



# Healthy Soils Program

CDFA OFFICE OF ENVIRONMENTAL FARMING & INNOVATION

**Environmental Farming Act**

**Science Advisory Panel Meeting**

*November 9, 2023*

*Sacramento, CA*

Michael Wolff, PhD  
Supervisor

# Outline

- Soil Carbon Mapping Tool Briefing
- Recommendation on Publishing
- HSP Soil Organic Matter Data

# Online California Soil Carbon Map

- The 2020 Specialty Crop Block Grant Program awarded funding, including:
  - Tracking the impact of management practices on soil organic carbon (SOC) levels
  - Creating unique physiographic regions across the state among specialty crop systems
  - Building a "predictive" (estimating) model of SOC using existing soil point data of **measured soil organic carbon content**, soil survey data, and other geospatial information
  - Creating an interactive map and database framework to upload, store and track SOC measurements
  - Conducting Project outreach activities
  - HSP Incentive Projects' Soil Organic Matter test results for Years 1-3

# HSP Soil Organic Carbon Testing History

- 2017-2018 Solicitations: Recipients designated the number of soil samples, and decided location of their sampling. It was often unclear which fields samples came from (although they should have been consistent over time).
- 2020: RePlan was introduced to map out field boundaries and define the locations for soil sampling.
- 2023: RePlan was further improved for upcoming solicitation, for the applicant to enter the number of samples for each field defined, and ensuring at least one per field, all pre-planned.

# Lessons Learned

- Farmers may not be aware of the importance of consistent sampling depth and location, and choosing a consistent analytical laboratory.
- Staff changes on-farm can also cause inconsistent sampling methods and locations, as can staff or method changes at the analytical laboratory.
- Soil sampling protocol, consistency in locations and analytical laboratory have been emphasized during Pre-Project Consultations and Annual Verifications with Recipients, by voice or email.
- Clearer soil sampling instructions were developed.
- At least one annual sample must now be clearly planned and tracked per field.

# Assessments and Recommendation

- 2021: Summer intern assessed the first 3-year datasets. No patterns were found.
- 2022: HSP Staff reviewed additional rounds of data, discarding inconsistent testing methods and inconsistent laboratories. No significant patterns found.
- Academic researchers have asked for data or submitted PRAs for them.
- **Recommendation:** *HSP's currently available 3-year datasets should not be put in public view on the Soil Carbon Map.*
- Datasets from 2021-22 solicitation would be reviewed beginning in 2025, to determine whether results from that solicitation, and later ones, should be published.

# Thank you! Questions?



**Contact us:**

[CDFA.HSP\\_Tech@cdfa.ca.gov](mailto:CDFA.HSP_Tech@cdfa.ca.gov)

## **Healthy Soils Program Staff**

Michael Wolff, Ph.D.

Senior Environmental Scientist (Sup)

Guihua (Grace) Chen, Ph.D.

Senior Environmental Scientist

Eric Duran, M.S.

Environmental Scientist