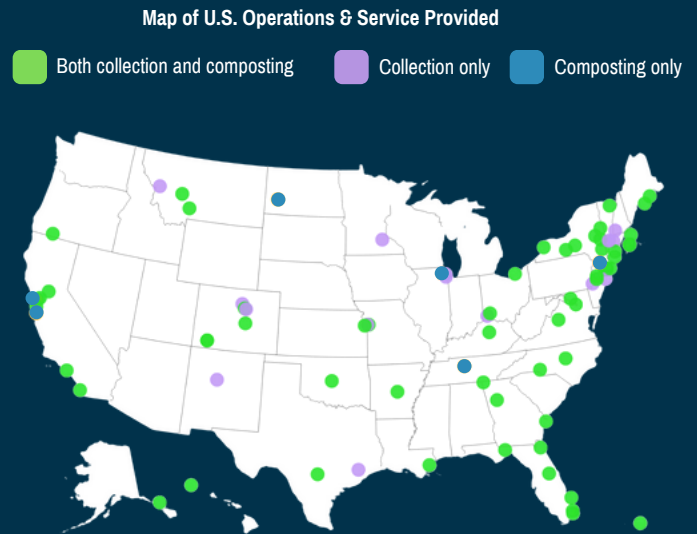
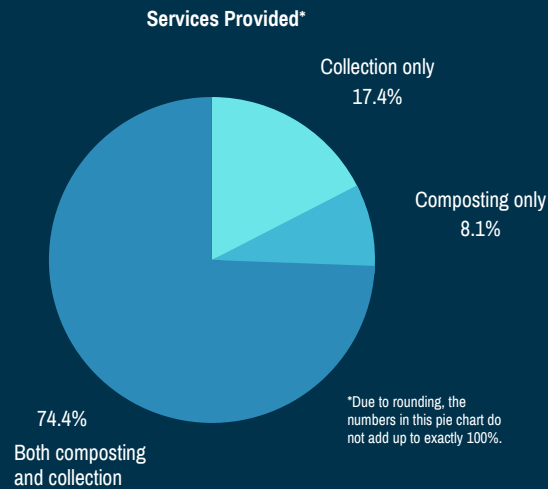
Other program types represented include farms, composting demonstration sites, community gardens, on-site composters (composting is done where the material is generated), technical assistance/education programs, schools, and home-based hubs.



Services provided

Our definition of community composter includes both composting and collection services, with the latter encompassing curbside and/or drop-off food scraps collection.

Three-quarters of organizations surveyed provide both composting and collection services, with 17% only providing collection and a small fraction (8%) only providing composting.

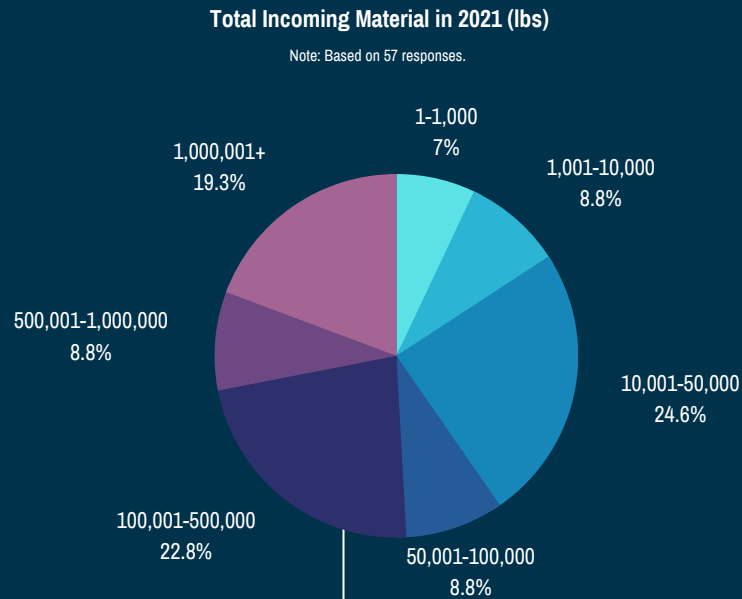


Operations

Organic material

I. Annual quantity

Participants report a wide range in the amount of total material they each collected and/or composted for calendar year 2021: 75 pounds to 4 million pounds.



Over half of operations report handling **over 500,000 pounds** of organic material (including bulking agents) in 2021.

II. Sources

A majority of respondents report sourcing material from residential drop-off sites; restaurants, cafes, and/or bakeries; residential curbside collection; events; and offices.

Sources for over 65% of respondents:



69%
Residential curbside collection



78%
Residential drop-off sites



76%
Restaurants, cafes & bakeries

Over 50% of respondents:



61%
Events



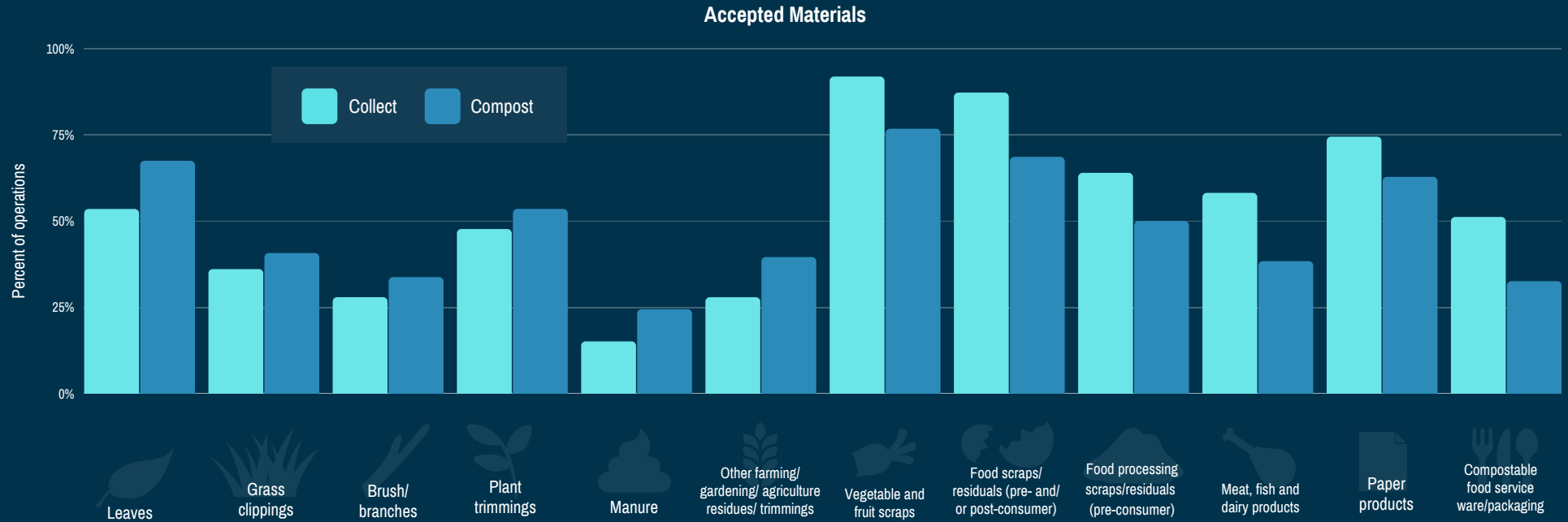
54%
Offices

20% - 40% of respondents:

