

My name's Emily Hansen and I'm a master's student in the biology department here at ISU. I'm studying how cover crops impact soil microbial communities. Healthy soils are the foundation of our farmlands. Here in McLean County we have some of the healthiest soils in the world and this is mostly due to these previously having been a prairie, so we have some really rich, thick soils here that are super great for our croplands. And it has led to McLean County being one of the most productive agricultural areas in the world. Our conventional agricultural practices, though, can degrade soils over time. A sustainable agricultural practice like planting cover crops can help combat some of these negative effects. Cover crops are planted in the fall after the harvest of your corn or soy and they'll overwinter and then go through a period of growth in the spring. Cover crops help prevent runoff during the winter and can prevent soil erosion. Cover crops may also really help our soil microbial communities. Cover crops can provide nutrients to microbes at a time when there's usually nothing on the field for them. Microbes are really important for our soils because they help facilitate nutrient can make available some really important plant essential nutrients. They can also help breakdown soil organic matter. My research is focusing on how different cover crops are changing soil microbial communities, so I'm looking at what types of microbes are in the soil and what they're doing in the soil. So I'm looking at how these different cover crops are changing communities in the soil based on the unique properties of each of these plants. Cover crops are a really great sustainable practice that farmers can implement that'll really help strengthen our soils.