

Specialty Crops Research Initiative 2010



Developing sustainable vineyard water management strategies for limited and impaired water supplies (Successful)

Project Director: James E. Ayars

Project Manager: Andrew J. McElrone

Project Research and Extension Team

USDA-Agricultural Research Service



Three Research Units at 3 Locations:

1) Water Management Research Unit- Parlier

James E. Ayars, Agricultural Engineer

Gary Banuelos, Plant Physiologist

Dong Wang, Soil Scientist



Project Research and Extension Team

USDA-Agricultural Research Service



Three Research Units at 3 Locations:

2) **United States Salinity Laboratory- Riverside**

Donald Suarez, Director

Catherine Grieve, Plant Physiologist



Project Research and Extension Team

USDA-Agricultural Research Service



Three Research Units at 3 Locations:

3) Crops Pathology & Genetics Research Unit- Davis

Andrew J. McElrone, Plant Physiologist



Project Research and Extension Team

University of California



Three Entities at 3 Locations:

1) UC Davis, Department of Viticulture & Enology

D. Andrew Walker, Grapevine Geneticist

Jean-Jacques Lambert, Soil Scientist



Project Research and Extension Team

University of California



Three Entities at 3 Locations:

2) UC Riverside, Department of Environmental Science

Kurt Schwabe, Environmental Economist



Project Research and Extension Team

University of California



Three Entities at 3 Locations:

3) UC Cooperative Extension, Agriculture & Natural Resources

Mark Battany, Viticultural Farm Advisor



Project Research and Extension Team

Washington State University



Location:

