

Moisture Monitoring Project – Project Description

East Cassia, Minidoka, and West Cassia Soil and Water Conservation Districts

Project Time Frame: February 2024 – February 2027

Cover Crops have been the subject of education by the Soil Districts since 2017. We are now going underground - in the ground with moisture monitors. These monitors could be the next generation of technology in helping our growers understand soil moisture with real time data.

PURPOSE: The purpose of the Moisture Monitoring Project is to capture data from deep in the soil. The data will provide vital information to individual growers regarding moisture levels and soil conditions. The data will be available to each grower and to the soil districts to be shared generically through our newsletter, forums, and other venues.

PROJECT DETAILS: Each of the 3 Districts will purchase 12 Monitors and secure growers for a 1 to 3-year contract which will provide technical data regarding their soil conditions. This project will provide detailed monitoring of the moisture levels in the soil and could help establish the benefits and sustainability of cover crops – are they worth it? Monitoring for multiple years provides helpful data in understanding moisture needs. If the grower participates for the full three years, the monitors that the grower has been using then become the property of the grower.

TARGET CROPS: Potatoes, barley, corn, beans, alfalfa, hemp, beets, orchards, FFA ag projects, golf courses, and others.

HOW: Applications to participate must be submitted by growers before **February 12, 2024**. Growers will identify the type of crop being grown and the number of monitors assigned to each field. A training forum will be held to kick off the event and will train landowners in the use of the monitors and the technology website. The electronic data and monitoring information will be available to each grower and the 3 Conservation Districts.

COSTS: The 3 Soil & Water Conservation Districts will provide money up front to get the project running. The project will run for 3 years. The 3 districts will pay the cost of the first year, the Growers will contribute for the second and third year a total cost of \$1050.00. At the completion of the 3-year project the ownership of 3 monitors then belong to the grower. {The value of the project \$2451.00 which includes 3 monitors, 3 years subscription per monitor, and one antenna.} *(If the grower is interested in acquiring more monitors or antennas for any of the monitors, they may be purchased through Soiltech. 202-705-9993)*

CONTINUED FUNDING: Conservation Districts and growers may seek other sources of funding through outside sources to help support the ongoing project such as: potato processing companies, sugar factories, brewing industry, irrigation companies, equipment sales companies, produce companies, grant sources such as Climate Smart, Direct Seed & Cover Crop Project, WQPA, NRCS, EQIP, etc...

GROWER REQUIREMENTS:

1. Review this project description and sign contract.
2. 3 monitors placed in a single irrigated field.
3. Allow district personnel access to the field during planting, growing season, and harvest time.
4. Be able and willing to present and/or discuss your experience at a grower forum.

5. At the end of each growing season, the grower must take the monitors to Soiltech for recharge and calibration. 202-705-9993
6. Lost or damaged monitors will be fully funded by the grower at current cost.
7. Growers participating in 1 to 2 years of the project must return the monitoring devices in good working conditions to the Soil & Water Conservation Districts. If the grower participates for the full three years, the monitors that the grower has been using then become the property of the grower.

ADMINISTRATION: The 3 Soil Conservation Districts will secure 4 irrigated fields to participate in the project. A variety of crop species will be represented. Admin for East Cassia, Minidoka and West Cassia will provide the planning, organization, billing, and carry-through of the project. Supervisors will determine the number of land owners and what types of crops will be included in the project.

PROJECT INTRODUCTION & EVALUATION:

- a. Opening Forum & Luncheon - for growers & supervisors. *(February 12, 2024)*
 1. Overview of the project.
 2. Complete paperwork.
 3. Receive Training on the electronic monitoring system.
 4. Pick up equipment.
- b. Possible Mid Project Forums - to be announced.
- c. Closing Forum – for growers, supervisors, and other interested parties. *(February 2027)*
 1. Overview / Results of the project.
 2. Comparisons from across the 3 districts showing different crops grown in diverse soils.
 3. Q & A Panel Discussion (different crop varieties represented, time frame, outcomes).
 4. Future of the project.

OTHER INFORMATION:

- Grower will provide multiple markers, pins, flags, or posts; that must be maintained so monitors can be found.
- Placement in windrow of alfalfa can determine humidity and signal when to bale.
- Underground monitors collect moisture levels and signal when to water or not to water.
- Monitors can be placed in spud cellars or beet piles to assist with monitoring temperatures and humidity and becomes a mini weather station for that field/crop. (Monitors must be removed before crop is sent for processing.)
- Extra monitors are available through Soiltech at their full price.
- Monitors must be re-calibrated at the end of each year.
- District Supervisors and employees will have access to each independent grower’s data. Conservation Districts will determine what data they want collected such as: water savings, value of the electronic data, or specifics on crop varieties and how they are affected.

Tech Support:

Soil Tech: 202-705-9993

SWCD Admin Contacts:

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