

The Nitrogen and Irrigation Initiative

Helping Growers by Providing Technical Assistance

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What is the Nitrogen and Irrigation Initiative (NII)?

- UC-ANR advisors, specialists, and staff provide technical assistance to growers.
 - Improve irrigation efficiency
 - Best management practices for nutrient (nitrogen) application and management
- Funded through several partners including:



Technical Assistance Offerings

Grower
Consultations

Training
Events

Educational
Resources

On-Farm
Trials



Irrigation Technical Assistance

- Help to install and monitor soil moisture sensors
- Estimating evapotranspiration
- Irrigation scheduling
- Irrigation system maintenance
- Distribution Uniformity (DU) testing



Tensiometers for Soil Moisture Monitoring

- Easy to build
 - QR Code = 10-minute tensiometer
- Budget-friendly
- Can be manually read or attached to datalogger
 - With a pressure transducer
 - Collect data for CropManage
- Can also help with other types of soil moisture monitoring equipment



Measuring Irrigation Applications



Flowmeters are useful tools for irrigation scheduling

- Can help install flowmeters for trials
- Help to understand how much water is being applied
- Help with annual regulatory reporting



Irrigation System Maintenance Training

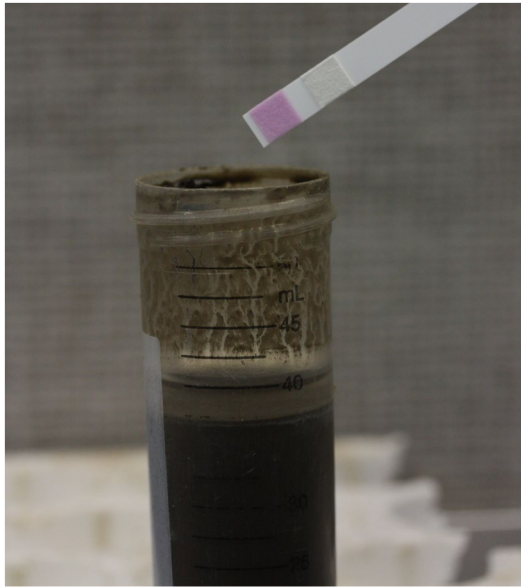
- Conduct distribution uniformity tests to identify areas of low or high output
 - Identify areas of field with blockages
- Check pressure gauges
- Check pressure regulating valves and potential areas for pressure loss across a block/valve



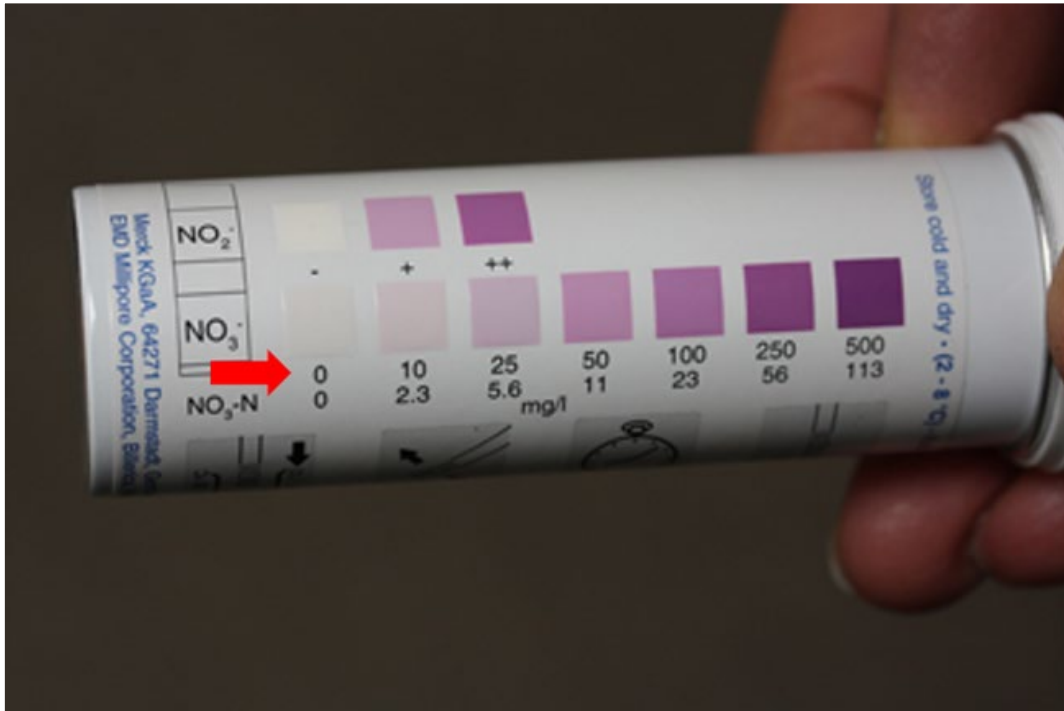
Nutrient Management Technical Assistance



