

PARTNER SPOTLIGHT: MICHAEL WOLFF

Don't Treat Your Soil Like Dirt; The Importance of Soil Health in Climate Change Mitigation

Michael Wolff is a Senior Environmental Scientist at the California Department of Food and Agriculture (CDFA), specializing in Agricultural Climate Change Mitigation

Michael has spent the past several years of his professional career in the agricultural sector, but his route has not been linear. He originally earned a Bachelors in English, but it wasn't until after graduating that he recognized his strong interest in agricultural sustainability. His journey to finding his passions began by volunteering on agriculture development projects in Guatemala and Mexico, where he witnessed many soil related issues.



These issues influenced his decision to go back to school to get a Masters and then a PhD focusing on soil and soil health practices. Although Michael found his passion in the science of soil, he always felt drawn towards the intersection of science and policy, which led him to his current position at CDFA.

The Cyclical Nature of the Agricultural System

Outside of the agricultural world, people may not always connect soil health with safe, healthy food, but the reality is the two are highly connected. Michael explains **the importance of understanding the cyclical nature of the agricultural system**, wherein our global need for food spurs excessive organic matter usage, which not only pollutes the landscape but also depletes vital soil nutrients over time.

However, the system doesn't have to be detrimental, and in many ways it is changing for the better. Agriculture has a complicated role in the causes and effects of global climate change, **but it also presents a great deal of opportunities to reduce greenhouse gas (GHG) emissions and absorb carbon.**

Such remedies may indeed have a dual purpose of mitigating GHG emissions and increasing the agricultural sector's sustainability and efficiency, and guarantee safe, high-quality food for the future.

Working Together to Enhance Soil Health



Above: mulching Hass Avocado trees in Southern CA. Image Credit: [USDA Flickr](#)

Michael's work at CDFA boils down to not only keeping soil intact, but "keeping it alive, closing the loop to return nutrients to the soil, and reaching more efficiency so excess fertilizers don't harm other systems downstream."

He's confident that this can all be achieved with future scientific advancements, but stressed that we need to **"be strategic, rational, listen to people, and communicate well"** for it to work. **Effectively, collaboration is crucial for success.**

Consumer Interest May Outpace Agricultural Science Advancements

There are many ways Californian land managers can enhance soil health, and Michael says folks have expressed interest in activities such as composting, Whole Orchard Recycling (WOR), and irrigation efficiency that benefits GHG reduction.

While this may seem like a win for soil advocates such as him, he says **some practices such as WOR and municipal compost are "happening fast in the real world before they have been exhaustively researched,"** and that more research needs to be done so government agencies can help agricultural stakeholders use these practices the most effectively.



Above: Pistachio orchard in Chowchilla, CA that uses sustainable soil measures. Source: [USDA Flickr](#)

Working Towards Increasing Soil Health Initiatives

Michael acknowledges that research into these sorts of issues take time and people power from a combination of agencies. Fortunately, **CDFA and other entities are actively on the case through engaging in research and active partnerships with private and public partners.** One such partnership involves the CDFA Manure Working Group, who is partnering with private sector entities to look into making manure more 'exportable' and thus more usable as on-farm fertilizer. Projects and partnerships such as these pave the way for policy frameworks that will make a lasting change on California's agricultural landscape.

Find out more about Michael's work and the soil programs at CDFA!

- [CDFA Office of Environmental Farming & Innovation](#)
- [Whole Orchard Recycling](#) in the CDFA Healthy Soil Incentive Program

The California Climate Hub will occasionally spotlight our collaborators or impactful research projects relevant to California agriculture, forestry, and rangelands. If you know of a researcher, resource manager, producer, or project that should be highlighted, please let us know. Contact Program Manager Lauren Parker at leparker@ucdavis.edu