- Supermarket chains
- Small grocery stores
- Hotels/resorts/retreat centers
- Universities/colleges
- K-12 schools
- Farms/agriculture
- Community gardens

III. Materials

The most commonly accepted materials by respondents for collection and composting are vegetable and fruit scraps, followed by post-consumer food scraps/residuals. The least commonly accepted are manure, brush/branches, and grass clippings.



Community composting tackles wasted food.

In spite of the fact that food represents the single largest component of solid waste in landfills and incinerators,² food scraps account for **only around 10%** of the total municipal solid waste composted in the U.S.³



71%
of U.S. composting
operations compost **only**
yard trimmings⁴



97%
of Census
respondents
handle food
scraps



Finances

I. Revenue sources

Almost three-quarters of respondents report receiving revenue from collection service fees, with around half reporting revenue from compost sales. Over one-fifth of respondents report revenue from sales of compost-related products, grants, training/workshop/speaking fees, and consulting.

Top 5 Revenue Sources



1 Collection service fees



2 Sales of compost



3 Trainings/ workshops/ speaking fees



4 Sales of compost-related products



5 Grants

Top 5 Products Sold

- 1 Bulk compost
- 2 Bagged compost
- 3 Potting mixes
- 4 Food
- 5 Compost socks*
*for sediment control & stormwater management

Note: Based on 66 responses. Respondents were able to select more than one category.

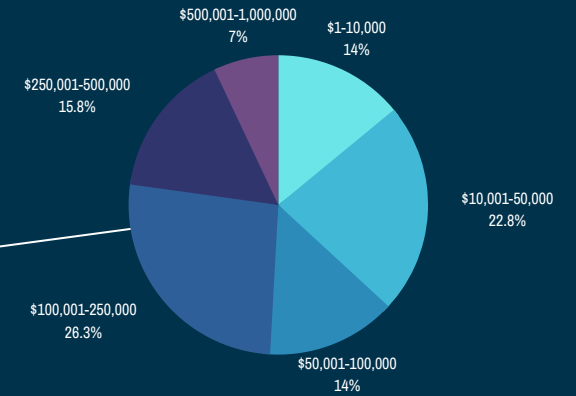


II. Annual revenue

Estimated total annual revenue for 2021 ranges from \$500 to \$1,000,000.

Total Revenue for 2021

Note: Based on 57 responses



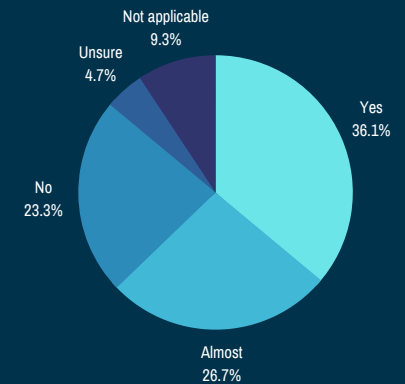
Around half of operations make over \$100,000 annually.

III. Sustainable income

Only 36% of respondents report generating enough earned income to fully sustain operations.

Earned income does not include grants, crowdsourced funding, and donations.

Q: Do you generate sufficient earned income to sustain operations?



Collection services

I. Types of collection

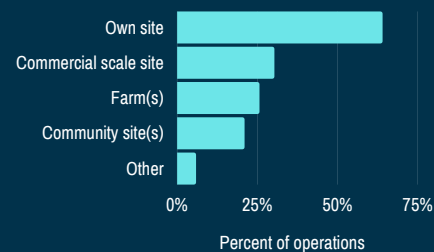


II. Compost sites

A majority of collection services compost at their own site, with less than a third sending their compost to a commercial-scale site.

Processing Locations

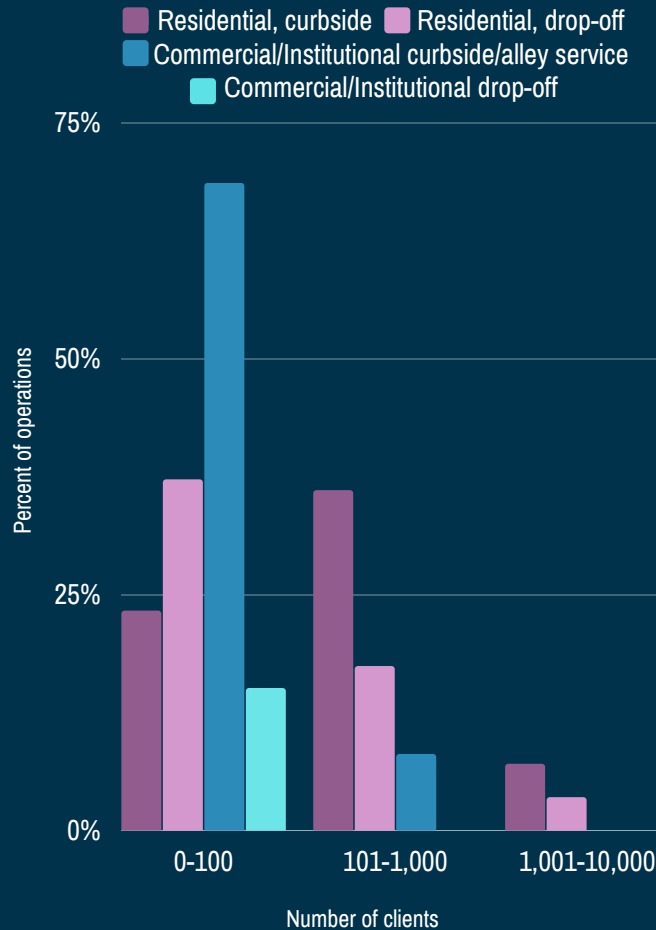
Note: Respondents were able to select more than one category.



III. Clients

Respondents serve residential and commercial clients. Unsurprisingly, residential drop-off and curbside collection account for the largest number of clients.

