



**LIFE IN A**

# SMALL TOWN part 2

by Athena Lee Bradley

Composting is a key organic material management strategy in rural and small towns. Our author explores low-cost organics diversion opportunities for handling home, neighborhood and other small-scale organics generators.

**O**rganics recycling – commonly known as composting – is a controlled, aerobic (requiring oxygen) biological process which results in the decomposition of organic materials. This decomposition process occurs naturally in nature. Composting is performed by microorganisms (bacteria, fungi and other living organisms) which digest the organic residues for food and energy and speed up the decomposition process. Composting is also a manufacturing process that converts waste material into an easy-to-handle, useful value-added product for gardens, landscaping, agricultural applications and more.

## Backyard and neighborhood composting

Keeping materials on-site – at home or in neighborhoods – presents rural, semi-rural, and small towns with a relatively low-cost, but effective, organics management program option for virtually all organic wastes. Such “decentralized” composting programs have many benefits including relatively low startup costs. These programs require residents to play an active part in the organics management effort and help to create a sense of personal responsibility for organics management.

A well-organized and -promoted backyard or neighborhood composting program can divert substantial amounts of organic materials without the need for municipal or private collection, transportation or processing. These benefits are especially magnified when combined with organics reduction efforts such as grasscycling and leaf mulching.

Communities benefit from lower disposal costs and reduced organics management requirements. In the long-term, backyard and neighborhood composting efforts can reduce or eliminate the need for municipal composting sites and help to reduce the need for landfill space or incinerator capacity. Residents save on trash or yard waste collection fees in areas where collection fees are applied based on the volume or weight of materials. Backyard and neighborhood composting creates a compost product that can be used in gardens and on landscaping as a soil amendment, helping to reduce fertilizer needs.

Decentralized composting applications are not limited to households. Commercial operations, including parks, small-scale horticultural businesses, golf courses, corporate campuses, and large multifamily residential complexes, as well as schools, colleges, universities and other institutions with landscaped areas and/or food waste generation can manage their own on-site composting programs.

## Trench composting

The easiest way to compost at home, especially food scraps, is through direct soil incorporation. In trench composting, chopped food scraps are placed in a hole or trench and covered with at least eight inches of soil. For winter-time use of this method, a large trench can be dug in the fall, such as in a garden area. The trench can then be gradually filled in and covered during winter. Leaves can be placed over the trenches to add additional organic material. By spring, the materials have decomposed and the area is suitable for planting.



## Backyard composting

Residents have a wide variety of options available for effective backyard composting. Home compost systems can be simple and “slow,” where materials are layered in a pile or heap and turned occasionally or left to “rot.” Decomposition will occur in about a year using this method. A more active home composting approach requires use of enclosed containers, attention to the proper “mix” of green and brown ingredients, and more frequent turning of materials in order to speed decomposition. Finished compost from this approach would result in around 4-6 months.

*Promoting backyard composting and the use of home digesters, along with organics reduction education and outreach, presents rural and small towns with the most effective low-cost organics diversion opportunity for handling virtually all home-generated organics.*

There are a wide range of backyard composting bins suitable for home composting. Bins can also be constructed using readily-available materials.

## Backyard food “digesters”

Although not technically composting, backyard “digesters” are an excellent option for home management of food scraps and vegetable grease. Digesters do not produce compost, but the systems allow these foods to decompose and generate some nutrients for the soil underneath the units. The systems

produce few odors if done correctly and offer a practical deterrent against unwanted vermin. Commercial versions of home digesters, including the “Green Cone,” are promoted as an option for handling virtually all types of household food organics, including meat, dairy and egg products. Do-it-yourself digesters can be easily constructed from a metal garbage can. The trick to digesters is the placement of the unit



into the ground to allow for proper decomposition. Communities will gain the highest diversion benefit from promoting the use of commercially available home digesters along with home composting in order to capture all household organics. Digesters are designed as an effective means of handling food wastes and pet wastes, but not yard scraps.

## Worm composting

Worm composting or “vermicomposting” is a process using worms (“red wigglers”) to

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## Who's Doing It?

The **Central Vermont Solid Waste Management District** (<http://tinyurl.com/VT-Compost>) promotes backyard composting and home digesters through educational outreach and sales of compost bins and the Green Cone digester.

**Annapolis Royal** (<http://tinyurl.com/Annapolis-Compost>) is a small Canadian town located in Annapolis County, Nova Scotia (population 481). The town has adopted a zero waste goal. The town provides curbside collection on a biweekly basis for recyclables and garbage, and promotes home composting and neighborhood composting for organics management. Green Cones for backyard composting of food scraps and grease are sold through the Town Hall. "Neighborhood Composters" are large wooden composters that are built and maintained by the town for residents to compost virtually all types of household food scraps and yard debris. The Neighborhood Composters are promoted as a way for residents, who due to location (such as apartment dwellers) or other constraints, are not able to participate in backyard composting.

