

Student Experimental Farm Project and Activities Proposal Form

This document serves as a proposal for those who wish to do activities at the student experimental farm, and seeks to clarify proposed activity details. Before implementation can take place, projects must be approved first by identified SEF Faculty Facilitator (presently Dr. Pete Schwartz), and then by HCS Department Head (presently Dr. Scott Steinmaus), and Cal Poly Environmental Health and Safety.

SEF Mission Statement

We envision an interdisciplinary learning community dedicated to teaching, learning, practicing sustainability.

Project Title: SmartFarm Data Acquisition System Test

Person Proposing Project:

Name: Caleb Fink

Email: cdfink@calpoly.edu

Telephone number (cell phone) to reach in case of concern/emergency: 559-381-3309

Statement of Project

Please provide a brief description of the project or activity

I would like to collect soil moisture sensor data, soil temperature data, air temperature data, and soil EC data. I would like to collect data for 1-3 days in an area of about LxWxH: 3'x3'x3' The soil moisture sensors will be buried from 1' to 3' along with the soil temperature sensors. In this area I would like to water to see the data reaction on the soil moisture sensors. The SmartFarm circuit board will be in an enclosure on the surface.

Project Type

Senior Project Class Project Independent Project Event Other (specify): Graduate Research

List name of advisors with contact information:

Bo Liu
bliu17@calpoly.edu

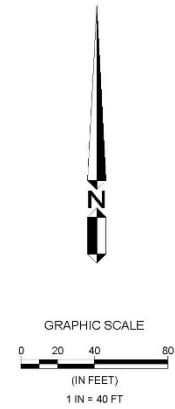
Greg Schwartz
gschwa01@calpoly.edu

List Participants with Cal Poly affiliation (i.e., student, staff, none):

Caleb Fink, Graduate Student, MS Ag, spec in BioResource and Ag Engineering

Project Location

Circle the location of the activity or project in the map below.



Please specify location details:

An area of about 3'x3' and access to water. I went to the Farm on 7.26.17 to locate a spot. I like the spot near the East fence. Currently there is some corn growing nearby, just South of where I'd like to place some soil moisture sensors. I also notice oak trees along the east fence, I'd be close to them, but not interfering.

Deliverables

What is the project or activity meant to achieve, create, or deliver?

The project will deliver data to be used in a Journal Article publication to prove that the system collects data.

Project Details and Logistics

Please list all possible activities that will take place and refer to the Cal Poly Risk Management website and the guidelines listed in the Program Development Document to determine whether training, precautions, or supervision is required for any activities listed.

Dig 1" diameter holes x3. Three soil moisture sensors will be inserted into them and buried with the same soil. The data acquisition circuit board will be placed nearby on the surface. The surface will be watered for about 30 minutes or a little longer to saturate the soil and to get a soil moisture reading of wet soil and dry soil. The air temp sensor will sit on the ground and get a surface level temp.

Potential Hazards

Describe anything you can foresee that might threaten safety or property and what might be done to mitigate risk.

Burying the sensors will damage the ground where they are buried. The hole diameter for the three sensors are 1". This area will be dug up and then covered back with the same soil.

Timing and Permanence

Over what period of time will the project or activity take place?

Start time 7/30/17

End time 8/3/17

Can project be easily disassembled? If so, how and when will it be disassembled? What condition will the project be left in when project is finished?

Yes. The soil moisture sensors will be recovered out from the ground and then the soil will be replaced to cover the holes. Disassembly will take place after successful data has been collected, on the 3rd of August.

Funding

How is this project going to be funded? How is the work and cost of the project going to be supported? Please list funding sources and chances of success from each source.

No funding is necessary.

Strategic Context

How does the project relate to SEF's and Cal Poly's missions?

The data collection testing is learn by doing. I will gain valuable experience and education by doing this project.

Contract

By signing below, I (name) Caleb Fink hereby request consideration, acceptance, and approval of the above project/activity proposal. I am committed to complete the project/activity as outlined in the Guidelines for Projects and Activities of the SEF Development Document. I understand that if activity is not completed by end time as specified in this document I will need to resubmit this proposal. It is further understood that a revised activity project proposal may be necessary before approval.

CF _____ 7/26/17
Signature Date

Restoring commitment

By signing below, I (name) Caleb Fink accept responsibility to either terminate the proposed project and restore the area to an acceptable state or pass the project and this restoring commitment onto someone committed to take over the project.

CF _____ 7/26/17
Signature Date

Cosigner commitment (project or club advisor), if project has significant impact

By signing below, I (name) _____ accept responsibility to carry out the project and either terminate the proposed project and restore the area to an acceptable state or pass the project and this project commitment onto someone committed to take over the project.

Signature of Faculty advisor Date

This project is approved for implementation upon approval, By identified SEF Faculty Advisors Pete Schwartz (Physics) and Greg Schwartz (BRAE) and then Cal Poly Risk Management if the advisors deem necessary to consult Risk Management.

By signing below, I hereby approve this project for implementation.

Dr. Pete Schwartz, SEF Faculty coadvisor

Dr. Greg Schwartz, SEF Faculty coadvisor

Cal Poly Risk Management Representative (if deemed necessary)