

Composting Source Separated Organics - 25 Top Lessons Learned

Courtesy of [BioCycle magazine](#)
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Knowledge gained by talking to, and writing about, individuals who have been through the hard-knock school of composting yields valuable lessons.

TOO often the same learning is repeated again and again at composting facilities. Susan Antler, Composting Council of Canada, and Nora Goldstein, BioCycle, teamed up to write a "top lessons learned" list based on their observations in watching and supporting the advancement of large-scale composting - particularly as it pertains to processing source separated organics. No doubt, there are other "tried and true" lessons where one facility's experience can be used to benefit others. Your additions to this list are welcome. Please contact BioCycle (biocycle@jgpress.com) and The Composting Council of Canada (info@compost.org) with your submissions.

1. Always establish a contingency fund in your upfront financial plan for your facility. Inevitably, you will need to address additional system modifications during the start-up and initial stages of your facility's operation that you did not originally plan for and that will require incremental investment to allow your facility to function.



2. Research the compost markets in your area prior to finalizing the design of your composting operation. Your compost marketing plan needs to be developed as part of your overall facility design so that you create the collection and processing system that will produce the desired compost for existing and high potential new markets. Increasingly, marketing of the end compost product is viewed as the key to a sustainable composting industry. The only piles of finished compost on your site should be there to have enough inventory to meet peak market demand.

1. Once food residuals arrive on-site, they need to be processed immediately. Food residuals should not be stockpiled or allowed to sit. Have a carbon source ready. Many facilities have trucks unload food residuals onto a bed of amendment (e.g., ground yard trimmings) to absorb the free liquid. On the collection side, the residential schedule needs to allow for the pick-up of food residuals every week (especially during the summer months) - and typically more frequently with commercial organics collection due to the higher volumes generated. The putrescible nature of the materials will inevitably be offensive if they are held for two weeks prior to collection.

2. Buy technology that has been proven. If you don't, make sure that the technology design is totally in sync with biological principles and demands of the composting process, and is able to accommodate the incoming feedstocks. Invest time and money in touring operating plants processing source separated organics (SSO) to ensure all aspects of managing SSO (from incoming loads/collection methods through product finishing) have been factored into the system design.

5. Composting smells. Plan for it, build capacity to contain as well as to treat the resultant odorous air.

6. Invest funds in public outreach and education. This investment is as important as any capital expense associated with the compost facility. Productive public and community relationships that have been established at the outset (starting with site and technology selection) and as an ongoing part of your compost facility's operating strategy will minimize opportunities for public outrage (and potential facility closure).

7. Anticipate and establish a well-developed plan of action to address the issues that will inevitably arise at a compost facility. The "inevitables" run the gamut, including feedstocks that arrive in an odorous state, a 100-year storm event, excessive leachate, equipment failure, retirement of your most supportive city council member, and the list goes on.

8. Establish an immediate feedback system to communicate inappropriate participation, i.e., high levels of contamination, to residents and/or commercial interests. Be firm and do not accept substandard loads or establish a penalty for same. Some facilities take digital photos of the materials and use these as part of their feedback to generators.

9. Train yourself and your workers about all aspects of managing a composting facility. Upfront and ongoing employee education is critical.

10. All source separated organics programs will find plastic in the loads. The battle begins with the upfront education of residents and commercial/institutional generators but needs to continue on-site with effective separation systems.

11. Ensure worker health and safety. Install dust suppression systems (including misting/watering around grinding and screening operations) and utilize enclosed cabs for materials handling equipment with proper ventilation and physical protection of operators.

12. Design your compost facility to produce high quality compost on a consistent, ongoing basis. This requires ongoing monitoring of incoming feedstocks, process controls, adequate space for compost curing and a screening system best suited to your compost and end markets.

13. Be diligent with product testing, incorporating both regulatory requirements, which usually relate to environmental health and safety, as well as end user needs. Participate in testing programs that offer independently verified quality standards.

14. Establish an ongoing feedback system with compost customers. Learn from their experiences - both good as well as bad - with those using your compost product so that improvements can be made and that value-added blends and other products can be developed to meet their needs (e.g., a rose garden compost, a manufactured topsoil for roof top gardens, etc.).

15. Other compost facilities are not your competitors. First and foremost, we all sink or swim together. We need to work together to build markets and compost demand, identify synergies and share lessons learned. When we grow the "pie" together, everyone will get a bigger slice of market share.

16. If you do nothing else for odor control, have a windsock and do not turn piles when the breeze blows in the direction of site neighbors. In addition, avoid ponding of leach-ate, e.g., in tire ruts left by a loader, as those "puddles" inevitably yields odorous compounds. Get familiar with all odor sources and set up process controls to keep any from emitting. Meet your neighbors, and familiarize them with your

operation and ask them to call or come by if they smell or see something askew. If callers reach a taped recording, be certain to have those messages checked frequently so there is a minimal delay in responding to neighbors or others possibly impacted by odors (even if ultimately they aren't coming from your site).

17. Test new feedstocks before you accept them in any quantities. Start small to get to know the feedstock, its odor potential, and its effect on pile temperatures - as well as your end product. Customers, especially those using your compost in containers or any sort of plant sensitive setting, rely on the consistency of your product and won't take kindly to surprises, especially those that harm plant growth, etc.

18. Insist that your employees work with your compost so that they learn how to use it, how to make improvements and see benefits first hand. Your employees are often your best sales staff. Having them knowledgeable and excited does wonders for positive word of mouth.

19. Pay attention to compost maturity. Just because the organic feedstocks go through a composting process and have the requisite curing, it does not mean that your compost is mature and ready to use in high value applications.

20. Price your compost relative to its value with its alternative - do not underprice your compost. In certain markets, e.g. storm water management and erosion control, compost should be priced according to the product it is replacing. To do this successfully, an investment must be made in educating these targeted end users about what compost offers that its competing products do not, e.g. reduced irrigation, disease suppression, increased storm water infiltration and so forth.

21. Selling bagged compost requires a different skill set and support structure than selling compost in bulk. Do extensive market research before making an investment in bagging equipment. Convenience to customers, e.g., homeowners and landscapers, is a market plus, as is the opportunity to come out with a line of compost-based products for various applications. Pricing and transportation, as well as servicing retail chains are among the "devil is in the details" that must be thoroughly considered before moving forward with a bagged product.

22. Good housekeeping is a prerequisite to good operations - and happy neighbors and regulators. People smell with their eyes and their noses. If you have an odor upset and a neighbor comes over and sees compost spilling into rows between windrows, litter from film plastic and puddles of leachate, it will be harder to be considered credible. In addition, instilling good housekeeping practices among all employees and managers builds facility pride - and improves performance.

23. Work with local authorities, particularly if you know there may be an upcoming problem. Working with the local authorities in advance to let them know that there may be process issues, rather than them finding out through complaints, will allow everyone to work on mitigation measures together to overcome and potentially alleviate possible future episodes. The same principle holds true for site neighbors who could be impacted.

24. Remember that in winter, the high water content in SSO freezes. Build in collection and system methods to deal with climate conditions. Processing blocks of frozen food residuals doesn't do much for reaching requisite pile temperatures.

25. Celebrate the fact that you are composting in the community - give citizens and other generators a reason to be excited about what you do and what you

contribute. Contribute compost to community gardens, Plant a Row o Grow a Row, etc. to help the community share in your composting facility's success.