

Concord Grape Juice-

Cost to be fixed.

Fixed process.

Color, sugar and acid ratio.

Lower cost of production.

Paid by tons, not by quality.

Not directed to consumer.

Chemical make up-correlation.

Quality makers/flavors.

Consumer perspective.

Capture-

For the juice industry the margins are very low, so any modification to the processing incurs additional costs. Establish clear quality attributes of sugar, acid, color, flavor, material quality, other attributes. Establish test methods to evaluate quality, reward growers for compliance. Need to have methods to evaluate quality characteristics and need for processing methods.

Analytical-methoxypyrazine

A need for tools for precision agriculture.

Eastern Wine Grapes

Color, flavor, tannin, acidity. % of rot.

Common set of tools for measuring quality attributes.

Question 1-

Julie-Canopy study and tannin development.

Question 2-

Rapid, simple and inexpensive methods for methoxypyrazines, tannins, acid, carbohydrates (polysaccharides).

Breakout #2

Grower-

Processor-Current measured attributes. Minimal brix, color acidity. Need not add additional materials. (Payment is only based on sugar.) Concord flavor is important to the niche market.

Fast for GG, pro-flavor components, cleavage of glucose results in flavored contributing component.

Sharing of information to determine which items need to be measured.

Prioritizing items to be addressed.

Global partners.

Consider nutrition as a quality attribute.

Russell Method to keep momentum.

Establish quality attributes and prioritize.

Some specifications/ acceptance criteria have been established for vineyard products. The need to meet consumer However additional work is needed to establish other acceptance criteria and test methods developed to support this

Both breakout groups concurred that the availability of rapid, simple and inexpensive methods to predict maturity, harvest date, best product use and final quality target are needed.

to meet consumer preferences.

continued and expanded profitability of the industries was predicated on the

1. What are the top 3-5 grape related accomplishments of ARS during the past 3 years? What priorities of industry have been met?

Although ARS scientists have studied the flavor components of many crops, grapes are an example of a crop in which there is much more work to be done in identifying metabolic components, specifically those associated with flavor.

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

From a quality perspective, the industry's most pressing needs are the availability of rapid, simple and inexpensive test methods for evaluating fruit quality (for either fresh or processed products).

3. What are the future research projects that could address these gaps?

Projects in which test methods are developed, validated and subsequently applied to understanding metabolic and biological processes in order to develop agricultural best practices would most effectively address these gaps.

4. 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?

Scientists with the appropriate skill sets (e.g. genomics, breeding, chemistry, physiology, etc.) are found within ARS, universities and the industry. Research teams should be formed based on the scientific question and the skills needed to elucidate the question in a proper and timely fashion.

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

Increased impact is achievable through capitalizing on existing projects. Allowing existing projects to expand to include grapes when the flavor/metabolic components under investigation as part of the project are common to both the studied commodity and grapes. For example, a project studying anthocyanins in either blue berries or blood oranges would be allowed to study anthocyanins in grapes.

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

Outreach will be achieved through publication and partnering with extension agents for the dissemination to end users the information obtained from studies.

Action Plan.

International Collaborations.