



# Industry Priorities: An Update

ARS-Grape Industry Workshop  
July, 2007



# Acknowledgements

Project info provided by

- The American Vineyard Foundation
- The California Table Grape Commission
- Industry project collaborators
  - Nick Dokoozlian, Jerry Lohr, Bill Nelson, Chris Savage, Mary Wagner, Jennifer Jo Wiseman

# Recap of Priority Theme Areas

- Understanding and improving quality
- Consumer insights, nutrition and community
- Processing and production efficiency
- Sustainable practices
- Extension and outreach education
  - Integrated last December

5th Theme!

# Keeping the Priorities Relevant

*December 2006 workshop:*

- Review research and extension activities underway
- Examine and update NGWI industry research and extension/outreach education priorities (*details included in your notebook*)
- Develop action plans to achieve R&E objectives and industry deliverables



# Understanding and Improving Quality:

*Recent Progress*

# Quality: Recent Progress

*Identify and quantify color, flavor, aroma, mouthfeel targets; new techniques to predict maturity, harvest date, product quality*

## ■ Research Funded via AVF



### □ Grape Maturity & Wine Sensory Properties

- Hildegard Heymann, \$85,000

### □ Viticultural Practices & Wine Composition

- Jim Wolpert, \$24,000

# Quality: Recent Progress *(cont.)*

*Develop a network to standardize sensory descriptors of grape and grape projects*

Establish a standard lexicon (language) to describe the sensory characteristics of wine

- **Objective:** to deliver a documented tool for the industry to understand and quantify the sensory characteristics of wine
  - Standard lexicon of defined and referenced attributes of wine
  - Standard evaluation procedures
  - Suggested use



# Standard Wine Lexicon (*cont.*)

## **E & J Gallo Winery**

Proprietary wine  
lexicon will be  
donated to the public





# Quality: Recent Progress *(cont.)*

## *New varieties, rootstocks and germplasm*

### ■ National Clean Plant Network

#### □ Objectives:

- Establish and maintain regional centers to encourage and facilitate the use of plants for planting that are pathogen and pest free.
- Nation-wide network of grape facilities to include New York, Missouri, Washington, Mid-Atlantic region and California

#### □ Major stakeholders and organizers:

- USDA-CSREES
- APHIS
- Universities
- Industry

# National Clean Plant Network

## ■ Current status:

- Two major organizational meetings have been held to date
  - Davis – Fall 2005
  - Maryland – May 8-9, 2007

## ■ Next Steps:

- Once funding is assured through farm bill or other means,
  - Develop plans for production of clean plants, increase blocks and certification regimes



# Consumer Insights, Nutrition and Community:

*Recent Progress*

# Consumer: Recent Progress

## *Nutrition & Health*

### NGWI Grape Phytonutrient Meeting—May 21<sup>st</sup>, 2007

- **Objective:** to discuss methods to increase consumer awareness of the health benefits of grapes and grape products.



# Grape Phytonutrient Meeting (*cont.*)

**Outcomes:** development and implementation of several key strategies and tactics:

- **Coordinate efforts to secure more funding for grape/grape product health research**
  - Grape, juice and wine industries to contribute research dollars to fund initial efforts; secure additional funding from federal sources
  
- **Focus the direction of NGWI future health research initiatives**
  - Conduct gap analysis of existing research
  - Establish a scientific advisory panel
  - Create a strategic plan for joint research on grapes and health.



# Grape Phytonutrient Meeting (*cont.*)

## ■ Key Strategies (*Cont.*)

- Influence policy to effect change in the official biomarkers used by the FDA for heart disease to include those that grapes and grape products impact
  - Enlist the support of reputable health and scientific organizations such as the American Heart Association
  - Organize an international scientific symposium on grapes/grape products and health in 2008. Possible locations include the NIH campus, the American Association for the Advancement of Science or the Congressional Wine Caucus.



# Grape Phytonutrient Meeting (*cont*)

- **Key Strategies (*Cont.*)**
  - **Conduct outreach to influentials and consumers on the health benefits of grapes and grape products**
    - Create a strategic plan for influential and consumer outreach on grapes/grape products and health
    - Invite influentials to the international scientific symposium on grapes/grape products and health.