1) Department of Crop & Soil Sciences

Joan Davenport- Soil Scientist



Grape Industry Collaborators & Advisors



Jean-Mari Peltier

Jerry Lohr

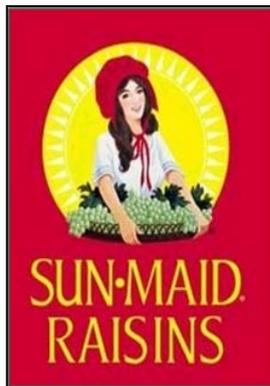
Anji Perry



Nick Dokoozlian

Rick Stark

Ross Jones



Mike Miller



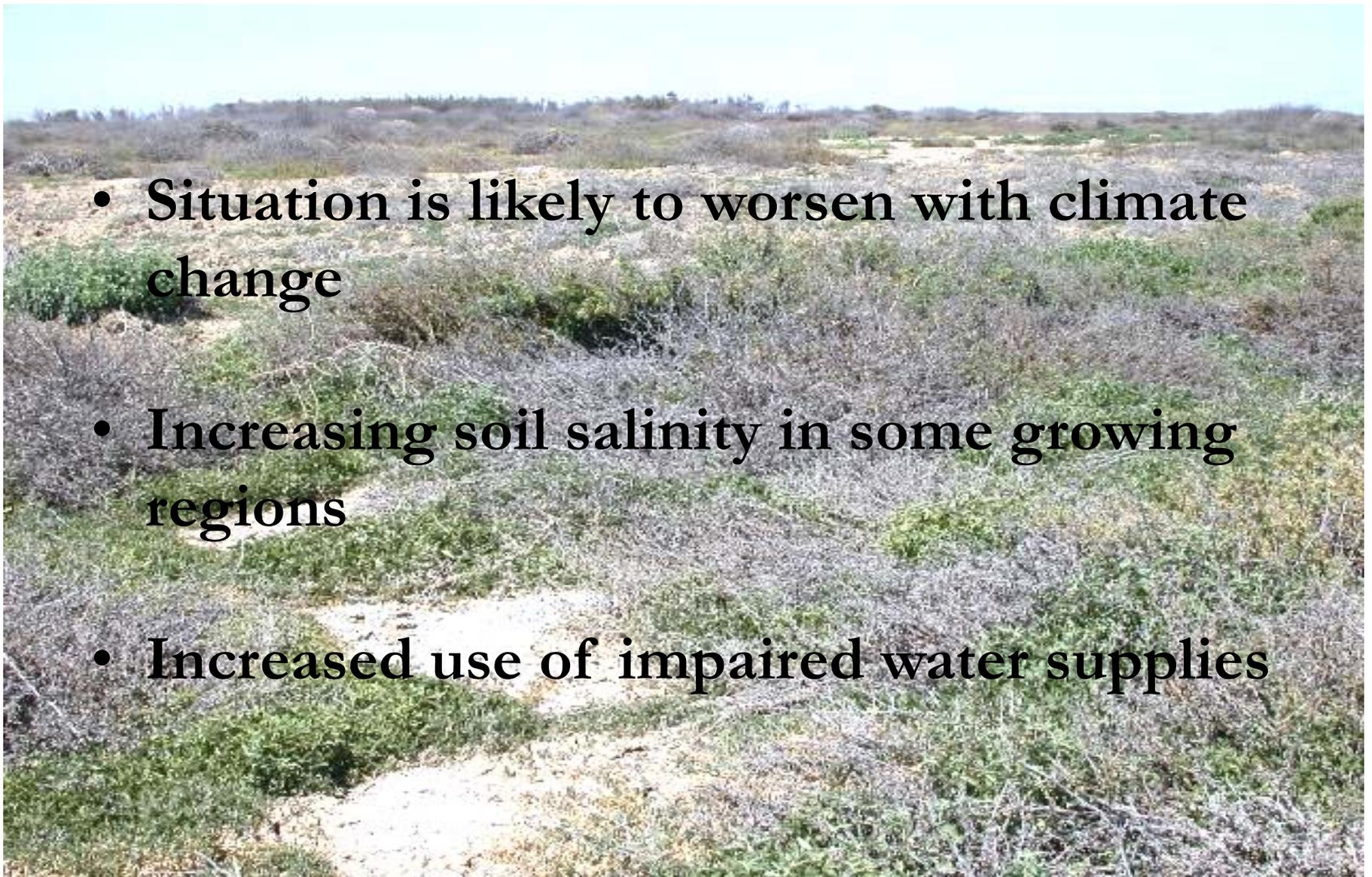
Project Rationale/Need



- Water is scarce and its supply uncertain in the Western US
- Competing demands of growing populations and environmental needs

Project Rationale/Need

- Situation is likely to worsen with climate change
- Increasing soil salinity in some growing regions
- Increased use of impaired water supplies



Research Thrust



- **Water management to determine the water requirement for wine, table, juice, and raisin grapes**
- **Salinity management in water limited conditions**
- **Plant breeding to select for salinity and drought tolerance**

Project Deliverables

1. Recommendations for sustainable water management in wine, table, raisin, and juice grape production using limited and impaired water supplies.
2. Recommendations for sustainable water and soil management to minimize the impacts of salinity on grape yield and quality.
3. Assessment of the effect of recommended water and salinity management strategies on quality, sensory, and yield parameters for table, raisin, juice and wine grapes and their commercial products.
4. Development and expansion of commercially available grapevine rootstocks that better resist drought and tolerate salinity.
5. Quantification of the economic sustainability of implementing the strategies in Deliverables 1, 2, and 4 in viticulture.
6. Outreach, extension and educational training to disseminate recommendations to grower and academic audiences via presentations, publications, Web-based learning and tailgate outreach.

Research Locations

<u>Locations of Experimental Sites</u>	<u>Varieties</u>
California Central Coast- Paso Robles J. Lohr Vineyards & Wines	Cabernet Sauvignon
California Central Valley Selma Sunmaid	Crimson Seedless (Late maturing) Flame Seedless (Early maturing) Fiesta Dried on Vine
Eastern Washington- Yakima Valley Airfield Estates Vineyards	Concord Cabernet Sauvignon

Status

1. Final approval on September 28, 2010.
2. Paper work is in Albany, CA being processed by ARS.
Hopefully completed in approximately 2 months.



Next Steps

- A. Implementation meeting – November 8 – 9, 2010 Paso Robles at J. Lohr Visitor Center.**
 - a) Actions – Review deliverables and procedures**
 - b) Engage stakeholders and cooperators**
 - c) Develop coordination within research group**
 - d) Establish advisory board.**
 - e) Tour of experimental sites on Lohr vineyards.**

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Thank you for the support!