Finished Product ?

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- How should we define finished product?
- What impact does that have on the process?

The current solid waste regulations classify finished product based on the Federal standards for: pathogens, heavy metals, foreign matter and total N. APS sites? Type I facilities?

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- Is a finished product that satisfies the State and Federal requirements suitable for all end uses?
- How do we further define finished product?
- 15 days at or above 131 F ?

- Stability: Degree of stabilization of the organic substances in compost (inversely related to the microbial activity and the bioavailability of organic matter).

- Maturity: Degree of decomposition of phytotoxic substances and the adequacy of compost for plant growth (includes the absence of other toxic components like excessive metal concentrations or high salinity).

- Stability measured by:

  Biological indicators of microbial activity

  (respiration)

- Maturity evaluated by:

  Plant assays

- Defining finished product:

  What impact does that have on the process?

  Stormwater or wastewater?

How do other states address finished product?

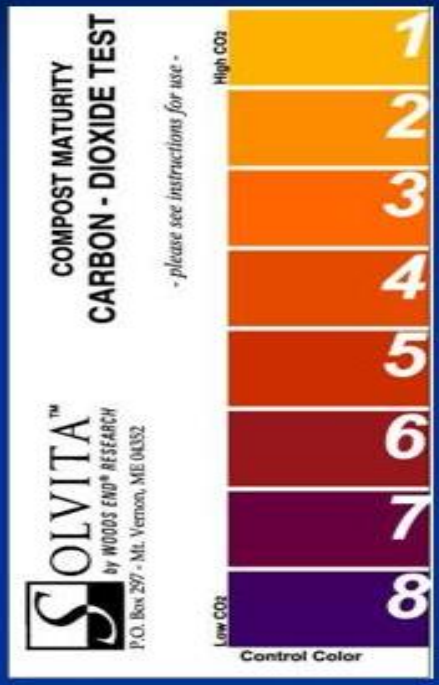
Compost maturity tests can be used for:

- Evaluating compost progress and using the information to make improvements to the composting process
- Determining the level of maturity of any compost product intended for use or marketing and using the information to make informed recommendations about its best use

Solvita CO_2 Test

CO_2 Rates vs O_2 Depletion as indicated by Solvita Test

Amount of CO_2 present after 4 hours of closed respiration test with no air addition.



>20% CO_2	Goes anaerobic within 4 hours ‡
15%	Goes anaerobic within 6 hours
7.5%	Goes anaerobic within ½ day
4%	Goes anaerobic within 1 day
2%	Goes anaerobic within 2 days
1%	Goes anaerobic within 4 days
0.5%	Goes anaerobic after 1-week
0.2 or ambient	◄ Typical soil level

‡ forces of natural diffusion act to lengthen the time before O2 exhaustion.

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INTERPRETING SOLVITA CO_2 TEST RESULTS

SOLIVITA TEST RESULTS	APPROXIMATE STAGE OF THE COMPOSTING PROCESS	MAJOR CLASS
8	Highly matured compost ; well aged; possibly over-aged; Like soil; ready for most uses	FINISHED COMPOST
7	Well-matured, aged composts; cured; Ready for most uses	FINISHED COMPOST
6	Aeration needs are reduced; curing; Significantly reduced management requirement	ACTIVE COMPOST
5	Compost is moving past the active phase of decomposition; Ready for curing; reduced need for intensive management	ACTIVE COMPOST
4	Compost in medium or moderately active stage of Decomposition; may be ready for curing	ACTIVE COMPOST
3	Active compost; young materials, high respiration rate; Still needs intensive oversight and management	ACTIVE COMPOST
2	Very active, moderately fresh compost; very high Respiration rate; needs very intensive aeration And/or turning	RAW COMPOST
1	Fresh, raw compost; typical of new mixes; extremely high Rate of decomposition; very putrescible or odorous materials; high in volatile organic acids	RAW COMPOST

Solvita Ammonia Test

Ammonification as indicated by Solvita Test

Amount of NH3 present after 4 hours of test with no air loss.

<100 ppm	Not detectable to human nose ‡
800	Hazardous for long term human/animal exposure
2,500	Begins to be plant toxic and very noxious
8,000	Extreme loss of N and very noxious and plant toxic
25,000	Most of nitrogen is in volatile, unstable form!

◄ Typical soil level

‡ based on olfactory sensory tests