



MSU Agriculture Innovation Day

Focus on Forages and the Future



College of Agriculture
and Natural Resources
MICHIGAN STATE UNIVERSITY

Take Home Messages:

Finding the Right Mix for Soil Health

Dr. Lisa Tiemann and Dean Baas, Michigan State University

- Soil organisms are a critical component of a healthy and productive soil
 - Soil organisms decompose residues and release nutrients
 - Soil organisms help build soil structure
 - Soil organisms contribute to soil organic matter formation
- Cover crops and forages can improve the diversity and activity of soil organisms, which improves soil functioning
 - They add another energy source for soil microorganisms
 - They maintain energy supply for soil microorganisms for more months in the year
- Cover crops and forages contribute to greater activity of soil organisms which help build soil organic matter
 - They stimulate soil microorganism growth and turnover
 - Microorganism cell turnover is an important source of material for soil organic matter formation
 - They improve soil structure and prevent erosion through root growth
- Cover crops and forages build healthy soils that are more resilient in weather extremes
 - During droughts, healthy soils retain more water in the soil profile
 - During excessive rain events, healthy soils allow for greater infiltration, and less soil erosion