

History of Water Conservation Practices & Outreach: Winegrape Industry Initiatives

Presentation to the Paso Robles Groundwater
Steering Committee



**CENTRAL COAST
VINEYARD TEAM**

Promoting Sustainable Winegrowing

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Overview

- Background of CCVT Programs
- Factors for Efficient Water Use In Vineyards
 - Seasonality of Water Usage
 - Water Quality
 - Best Practices for Water Conservation and Sustainability
 - Economics of Water Usage
- Looking Forward

Background

- Central Coast Vineyard Team
 - Local Non-Profit Grassroots Grower Group
 - Dedicated to Sustainability since 1994
 - Field Research & Education, Self-Assessment, Certification
- Soil, Plant, Water Specialist
 - Irrigation Training & Research Center
 - 1998 Master Water Plan (Ag Water Analysis)

Central Coast Vineyard Team History & Mission

- Non-Profit Grower Group (1994)
- Broad and Diverse Growers
- Engaged People with Different Perspectives
- Mission: Educate and Guide Towards Sustainable Practices
- 80K Acres – 300 Members
- Awards & Recognition

Programs

- 1996 Positive Points System – 1st Self Assessment for Wine Grapes
- Modeled by Other Regions & Crops
- Used Data for Grower to Grower Outreach
- Tailgates, Newsletters, Website, Trade Articles
- Field Demonstration

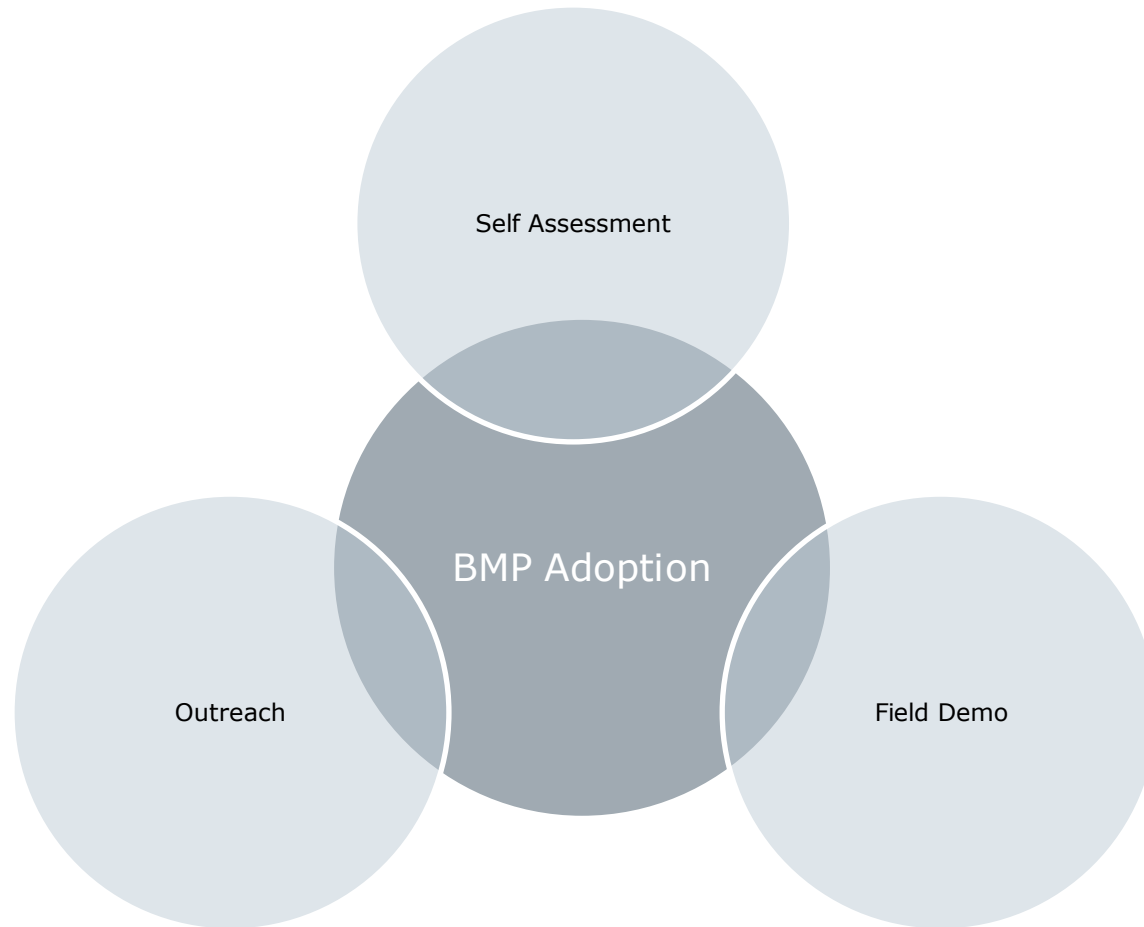
From Assessment to Education to Demonstration

