



6A

SOIL TECH NOTES

Bacteria

PROBLEM: “Yeah, I heard about all those bugs in the soil. Why do I need them?”

LOW SOIL BACTERIA PROBLEM CAUSED BY:

- Excessive tillage or untimely tillage.
- Soil surface wet and slow to dry out.
- Very limited amounts of residue, i.e. soybean stubble.

WHAT DAMAGE IS CAUSED BY LOW BACTERIAL NUMBERS:

- Bacteria are the “first responders” of residue breakdown. If not present, residue breakdown is slowed significantly.
- Bacteria produce “broken down” residue that can be utilized by other microorganisms which will release more organic nutrients. They also breakdown methane and nitrous oxide in the soil to make them less harmful.

POSSIBLE SOLUTIONS TO THE PROBLEM:

- Reduce tillage.
- Use cover crops to provide other residue sources for the bacteria to utilize which can lead to a better soil environment for them to reproduce.
- Keep compaction at a minimum so that air and water can move freely through the surface layer which allows the **aerobic** bacteria population to grow.

