Healthy Soil Recycles Nutrients and builds Soil Organic Matter

**Fixed NH\(_4^+\)**

**Agronomy Tech Note 76**

**Additional N losses:**
- Runoff & erosion
- Ammonia Volatilization
- Denitrification
- Leaching

**SOIL HEALTH**
- C:N ratio, Temperature, Moisture, Aeration & Soil pH affect OM decomposition.
- **Crop diversity**
- **Living roots** throughout the year
- **Cover the soil**
- **Less disturbance**
- **Livestock integration** where applicable

**Soil Health considerations:**
- Water quality (salinity & nutrients), quantity available, irrigation system efficiency, crop consumptive use, leaching requirement, etc.

**Irrigation Water Mgt.**

**Mineralization:**
- The conversion of an element from an organic form to an inorganic state as a result of microbial decomposition.

**Recycling Nutrients:**
- Mineralization: the conversion of an element from an organic form to an inorganic state as a result of microbial decomposition.

**Glomalin & Root Exudates** are consumed by bacteria that live in the rhizosphere. Protozoa, nematodes & other soil organisms consume bacteria and release ammonium N. These organisms are prey for other SFW predators. The entire process results in mineralization.

**Arthropod shredders, earthworms, saprophytic fungi, actinomycetes, bacteria & other organisms decompose dead organic matter and other organic wastes. These decomposers are prey for other Soil Food Web (SFW) organisms (i.e. predators).**

**Plant Biomass**
- **Decay**
- **Photosynthesis**
- **CEC (Clay & Humus)**
- **Fixed NH\(_4^+\)**

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