



California

Regional Objectives: *High disturbance; Soil moisture, Nutrient Cycling*

Production Systems: *Almonds, vegetables*

Biochar producer: [Coriqin LLC](#)

University Collaborator: *University of California – Merced*

Corporate Collaborator: [Sitos Group](#)

Corporate Partners: [General Mills](#), [Olam Group](#)

California's historic drought and reduced water availability are severely impacting agriculture, hindering farmers' abilities to successfully implement soil health management systems. Adding biochar can increase soil water holding capacity in specialty crops, including orchards and mixed annual vegetable row crops, which are the predominant cropping systems in the San Joaquin Valley. Many of these crops are farmed on sandy soils with high disturbance from frequent tillage, making them likely to respond well to biochar applications. Improved water holding capacity can promote the economic and climate resilience of farms by buffering against drought and associated yield impacts from water stress.

Biochar can improve aggregate stability, infiltration rates, and water holding capacity, while also reducing runoff. By enhancing soil health through the field application of biochar and biochar-compost blends, a pathway is created for the successful adoption of other soil health management practices, particularly in soils requiring less applied water. New biochar producers in the region are now producing quality biochar from local agricultural waste stream products, further enhancing the climate benefits associated with biochar applications.

Moisture meters will be used to monitor biochar effects on soil moisture in all trials. A highly replicated, multi-treatment biochar trial on an almond farm will be maintained, leveraging a California State Department of Agriculture Healthy Soils project, from which greenhouse gas emissions measurements will be available.

Questions? Contact State Leads:

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