

Whole Cycle Tuesday

Key Takeaway

Oxygen isn't only an ingredient in composting...it's the driver of the entire process. By prioritizing airflow, you transform organic waste into a valuable resource while avoiding the pitfalls of anaerobic decay

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"The environment is where we all meet; where we all have a mutual interest; it is the one thing all of us share." — Lady Bird Johnson

Why Oxygen Matters in Composting

The Role of Oxygen

Composting is a biological process powered by microorganisms. These microbes thrive in an aerobic (oxygen-rich) environment, breaking down organic matter into stable humus. Oxygen acts as fuel for their metabolism, allowing them to work efficiently and generate the heat that speeds decomposition.

What Happens Without Enough Oxygen?

If compost piles become compacted or too wet, oxygen can't circulate. This leads to anaerobic (without oxygen) conditions, where different microbes take over. Instead of clean, earthy compost, the pile may produce foul odors like ammonia or sulfur and slow to a crawl in breaking down material.

Maintaining Oxygen Flow

- **Turn the pile:** Regular turning reintroduces oxygen and redistributes heat and moisture.

- **Balance materials:** Mixing "browns" (carbon-rich, like leaves and straw) with "greens" (nitrogen-rich, like food scraps and grass) helps create pore space for airflow. Think of the game Pick Up Sticks vs. Jenga.
- **Monitor moisture:** A pile that's too wet suffocates microbes; aim for the dampness of a wrung-out sponge.
- **Supplemental air:** forcing air flow by the use of fans and piping can keep oxygen present and help drive off excess moisture.

The Payoff

When oxygen is managed well, composting becomes faster, cleaner, and more effective. The result is a nutrient-rich soil amendment that improves plant health, supports soil life, and keeps organic waste out of landfills.