



Humans aren't the only ones who need AIR!

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Last week we continued the discussion of soil pH and related terms. This week we're going to talk about the air we breathe and its importance in our soils.

Aerobic means With Air

- Aerobic refers to an environment containing air with oxygen; to a process that occurs only in the presence of air with oxygen; or to organisms that need oxygen (including humans, plants, animals, and some fungi and bacteria).
- Aerobic microbes take in oxygen, carbon, and nitrogen to produce energy to power their life processes.
- **Aerobic decomposition** is the breakdown of crop residues and organic matter by microorganisms in the presence of air.

Anaerobic means **Without Air**

- Anaerobic refers to an environment that lacks breathable air, and to microorganisms that are able to survive without air.
- Anaerobic microbes use nitrates and sulfates for producing energy, but are less efficient than aerobic microbes.
- **Decay or rot** is the breakdown of residues and organic matter by anaerobic processes.

Air is vital to the efficient functioning of our soils. As biological farmers we introduce air into our soils, or **aerate our soils**:

- Mechanically with tillage
- Chemically with calcium and humic acids
- Agronomically with crops – via aggressive root systems and soluble carbon from the root exudates

There is still time to aerate your soils this year! Besides **calcium and humic acid products**, we'd like to introduce you to **Residue®** and **SP-1™**. Contact your AgriEnergy Resources rep at 815.872.1190 to start increasing the aerobic zone in your soil.

We'll be back next week with some new words, but the topic is still
"up in the air"!