CROSS TRAINING ON IRRIGATION AND NUTRIENT MANAGEMENT TOOLS
CROSS TRAINING OBJECTIVES

- Increase Professional technical capability to serve growers.
- Acquire new knowledge through hands on training supplemented with tangible tools.
- Adapt tools as appropriate and increase consistency of services where appropriate.
Thank-you for Sharing!

Expert Advisory Panel

Amy Storm LWA  Ben Faber UCANR  Dale Zurawski VC Farm Bureau
Ben Burgoa RCDMC  Anne Coates Cachuma RCD
David Holden Holden Research  Jamie Whiteford Ventura RCD
Michael Cahn UCCE  Karen Lowell NRCS  Pam Krone-Davis MBNMS
Brooks Engelhardt USDA  GW Bates Coastal RCD
Kevin Peterson and Julie Fallon Cachuma RCD
Forrest Melton  CSUMB/ NASA Cooperative
2 CROSS TRAININGS AND 6 AUDITS

- Pre Audit
- Cross Training
- Post Audit
- Assessment
<table>
<thead>
<tr>
<th>Time</th>
<th>2-Apr</th>
<th>6-May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Salinas</td>
<td>Santa Maria</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>CropMange Training (UCCE)</td>
<td>Strawberry Field Day. Irrigation and Nutrient Management (UCCE)</td>
</tr>
<tr>
<td>12:45</td>
<td>Evaluation</td>
<td>Evaluation</td>
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<tr>
<td>1:00PM</td>
<td>EAP Tools at AQWA website (Pam)</td>
<td>1:15 Evaluation</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>Nitrogen Budgeting and Fertilizers Guidelines (NRCS)</td>
<td>1:30 PM Introduction to AWQA Toolkits (RCD)</td>
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<tr>
<td>2:30 PM</td>
<td>Coastal Valley Irrigation Systems (RDO Water)</td>
<td>2:15 PM Surface Renewal, Irrigation Scheduling (Tule)</td>
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<tr>
<td>3:15 PM</td>
<td>Irrigation Management (RCDMC)</td>
<td>2:45 PM Soil Moisture Monitoring (Hortau)</td>
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<tr>
<td>3:40 PM</td>
<td>Evaluation</td>
<td>3:15 PM Filter, Hardware and Fertigation Issues and Solutions (Crop Protection Systems)</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>Soil Sampling and Nitrate Quick Test (UCCE)</td>
<td>3:45 Evaluation</td>
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<td>4:00 End</td>
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USE OF $600 PRINTING FUNDS FROM GRANT

1) Printing SOPs or other online materials?
2) Print Poster for Sharing Tools at Events?
**Distribution Uniformity**

Why Achieve Distribution Uniformity?

Distribution uniformity is a measure of how evenly water is applied across an entire field. The more uniformity the better irrigation can be scheduled to match plant water needs without over-watering or under-watering parts of the field.

- **Conserve Water**
- **Minimize Run-off**
- **Use Nutrients Efficiently**

**Distribution Uniformity Lowest Quarter Measurements**

Average depth of lowest quarter: Average depth of all locations

- DU for drip should be > 85%

**Even pressure is the Key to Uniform Distribution**

What Does It Mean for Plants when this happens along the Drip Tape?

**Elements of Irrigation Management**

**Irrigation System Design**

- **Routine Maintenance Schedule**
  - Flush System
  - Check Pressures - weekly
  - Clean Sprinkler heads – weekly
  - Check Nozzle Wear
  - Observe Leaks – daily
  - Check Drip Rat
  - Check Filters

**Irrigation Scheduling**

- **Irrigation Program**
  - Weather-based
  - Plant-based
  - Soil-based

**Record Keeping**

**Pump and Fertilize**

**Accounting for Nitrogen in Irrigation Water**

Lbs of N/acre = applied water (inches) x NO3N conc (ppm) x 0.23

- N in irrigation water has the same nutrient value as fertilizer sources of N. (Cahn et al. 2015)
- Fertilizer values of N in NH4 and NO3 were equivalent.

**Poster Illustrations:** Michael Cahn (UCCE), Jason Sharrett (CA Strawberry Commission), Michael Johnson (consultant), Marcus Buchanan (consultant)
WHAT INM RESOURCES ARE AVAILABLE?

Professionals:

Training & Education

Online Resources
## Toolkits

<table>
<thead>
<tr>
<th>Toolkit</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td><strong>Irrigation Assessments</strong></td>
<td>Learn about distribution uniformity and irrigation system evaluations.</td>
</tr>
<tr>
<td><strong>Irrigation Systems &amp; Scheduling</strong></td>
<td>Learn ways to manage and schedule irrigation water application to match crop needs.</td>
</tr>
<tr>
<td><strong>Nutrient Management</strong></td>
<td>Learn ways to improve the amount, timing and content of fertilizer addition.</td>
</tr>
<tr>
<td><strong>Co-management of Conservation and Food Safety</strong></td>
<td>Learn ways to manage the field production environment toward accomplishing both conservation and food safety objectives.</td>
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<tr>
<td><strong>Sediment Control</strong></td>
<td>Learn how to reduce soil erosion through row arrangement and cover cropping and how to contain soil on the farm through a variety of management practices and structural improvements, such as grassed waterways and sediment control basins.</td>
</tr>
<tr>
<td><strong>Water Conservation</strong></td>
<td>There are many ways to save water on the farm, including capture of irrigation water and storm water, increasing the water content stored in soil, and precision irrigation.</td>
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