

Sustainable Agriculture for a Healthy and Sustainable World

Greenleaf Communities is advancing applied research for a healthy and sustainable world by organizing multi-disciplinary teams to investigate environmental influences on health and inform the practices and policies that support them. Our healthy soils program focuses on agricultural management practices that improve soil health, reduce nutrient runoff into area waterways, conserve water, and increase crop yields and quantity.

HEALTHY SOILS FOR HEALTHY WATERS

Through the [Healthy Soils for Healthy Waters Initiative](#), Greenleaf is dedicated to the development of integrated and whole systems approaches to the sustainable management of lands. We value regenerative agricultural practices that conserve water and nutrients, sequester carbon, and make agriculture more resilient.

We bring together researchers, government and industry, producers, and environmental NGOs to tackle one of the most pressing natural resource issues of our time.

We work with universities and organizations nationally including The Ohio State University, University of Illinois, Purdue University, University of Arkansas, and the Soil & Water Conservation Society.



SENSORS AND DATA FOR SOIL HEALTH

In 2020, we continued the series with a workshop on *Sensing Technology and Applications for Soil Health*. There is a growing interest in smart agriculture that allows farmers to maximize yields while using minimal inputs as well as an interest from the market in minimizing risk and investing in the protection of soil, water, and carbon resources. By deploying sensors and mapping fields, farmers can begin to understand soil health and crop production at a micro scale, conserve resources, and reduce impacts on the environment.

We are continuing this initiative by collaborating with researchers and farmers on scaling and improving technologies and connecting farmers to markets for compensation of management practices that protect soil, water, and climate. Greenleaf is developing a demonstration project on how sensing technologies can be improved and integrated to scale across different regions from the Midwest to the Colorado River Basin.

PROTECTING WATER QUALITY

Nutrient runoff from agricultural fields impacts the integrity of aquatic ecosystems, and the quality of water resources across the country. Excess phosphorus contributes to annual algal blooms in Great Lakes systems, killing wildlife, polluting drinking water with toxins, and disrupting economic growth. Gypsum is shown to reduce phosphorus loading from fields.



Greenleaf, alongside our research and industry partners, helped inform NRCS Conservation Practice Standard Code 333 on the use of gypsum as a soil amendment.

PROTECTING THE COLORADO RIVER

The Colorado River Basin provides water to 40 million people, provides habitat for wildlife, and a source of clean energy. The Basin is facing a major crisis and water demand has exceeded supply for many years. This will threaten both cities as well as millions of acres of farmland.

We are working to protect water supplies in the Colorado River Basin by assessing markets that could serve agriculture, cities and conservation.

We are working with Brian Richter of Sustainable Waters on the Colorado River Restoration Fund that will allow corporations to benefit the Colorado River by paying farmers to conserve water on their farms and leave unused water in the river.



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For more information, please contact Katie DeMuro at Greenleaf Communities, kdemuro@greenleafcommunities.org