COMPOST MATURITY AND STABILITY INTERPRETATION GUIDE

BBC Laboratories

COMPOST MATURITY

Compost maturity refers to the**phytotoxicity** (toxicity to plants) associated with the compost. Immature composts contain more growth inhibiting substances than mature composts. Some of these growth inhibiting compounds include salts, ammonia, phenolic substances, heavy metals, and organic acids.

These maturity tests are conducted on both a full strength compost extract as well as a one-third strength extract. **Use the results from the full strength analysis for interpretation if you are using compost as a potting material or for covering a seed bed. If your compost application includes incorporating the compost into the soil, use the onethird strength analysis results for interpretation.**

MATURITY TEST PARAMETER	OPTIMAL COMPOST LEVELS
Maturity Index	Greater than 50%
Germination Rate	Greater than 85%
Conductivity	Horticulture Applications - Less than 6 dS/m Agriculture Applications - Less than 10 dS/m
pH	6.5 - 8.5

COMPOST STABILITY

Compost stability refers to the degree to which composts have been decomposed to more stable materials. This analysis can be determined through a process that measures the amount of carbon dioxide produced or the amount of oxygen utilized by a specific quantity of compost over a specific amount of time under conditions appropriate for microbial growth. This measuring process is accomplished with a respirometer which tracks carbon dioxide and oxygen concentrations.

A more stable compost will have lower respiration rates than an unstable compost. The guidelines used below* are a good general reference for compost stability as determined by oxygen utilization of the compost.

Respiration Rate	Comments
≤20 mg O_2/Kg compost dry solids-hour	Acceptable for horticultural applications with sensitive plants
≤100 mg O_2/Kg compost dry solids-hour	Acceptable for field applications

*Willson, G.B. and Dalmat D. (1986) "Measuring Compost Stability",*BioCycle* 27(7)

For additional information, visit the web site at www.bbclabs.com

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