

RITA In Action

CCSI Soil Health and Sustainability for Field Staff

By: Will Yoder

RITA Tech 13

Soil health has always been a part of agriculture. Many of the Resilient Indiana Technicians were able to attend the CCSI Soil Health and Sustainability for Field Staff training in the beginning of June at Purdue's Beck Agriculture Center, along with other ICP staff. This was a great experience. The instructors, material, and hands-on work were engaging, and the students were able to learn the science, and then apply that to better support soil and crop health.

We learned that the four soil health principles established by the NRCS are continuous living roots, maximize biodiversity, minimize soil disturbance, and maximize soil cover. These principles allow soil biology to decompose organic matter putting nutrients back in the soil, and create soil aggregates which increase the infiltration of rainwater. They also keep the soil cool and moist in the summer months, and in the winter they keep the soil on the field after the snow begins to melt. Cover crops and no full width tillage are two practices that have shown to improve those soil health principles.



As part of the program, participants were able to get in a soil pit that showed how different farming practices physically changed the soil profile. The practices with less tillage and continuous living roots had worm channels and residue 5 feet below the soil surface.

We visited with a farmer who is currently implementing conservation practices across different fields to see the practicality of these practices outside of a research setting. We were also able to learn about the different farming techniques that are used on owned land vs. rented land. Some farmers have land that is renewed/renewed yearly which can make it difficult to implement long term conservation practices.



Being able to participate in this training showed me that there is more to soil health than meets our eye. On the scientific side, there are reactions and relationships happening below the surface that impact how crops grow and rain infiltrates. On the farmer's side, there is the balance between wanting to improve soil health, reducing input costs, and not wanting to risk

the loss of a profit. Conservation professionals can't entirely mitigate the risk of farmers wanting to pursue conservation practices, however, there are programs in place to help offset the cost of conservation farming, and we can connect them with other farmers who have implemented these practices to help overcome the fear of failure and see that improving soil health is worth it.