- Testing nitrogen concentration in irrigation water
- Leaf and soil sampling
- Split fertilizer applications
- Using a nitrogen budget
- Application of compost or manure
- Planting cover crops
- Fertigation



Soil Nitrate Quick Test Methods



NO ₂ ⁻	0	+	++						
NO ₃ ⁻	0	10	25	50	100	250	500		
NO ₃ -N	0	2.3	5.6	11	23	56	113		

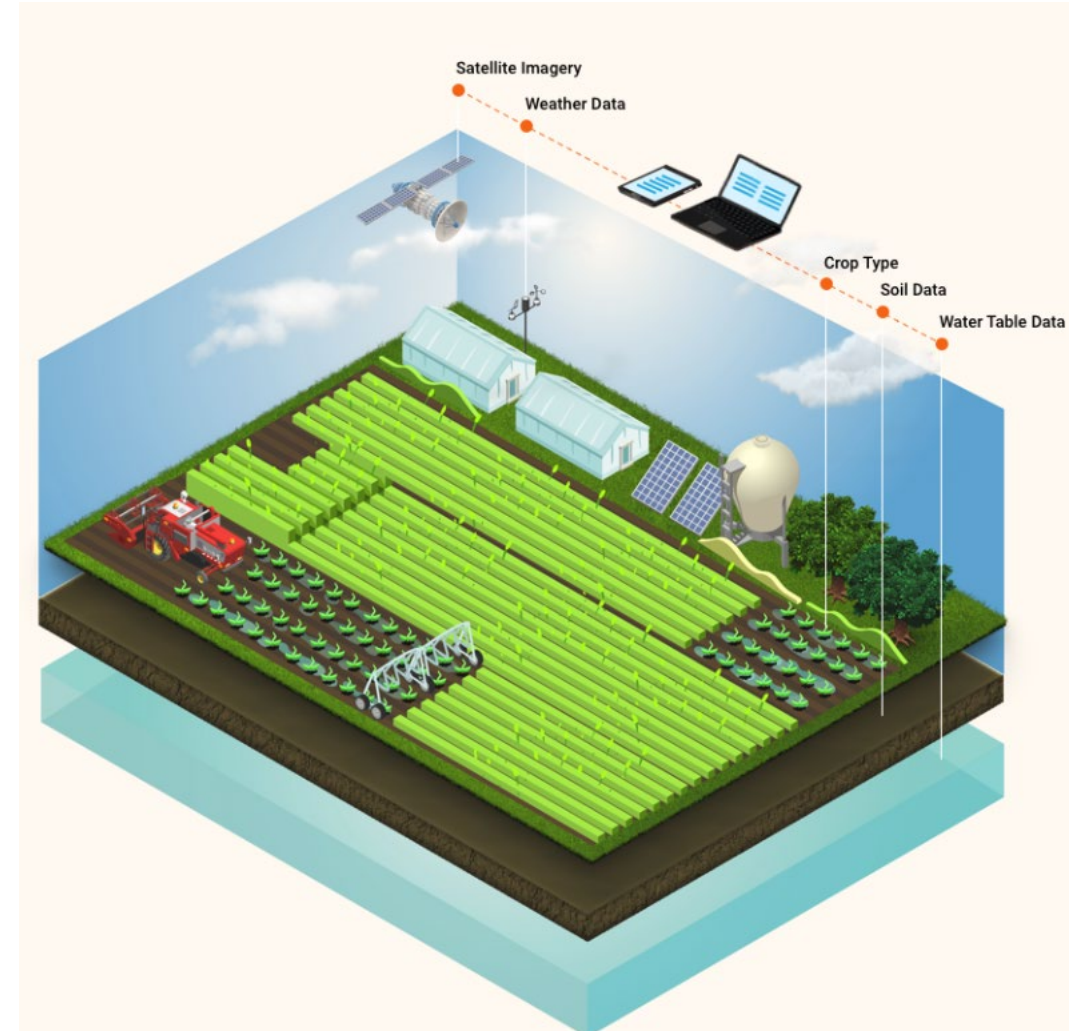
mg/l

Some cold and dry (2-8°C)

