

2023 UC Merced Climate Action Research Seed Fund Competition

◇ ABSTRACT (max 2,400 characters):

We propose to develop and pilot a **Compost Climate Action Plan in San Joaquin Valley (SJV)** that achieves greenhouse gas reduction, fosters adaptive agroecosystems, and is centered on social justice. Composting is a proven and scalable strategy for diverting organic waste from landfills and turning it into a valuable resource for producing healthy foods. While diverting organic waste reduces emissions of potent greenhouse gases, adding compost to gardens and farms stores carbon and boosts soil nutrition and water storage potential. However, industrial-scale compost facilities concentrate air pollution burdens in space and can perpetuate environmental injustices if placed in disadvantaged communities. Our transdisciplinary collaboration aims to advance the science, education, and practice of composting in the SJV in a manner that supports community resilience, food security, and food sovereignty. The project has three pillars:

1. UCM researchers and community partners will co-develop research projects based on local needs assessment. These projects will address relevant knowledge gaps on composting and compost benefits and identify high-priority regions for investment and pollution reduction from industrial-scale composting. These projects will also serve as living labs and local case studies.
2. The team will co-create an open-source, public curriculum, in English and Spanish, on the science and practice of composting that meets the community's needs. In addition, values-aligned community composting bi-lingual workshops will complement the curriculum. A new curriculum and programming developed for CalTeach will be delivered to elementary and middle school student groups and used for training UCM undergraduates.
3. The team will create and distribute the SJV Compost Climate Action Plan and generate actionable next steps for sustaining the project. The team will share the action plan widely and gather feedback by hosting an SJV Compost Climate Community Summit.

Beyond the outcomes of the above pillars, the team will produce a list of community-engaged research questions for future study, advocacy and training priorities, and strategies for funding future activities. This project will directly support the SJV communities' effort to meet California's landmark waste diversion law (SB 1383), which mandates the diversion of 75% of organic waste entering landfills by 2025.