Number of Clients by Collection Type



Operations offering commercial/institutional collection serve fewer than 100 clients through drop-offs and only 15% of respondents serve 100-1,000 clients through curbside or alley collection. A little over half of those offering residential collection serve 100-1,000 clients and 10.5% serve 1,000-10,000 clients.

IV. Vehicles

Pick-up trucks are the most common vehicle utilized for collection, reported by a majority (53%) of respondents. Over a quarter of respondents utilize vans and vehicles with a lift gate. Other types of vehicles used by less than 10% of respondents include cars, SUVs, stake body trucks, box trucks, dump trucks, and packer trucks. If satisfied with their vehicle, respondents were asked to share its specific brand.

Brands mentioned by multiple respondents:



Isuzu NPR



Isuzu NQR



Ford F550



Bike hauling

Note: Based on 74 responses



15% of respondents use bikes for collection

Of those:



63% use pedal power with an electric assist



63% use a trailer



45% use a cargo tricycle

Bike hauler highlight: Pedal People Cooperative (Florence, MA)

Key Features:

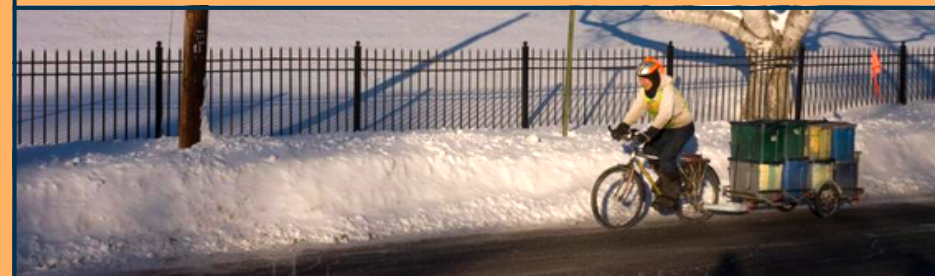
- Private
- Social enterprise
- Worker-owned cooperative
- Collection only
- Curbside & drop-off collection
- Commercial & residential clients

Collection stats:

- >500 customers
- 5000 lbs/wk food scraps handled

Pedal People's mission is to model the use of human power as a viable alternative to fossil fuels. They find bikes in particular are a good fit for residential food scraps collection, in that there are many pick-ups of small quantities of material.

From their website (pedalpeople.coop): "We now have 17 bike trailers in our fleet. Most are eight-foot long Bikes At Work bicycle trailers with a hitch that attaches to the rear chainstay. The bed is 19" wide and the trailer has a capacity of 300 pounds. We also have 64-inch long trailers, including an extra wide one we use for picking up the downtown trash. For pictures and more information, see the Bikes At Work web site. Two trailers are ones that we've built based on Aaron Wieler's Community Bike Cart Design."

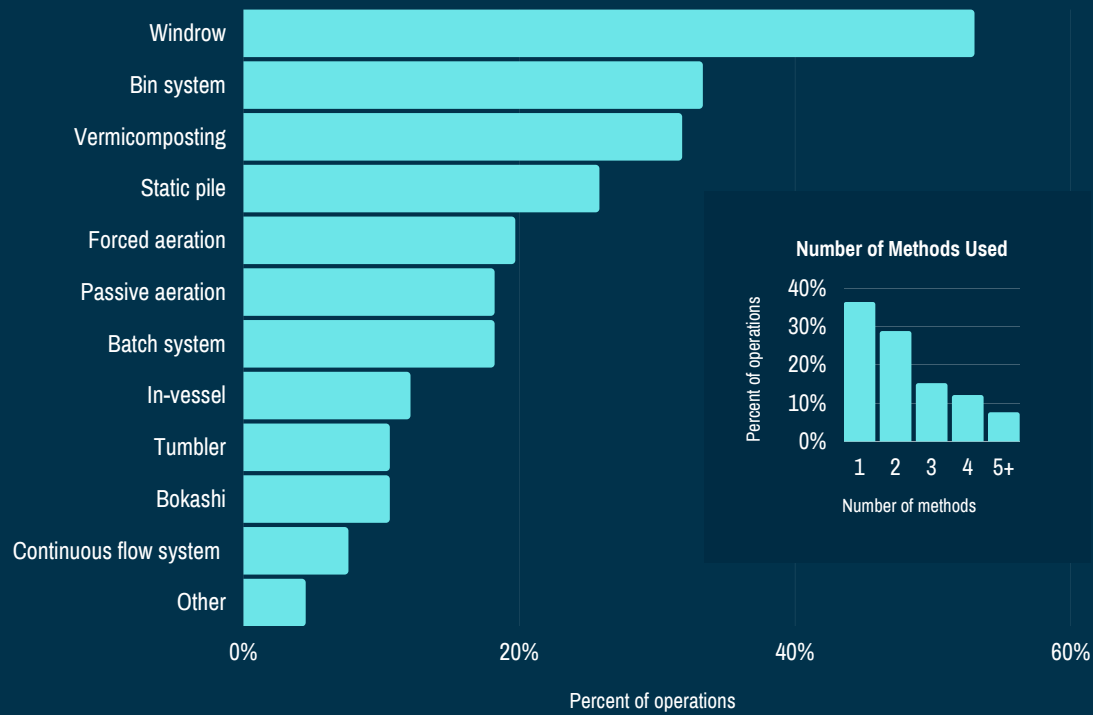


Composting services

Most respondents provide a composting service in addition to collection, with only a small minority (8%) providing composting without also offering a collection service. The following statistics are drawn from the 66 respondents who completed our composting service-specific section of the survey, unless otherwise noted.

I. Composting methods

Windrows are the most popular composting method, utilized by a majority of respondents, followed by bin systems and vermicomposting. A majority of composters employ multiple methods, with fewer than 40% utilizing only one.



1. Windrows



2. Bin System



3. Vermicomposting

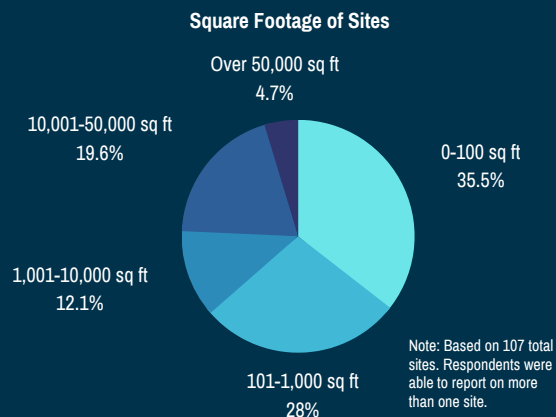




II. Composting sites

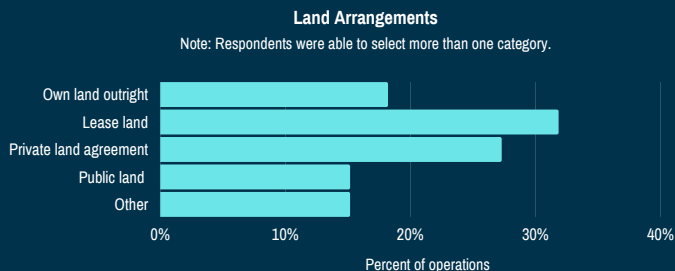
Size

The square footage of composting sites ranges from 8 sq. ft. to 174,240 sq. ft. with the majority of sites under 1,000 sq. ft. in size.



