Topic # 8 Water Quality Protection

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Q1:

What are the top 3-5 grape related (Water Quality Protection) accomplishments of ARS during the past 3 years? NONE

What priorities of industry have been met?

- **ARS watershed based research in other cropping systems (corn, soybean, cotton) needs to expand to GRAPES.**
- **CEAP - (conservation effects assessment program) needs to include GRAPES.**

Q2:

What major gaps still exist between ARS' research focus and the needs of industry?

- **Disconnect of grape production with other Federal WQ programs**
- **Impact of grapes on hydrologic cycle in a watershed**
- **Increase in grape production effects on regional hydrology**
- **Waste water use or reuse in grape**
- **Salinity in arid environ is a potential problem**
- **Drainage in tile drained grape fields**
- **Spray drift to surface water**

Q2: (Cont.)

What major gaps still exist between ARS' research focus and the needs of industry?

- High intense storms and Climate Change on WQ
- Region and state specific problem
- Runoff and leaching concerns for the eastern states for chemicals and sediments (WA, CA)
- Precip > ET in eastern states will have transport of agchemicals offsite

Q2: (Cont.)

What major gaps still exist between ARS' research focus and the needs of industry?

- **Water management effects on grape quality and antioxidant components**
- **Extend the ARS research on watershed and water quality issues to grape production systems**
- **Quality water protection vs water quality protection**
- **Quality of water effects on grape quality and soil quality, potential impact on food safety**

Q2: (Cont.)

What major gaps still exist between ARS' research focus and the needs of industry?

- **When well water is used to supplement for irrigation, water quality from groundwater is a concern**
- **Nutrient use efficiency by different grape varieties**
- **Strategies for using water more efficiently and effectively**

Q3:

What are the future research projects could address these gaps?

- **Impact of grapes on hydrologic cycle in a watershed.**
- **Regional ET assessment**
- **Competing water uses between grapes and other ag systems or urban**
- **Quantification of water use for wine production**
- **Economic assessment of water use in grape and wine production**

Q3: (Cont.)

What are the future research projects could address these gaps?

- **Water management to optimize health benefits of grapes**
- **Spatial analysis of water issues (CA, WA, NY, etc.)**
- **Quantification of grape and wine industry on watershed (perception and reg issues)**
- **Develop supplement water management strategies that minimize nutrient and pesticide movement off site for different grape varieties**

Q3: (Cont.)

What are the future research projects could address these gaps?

- Climate change effect on water issues in grapes
- Interplay of water and air quality
- CEAP expansion to grapes
- Cover crops role in protecting surface and groundwater
- Optimum cover crops for grapes
- Reducing water use in wine production

Q4:

Which teams of scientists (ARS, university, and industry), that currently exist or that could be created, are in the best position to address the research gaps?

- **Watershed modeling groups in ARS**
- **ARS CA, ID and TX for regional ET estimation**
- **Spatial analysis – Remote Sensing in ARS and Universities**
- **Irrigation industry involvement in developing new irrigation equipment for waste water or reused water**

Q4: (Cont.)

Which teams of scientists (ARS, university, and industry), that currently exist or that could be created, are in the best position to address the research gaps?

- USDA PM10/PM2.5 - air quality program
- Land grant universities- UC-Davis, U of AZ, etc.
- USGS
- Economists participation – ERS

Q5:

How can the progress and impact of ARS research on grapes be increased with existing resources?

- **Resource relocation from corn and other crops to support grape research on WQ at watershed scale**
- **Incorporate grapes in existing programs**
- **Use other existing technology for grapes**
- **ARS new postdoc programs on grapes WQ research**
- **ARS special project on grape water quality research**
- **Reprioritize to grapes research**

Q6:

How will research results be extended to end users through an outreach plan? What is that outreach plan?

- Industry meetings
- Trade journals
- Convenient technology
- Large processors and coops
- Extension
- Field days
- Tailgate meetings
- Inter-regional guest speakers
- U-tube

Growing grape in central CA, water use is measured by the DROP!