

Southern San Joaquin Valley (SSJV) Management Practices Evaluation Program (MPEP)

Tools for Site-Specific Crop Management to Maximize Recovery of Applied Nitrogen Fertilizer

Introduction

The SSJV MPEP Committee creates and facilitates growers' access to various tools and resources to help them efficiently manage nitrogen (N) fertilizer and irrigation water to enhance crop yield while reducing nitrate leaching, with the end goal of protecting Central Valley groundwater quality. The SSJV MPEP Committee launched **agmpep.com** in early 2017 to provide one-stop access to resources for growers and advisers looking for information about management practices that are protective of groundwater quality, including irrigation and nutrient management tools, learning opportunities, and more. This poster highlights these tools and resources.

MPEP Website Resources and Events Calendar

Growers and advisers can access a convenient online directory of publicly available agricultural management practice tools & resources, as well as an interactive calendar of Central Valley outreach events related to agricultural management practices affecting applied N fate.

Wellhead Protection & Well Abandonment

These fliers summarize key information on how to avoid polluting groundwater via wells.

Yield-to-Nitrogen Removed (Y-to-R) Calculator

The **Y-to-R Calculator** estimates N removed (R) and the ratio of N applied (A) to N removed (A/R) as well as the N balance (A-R). Results can be calculated based on inputs for single or multiple crops and are shown in the context of nitrogen management by growers across the southern Central Valley. The conversion factors were developed by Dr. Daniel Geissler based on the best available information. Calculations may be completed online or offline by downloading an Excel workbook.

Irrigation Water Nitrogen Contribution Calculator

This calculator converts nitrate and ammonium found in irrigation water into pounds of N applied per acre. Online and offline versions are available in English and Spanish for single or multiple water sources.

CropManage

Based on years of in-depth research and extensive field studies, this online irrigation and N management decision-support tool by University of California Cooperative Extension integrates site-specific guidance for efficient, effective, and sustainable irrigation and fertilization applications while maintaining or improving overall crop yield. Tomato, alfalfa, and almond have been added, with more Central Valley crops to come!

Soil & Water Assessment Tool (SWAT) Results Viewer

This viewer allows growers to evaluate N and water balance outcomes of a range of management options for a specific field as influenced by site-specific soil, climatic, topographic, and agronomic factors.

Actual Evapotranspiration (ETa) Field and Uniformity Viewers

To support irrigation management, these viewers map and calculate field-level ETa distribution uniformity for an irrigation season or peak month. Users can view maps and quantitative charts of ETa variability within their fields and determine use over time, and relative to other fields with the same crop.

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SSJV MPEP Committee Coalitions

Buena Vista Coalition
Cawelo Water District Coalition
Kaweah Basin Water Quality Association
Kern River Watershed Coalition Authority
Kings River Watershed Coalition Authority
Tule Basin Water Quality Coalition
Westside Water Quality Coalition

USDA NRCS Conservation Innovation Grant



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