ISSUE
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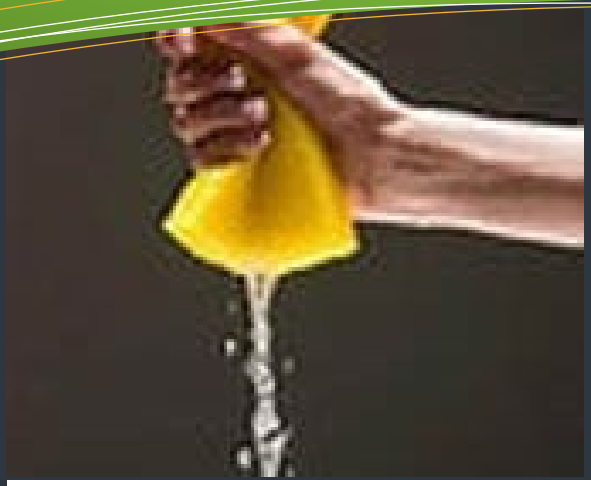
Weekly Newsletter
from Agresource Inc.
for turning waste into
opportunity

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

Moisture content is one of the most critical and misunderstood variables when building a new compost mixture. It directly controls microbial activity, oxygen movement, heat generation, and ultimately whether a pile becomes productive compost or a management problem

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Getting Moisture Right: The Foundation of a Compost Mix

The Optimal Range

For most compost feedstock blends, the ideal starting moisture content is 50–60% by weight.

- **Below ~45%**: Microbial activity slows dramatically
- **50–60%**: Aerobic microbes thrive, heat builds efficiently
- **Above ~65%**: Free water fills pore spaces, oxygen is displaced, and anaerobic conditions develop

At optimal moisture, water coats particles without filling pore spaces, allowing microbes to access both oxygen and soluble nutrients.

Moisture and Structure Go Hand in Hand

Moisture targets can't be separated from feedstock structure.

- Woody, carbon-rich materials (wood chips, brush, dry leaves) absorb water but maintain air space.
- Fine or wet materials (food waste, biosolids, manure) hold water tightly and reduce porosity.

Field Indicators That Matter

Laboratory moisture numbers are useful, but operators rely on physical cues:

- Material should feel like a wrung-out sponge
- When squeezed, no free water drips, but the material holds together
- Footprints or loader tracks should not fill with water

Why It Matters in the Finished Product

Starting with proper moisture:

- Shortens active composting time
- Improves pathogen reduction and temperature consistency
- Reduces odors and leachate risk
- Produces a more uniform, biologically stable compost

Bottom Line

Hitting and maintaining the 50–60% moisture range, in balance with proper structure, sets the foundation for efficient decomposition, cleaner operations, and higher-quality finished compost.