# Processing and Production Efficiency:

*Recent Progress*

# Efficiency: Recent Progress

*Optimize vineyard production systems for cost, quality and the environment*

- Participation in USDA research strategy planning
  - ARS National Program 305: Crop Production—5 year plan (Feb, 2007)
  - National Workshop: Engineering Solutions for Specialty Crops (April, 2007)



# Perennial Crop Sub-platforms

**Industry Input  
For NP305**

**Core  
Research Platform**

**Production  
Efficiency/  
Quality**

-Technology Transfer

-Economic Impact  
Assessment

ESSENTIAL OUTCOMES

**Production  
practices**

Low input cultural practices;  
improved training systems  
and pc designs

**Mechanization  
and automation**

Reduction of labor and  
production inputs;  
improved spray technology

**Soil and Water**

Soil health and nutrient  
availability; water use and  
quality

**Environment**

Zero negative impact of  
production systems on the  
environment

**Food quality  
and safety**

Size, color, flavor, texture;  
free of contaminants and  
defects

# Engineering Solutions for Specialty Crop Challenges—Workshop

- Sponsored by NSF, NASA, ARS and CSREES and facilitated by SCRTs
- Focused on tree fruits & nuts, citrus, brambles/berries, grape & wine, and horticulture
- **Objective:** to create an R&D vision that addresses industry needs for productivity, efficiency, and profitability through the application of engineering science and technology

# Engineering Workshop *(cont.)*

- Wine and Grape Industry High Priorities
  - Better spray technologies
  - Mechanization of cultural practices
    - Pruning, cane cutting
    - Crop regulation (leaf, shoot, fruit thinning)
    - Canopy management
    - Harvesting
  - Water management
  - Waste stream management
  - Energy use/capture/renewal
  - Food Safety

# Engineering Workshop (*cont.*)

## ■ Next Steps

- Complete workshop white paper
- Encourage multi-disciplinary, cross-agency teams
- SCRT partnerships



# Sustainable Practices: *Recent Progress*

# Sustainability: Recent Progress

*Manage the waste streams of grape and grape product processing/packaging facilities in a sustainable manner*



- Research Funded by AVF
  - Winery Best Practices for Sustainability
    - Robert Chrobak, \$71,000



# Winery Best Practices Project *(cont.)*

## Overview

- Project will consolidate work from multiple industries to produce a Best Practices document for the management of:
  - winery and vineyard water,
  - wastewater, and
  - energy resources
- Easy-to-use working templates will be developed to help facilities understand and evaluate their options as it relates to managing and improving the above areas
- Outreach and technology transfer meetings will be held around the country to educate interested grape and wine industry members



# Winery Best Practices Project (*cont.*)

## Project Outline and Schedule

- The final document will be organized as follows:
  - Section 1: Introduction
  - Section 2: Planning and program organization
  - Section 3: Assessment Steps
  - Section 4: Feasibility Analysis Steps
  - Section 5: Implementation Guidelines
  - Attachments: Including working templates and resource information with economic models to help operators choose BMP's that best fit their situation
  
- Schedule
  - Document will be finalized and presented at a kick-off meeting at the Unified Wine and Grape Symposium in January 2008. Outreach meetings will begin immediately thereafter.

# Next Steps

- Continue to build partnerships
  - Scientific community
  - Government partnerships
  - Industry stakeholders
  - SCRTs collaborations



# Extension & Outreach Education: *Recent Progress*

# Current Situation in Vit/Enol Extension in the United States

- Still have wineries in all 50 states
- Rapid expansion of wine and grape industries in many regions
  - New and emerging viticulture and enology technologies
  - Strong interest from wine consumers to become producers
  - Support from funding, government and education partners
- Quality and production problems
  - Inexperience of new producers
  - Lack of sufficient research and extension efforts in problem areas

# Extension is About People

## ■ New resources

- Texas – 4 viticulture and 1 enology
- Missouri – extension and enology
- New York –
- Maryland, Virginia, Kentucky, Tennessee

