

VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF



PRODUCT: Compost

What's At Stake?

Critical goals are achieved when food scraps, manure, and other organic materials are removed from the waste stream and transformed into compost. Composting operations benefit the environment, create jobs, produce important agricultural inputs, and provide community services. When organic materials are diverted from landfills, where they would emit potent greenhouse gases, carbon emissions are avoided. In addition, converting this “waste product” into high-quality compost for use on Vermont land provides farmers with a valuable material that builds soil health and improves water quality (see [Water Quality brief](#)). Vermont’s Universal Recycling Law (URL) provides a framework for pursuing organics resource management goals, but more work remains to build an ecologically efficient and economically sustainable model for localized, decentralized composting.

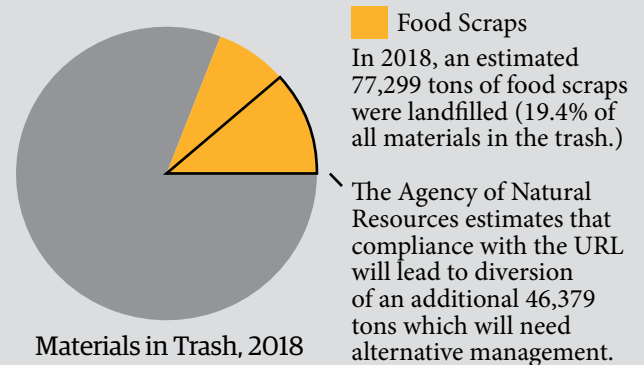
Current Conditions

Compost production at farms, community sites, certified facilities, and homes is steadily increasing, largely due to mandated organics diversion in the URL. Food scrap hauling services now provide approximately 80% of Vermont towns with commercial service, including some residential curbside service, and over 100 transfer stations now accept residential food scraps. In 2017, Vermont residents brought over 13,000 tons of food scraps to composting facilities, and composted an estimated 27,000 tons at home. While progress is being made in diverting food scraps from the landfill, most Vermont composting operations have the potential to increase the volume they handle, but are competing against other diversion methods with less benefit to agricultural producers and/or the environment. Regardless of business model, compost operations face challenges both as service providers (i.e., collecting food scraps) and as producers of finished compost products.

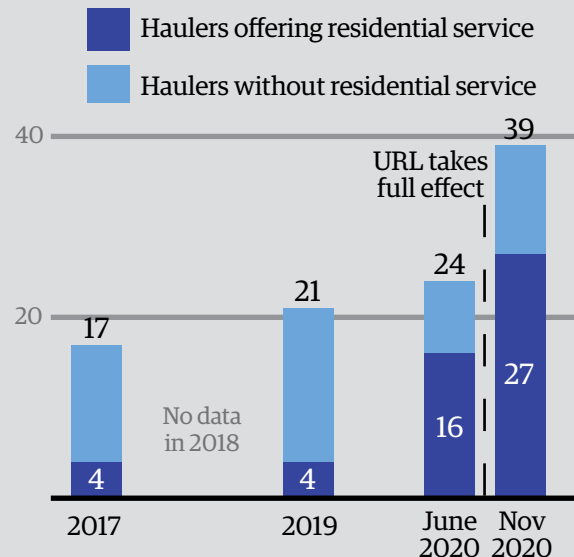
Despite URL education efforts, many Vermont residents remain confused about source separation, resulting in significant contamination of food scraps with non-compostables (e.g., PLU stickers). Furthermore, many large stores combine both packaged and unpackaged food when collecting food scraps, which are then hauled out-of-state to depack facilities and run through a depackaging machine. The depacking process leaves microplastic residuals in the resulting slurry, bringing into question the suitability for use as agricultural compost.

Markets for finished compost have not kept pace with the increasing production volume. Poor understanding of the value and uses of compost lead to resistance to its use in large-scale public and private projects. This is compounded by the absence of quality standards, accepted Best Management Practices (BMPs) for compost use, and standardized product specifications.

Vermont Waste Composition



Growth in Haulers Offering Organics Pickup



Bottlenecks & Gaps

- Preferred practices when composting for agricultural use and soil health may differ from BMPs for solid waste management. Disagreement about how to regulate on-farm composting activities, especially when integrated with animal husbandry, is creating uncertainty, undermining existing compost infrastructure and impeding growth in the sector.
- Contamination is a significant problem that reduces the value of the final compost. Separation guidelines are not always clear to the public, as they vary across Vermont.
- There is no clearly defined funding source to support private operator expansion or improvement.
- Lack of consumer understanding about different compost products (e.g., 100% compost vs landscaper blend) creates marketing challenges. The resulting absence of reliable markets affects the viability of compost operations.
- As the industry evolves with new technology and business models, there can be unintended economic consequences for existing in-state composting businesses.

Opportunities

- Increased compost use builds soil health, protects water quality, and increases soil's ability to sequester carbon and suppress plant diseases.
- Vermont has the capacity to achieve an organics management system that mitigates waste and creates and distributes resources from organic materials.
- Composting creates jobs and new businesses, diversifies the rural economic base, and provides a mechanism to pursue other goals within the farm and food sectors, in a decentralized market that widely extends participation and benefits.
- The projected increase in composting required to meet state diversion goals presents an opportunity to support an increase in organics hauling businesses, compost facilities, and product distribution.
- Development of compost testing programs, product standards, achievable specification designs, and state procurement requirements and project specifications would stimulate the compost market.

Recommendations

- The Agencies of Agriculture, Food and Markets, Commerce and Community Development (ACCD), Education, Human Services, and the Department of Housing & Community Affairs should join with the Agency of Natural Resources to recognize the URL as their own mandate and develop interdisciplinary plans to leverage the law, bringing their collective resources to bear on implementation. For example, ACCD should utilize existing small business development programs and funding to grow the composting industry. The Vermont Farm & Forest Viability Program model can be applied to developing the composting sector.
- The state should address unintended consequences of allowing co-mingled organics to be trucked and depacked out of state, by providing economic support and incentives to maintain existing in-state infrastructure and strategically encouraging on-farm composting systems.
- The state should identify simple, low- and no-cost mechanisms to increase organics diversion, and provide incentives and business and workforce development to private organics haulers and composters (including farms). Examples: encourage town-wide organics hauling; encourage innovation by broadening rules for food scrap collection sites (e.g., allowing unstaffed organics dumpsters at town highway garages); and support community composting at small businesses through small grants for materials and training.
- Funding is needed for research on ecosystem opportunities for compost to directly and additively increase soil's carbon-sequestering and disease suppression ability, and understanding the fate of microplastics during composting as well as strategies for reducing their presence.
- The state and key stakeholders should initiate an outreach campaign outlining the benefits of composting and compost use, and highlighting contamination issues (which could be addressed with clear and consistent guidelines for source separation). The state should require compost containers next to recycling and trash containers in publicly owned buildings and spaces.

Farm to Plate is Vermont's food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

The Vermont Agency of Agriculture, Food & Markets (VAAFAM) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human health, animal health, plant health, consumers, and the environment.

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