**Ionia County** is a rural county in **Michigan** (population 63,905; population density 107 residents per square mile); it is comprised of three towns each with populations under 11,300, along with several townships,

villages and unincorporated areas. The county has an excellent website (<http://tinyurl.com/Ionia-Compost>) promoting home composting.

The **Northeast Resource Recovery Association (NRRA)**, a nonprofit recycling cooperative, uses cooperative purchasing to offer lower prices on purchases of backyard compost bins, rain barrels, kitchen scrap pails, and compost turners for sale. NRRA offers municipalities, community groups or service organizations around New Hampshire the opportunity to sell the items at lower than retail prices and to use the sale as a fundraising opportunity.

**Vermont Master Composter** program is managed by the University of Vermont with financial and technical support from the Vermont Department of Environmental Conservation Waste Management Division. Students are required to complete community volunteer work in order to be certified.

In rural **Lewis County, Washington** (population 75,455; 28 residents per square mile), burning was once common until banned at the state level. To help promote compliance with the law, the county initiated a "burn barrel for compost bin" exchange program.

**Jefferson County Solid Waste Management** provides solid waste management services in Jefferson County, a semi-rural

county in Missouri (population density 302 residents per square mile). The District promotes composting and vermicomposting through workshops at the libraries located in the County and one at the Byrnes Mill Recycling Center. The program also targets schools, providing presentations and assistance for outdoor composting or worm composting; schools are provided with worm bins upon request. The annual cost for the program is around \$6,000 for the workshops, promotion and advertising, worms and worm bins, compost bins for demonstration sites, and staffing. Follow-up surveys of participants indicate that 75 percent of those who attended the workshops now compost.

**Boston Harbor Elementary**, located in a rural area of **Thurston County, Washington**, participates in the county's "Food to Flowers" Food Waste Composting Program (<http://tinyurl.com/Thur-Compost>). The school uses an on-site (in-vessel) Earth Tub for composting.

**Mt. Baker School District** (<http://tinyurl.com/Baker-Compost>), located in Deming, a small town in **Whatcom County, Washington** (population 353), collects food scraps in an old cement mixer converted into a tumbling composter – known by the students as "Gertie the Regurgitator."

convert organic material into a dark rich soil amendment. It presents an opportunity for low-cost food scrap diversion.



The worm castings, or "vermicompost," created in the process can be used in gardens, outdoor landscaping, and indoor plantings. Vermicomposting can be done at home, in schools, institutions, businesses, as well as on a farm or a commercial scale. Worms can consume their own weight in organic material daily and leave behind a very rich and productive soil.

## Neighborhood composting programs

Community or neighborhood compost sites

are more common in urban areas, often associated with community gardens. However, these decentralized systems can provide residents in rural and small town areas with another low-cost composting option. Community composting can particularly benefit the elderly and others who may have difficulty managing a home composting system, as well as those with limited yard space.

As with home composting, neighborhood composting allows for effective organics management with minimal costs. Materials are still handled close to where they are generated, although residents need to transport materials to the site. Neighborhood composting sites allow residents to share the experience of composting, gain the benefits of making compost for community garden efforts, and help to foster more environmental awareness in the community.

## Opportunities and action

Home and neighborhood composting programs work best if someone is responsible for implementing the program, either town staff or a volunteer, at least to initiate the program. Alternatively, working with master garden programs, garden clubs, environmental organizations or similar groups may be an option. As with organics reduction efforts, education is vital in order to overcome resident concerns, especially if promoting food scrap composting.

Many rural residents already compost. However, others simply pile leaves and yard waste at the edge of yards or woods just to "get rid of it." Convincing residents of the relative ease and benefits of composting, especially for food scraps, may present a challenge. Given the knowledge and training to compost, however, many residents will come

to realize the benefits and important role home and neighborhood composting can play in helping their community better manage organic materials.

Working with an agricultural extension service or a garden club to offer a master gardener or master composter program or similar effort that incorporates a composting component presents multiple opportunities. This is a great way to recruit volunteers to promote home composting, offer composting workshops, and to set up a compost demonstration site. Garden clubs may be willing to host or help maintain a community compost site affiliated with a community garden.