Land arrangements

Over a quarter of respondents lease their land or have a private land agreement, but owning the land outright and using public land are also common. "Other" responses include personal residences, partnerships with other organizations, and more.



Permits

Mild negative correlations between operating permit exemptions and both square footage and quantity of material handled suggest that as quantity of material and/or square footage increases, sites are somewhat less likely to be exempt from permits.



Note: Respondents were able to select more than one category.



Compost Testing Frequency

A majority of respondents keep records of their compost pile temperatures and test their compost, with the most common frequency for testing being once or twice a year.

Test more than "Never" (65%)



Every other year (3%)



1-2 times per year (24%)



3+ times per year (17%)



On an as-needed basis (21%)

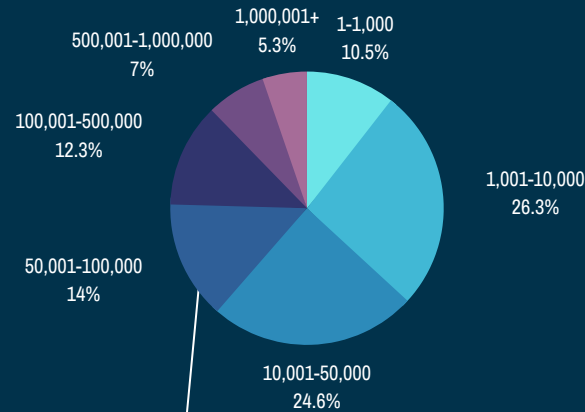


III. Compost produced

Finished compost is material that has gone through the curing phase and is ready for distribution. Respondents that produced 1,000-10,000 pounds or 10,000-50,000 pounds of finished compost each represent around a quarter of respondents.

Finished Compost Produced in 2021 (lbs)

Note: Based on 57 responses



Almost 40% of operations report producing over 50,000 lbs of finished compost in 2021.

IV. Compost end uses

End use for 85% of respondents:



Gardens (home-based & community gardens)

For around 50% of respondents:



Farm soil amendments for food production



Donate/give-away



Client give-back

30% - 45%:



Sell



On-site use



Topsoil & turf dressing

10% - 20%:

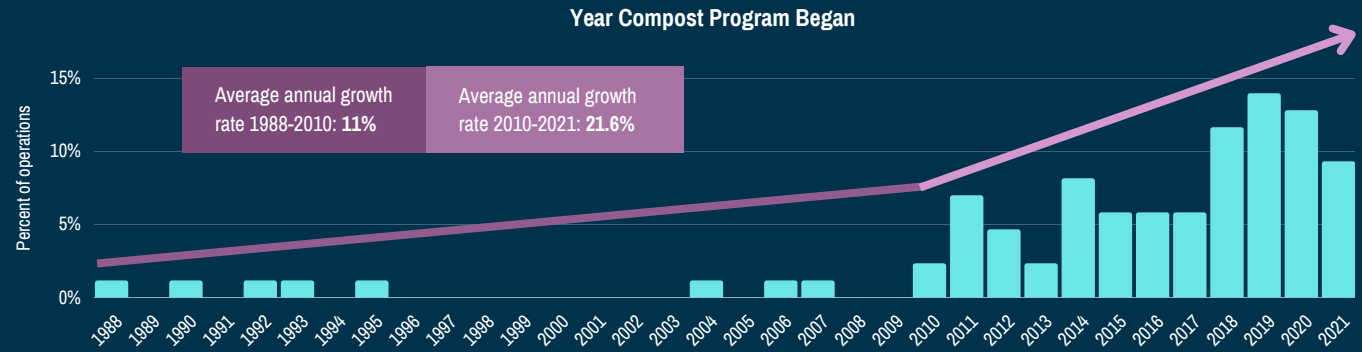
Public spaces

Sell online

Growth

Increase in programs

The oldest composting program in our survey dates back to 1988, and the most recent was started in 2022. The median age of composting programs surveyed was 5 years old, with over 90% of programs having started since 2010 and over half since 2016.



Increase in scale

Not only are the total number of community composting operations increasing annually, but also the amount of materials handled by individual operations trends upwards. When asked about their current weekly tonnage of material handled, the average of responses came to 20,337 lbs/wk, over 4,000 lbs more than reported for 2021.

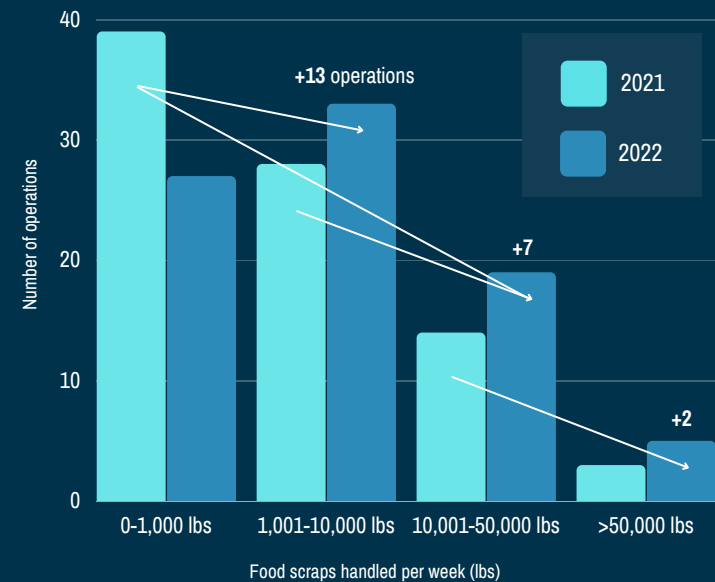
Scaling up also was the top challenge identified by respondents, in regards to business/finances and to composting site operations.

The righthand graph shows the difference in weekly food scraps collected and/or composted in 2021 versus 2022.

