

BEYOND YIELD: HELPING INNOVATIVE SOIL HEALTH FARMERS REACH THEIR GOALS

LOCATION (LARIMER COUNTY)

Intern: Tigest Brunson

Lead Mentor: Director of Operation of FARMS: Lauren Hafford
Associate Professor: Dr. Meagan Schipanski

PROJECT INTRODUCTION

Synopsis

The “Beyond Yield” project, funded by Western SARE, aims to advance regenerative agriculture in the High Plains by focusing on producer-led research and a farmer-to-farmer learning network. The project is centered on the difficulties that historically underserved growers face. With the goal to improve soil health practices in arid regions, “Beyond Yield” is working with ten producers in the High Plains (CO,KS,NM), including small market poultry farmers, indigenous farmers growing corn and chiles for ceremonial purposes, and Black farmers seeking to reclaim their land after years of prejudice.

Regenerative Principles

- Rebuild degraded soil
- Key importance is it balances land health and farm profitability.
- Aims to improve and restore the quality of deteriorated soils.

Techniques

- Cover crops
- Decreased tillage
- Organic additions

Benefits

- Improve soil aggregate formation
- Increase biodiversity
- Retain water infiltration

INTERNSHIP GOALS

- Conduct on-farm soil health sampling
- Lab analyses
- Foster strong, collaborative relationship with producers across the region
- Generate soil health lab results and present them in a way that helps producers make informed management decisions

HOW DOES THIS APPLY TO YOUR EDUCATION

This project and internship directly align with my Soil and Crop Sciences major by providing hands-on experience in key areas. Being a part of the “Beyond Yield” internship granted me the opportunity to take my learning outside of the classrooms and into the real-world setting by conducting on-farm soil health assessments and analyzing soil samples in the Schipanski Agroecology lab.

I have always had an interest in studying regenerative agriculture; this internship allowed me to explore the innovative practices that improve soil health. Additionally, the internship offered me the opportunity to build professional relationships with the farmers, founders, and mentors.

COMPLETED OBJECTIVES

Along with my mentors, I collected soil samples from farm fields in Eastern Colorado, Jemez Pueblo (NM) and Nicodemus (KS). We collected data for bulk density 0-5cm and 5-15cm, organic matter 0-5cm and 5-15cm, and aggregates 0-5cm. The farms represented a wide range of scales and practices.

1. Eastern Colorado: large-scale regenerative grain operations, reintroducing grazing on cropland.
2. Nicodemus: small-scale, managed by Black farmers working to rebuild their land after facing challenges with land retention
3. Jemez Pueblo: we had the honor to work with Indigenous farms that grow ceremonial crops like chili and corn.

These trips expanded my knowledge of diverse agricultural practices and instilled a deeper understanding of the socioeconomic challenges faced by historically underserved producers.



Teaching Justin and Jennifer Howard how to soil sample.

