

Winter Composting



Weather can have both positive and negative impacts on outdoor composting systems. Freezing winter temperatures and excessive precipitation create challenging conditions for composting. Explore the reasons for this and things to do to increase success with winter composting.

Are piles composting in winter?

Extremely cold temperatures slow down rather than completely halt the composting process. The active hot phase of composting is dominated by thermophilic bacteria which thrive between 113 to 167 degrees F. Below 68 degrees F, psychrophilic bacteria take over the active decomposition process, but work slower. The larger the pile the more heat is generated and retained. Smaller piles are prone to freezing, which halts active composting.

Considerations for winter composting

Before choosing to compost in winter, consider these questions about the set-up.

- Do winter conditions prevent access to the pile to manage it on a regular basis?
- Will supply provide enough feedstock, browns and greens, to create more compost piles?
- Will the pile be protected from excessive moisture from rain and snow melt?

If the answer to these questions is no, then possibly consider halting outdoor composting operations during the coldest parts of the year. Instead consider utilizing indoor worm bins, Bokashi buckets, or a public or private food scrap pickup or drop off service during the winter months.



Fig. 1. Outdoor winter composting system.
Photo: Sarah Farley, Illinois Extension.

What about winterizing bins?

While a finished compost pile may not be impacted by freezing and thawing, exposure to excessive moisture can leach nutrients. With an active pile excess moisture can lead to anaerobic conditions. Thus in the winter it's important to make sure the bin or pile is covered to protect it from excess moisture while also allowing for air flow. To encourage active composting during the colder months:

- **Increase pile size** when starting a pile at the beginning of the cold season.
- **Reduce turning frequency** or stop turning when temperatures dip below freezing for sustained periods of time.
- **Add a layer of insulation** on top of the compost pile. This could include finished compost, compost covers, woodchips, or other dry feedstock like straw.
- **Insulate the compost bin.** This is possible but could be logistically challenging.

References

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