- Outreach and Education
 - Tailgate Meetings – On Farm Demonstrations
 - Newsletters
 - On-Line Resource Library
 - Sustainable Ag Expo
 - Trade Publications
 - Presentations
- On Farm Demo Projects
 - Implementation of New Practices
 - Data Collection
 - Tracking Pesticide Use
 - Tracking Impacts on Erosion

Water Related Meetings (2005 – Present)

- San Luis Obispo County (Primarily North County)
- 23 Tailgates, Meetings, Workshops, Expo
- 1,633 People Total (71 Average)
- Average 12,500 Acres per meeting

CCVT Model for Changing Behavior



Sustainability in Practice (SIP) Vineyard Certification Program

- Evolved from the PPS
- Standards Development = 4 year process
- Standard development with grower, university, and consultant advisors
- Peer reviewed by over 30 state, federal, agricultural, environmental, social and university representatives
- Anticipates 25K SIP Certified Acres (2011)



Water Conservation Overview

- Factors Affecting Irrigation Practices
- Best Management Practices
- Economic Incentives to Efficiently Apply Irrigation
- Industry Initiatives

Factors Affecting Irrigation Practices

How Much Does the Plant Need?

- Canopy (leaf area)
- Weather
- Together They Determine the Evapotranspiration of the Plant
- Seasonality of Vine Water Use
- Central Coast Winegrapes are Under Irrigated to Promote Fruit Quality

Factors Affecting Irrigation Practices

How Much & When to Apply Water?

- Effective Rainfall
- Soil Storage (Soil Moisture Reservoir)
- Irrigation System Performance
- Timing – To Match Application with Need

Best Management Practices

When & How Much to Irrigate

- Weather Information (regional & onsite)
 - Data available electronically
- Soil Moisture Sensors
 - Indicates the status of the soil reservoir
 - Placed throughout vineyard at various depths
 - Data uploaded to computers
- Plant Moisture Status
 - Pressure Bombs
- Observations – Leaf Tip & Soil Samples

PRWCA Weather Station Data

31 May 2009

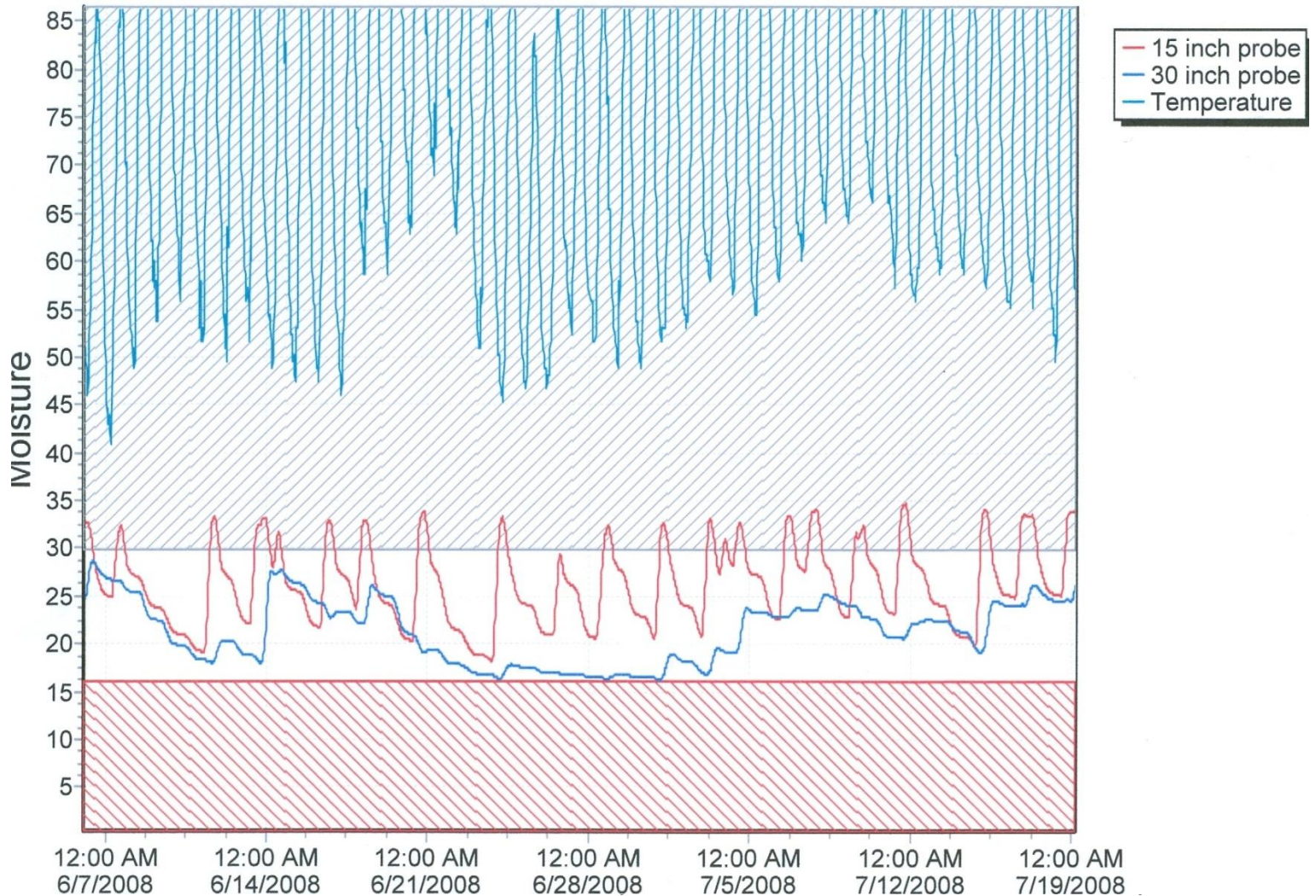
	Max/Min	24hr	Precipitation season	% normal	Today's normals	Today's Records
Paso Robles	84/50	-	5.80	44%	84/48	107 (1970), 37 (1

