

Monthly Update

Irrigation Efficiency Study, Demonstration Project, and Irrigator's Workshop

October 21, 2024



Irrigation Efficiency Update

Martin Goodwin Ranch

- *Investigating LESA Sprinkler installation at Pivot 1 and LEPA Sprinkler Installation at Pivot 2*
- *Meter install on Pivot 2*
- *Working with H2O Pro and Agri-Lines for independent quotes*

George Goodwin Ranch

- *Working with Goodwin Ranch for water conservation sprinkler improvements north of Highway 70*

Bar 1

- *Working with Chad Smit on sprinkler options*

Roberti Ranch

- *Installation of High Efficiency Orbitors*

Grandi Ranch

- *Installation of High Efficiency Orbitors*

10/21/2024



Figure 4.3a – Illustrations of LESA sprinkler emitter (nelsonirrigation.com)

Recommended Irrigation Efficiency Equipment Improvements for Board Consideration



High Efficiency Sprinklers

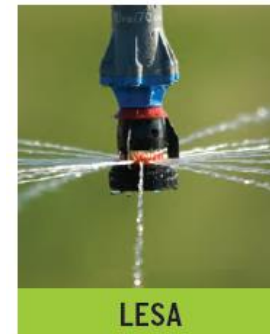
- *Orbitor High Efficiency Heads*
- *LESA Systems*
- *LEPA Systems*

On-Farm Improvements

- *In-Line filters*
- *Conveyance Pipeline Replacement*
- *Pivot Head Repairs*
- *VFD Upgrades*
- *Other – Well head?*

Remote Sensing and Metering

- *Soil Moisture Meters*
- *Flow Meters on Pivot Heads*
- *Management Software*



LESA

Low Energy/Elevation
Spray Application

SPRAY
OR
ORBITING
SPRINKLERS

D3030
SPRAYHEAD



LENA

Low Energy/Elevation
NELSON ADVANTAGE

MOVING
SPRINKLERS:
ROTATOR
ACCELERATOR
SPINNER

A3030
ACCELERATOR

Soil Moisture Monitoring – DWR Grant

- **Installed Sentek Soil Moisture Meters**
 - Two Stations in Roberti Pivot 10
 - Two Stations in Roberti Pivot 13
 - Two Stations in Grandi Pivot East¹
 - Two Stations in Grandi Pivot East

Footnote 1 – Reference span

- **Installed fencing around Soil Moisture Stations where cows were introduced after irrigation season**
- **Winter Recording**
 - Worked with Sentek Engineers to determine soil moisture meters will remain deployed during the winter



Soil Moisture Monitoring – DWR Grant future tasks

- **Obtain soil cores where soil moisture profiles warrant more detailed soil analyses from the stations listed below**
 - Two Stations in Roberti Pivot 10
 - Two Stations in Roberti Pivot 13
 - Two Stations in Grandi Pivot East¹
 - Two Stations in Grandi Pivot East

Footnote 1 – Reference span

- **Bucket Auger to obtain soil samples**
 - Determine detailed soil size fractions for 8-foot core locations where soil moisture data warrant



Plumas Grant- Demonstration Project

Three New Soil Moisture Stations (Future – Plumas Grant)

- One Station at Roberti Pivot 2 –Existing High Efficiency System
- Existing soil moisture station at Pivot 10
- One Station at Martin Goodwin Pivot 3
- One Station at Bar 1 Ranch

Two New Flow Meter Installation (Future – Plumas Grant)

- Existing meter at Roberti Pivot 2
- Existing Meter at Roberti Pivot 2
- New meter at Martin Goodwin Pivot 3
- New meter at Bar 1 Ranch

No High Efficiency Sprinkler System Installations for Year 1 (Summer 2025)

Irrigator's Workshop

- Proposed Date and Time: November 18, 2024 at 4 pm
- Location: Beckwourth, California
- Stakeholder Outreach: developing flyer for email and public posting
- Four Part Agenda (see handout)
 - On-Farm Efficiency
 - Irrigation Application Efficiency
 - Remote Sensing and Climate Data
 - Irrigation Application and Water Management
- General Format: 20-minute Presentation with 10 Minutes Q&A