



# 9A

## SOIL TECH NOTES

# Large Microbes

**PROBLEM:** "I guess I see why I need some of those little critters in the soil but are there any large ones I need too?"

### LOW LARGE-MICROBE POPULATION PROBLEM CAUSED BY:

- Excessive tillage.
- Drainage issues, too wet or too dry.
- No residue cover to control surface temperature.
- Absence of smaller microbes that larger ones feed on.

### WHAT DAMAGE IS CAUSED IF NOT PRESENT:

- If no large microbes (nematodes, arthropods, protozoa) are in the soil the bacteria and others can overpopulate the soil environment.
- Large microbes can create larger openings in the soil that will increase porosity of the soil for both air and water.
- Some of the smaller microbes in the soil can have very rapid changes in numbers due to temperature, moisture or disturbance factors. Larger microbes tend to be a more stable population although in much smaller numbers.

### POSSIBLE SOLUTIONS:

- Reduce tillage disturbance.
- Cover crops provide food source for smaller microbes which many of the larger ones prey on.
- Sufficient variety of residue will allow larger microbes food for shredding purposes.
- Adequate drainage and aeration of the surface layer is necessary.
- Avoid bare soil surfaces that will heat up dramatically and can reduce population.

