

# Compost pH

# pH

- pH decreases as the  $[H^+]$  increases
- pH range is 0-14
- At 25C the pH of an acidic solution is less than 7.00
- At 25C the pH of a basic solution is greater than 7.00
- A change in  $[H^+]$  by a factor of 10 causes the pH to change by 1.

# pH

- A solution of pH6 has 10X the concentration of H<sup>+</sup> as a solution of pH7.0.
- Expressed as pH units in saturated paste extracts, 1:1 soil:water mixtures or 1:5 soil water mixtures.

pH measurement



BY VOLUME



BY WEIGHT





BY VOLUME



BY WEIGHT

*Alconix Flasks*  
CARTON CONTAINS  
1 LB. PISS. ALCONIX  
THE MASTER CLEANER  
MADE IN U.S.A.  
KEEP DRY  
ALSO AVAILABLE IN  
25-50-100-200 LBS.

16 FL. OZ. CANS

1000ml  
900  
800  
700  
600  
MAX

1000ml  
900  
800  
700  
600  
MAX

*Handwritten:* H-48





ORION RESEARCH model 2110

TEMP °C

CALIB

1000ml  
KIMAX  
USA  
NO. 1400B

1000ml  
KIMAX  
USA  
NO. 1400B

pH=7

pH=10





8.74

ORION RESEARCH model 2111dp

TEMP °C

CALIB

PH-7

PH-10



PH 8.78

1000ml  
900  
800  
700  
600  
500  
400  
300  
200  
100



BY VOLUME

pH 8.78

BY WEIGHT

pH 8.58

# The Influence of pH

- The availability of nutrients
- Activities and nature of microbial populations
- Affects the composting process by affecting the microbial population and by controlling the availability of nutrients to microbes.
- Optimum pH is between 6.0 and 7.5 for most bacteria

# The Influence of pH

- The optimum pH for fungi and actinomycete activity is between 5.5 and 8.0.
- Determines compost quality and is a useful tool for determining the potential application.
- Determines if the user needs to amend the compost for a particular application

# pH

- The pH can be changed with lime to raise the pH or with sulfur to lower pH.
- Buffering capacity of compost may prevent dramatic pH changes.
- pH indicates compost stability and phytotoxicity.
- Stability would be in the range of 5.5 to 8.0

# Availability of nutrients

- N – readily available from pH 6 to 8

P– availability reduced at a lower pH as it binds with Al and Fe and at high pH as it binds with Ca

K– solubility increases with decreasing pH

Ca, Mg, Cu, B– solubility increases with lower pH, but insoluble at higher pH.

# pH of compost classes

- Class I-fully composted, stable, pH 6-8
- Class II- fully composted, stable, pH 6-8.2
- Class III- pH 6-9.0
- Class IV- no pH standard