The number of respondents handling 0-1,000 pounds of food scraps per week decreases by 14 operations between 2021 and 2022. This is not a reduction in the total number of community composting operations. These 14 operations all increased tonnage handled in 2022, with 13 now handling 1,001-10,000 pounds per week and one operation handling 10,001-50,000 pounds per week. The white arrows illustrate this pattern of operations scaling up into higher tonnage brackets.

Over one-quarter of respondents scaled up their amount of food scraps handled weekly in 2022.

Growth in Food Scraps Handled (2021-2022)



Community Impact

Communities served

I. Keeping it local

Community composters compost in the same area in which organic material is collected. In 82% of applicable responses (73) composting sites are located within the areas that are served by the operation's collection service.

"All the food we process comes [from] individuals, small businesses and CBOs [community-based organizations] within a mile of our farm. The compost produced returns back to gardeners within the community."

"Our service area is within a half-hour drive of our farm, and we compost for schools, soup kitchens and a free drop-off service through a local library."

In addition, 72% of 66 compost service operations report using some, most, or all of their product on-site, where the compost was made. Not only does this cut down on transportation emissions, it also keeps the soil and environmental benefits of composting local.

"We serve the [area] where we all grew up, working to eliminate food waste in the landfill and increase local soil production."

Closed loop highlight: Peels & Wheels Composting (New Haven, CT)

Key features:

- Private LLC
- Bike hauler
- Urban farm
- Rural farm
- Collection & composting service

Peels & Wheels has an explicit mission to return the benefits of composting to the same communities from which they collect. From their website (pwcomposting.com): "Peels & Wheels Composting was created in partnership with New Haven Farms, a non-profit organization that promotes health and community development through urban agriculture, with the shared understanding that transforming organic waste into compost for urban and rural farms and gardens is an opportunity to improve the quality of our air and soil and grow more food for our community."

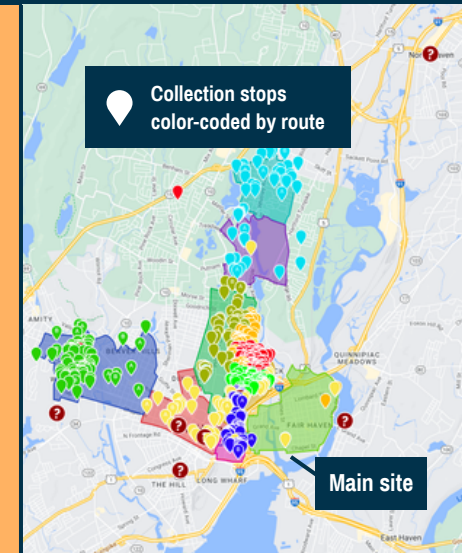
They do this in part by keeping the process local, with their main composting site located within their collection service area, and also by closing the loop between the sources of the organic material and the end uses of their finished compost product.

Organic material sources:

- Homes, offices, schools & events
- Community gardens
- Farms/ agriculture
- Restaurants, cafes & bakeries

Compost end uses:

- Home gardens & donation/give-away
- Community gardens
- Farms for food production

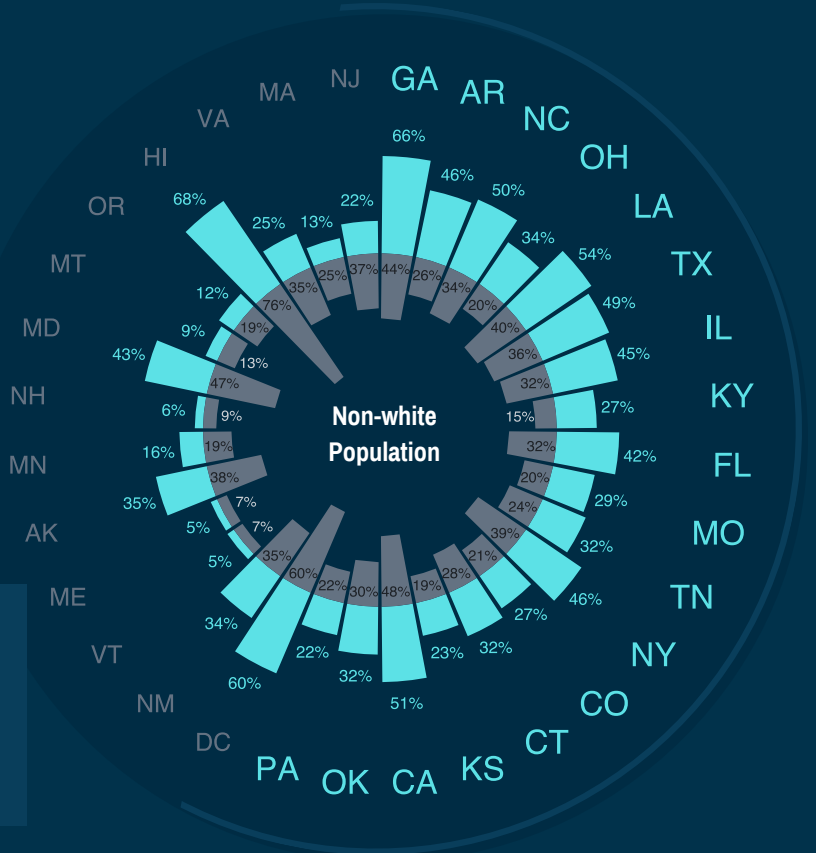
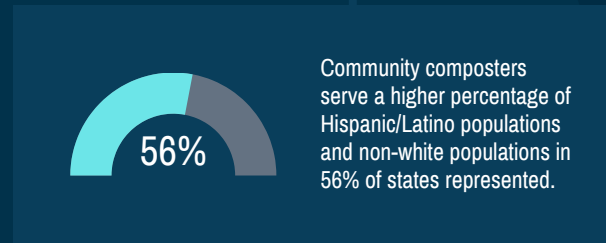
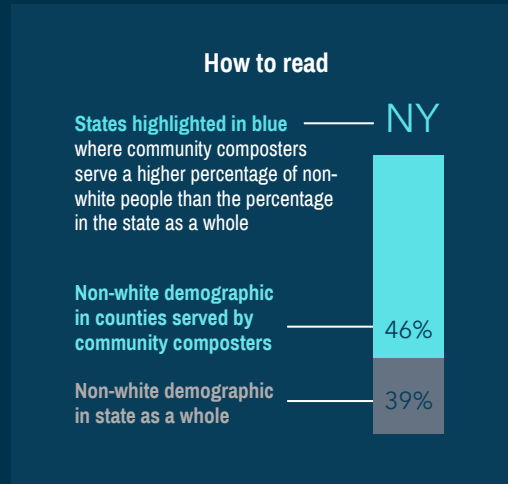


II. Environmental justice communities

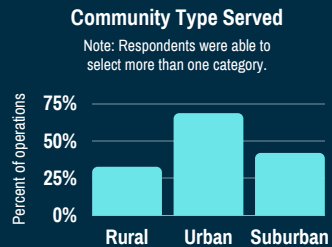
Demographics served

Non-white and Spanish-speaking communities often bear the burden of environmental challenges and are underserved by community programs and local investment. However, the community composters surveyed serve a higher proportion of communities of color and Hispanic/Latino communities (the latter is not pictured graphically), based on comparing U.S. Census demographic data (2021 5-year ACS)⁵ for the zip codes of communities served with the overall state demographics.*

* Here we use U.S. Census race and ethnicity labels for consistency, but acknowledge that they may be inexact, limiting, or even rejected by the communities they describe.