PRWCA Weather Summary

31 May 2009

	Las Tablas Tablas Creek Vineyard	Templeton Gap Summerwood	Paso Robles J. Lohr	Creston Red Hills Vineyard	Shandon Shandon Hills Vineyard
Max Temperature Yesterday:	83.7	75.4	86.0	84.6	88.5
Min Temperature Yesterday:	49.1	50.2	49.4	46.6	46.5
Min Temperature this morning:	49.1	50.8	51.3	47.7	49.3
Rainfall Yesterday:	0.00	0.00	0.00	0.00	0.00
Rainfall since July 1st:	14.85	9.10	6.84	5.89	5.37
ETo Yesterday:	0.19	0.16	0.21	0.21	0.23
ETo Last 7 Days:	1.40	1.19	1.55	1.54	1.63

Sample Soil Moisture Information



Best Management Practices

System Performance

- Design
 - Drip Irrigation
 - Pressure Regulation
 - Filtration
- Maintenance
 - Pressure Regulation Adjustments
 - Hose & Filter Flushing
 - Water Quality Considerations
- Irrigation Evaluations (Feedback)
 - Mobile Labs



BMP Self Assessment Results

- 27,450 acres evaluated in SLO County
- Average Water Scores increased by 10% (2008 – 2010)

Example Self Assessment Water Content Results

Water BMP	Percent Responding Yes (%)
Deficit Irrigation	83%
Soil Monitoring	88%
Measure & Record Rainfall	95%
Filtration Maintenance	97%

Average Percent of Acres With YES For Water BMP's: 87%

Economic Incentives for Proper Irrigation Management

○ Fruit Quality

- Deficit Irrigation Strategies Improve Fruit Quality

○ Pumping & Energy Costs

- Farm energy is typically the second highest production cost behind labor
- Efficient irrigation will prolong the life of expensive pumps

Industry Initiatives

- Weather Stations (PRWCA)
- Outreach & Education
- Research
- Self-Assessment (Since 1996)
- Statewide Code of Sustainable Practices
- Sustainability in Practice (SIP) Certification

Water Specific Programs

- Sustainable Ag Expo (Nov 14, 15)
 - 2 Day Educational Meeting
 - Significant Focus on Water
- Water Self Assessment
 - Refined water content in existing document
 - Workshops to aid in completion
- Tailgates & Workshops
 - Based on self-assessment, develop 2012 education and workshops
- Water Conservation Specific Web Page
- Print & Digital Materials
- All Represent Industry Dollars (\$75K-\$100K Annually)



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