Merck KGaA, 64271 Darmstadt, Germany
EMD Millipore Corporation, Billerica, MA, USA

CropManage – Irrigation and Nutrient Management Decision Support Tool

- CropManage – web-based software
 - Versatile access –phone, tablet, computer
- Recommendations:
 - Irrigation Scheduling
 - Fertilizer Application
- Growers have successfully reduced water and nitrogen inputs
 - Research shows 20-40% reduction!



CropManage

Edit Watering Event



Event Date *
1/25/2025



Irrigation Method *
Drip

Recommendation ⓘ

inches

hours

1 hours

Recommendation Summary ▾

Manager Amount

hours

Water Applied

18

hours

Enter the amount recommended by a manager

Enter the amount that was actually applied

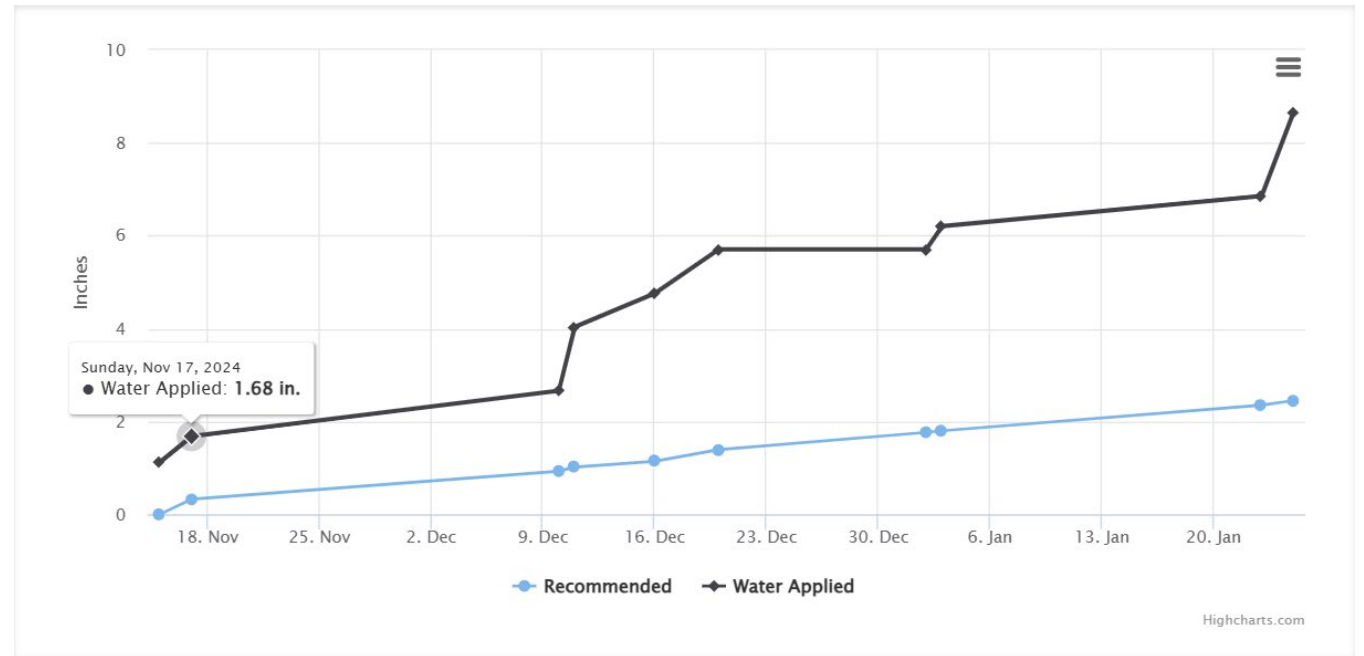
Flow Meter Information:

Delete

Cancel

Save

Applied Water Chart 0_BROCCOLI EXAMPLE



Highcharts.com

Close

2025 CropManage Workshops

Salinas

March 18

Watsonville

March 13

San Martin

March 27

Staff Trainings – Hands-on Irrigator Workshops

- Trained staff is critical to notice when too much/too little water is being applied
- Equipment calibration/detection when not working



Program Staff

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Questions?

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