Community type served

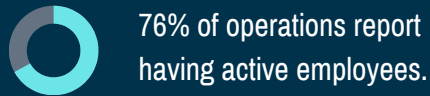


Urban areas often face a number of environmental issues including but not limited to air, water, and soil pollution; inadequate waste management; lack of green spaces; the heat island effect; flooding; and more. Rural communities are often burdened by environmental problems such as extractivism, legacy pollution, disrupted agricultural production, and the highest rates of food insecurity in the U.S.⁶ These are all issues that community composting can play a role in addressing.

Over two-thirds of survey respondents operate in urban communities and one-third operate in rural communities, meaning that community composters are providing vital environmental benefits⁷ to communities in need.

Jobs

I. Job creation



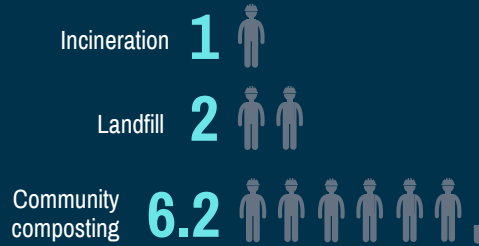
Across all operations, the survey showed:



With jobs mostly coming from collection:

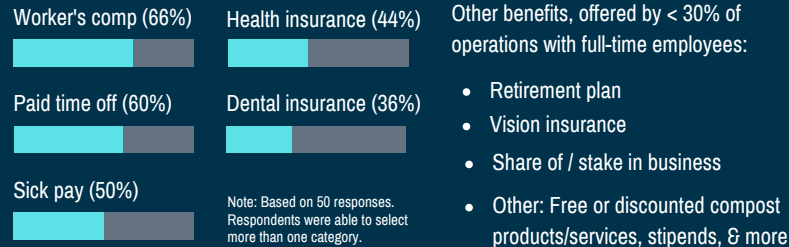


Jobs per Year per 10,000 tons of Material Handled



Note: Community composting figure is based on 27 operations reporting full-time employees, only including time spent composting. Calculations assume that food scraps make up one-quarter of composted material by weight. The job factor based on food scraps alone is 24.8 (jobs per 10,000 TPY). Incineration and landfill job figures are based on ILSR's 2013 report, *Pay Dirt: Composting in Maryland to Reduce Waste, Create Jobs & Protect the Bay*. We recognize that this is a small sample and more research is needed.

82% of operations with full-time employees offer some type of benefit.



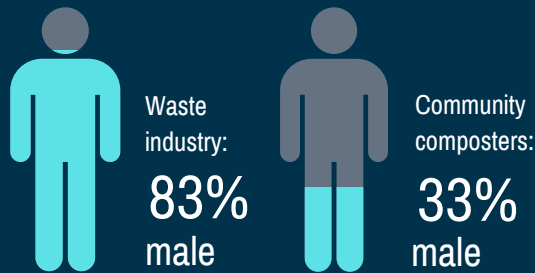
Operations that offer more than 4 benefits (27) have higher average revenue (over 4x higher), average number of full-time employees (over 8x higher), and average food scraps handled (over 15x higher), than the remaining 59 operations, and are on average 4 to 5 years older. A number of the operations offering full benefits have local government contracts, indicating the importance of municipal support in scaling up community composting.



II. Staff demographics

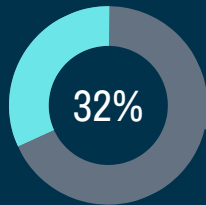
Gender

Staff are an average of 49% female and 18% non-binary/ gender non-conforming, in comparison to the waste management and remediation industry as a whole, which is 83% male as of 2020.⁸



LGBTQ+

Respondents report an average of



LGBTQ+ staff

That's over

4.5x

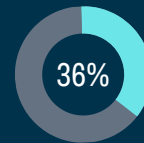
the national percentage of LGBTQ+ -identifying adults in 2021.⁹

Race

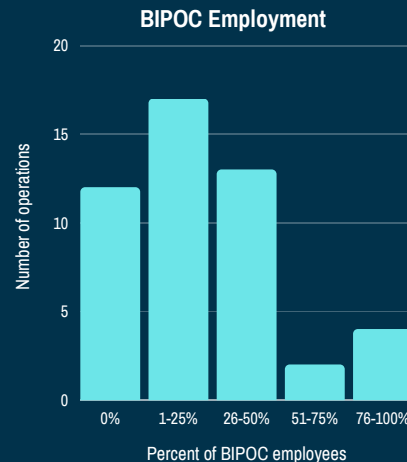
Three-quarters of the 48 reporting operations employ BIPOC (Black, Indigenous, or people of color)* staff.

*Respondents were not provided with a definition of any racial categories.

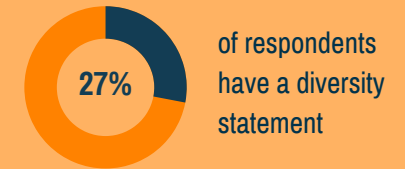
Average proportion of BIPOC employees reported by community composters:



One-quarter report zero BIPOC employees and three operations have a staff that is 100% BIPOC.



Commitment to diversity & equity



Excerpts from respondent diversity statements:

"In the event two candidates are deemed equally qualified, [we prioritize] hiring women, queer/trans/non-binary people and persons of color."

"Diversity ensures strong and stable ecosystems. Similarly, our company can only thrive when differences are celebrated. We welcome individuals from all backgrounds to become involved in the community compost movement!"

"We are committed to providing individuals with criminal records, including formerly incarcerated individuals, a fair chance to participate in the American economy."