# National Viticulture & Enology Extension Leadership Conference

Nashville, TN - March 28-29

- Attendees: 28
- Representation: 18 states + Canada
- Organizers
  - Dr. Ed Hellman, Texas A&M
  - Dr. Jim Wolpert, UC Davis
  - Dr. Keith Striegler, Univ of Missouri
  - Mark Chien, Penn State
  - Dr. David Lockwood, Univ of Tennessee

# Action Items

- Investigate licensing opportunities/requirements for existing distance education classes.
- Prepare an inventory of existing distance education coursework.
- Conduct survey and compile inventory of educational resources for new producers
- Investigate potential for access to existing repository systems for sharing electronic resources.

# Working Groups

- National Distance Education V&E Certificate Program
- Investigate opportunities and develop strategies for establishing a national distance education viticulture and enology certificate program.
- Multi-state Videoconferencing Experiment
- Plan and deliver a workshop via videoconferencing to multiple locations.

# Proposed NGWI Extension and Outreach Priorities

- Create and fund a position of National Coordinator for Extension Viticulture and Enology
- Encourage career development of viticulture and enology outreach educators
- Develop a national viticulture and enology distance education certificate program
- Develop regional and national educational materials on viticulture and enology
- Increase and improve vineyard and winery workforce expertise

# Develop Regional and National Education Materials for Vit/Enol

## Strategies:

- Develop a national viticulture and enology website
- Develop a winery startup guide
- Develop regional grape production manuals
- Develop regional vineyard site selection manuals
- Develop regional websites to deliver local viticulture and enology educational materials
- Develop regional sustainable production guidelines

# Improve Vineyard and Winery Workforce Expertise

- Strategies:
- Develop curriculum in vineyard and winery workforce training for community colleges
- Produce Spanish-language videos for vineyard and cellar workers
- Create a repository of educational materials on worker safety and health



## Viticulture Best Management Practices Workshops in Missouri and Arkansas

# Development of a National Grape Registry 2006-2007



[www.ngr.ucdavis.edu](http://www.ngr.ucdavis.edu)

NGR Researchers:

Ed Stover, USDA/ARS National Clonal Germplasm Repository

Deborah Golino, Foundation Plant Services

Nancy Sweet, Foundation Plant Services

➤ **Objective:** provide industry with availability status and profiles for all available grape material in the United States – wine, table, juice, raisins, rootstock

Plant material currently accessible at variety level with extensive synonym lists

Contains user-friendly search feature for varieties and synonyms

Many public and commercial sources for grape material

**View Collection**

Name: Foundation Plant Services  
 Address: University Of California  
 One Shields Avenue  
 City: Davis  
 State: CA  
 Zip: 95616  
 Phone: (530) 752-3590  
 Fax: (530) 752-2132  
 Contact: Tracy Pinkalton  
 Website: <http://fps.ucdavis.edu>  
 Email: [fps@ucdavis.edu](mailto:fps@ucdavis.edu)



The following varieties are available from this collection:

- Aqlanico
- Albillo Mayor
- Albillo Real
- Aiden
- Aleatico

## 5 U.S. Public Collections and 64 Commercial Nurseries

**View Nursery**

Name: Sunridge Nurseries, Inc.  
 Address: 441 Vineland Road  
 City: Bakersfield  
 State: CA  
 Zip: 93307  
 Phone: (661) 363-8463  
 Fax: (661) 366-4251  
 Contact: Steve Maniaci  
 Website: <http://www.sunridgenurseries.com>  
 Email: [Steve@sunridge.net](mailto:Steve@sunridge.net)



The following varieties are available from this nursery:

- Alicante Bouschet
- Aligoté
- Arinarnoa
- Autumn Black
- Autumn King
- Autumn Royal
- Barbera