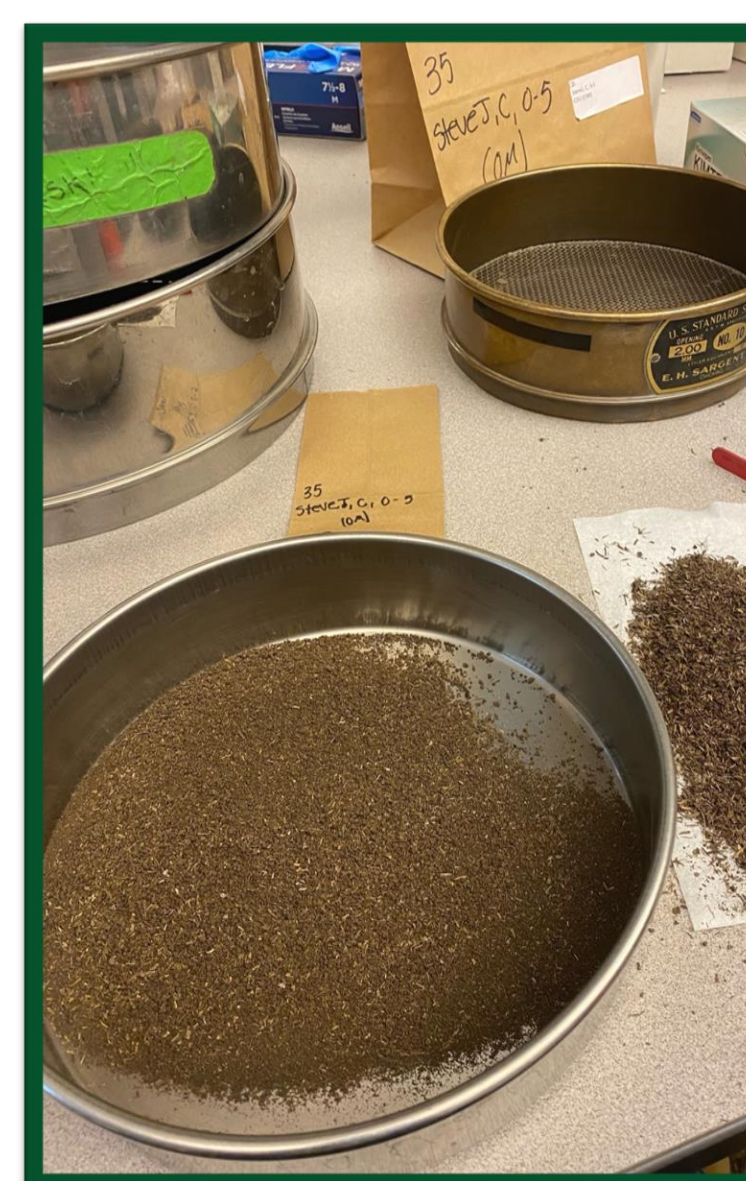


Roger Fragua: Flower Hill Institute

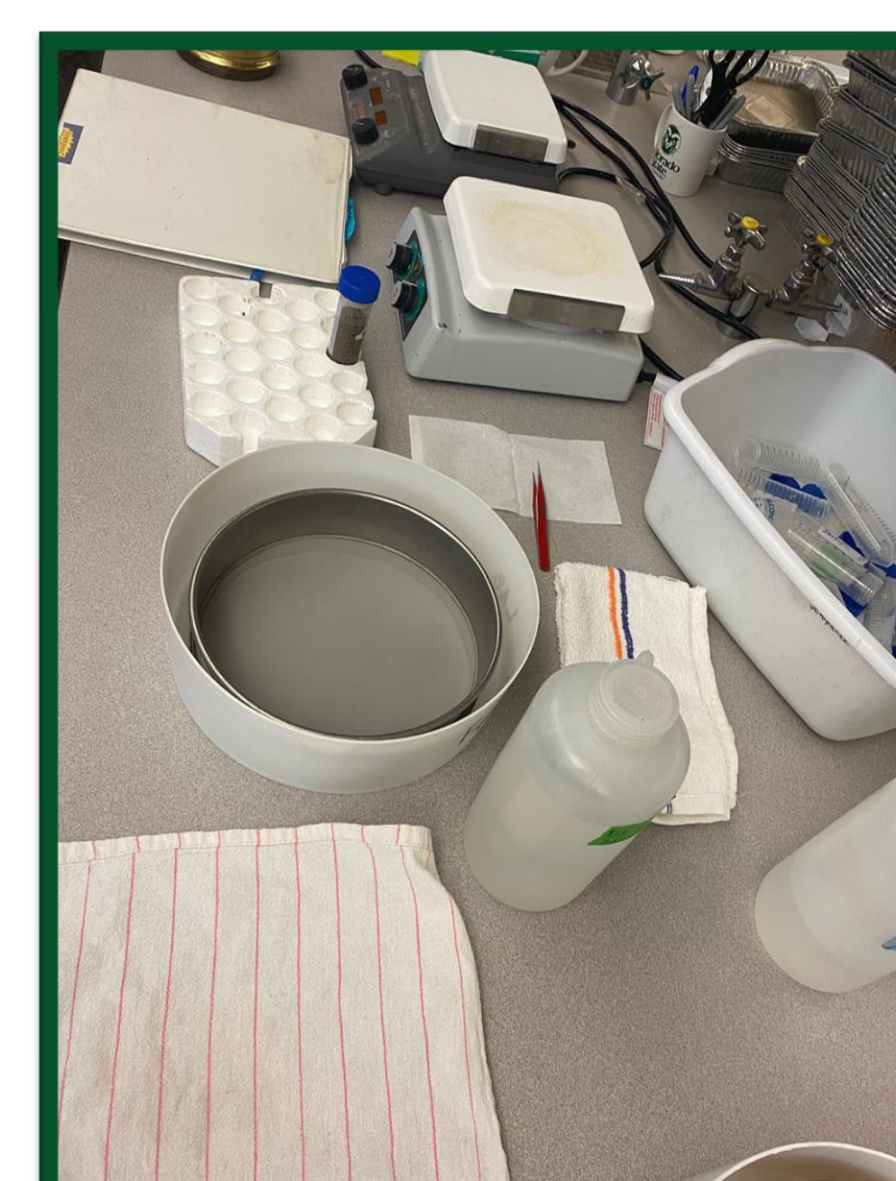


Seibert, CO

Upon returning to CSU’s main campus, I assisted with the processing of the collected soil samples. This included tasks such as drying, 8mm and 2 mm sieving, and preparing samples for lab-based analyses.



8mm and 2 mm sieving



Fractionation of MAOM and POM by Size

WHAT YOU LEARNED

- Gained practical experience in soil health assessment, including site selection, sampling tools, and data collection protocols.
- Learned the precise process of lab-based analysis to ensure reliable and accurate data.
- This experience not only enhanced my technical lab skills but also deepened my understanding of soil health indicators, such as organic matter content, nutrient levels, and microbial activity. This work was crucial in providing actionable data to farmers, helping them make informed decisions about their soil management practices.



Working with producers Steve-Cows and Justin Casiquito on soil sampling.

NEXT STEPS

Going forward, I am invested to see how the lab results from Ward and our CSU soil laboratories affect the soil management practices of the historically underserved farmers we worked with.

SPECIAL THANKS:

