

Irrigation and Nutrient Management

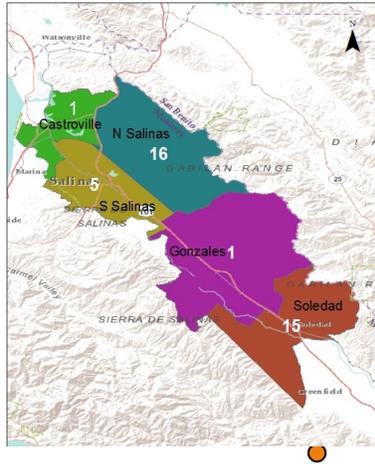
Description

The purpose of irrigation and nutrient management (INM) Assessments is to help growers effectively manage their irrigation water and nutrient additions to meet crop needs so that nutrient loads to ground water and surface water are reduced. Effective INM helps the region make progress toward several environmental objectives including reduced groundwater and surface water contamination, reduced groundwater use, agricultural sustainability, and healthier stream and ocean habitats. INM can benefit the grower through reducing the cost of over fertilizing, reducing water and pumping costs and achieving regulatory compliance. Each grower faces a different set of circumstances that play a role in their choice of management practices that will work best for their organization, current irrigation system, crop type and geo-physical setting. For this reason, on-farm assessments are the most effective way to help growers accomplish INM goal.

By involving growers, farm managers and irrigators in the evaluation & assessment, knowledge and skills are transferred. Although the assessment is applied to a single block, the learnings are commonly transferred across the entire grower operation.



PROJECT LOCATION



Three types of INM assessments were offered through grant funding:

Distribution Uniformity (DU) evaluates the uniformity of water distribution across the field and recommends improvements to the irrigation system so all plants will receive the same amount of water.

Irrigation Scheduling relates to the time, rate and duration of the application of irrigation water to meet crop water needs. Our irrigation scheduling evaluations focused on the use of soil moisture sensors and evapotranspiration as the basis for scheduling irrigation and when appropriate, the use of CropManage as a system for tracking and recommending irrigation amounts and timing.

Nutrient Management: Nutrient management plans document available nutrient sources, production practices, and other management practices that influence nutrient availability, crop productivity and environmental stewardship.

Practice Adoption

Assessments of one or more types were conducted on 469 acres of land over 30 different fields related to 7 different crop types involving 12 growers.

DU evaluations

Number Conducted: 18 total (13 drip, 5 sprinkler irrigation systems)
Recommendations: 48 recommendations, 36 implemented (75%)

Irrigation Scheduling & Nutrient Management Assessments

Conducted 28 Irrigation and 25 nutrient management assessments
12 growers involved
Farm water savings: 3-12 in/acre-ft/yr
Farm fertilizer savings: 0-73 lbsN/acre/yr
Estimated Salinas Valley Benefit
Area managed by 12 growers involved: 9323 acres
Estimated water savings to the Lower Salinas Valley: 2704 acre-ft/yr
Estimated fertilizer reduction: 211 tons N/yr

Partnerships

UC Cooperative Extension and RCDMC provided the technical assistance and the decision support software, CropManage. Grower organizations covered the cost of improvements and employee time. The project was funded by SWRCB Prop 84 grant # 12-414-553.

Prop 84 Grant Funding

State Water Resources Control Board's Proposition 84 Agricultural Water Quality grant paid for the technical assistance. Professional services match was provided by NRCS and UCCE. **Assessment Costs \$323,500**
Grower: Costs: time, upgrades & maintenance. Benefits: water & fertilizer savings, record keeping & tracking, and reduced risk of con-

FOR MORE INFORMATION

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