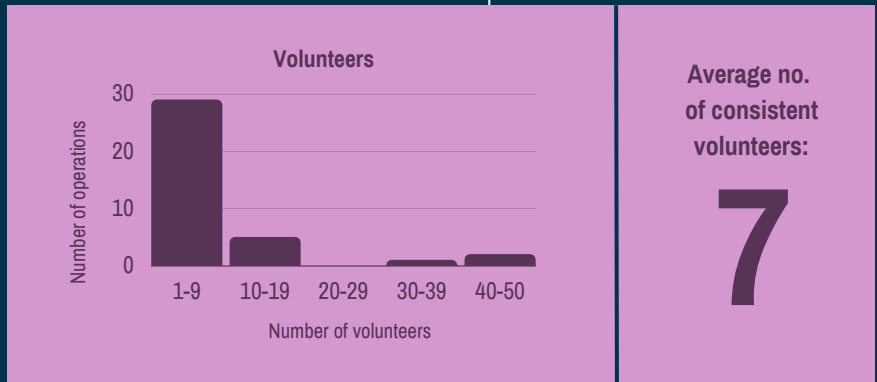
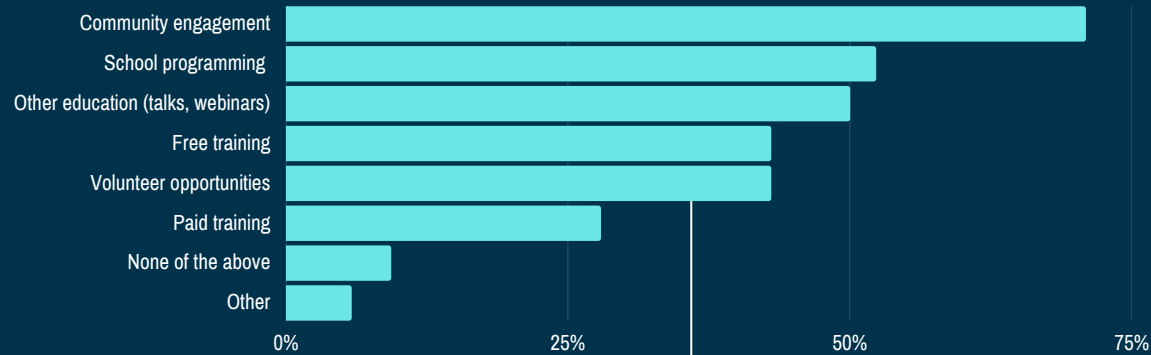
"The [company] is committed to anti-oppressive practices in all its activities, including the hiring process."

Community engagement

71% of participants provide community engagement opportunities, such as volunteering, competitions, and community get-togethers. A majority provide school programming, such as field trips or presentations at schools, and other educational programming such as talks or webinars.

Community Programming

Note: Respondents were able to select more than one category.



Average no. of consistent volunteers:

7



Emissions reductions

The following numbers are based on Sound Resource Management Group's Measuring Environmental Benefits Calculator (MEBCalc)¹⁰ and the U.S. EPA's Greenhouse Gas Equivalencies Calculator.¹¹

In 2021, Census respondents produced

11,142,163 lbs

of finished
compost



which, through application to land and diverting organic material from landfills, potentially generated a net benefit of around



7,300

metric tons of
CO2 equivalent

Note: These numbers were found by applying MEBCalc's .065 eCO2 conversion factor to the total reported annual tonnage of finished compost. This estimate may under- or overestimate benefits due to geographic and compositional differences between this Census data and the San Diego County report data (on which the MEBCalc model was applied), such as differences in feedstocks composition, composting methods, and soil health prior to compost application.

This is equivalent to

120,706

tree saplings grown
for 10 years

or

49.2 acres

of U.S. forests
preserved from
conversion to
cropland for
1 year



Additional benefits

The data in this section is not meant to represent an exhaustive analysis or quantification of the value added by respondents to their communities.

Rescuing wasted food, sequestering carbon, creating jobs, and enhancing soil quality are some of the better-known benefits of composting. Keeping the composting process local and community-oriented can not only keep those benefits local, but also can lead to a host of additional, lesser-known benefits. These include but are not limited to:

Public health benefits

- Increasing food security & expanding access to healthy food
- Encouraging outdoor & physical activity
- Promoting psychological well-being
- Mitigating air, water, and ground pollution
- Greening & beautifying neighborhoods
- Mitigating the heat-island effect

Community-building benefits

- Providing community gathering spaces & opportunities for connection
- Fostering social support networks & safety nets
- Increasing prosperity for local farmers
- Encouraging local stewardship
- Creating opportunities for marginalized groups (such as engaging at-risk youth or providing jobs for people with barriers to traditional employment)

Environmental benefits

- Promoting environmental awareness & education
- Creating habitat for wildlife & increasing biodiversity
- Co-benefits to local compost application such as increased flood control, erosion control, & more

Challenges

As previously mentioned, scaling up operations was the number one challenge facing composters, identified by a majority (63%) of respondents. Other challenges identified by over 40% of respondents include funding/financing, marketing/outreach/education, access to land, lack of adequate equipment available for small operations, customers' willingness to pay, and space constraints.



Policy changes

Respondents were asked, "What changes to local or state policies would make sustaining or replicating your operation easier?" Below are the themes that emerged, led by the number of times they were mentioned.



Respondent comments

On permits:

"Permits should not be so complicated to get, we understand that there should be requirements. However, it would be ideal to allow pilot programs to be established with the opportunity to scale up and grow."

On funding:

"Compost funding from local government needs to be baselined into the budget. Each year presents uncertainty around funding and causes uncertainty in our programs that rely on this funding. Also, having policy that support community compost operations on city-owned parkland."

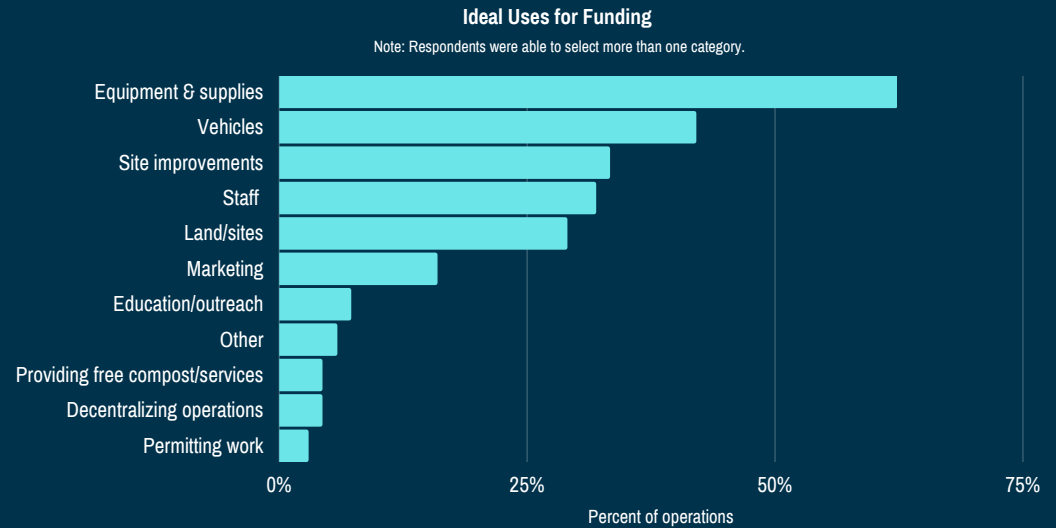
On support:

"Our city is implementing municipal food scrap collection. They will haul scrap miles to be codigested or dehydrated into animal feed - yuck! I wish the City had a program to facilitate home/community based compost instead of spending millions on hauling/processing food scraps."