While school composting, whether off-site or on-site, can be a challenge, the benefits are substantial – from significant reductions in waste to a wide array of educational opportunities, benefiting both the school and community. When children learn about composting they teach their parents. Municipal expertise in composting is important for assisting schools to set up a successful and cost effective program. If an off-site composting opportunity is available, schools will need assistance in collection and setting up hauling relationships. If composting is to be done on-site, students, teachers and staff will need to be instructed on proper composting techniques.

Diverting food scraps and organics from special events presents unique challenges to organizers, from attendee and vendor education, to the difficulty of finding a hauler and a processor to accept the material. In order to maximize diversion of food scraps, specific planning, training and collection logistics are necessary. Food vendors may be resistant to switching to compostable serviceware and utensils. Already overstretched event organizers can be reluctant to take on new tasks. Town solid waste staff or volunteers can help event organizers in setting up organics collection, including vendor education information, assistance with locating compost processors and collection logistics. Special event composting provides a valuable compost education tool for communities, helping residents to learn about composting and overcome the “yuck” factor.

## Action tips

- The most effective backyard composting programs offer “truckload”

compost bin sales or subsidized bin distributions.

- Some states offer state contracts for purchasing compost bins in bulk.
- If bins are not within a town budget, bulk purchases and sales through a town office or other agency are still typically less expensive than retail selling rates.
- In addition to compost bin sales, consider sales of the Green Cone or a similar backyard digester.
- “How to” educational brochures and

website information is essential to foster an understanding of composting and the options available to residents.

- Composting workshops will help to ensure success and greater community interest.
- Volunteer “master composter” training and outreach efforts can establish a network of volunteers trained in composting who can:
  - Be available to staff composting booths at town events.
  - Provide training at workshops.



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- Help to maintain a backyard composting demonstration site.
- Possibly be responsible for a community compost site.
- Home composting demonstration sites and displays are helpful for showing residents the compost process and the options for containing compost.
- Towns can take a lead role in the set-up and maintenance of community compost sites.
- Consider sponsors or partners to subsidize backyard composting bin purchases, community composting containers

- and other program components.
- See NERC's School Waste Reduction, Recycling and Composting webpage (<http://tinyurl.com/NERC-Schools>) with information available for free download.
- Special event composting resources are available for free download from the NERC website (<http://tinyurl.com/NERC-Compost1>).

## Conclusion

Organics, including yard and landscape

trimmings, food scraps and soiled paper, continue to be the largest component of municipal solid waste. Organics management presents rural and small towns with a significant opportunity for cost savings, economic development and an enhanced environment. The benefits are many, from reduced disposal needs, use of compost as a soil amendment and reduced open burning of yard waste.

Focusing on reduction and decentralized diversion offers rural, semi-rural, and small towns a cost-effective organics management solution that can result in high levels of diversion. Consideration of centralized composting, established locally or regionally through partnerships with farm, regional or private operations, also offers rural communities with a viable organics management option for increased diversion of yard waste and, potentially, food scraps.

A public outreach and education program about the value of organics diversion and composting can be the most important organics management tool available for many rural and small towns. Communities can effectively combine program development and public education to successfully implement organics management resulting in improved integrated solid waste management and reduced waste disposal. RR

Athena Lee Bradley is projects manager for the Northeast Recycling Council, Inc. She can be contacted at [athena@nec.org](mailto:athena@nec.org). NERC is a nonprofit organization that conducts projects in 10 Northeast states, as well as around the country. Its mission is to promote environmental sustainability through solid waste management. NERC received funding from the U.S. Department of Agriculture, Rural Utility Services for the "Best Management Practices for Organics & Debris Management in Rural Towns in Maine, New Hampshire, New York, and Vermont" project. Through the project, NERC is providing webinars, workshops, resources and technical assistance. This material is based upon work supported under a grant by the Utilities Programs, U.S. Department of Agriculture. Any opinions, findings and conclusions or recommendations expressed in this material are solely the responsibility of the author and does not necessarily represent the official view of the Utilities Programs.

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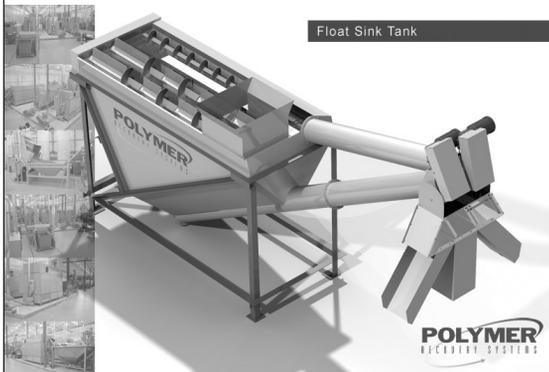


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