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Weekly Newsletter
from Agresource Inc.
for turning waste into
opportunity

Whole Cycle Tuesday

"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

Key Takeaway

Both systems can produce high-quality compost when properly managed. Static aerated piles excel in control, consistency, and odor-sensitive environments, while windrow composting offers flexibility and lower startup costs. The right choice depends on feedstock characteristics, site limitations, regulatory requirements, and operational goals.

Understanding these trade-offs allows compost operators to select or combine systems that best fit their long-term strategy.

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Static Aerated Compost Piles vs. Windrow Composting

Choosing the Right System for Scale, Control, and Feedstocks

Composting systems are often selected based on site constraints, feedstock type, labor availability, and regulatory requirements. Two of the most widely used methods in commercial and municipal composting are Static Aerated Piles **(SAP)** and Windrow Composting. While both rely on aerobic microbial activity to stabilize organic materials, the way oxygen is supplied and how the process is managed differs significantly.

Static Aerated Compost Piles (SAP)

Static aerated piles use forced air, delivered through perforated pipes beneath or within the compost mass. Blowers either push or pull air through the pile, eliminating the need for mechanical turning.

Key Characteristics

- Piles remain stationary once built
- Airflow is controlled by timers, temperature sensors, or oxygen demand
- Often covered with a biofilter layer to manage odors

Limitations

- Higher upfront cost for blowers, piping, and controls
- Less forgiving feedstock mix: Poor porosity can restrict airflow
- Limited physical mixing after pile construction

Windrow Composting

Windrow composting relies on mechanical turning to introduce oxygen, redistribute moisture, and manage temperature. Materials are formed into long rows and turned on a regular schedule using loaders or specialized turners.

Key Characteristics

- Oxygen supplied through periodic turning
- Windrows typically range from 4–10 feet high
- Turning frequency varies with feedstock and climate

Limitations

- Higher labor and fuel demand
- Larger land requirement
- Greater odor risk during turning
- More variable temperatures