Funding

When asked, "If you had unfettered access to more funding, what would you spend it on?" the top answer was equipment and supplies. Vehicles, site improvements, and staff, were also mentioned in over a quarter of responses.



Respondent comments

"Buffering startup payroll so that we can work full-time in getting our operation going and sustaining on its own (we both currently work other jobs to supplement our income). Also, paying for an office space in this startup phase."

"More sites, scaling up community composting from the community garden level to a series of small scale processing sites, Rocket type in vessel systems at large institutions/business and rural areas to assist in small scale processing—and staff and vehicles to operate a rural collection system."

"Lawyer (challenge monopoly nature of franchise agreements). Decentralizing operations (access to smaller spaces more spread out across the city). Supplies (tools that make labor less intensive)."

"Labor. I would create well paying, life affirming jobs for marginalized communities."

"Creating a fund and umbrella organization for a decentralized network of composting cooperatives. Funding the needs of existing community composting operations and helping them to convert to cooperatives. Provide anti-oppression training, workplace democracy training, retreats, and a 'compost tour' program where people can go work at other operations in the network. Build systems to consolidate administrative overhead, reducing costs across the network. Research and design a replicable but highly customizable composting facility and farm model"... "Bulk purchase electric vehicles for hauling operations. Build anaerobic digestors for fleets to run on biogas. Create a single brand under which the network can sell its products."

Conclusion

This first-ever Community Composter Census is a snapshot of not only a segment of the composting movement, but also a choice point for the industry as a whole. Community composters are presenting policy-makers, equipment manufacturers, funders, and other key players, with an opportunity: to shift the economic and political landscape away from privileging industrial operations, and to invest in the success of a rapidly growing sector that has the potential to bring local communities a vast constellation of economic, social, and environmental benefits.

The 2022 Community Composter Census showed that community composters are:



Varied

There is no single model of what community composting looks like.

- Responses varied widely in terms of program type, scale, methods, and more.
- Operations represent 33 states, plus D.C., Puerto Rico, and Canada, often serving areas with no previous infrastructure for composting food discards.



Impactful

Community composters are amplifying and expanding access to the benefits of composting.

- 82% of respondents process compost within their service area and 72% report using some, most, or all of their product on-site, where the compost was made. This cuts down on emissions and keeps benefits local.
- Over 70% of respondents offer community engagement opportunities.
- Staff are an average of 49% female and 18% non-binary/gender non-conforming, whereas the waste management and remediation industry as a whole was reported to be 83% male in 2020.¹²
- The job factor for community composting is 3 times that of landfilling and 6 times greater than incineration. If just half of food scraps flowing to landfills and incinerators were diverted to community composters, over 50,000 new jobs could be created from composting alone (not including collection).¹³



Growing

Community composting operations are increasing in number and in scale.

- Operations more than doubled since 2016, with 90% of having started since 2010 and a median age of 5 years old.
- Over one-quarter of respondents increased their weekly tonnage of food scraps handled from 2021 to 2022.
- The number one challenge identified by respondents was scaling up.
- One- to two-fifths of respondents serve large clients such as universities and supermarket chains, with over 10% serving 1,000-10,000 clients.

Thank you to the respondents that made this report possible!

Learn more about the movement to support community composting at ilsr.org/composting.



Footnotes

- ¹ *Community Composter Coalition*, Institute for Local Self-Reliance (<https://ilsr.org/composting/community-composter-coalition/>).
- ² *Advancing Sustainable Materials Management: 2018 Tables and Figures*, U.S. Environmental Protection Agency, December 2020 (https://www.epa.gov/sites/default/files/2021-01/documents/2018_tables_and_figures_dec_2020_fnl_508.pdf). See Tables 3 and 4.
- ³ Ibid. See Table 2.
- ⁴ B. Platt, N. Goldstein, *State of Composting in the U.S.*, BioCycle, July 2014 (<https://www.biocycle.net/state-of-composting-in-the-u-s/>).
- ⁵ *American Community Survey 5-Year Data (2009-2021)*, United States Census Bureau, 2022 (<https://www.census.gov/data/developers/data-sets/acs-5year.html>).
- ⁶ *Hunger in Rural Communities*, Feeding America (<https://www.feedingamerica.org/hunger-in-america/rural-hunger-facts>).
- ⁷ B. Platt, C. Libertelli, *Infographic: How Composting Combats the Climate Crisis*, 2022 (<https://ilsr.org/compost-climate/>).
- ⁸ *Waste Management & Remediation Services*, Data USA, (<https://datausa.io/profile/naics/waste-management-remediation-services>).
- ⁹ J. Jones, *LGBT Identification in U.S. Ticks Up to 7.1%*, Gallup (<https://news.gallup.com/poll/389792/lgbt-identification-ticks-up.aspx>).
- ¹⁰ J. Morris, *Measuring Environmental Benefits Calculator (MEBCalc)* (<https://srmginc.com/mebcalc/>); and J. Morris, R. Flammer, and T.M. Soylu, *Environmental Dollars and Sense of Composting in San Diego County*, BioCycle, January 2022 (<https://www.biocycle.net/environmental-dollars-and-sense-of-composting-in-san-diego-county/>).
- ¹¹ *Greenhouse Gas Equivalencies Calculator*, United States Environmental Protection Agency (<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>).
- ¹² *Waste Management & Remediation Services*, op. cit.
- ¹³ Note: This calculation was made by applying our job factor (24.8 for food scraps alone) based on full-time jobs only to the U.S. EPA's 2018 waste generation data: *Advancing Sustainable Materials Management: 2018 Tables and Figures*, U.S. Environmental Protection Agency, op. cit.

Photo credits

Note: Community composters shown in photos from ILSR are not necessarily census respondents.

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