



## ***Humans aren't the only ones who need AIR!***

*5/11/2017*

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<sup>®</sup>** and **SP-1<sup>™</sup>**. 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"!**