



Summary of MAJOR POINTS made in September 13th Public Educational Field Day on Soil Health and Climate-Smart Agriculture Evaluations and a New Cotton Farmer Network in the San Joaquin Valley
September 13, 2019

1. Attendees thought that we're generally doing somewhat in the middle of a rating from EXCELLENT to POOR in terms of soil health management in the San Joaquin Valley.
2. Participants noted that potential problems with soil health or soil function in the San Joaquin Valley include lack of organic matter, salinity, lack of water, little biodiversity, lack of cover over the soil, and poor infiltration.
3. Have the availability of irrigation and the use of tillage in the San Joaquin Valley "masked" underlying concern about soil health or soil function? (A question posed by Jeff Mitchell)
4. Cover crops may be an important first-line approach for addressing and achieving important soil health goals by improving the water, energy, carbon and nitrogen cycles in agricultural systems.
5. 20-year-long research in Five Points, CA has shown that annual cover cropping has added 37 tons of organic matter, captured 15 tons of carbon per acre, with only roughly about 12 inches of water.
6. Pronounced improvements in soil physical properties and function, including aggregation, water infiltration, hydraulic conductivity, and water storage characteristics have resulted from cover crop and reduced disturbance tillage management in these long-term studies in Five Points.

7. For cover crops to be used more successfully in the San Joaquin Valley, the following are needed:
 - a. A dedication to 'make them work' at your farm
 - b. A different and completely open mindset
 - c. The goal of 'treating your cover crops like cash crops
 - d. Recognition that they fit into the entire farming system
 - e. Understanding that you may need to make some accommodations regarding the length of the cover crop growing period, the need to terminate them early, and recognition that it might be best to start with small trial acreage at first, and lastly,
 - f. Recognition that markets may soon be requiring these sorts of production practices
8. Climate change is about more than CO₂. The water cycle also affects climate change.
9. In this regard, can we imagine and develop ways to extend the longevity of green vegetation across California's landscape, rather than fallowing more land, - as a means to not only improve the water cycle, but also to address global warming concerns?
10. Lastly, let's think about water policy in California, and maybe how more water might be captured and used for conservation and climate change mitigation in the State's farms.

Further follow-up and clarification are available by contacting Jeff Mitchell at (559) 303-9689 or jpmitchell@ucdavis.edu