## Nursery contact information with available varieties (cross linked)

**NATIONAL GRAPE REGISTRY**  

Main Commercial Public Varieties About Us People Links   variety/synonym help

**Zinfandel**

Prime Name: Zinfandel  
 Common Synonym: Crljenak Kastelanski, Primitivo  
 All synonyms: Crljenak Kastelanski, Morellone, Primiticcio, Primitivo, Primitivo di Goia, Uva della Pergola, Uva di Corato, Zenfendel, Zinfindal  
 Countries of Origin: Croatia  
 Species: *V. vinifera*  
 Pedigree: 6- DNA analysis establishes that Zinfandel = Crljenak Kastelanski (Croatia) and Primitivo (Italy)  
 TTB Prime Name: Zinfandel  
 References: 2 5 8 15 18  
 Berry Color: Black  
 Uses: Wine

This variety is available at:

- Duarte Nursery, Inc.
- Foundation Plant Services
- Gray Creek Viticultural Services, Inc.
- L.E. Cooke Company
- Lake County Grapevine Nursery
- Mercier California, LLC
- Northwest Grape Foundation Service

## 645 grape varieties, each with synonyms, references, and identified sources for obtaining nursery stock

Main Commercial Public Varieties About Us People Links   variety/synonym help

**Variety and Synonym Search**

No varieties met your search criteria: **Drz\***

The Variety Search function is designed to locate grape variety names which are included on the website either as a listed main variety or as a synonym to a listed variety. The search function will not retrieve grape names listed in parentage or pedigree fields.

When you enter a full and correct word for a variety name in the Variety Search block, the computer will look for all variety names on the website which contain that same word, either in the main variety name or as a synonym to a main variety name. All variety names which contain a direct match will then be displayed on a list. If you simultaneously enter two words for a variety (e.g., Cabernet Sauvignon), the computer will capture and display results for both words on the resulting list.

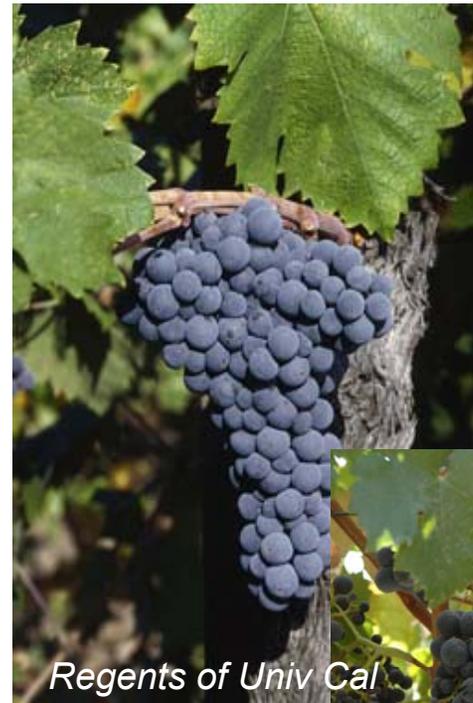
The database was also designed to search on partial names, in the event that the user does not know the full name of a variety or misspells a variety name. The user can search the database and locate main variety names or synonyms for varieties when the full name or correct spelling is unknown.

If you misspell or enter only a few letters of a variety name, the computer will search for the first three (3) letters of the word entered in the Variety Search block. All varieties which contain those first three letters, either in the variety name or as a related synonym name, will then be displayed as possible matches. You may then click on each variety on the resulting list to locate your desired grape. For best results, you should enter at least three letters to locate a desired variety.

## User-friendly search for varieties and synonyms

# Next steps for 2007-2008

- Expand the database to include clones of the major varieties, their characteristics and availability
- Enter information for thousands of minor varieties which are not on the website
- Recruit additional commercial nurseries from all parts of the United States
- Assist current nursery participants with maintaining and updating their variety lists on the site



*Regents of Univ Cal*



*Photo by Ivan Pejić*



*Photo by Paul Verdegae*

# Extending the Work of ARS Scientists to the Wine and Grape Industries

- Making ARS known and relevant
- Dedicated Web Site and/or publication
- Greater interaction with extension personnel
- More ARS outreach
- Publish in trade magazines and journals
- Planned events with industry members
- ARS-Land Grant-Industry advisory groups – formal and informal